PART TWO: THE VALUE OF MONEY

The Theory of Money and Credit — Ludwig von Mises

CHAPTER 7: The Concept of the Value of Money

1 Subjective and Objective Factors in the Theory of the Value of Money

The central element in the economic problem of money is the **objective exchange value** of money, popularly called its **purchasing power**. This is the necessary starting point of all discussion; for it is only in connection with its objective exchange value that those peculiar properties of money that have differentiated it from commodities are conspicuous.

This must not be understood to imply that *subjective* value is of less importance in the theory of money than elsewhere. The subjective estimates of individuals are the basis of the economic valuation of money just as of that of other goods. And these subjective estimates are ultimately derived, in the case of money as in the case of other economic goods, from the significance attaching to a good or complex of goods as the recognized necessary condition for the existence of a utility, given certain ultimate aims on the part of some individual. [1] Nevertheless, while the utility of other goods depends on certain external facts (the objective use-value of the commodity) and certain internal facts (the hierarchy of human needs), that is, on conditions that do not belong to the category of the economic at all but are partly of a technological and partly of a psychological nature, the subjective value of money is conditioned by its objective *exchange*

value, that is, by a characteristic that falls within the scope of economics.

In the case of money, subjective use-value and subjective exchange value coincide. [2] Both are derived from objective exchange value, for money has no utility other than that arising from the possibility of obtaining other economic goods in exchange for it. It is impossible to conceive of any function of money, *qua* money, that can be separated from the fact of its objective exchange value. As far as the use-value of a commodity is concerned, it is immaterial whether the commodity also has exchange value or not; but for money to have use-value, the existence of exchange value is essential.

This peculiarity of the value of money can also be expressed by saying that, as far as the individual is concerned, money has no use-value at all, but only subjective exchange value. This, for example, is the practice of Rau [3] and Böhm-Bawerk. [4] Whether the one or the other phraseology is employed, scientific investigation of the characteristic will lead to the same conclusions. There is no reason to enter upon a discussion of this point, especially since the distinction between value in use and value in exchange no longer holds the important place in the theory of value that it used to have. [5] All that we are concerned with is to show that the task of economics in dealing with the value of money is a bigger one than its task in dealing with the value of commodities. When explaining the value of commodities, the economist can and must be content to take subjective use-value for granted and leave investigation of its origins to the psychologist; but the real problem of the value of money only begins where it leaves off in the case of commodity values, viz., at the point of tracing the objective determinants of its subjective value, for there is no subjective value of money without objective exchange value. It is not the task of the economist, but of the natural scientist, to explain why corn is useful to man and valued by him; but it is the task of the economist alone to explain the utility of money. Consideration of the subjective value of money without discussion of its objective exchange value is impossible. In contrast to commodities, money would never be used unless it had an objective exchange value or purchasing power. The subjective value of money always depends on the subjective value of the other economic goods that can be obtained in exchange for it. Its subjective value is in fact a derived concept. If we wish to estimate the significance that a given sum of money has, in view of the known dependence upon it of a certain satisfaction, we can do this only on the assumption that the money possesses a given objective exchange value. "The exchange value of money is the anticipated use-value of the things that can be obtained with it." [6] Whenever money is valued by anybody it is because he supposes it to have a certain purchasing power.

It might possibly be objected that the mere possession by money of an undefined amount of objective exchange value is not alone sufficient to guarantee the possibility of using it as a medium of exchange; that it is also necessary that this purchasing power should be present in *a certain degree*, neither too great nor too small, but such that the proportion between the value of the units of money and that of the units of commodity is a convenient one for carrying through the ordinary exchange transactions of daily life; that even if it were true that half of the money in a country could perform the same service as the whole stock if the value of the monetary unit were doubled, yet it is doubtful if a similar proposition could be asserted of the case in which its value was increased a million fold, or diminished to one-millionth, in inverse correspondence with changes in the quantity of it, since such a currency would hardly be capable of fulfilling the

functions of a common medium of exchange so well as the currencies in actual use; that we should try to imagine a commodity money of which a whole ton, or one of which only a thousandth of a milligram was equivalent to a dollar, and think of the inconveniences, the insuperable obstacles in fact, which the employment of such a medium would inevitably place in the way of commerce.

However true this may be, the question of the actual dimensions of the exchange ratio between money and commodities and of the size of the monetary unit is not an economic problem. It is a question that belongs to discussion of the technical conditions that make any particular good suitable for use as money. The relative scarcity of the **precious metals**, great enough to give them a high objective exchange value but not so great as that of the precious stones or radium and therefore not great enough to make their exchange value *too* high, must indeed be reckoned, along with such of their other characteristics as their practically unlimited divisibility, their malleability, and their powers of resistance to destructive external influences, as among the factors that were once decisive in causing them to be recognized as the most marketable goods and consequently to be employed as money. But nowadays, as monetary systems have developed, the particular level of value of the precious metals no longer has any important bearing on their use as money. The modern organization of the clearing system and the institution of fiduciary media have made commerce independent of the volume and weight of the monetary material.

2 The Objective Exchange Value of Money

It follows from what has been said that there can be no discussion of the problem of the value of money without consideration of its objective exchange value. Under modern conditions, objective exchange value, which Wieser also calls *Verkehrswert* (or value in business transactions), is the most important kind of value, because it governs the social and not merely the individual aspect of economic life. Except in its explanation of the fundamentals of value theory, economics deals almost exclusively with objective exchange value. [7] And while this is true to some extent of all goods, including those which are useful apart from any exchange value which they possess, it is still truer of money.

"The objective exchange value of goods is their objective significance in exchange, or, in other words, their capacity in given circumstances to procure a specific quantity of other goods as an equivalent in exchange." [8] It should be observed that even objective exchange value is not really a property of the goods themselves, bestowed on them by nature, for in the last resort it also is derived from the human process of valuing individual goods. But the exchange ratios that are established between different goods in commercial transactions, and are determined by the collective influence of the subjective valuations of all the persons doing business in the market, present themselves to separate individuals, who usually have an infinitesimal influence on the determination of the ratios, as accomplished facts, which in most cases have to be accepted unconditionally. It has thus been easy for false abstraction from this state of affairs to give rise to the opinion that each good comes to the market endowed with a definite quantity of value independent of the valuations of individuals. [9] From this point of view, goods are not *exchanged* for one another, by human beings; they simply *exchange*.

Objective exchange value, as it appears in the subjective theory of value, has nothing except its name in common with the old idea developed by the Classical School of a value in exchange inherent in things themselves. In the value theory of Smith and Ricardo, and in that of their successors, value in exchange plays the leading part. These theories attempt to explain all the phenomena of value by starting from value in exchange, which they interpret as labor value or cost-of-production value. For modern value theory their terminology can claim only a historical importance, and a confusion of the two concepts of exchange value need no longer be feared. This removes the objections that have recently been made to the continued use of the expression "objective exchange value." [10]

If the objective exchange value of a good is its power to command a certain quantity of other goods in exchange, its *price* is this actual quantity of other goods. It follows that the concepts of price and objective exchange value are by no means identical. "But it is, nevertheless, true that both obey the same laws. For when the law of price declares that a good actually commands a particular price, and explains why it does so, it of course implies that the good is able to command this price, and explains why it is able to do so. The law of price comprehends the law of exchange value." [11]

By "the objective exchange value of money" we are accordingly to understand the possibility of obtaining a certain quantity of other economic goods in exchange for a given quantity of money; and by "the price of money" this actual quantity of other goods. It is possible to express the exchange value of a unit of money in units of any other commodity and speak of the commodity price of money; but in actual life this phraseology and the concept it expresses are unknown. For nowadays money is the sole indicator of prices.

3 The Problems Involved in the Theory of the Value of Money

The theory of money must take account of the fundamental difference between the principles which govern the value of money and those which govern the value of commodities. In the theory of the value of commodities it is not necessary at first to pay any attention to objective exchange value. In this theory, all phenomena of value and price determination can be explained with subjective use-value as the starting point. It is otherwise in the theory of the value of money; for since money, in contrast to other goods, can fulfill its economic function only if it possesses objective exchange value, an investigation into its subjective value demands an investigation first into this objective exchange value. In other words, the theory of the value of money leads us back through subjective exchange value to objective exchange value.

Under the present economic system, which is founded on the division of labor and the free exchange of products, producers as a rule do not work directly on their own behalf but with a view to supplying the market. Consequently their economic calculations are determined not by the subjective use-values of their products, but by their subjective exchange values. Valuations which ignore the subjective exchange value, and consequently the objective exchange value, of a product and take account only of its subjective use-value, are nowadays most exceptional. They are on the whole limited to those cases in which the object has a sentimental value. But if we disregard those things to which certain individuals attach a symbolical significance because they remind them of experiences or persons that they wish to remember, while in the eyes of others

for which they have not this personal interest the things possess a very much lower value or even no value at all, it cannot be denied that human valuations of goods are based upon their exchange value. It is not use-value, but exchange value, that appears to govern the modern economic order. Nevertheless, if we trace to its deepest springs, first the subjective and then the objective exchange value of commodities, we find that in the last resort it is still the subjective use-value of things that determines the esteem in which they are held. For, quite apart from the fact that the commodities acquired in exchange for the products are always valued according to their subjective use-value, the only valuations that are of final importance in the determination of prices and objective exchange value are those based on the subjective use-value that the products have for those persons who are the last to acquire them through the channels of commerce and who acquire them for their own consumption.

The case of money is different. Its objective exchange value cannot be referred back to any sort of use-value independent of the existence of this objective exchange value. In the origins of monetary systems, money is still a commodity which eventually ceases to circulate on reaching the hands of a final buyer or consumer. [12] In the early stages of the history of money there were even monetary commodities whose natural qualities definitely precluded their employment as money for more than a short time. An ox or a sack of corn cannot remain in circulation forever; it has sooner or later to be withdrawn for consumption if that part of its value which does not depend on its employment as money is not to be diminished by a deterioration of its substance. In a developed monetary system, on the other hand, we find commodity money, of which large quantifies remain constantly in circulation and are never consumed or used in industry; credit money, whose foundation, the claim to payment, is never made use of; and possibly even fiat money, which has no use at all except as money.

Many of the most eminent economists have taken it for granted that the value of money and of the material of which it is made depends solely on its industrial employment and that the purchasing power of our present-day metallic money, for instance, and consequently the possibility of its continued employment as money, would immediately disappear if the properties of the monetary material as a useful metal were done away with by some accident or other. [13] Nowadays this opinion is no longer tenable, not merely because there is a whole series of phenomena which it leaves unaccounted for, but chiefly because it is in any case opposed to the fundamental laws of the theory of economic value. To assert that the value of money is based on the nonmonetary employment of its material is to eliminate the real problem altogether. [14] Not only have we to explain the possibility of fiat money, the material of which has a far lower value without the official stamp than with it; we must also answer the question, whether the possibility of a monetary employment of the commodity money material affects its utility and consequently its value, and if so to what extent. The same problem arises in the case of credit money.

Part of the stock of gold at the command of mankind is used for monetary purposes, part for industrial. A change from one kind of use to the other is always possible. Ingots pass from the vaults of the banks to the workshops of the goldsmiths and gilders, who also directly withdraw current coins from circulation and melt them down. On the other hand, things made of gold, even with a high value as works of art, find their way to the mint when unfavorable market conditions render a sale at anything higher than the bullion price impossible. One and the same piece of metal can even fulfill both purposes simultaneously, as will be seen if we think of

ornaments that are used as money or of a coin that is worn by its owner as jewelry until he parts with it again. [15]

Investigations into the foundations of the value of money must eliminate those determinants that arise from the properties of the monetary material as a commodity, since these present no peculiarity that could distinguish the value of money from that of other commodities. The value of commodity money is of importance for monetary theory only insofar as it depends on the peculiar economic position of the money, on its function as a common medium of exchange. Changes in the value of the monetary material that arise from its characteristics as a commodity are consequently to be considered only so far as they seem likely to make it more or less suitable for performing the function of money. Apart from this, monetary theory must take the value of the monetary material that arises from its industrial usefulness as given.

The material of which commodity money is made must have the same value whether it is used as money or otherwise. Whether a change in the value of gold originates in its employment as money or in its employment as a commodity, in either case the value of the whole stock changes uniformly. [16]

It is otherwise with credit money and fiat money. With these, the substance that bears the impression is essentially insignificant in the determination of the value of the money. In some circumstances it may have a relatively high exchange value comprising a considerable fraction of the total exchange value of the individual coin or note. But this value, which is not based on the monetary properties of the coin or note, only becomes of practical importance at the moment when the value based on the monetary property vanishes, that is, at the moment when the individuals participating in commerce cease to use the coin or note in question as a common medium of exchange. When this is not the case, the coins or notes bearing the monetary impression must have a higher exchange value than other pieces of the same material so long as these are not marked out by any special characteristics.

Again, in the case of credit money the claims used as money have similarly a different exchange value from other claims of the same kind that are not used as money. The hundred-gulden notes which circulated as money in Austria-Hungary before the reform of the currency had a higher exchange value than, say, a government security with a nominal value of a hundred gulden, notwithstanding the fact that the latter bore interest and the former did not.

Until gold was used as money it was valued merely on account of the possibility of using it for ornamental purposes. If it had never been used as money, or if it had ceased to be so used, its present-day value would be determined solely by the extent to which it was known to be useful in industry. But additional opportunities of using it provided an addition to the original reasons for esteeming it; gold began to be valued partly because it could be used as a common medium of exchange. It is not surprising that its value consequently rose, or that at least a decrease in its value which possibly would have occurred for other reasons was counterbalanced. Nowadays the value of gold, our principal modern monetary material, is based on both possibilities of employment, on that for monetary purposes and on that for industrial purposes. [17]

It is impossible to say how far the present value of money depends on its monetary employment

and how far on its industrial employment. When the institution of money was first established, the industrial basis of the value of the precious metals may have preponderated; but with progress in the monetary organization of economic life the monetary employment has become more and more important. It is certain that nowadays the value of gold is largely supported by its monetary employment, and that its demonetization would affect its price in an overwhelming fashion. [18] The sharp decline in the price of silver since 1873 is recognized as largely due to the demonetization of this metal in most countries. And when, between 1914 and 1918, many countries replaced gold by banknotes and Treasury notes so that gold flowed to those countries that had remained on a gold standard, the value of gold fell very considerably.

The value of the materials that are used for the manufacture of fat money and credit money is also influenced by their use as money as well as by all their other uses. The production of token coins is nowadays one of the most important uses of silver, for example. Again, when the minting of coins from nickel was begun over fifty years ago, the price of nickel rose so sharply that the director of the English mint stated in 1873 that if minting from nickel were continued the cost of the metal alone would exceed the face value of the coins. [19] If we prefer to regard this sort of use as industrial and not monetary, however, it is because token coins are not money but money substitutes, and consequently the peculiar interactions between changes in the value of money and changes in the value of the monetary material are absent in these cases.

The task of the theory of the value of money is to expound the laws which regulate the determination of the objective exchange value of money. It is not its business to concern itself with the determination of the value of the material from which commodity money is made so far as this value does not depend on the monetary, but on the other, employment of this material. Neither is it its task to concern itself with the determination of the value of those materials that are used for making the concrete embodiments of fiat money. It discusses the objective exchange value of money only insofar as this depends on its monetary function.

The other forms of value present no special problems for the theory of the value of money. There is nothing to be said about the subjective value of money that differs in any way from what economics teaches of the subjective value of other economic goods. And all that it is important to know about the objective *use*-value of money may be summed up in the one statement—it depends on the objective exchange value of money.

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[1] See Böhm-Bawerk, *Kapital und Kapitalzins*, pp. 211 ff.

[2] See Walsh, *The Fundamental Problem in Monetary Science* (New York, 1903), p. 11; and in like manner, Spiethoff, "Die Quantitätstheorie insbesondere in ihrer Verwertbarkeit als Haussetheorie," *Festgaben für Adolf Wagner* (Leipzig, 1905), p. 256.

[3] See Rau, *Grundsätze der Volkswirtschaftslehre*, 6th ed. (Leipzig, 1855), p. 80.

[4] See Böhm-Bawerk, *op. cit.*, Part II, p. 275. And similarly in Wieser, *Der natürliche Wert*, p.

45; "Der Geldwert und seine Veränderungen," *Schriften des Vereins für Sozialpolitik* 132: 507.

[5] See Böhm-Bawerk, *op. cit.*, Part II, pp. 273 ff.; Schumpeter, *Wesen und Hauptinhalt der theoretischen Nationalökonomie* (Leipzig, 1908), p. 108.

[6] Wieser, *Der natürliche Wert*, p. 46.

[7] *Ibid.*, p. 52.

[8] Böhm-Bawerk, *op cit.*, Part II, pp. 214 f.

[9] See Helfferich, *Das Geld*, 6th ed. (Leipzig, 1923), pp. 301 f.

[10] Thus Schumpeter, *op. cit.*, p. 109.

[11] See Böhm-Bawerk, *op. cit.*, Part II, p. 217.

[12] See Wieser, "Der Geldwert und seine geschichtlichen Veränderungen," *Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung* 13 (1904): 45.

[13] Thus even as late as Menger, *Grundsätze der Volkswirtschaftslehre* (Vienna, 1871), p. 259 n; and also Knies, *Geld und Kredit* (Berlin, 1885), vol. 1, p. 323.

[14] See Simmel, *Philosophie des Geldes*, 2d ed. (Leipzig, 1907), p. 130.

[15] But, as a general rule, objects of art, jewelry and other things made of precious metal should not be regarded as constituting part of the stock of metal which performs the function of commodity money. They are goods of the first order, in relation to which the bullion or coined metal must be regarded as goods of superior orders.

[16] See Wieser, "Der Geldwert und seine geschichtlichen Veränderungen," p. 46.

[17] More than two hundred years ago, John Law, far ahead of his time and with an insight amounting to genius, had seized upon this truth: "Il est raisonnable de penser que l'argent s'échangeait sur le pied de ce qu'il était évalué pour les usages, comme métal, et q'on le donnait comme monnaie dans les échanges à raison de sa valeur. Le nouvel usage de la monnaie, auquel l'argent fut appliqué, dut ajouter à sa valeur, parce que, comme monnaie, obviait aux désavantages et aux inconvénients de l'échange; et conséquemment les demandes d'argent venant à s'augmenter, il reçut une valeur additionnelle, égale à l'accroissement de la demande occasionnée par son usage comme monnaie. Et cette valeur additionnelle n'est pas plus imaginaire que la valeur que l'argent avait dans les échanges comme métal, parce que telle ou telle valeur dérivait de son application à tels ou tels usages, et quelle était plus grande ou moindre, suivant les demandes d'argent comme métal, en proportion de sa quantité. Le valeur additionnelle que l'argent reçut de son usage comme monnaie provient de ses qualités, qui le rendaient propre a cet usage; et cette valeur fut en raison de la demande additionnelle occasionnée par son usage comme monnaie. Si l'une et l'autre de ces valeurs sont imaginaires,

alors toutes les valeurs le sont; car aucune chose n'a de valeur que par l'usage auquel on l'applique, et à raison des demandes qu'on en fait, proportionellement à sa quantité" (*Considerations sur le numéraire et le commerce*, ed. Daire, Économistes financiers du XVIIIe siécle, 2nd. ed. [Paris, 1851]), pp. 447 f. See further Walras, *Théorie de la monnaie* (Lausanne, 1886), p. 40; Knies, *op. cit.*, vol. 1, p. 324. Objective theories of value are unable to comprehend this fundamental principle of the theory of the value of money. This is best shown by the lack of comprehension with which Marx confronts the arguments of Law cited above (see Marx, *Das Kapital*, 7th ed. (Hamburg, 1914) vol. 1, p. 56, n. 46; trans. E. and C. Paul into English).

[18] See Heyn, *Irrtümer auf dem Gebiete des Geldwesens* (Berlin, 1900), p. 3; Simmel, *op. cit.*, pp. 116 ff.

[19] Jevons, *Money and the Mechanism of Exchange*, 13th ed. (London, 1902), pp. 49 f.

Ch. 7: THE CONCEPT OF THE VALUE OF MONEY

The main task of economic theory is to explain money's *objective* exchange value, or what is often called the *purchasing power of money*. This refers to the amount of goods that someone can obtain in the marketplace with a unit of money. This explanation in turn ultimately goes back to *subjective* valuations.

What sets money apart from all other goods is that money is useful (and hence valuable) to people *only* because of its purchasing power. In its capacity as a medium of exchange, a unit of money is only useful inasmuch as it can be used to acquire *other* goods and services.

When we say a particular good has objective exchange value, the term "objective" is *not* used to mean that this value inherently resides in the object. All market prices are ultimately determined by subjective human preferences, and therefore are subject to change whenever people's valuations change. A typical good's "objective" exchange value is still determined by the subjective usevalues of the end user. (For example, a car manufacturer will produce cars based not on his personal whims, but on how much he can charge for them in the market. Yet these prices themselves are due to how much his customers enjoy driving the various vehicles.)

The one essential difference with money is that it *has no* subjective use-value, which could ultimately explain its objective exchange value. Its *only* value—*qua* money—derives from its ability to exchange for other goods in the market. This is why applying modern subjective

value theory to the explanation of objective money prices is such a tricky affair. Those economists of Mises's day who tried to explain the purchasing power of money based solely on its industrial applications, were completely evading the issue. In particular, they would be helpless to explain the purchasing power of fiat money.

1. Subjective and Objective Factors in the Theory of the Value of Money

When it comes to money, the main task of economic theory is to explain its *objective* exchange value, or what is often called the *purchasing power of money*. This refers to the amount of goods that someone can obtain in the marketplace with a unit of money. This is an *objective* fact: if Tom sees that a dollar bill can purchase three postage stamps, then Bill will observe the same purchasing power as well.

Even though economics focuses on the explanation of money's objective exchange value, the explanation itself ultimately goes back to *subjective* valuations. For the economist grounded in the modern subjective value theory (developed by Carl Menger and his followers), *all* prices in the market must be explained by reference to individuals' subjective valuations. This rule holds even for money.

What sets money apart from all other goods is that money is useful (and hence valuable) to people *only* because of its purchasing power. In its capacity as a medium of exchange, a unit of money is only useful inasmuch as it can be used to acquire *other* goods and services.

When it comes to explaining the price of, say, an original painting by Picasso, the economist starts with the fact that some people place a very high subjective value on holding such artwork. The economist has no obligation to explain *why* people enjoy the mere possession of a canvas covered in paint; he or she takes this preference as a given, and proceeds to explain the exchange value of the Picasso in the marketplace. Yet when it comes to money, theeconomist can't explain its "price" (i.e., purchasing power) merely by saying that people enjoy acquiring and holding cash balances.

Such an argument—by itself—would be circular, because the *reason* people want to hold cash balances is that money has purchasing power. That is why explaining the "price" of money is a much subtler task than explaining the price of a Picasso.

2. The Objective Exchange Value of Money

The objective exchange value of goods can be defined as "their objective significance in exchange" or "their capacity in given circumstances to procure a specific quantity of other

goods as an equivalent in exchange." Nowadays we might use the term **market value** to express the same concept as objective exchange value.

When we say a particular good has objective exchange value, the term "objective" is *not* used to mean that this value inherently resides in the object. (In other words, we are not using the term the same way that a good might have an objective weight or color.) All market prices are ultimately determined by subjective human preferences, and therefore are subject to change whenever people's valuations change. But a good's market value is still "objective" in the sense that any individual can take it as a given fact.

The **objective exchange value of money** refers to the possibility of obtaining a certain quantity of other goods in exchange for the money, while the **price of money** is this actual quantity of other goods. (The terms are not identical, but are very similar, as Mises explains on page 101.)

3. The Problems Involved in the Theory of the Value of Money

In modern economies, producers as a rule evaluate their output on the basis of subjective exchange value, rather than subjective use-value. For example, the owner of an automobile factory doesn't order his employees to produce cars that he himself wants to drive. On the contrary, he instructs his employees to make cars that he plans on *selling* to others, based on what his customers want to drive. When formulating his business plans, then, he is guided by his personal, *subjective* valuations of the other goods he will be able to buy (houses, fancy meals, yachts, etc.) with the revenues from the sale of his cars.

In order for the owner of the automobile factory (and other producers) to accurately envision the tradeoffs of different production decisions, he needs to know the *objective* exchange value of the various cars he could manufacture. It's not enough that the car producer knows that he values yachts and steak dinners; he also needs to know how much money he can raise by selling different models of his cars, and how much money he will need to spend if he wants to acquire yachts and steak dinners. Thus most production decisions involve a complex interdependence on both subjective and objective valuations.

The one essential difference with money is that it *has no* subjective use-value, which could ultimately explain its objective exchange value. In contrast, when it comes to the automobiles, yachts, and steak dinners, the economist ultimately could explain their relative exchange values (i.e., how many automobiles would trade for one yacht, etc.) by reference to individuals' subjective use values from them (i.e., how much people liked driving cars, versus piloting yachts or eating steak).

But with money, its *only* value—*qua* money—derives from its ability to exchange for other goods in the market. This is why applying modern subjective value theory to the explanation of objective money prices is such a tricky affair. Those economists of Mises's day who tried to explain the purchasing power of money based solely on its industrial applications, were

completely evading the issue. In particular, they would be helpless to explain the purchasing power of fiat money.

In the beginning of this chapter, Mises spends time placing his analysis of money within the framework of subjective value theory, as it had been developed by his Austrian predecessors (notably Menger, Böhm-Bawerk, and Wieser). Some of the terminology may appear quaint to modern economists, even those who have studied Austrian economics. But to properly explain the process by which subjective individual valuations generate objective market prices, it is necessary to distinguish between **use-value** and **exchange value**, and these concepts in turn both come with a subjective and an objective dimension. For example, the objective use-value of a pig would include the collection of bacon strips it could physically yield, while the objective use-value of a tomato seed would include the tomatoes it could physically yield. These would be empirical facts, not subject to opinion. However, a vegetarian would probably assign a lower *subjective* use-value to the pig than to the tomato seed, while a meat-lover might do the opposite.

On the other hand, *both* the vegetarian and the meat-lover would agree that the *objective exchange* value of the pig is much higher than that of the tomato seed. For example, it would be an indisputable fact that the pig could fetch more grams of gold (or dollar bills) than the tomato seed, if both were put up for sale.

• Applying these concepts to money, Mises explains (pp. 97 –98) that there are two acceptable ways of making an important point. One way is to claim that money'ssubjective use-value is the same as its subjective exchangevalue. (That is, the significance that a particular individual attributes to a quantity of money, must be the same significance that he or she attributes to the goods for which the money can be exchanged, because the money can't be used to satisfy wants directly.) A different way to make the point is to say that money *has no* use-value at all, because any value it possesses necessarily derives from its exchange value. Mises doesn't take a position on which of these alternate descriptions is better; he merely wants to stress the fundamental point that people consider money useful and valuable *only* because they expect to use it to acquire other goods. (Of course Mises is talking about money *qua* money. A bar of gold, for example, can still possess use-value for its industrial or ornamental applications.)

Exchange value: The significance of a good due to its ability to be traded for other goods. (Exchange value can be qualified as either subjective or objective.)

Market value: Synonymous with the objective exchange value of a good, typically quoted in money terms.

Objective exchange value of money: The possibility of obtaining a certain quantity of other goods in exchange for a unit of money.

Price of money: The quantity of goods (or services) that must be given up in exchange to acquire a unit of money.

Use-value: The significance of a good due to its ability to be directly used by the owner in consumption or production. (Use-value can be qualified as either subjective or objective.)

What is the central element in the economic problem of money? (p. 97)

Does the subjective theory of value apply to the case of money, as to all other goods? (p. 97)

Explain: “In the case of money, subjective use-value and subjective exchange value coincide.” (p. 97)

Explain: “It should be observed that even objective exchange value is not really a property of the goods themselves, bestowed on them by nature. . . .” (p. 100)

If money (e.g., gold) has an industrial use as well as a monetary use, what will be the relation between its objective exchange values in those two different applications? (pp. 104 –05)

PART TWO: THE VALUE OF MONEY

CHAPTER 8: The Determinants of the Objective Exchange Value, or Purchasing Power, of Money

I. The Element of Continuity in the Objective Exchange Value of Money

1 The Dependence of the Subjective Valuation of Money on the Existence of Objective Exchange Value

According to modern value theory, price is the resultant of the interaction in the market of subjective valuations of commodities and price goods. From beginning to end, it is the product of subjective valuations. Goods are valued by the individuals exchanging them, according to their subjective use-values, and their exchange ratios are determined within that range where both supply and demand are in exact quantitative equilibrium. The law of price stated by Menger and Böhm-Bawerk provides a complete and numerically precise explanation of these exchange ratios; it accounts exhaustively for all the phenomena of direct exchange. Under bilateral competition, market price is determined within a range whose upper limit is set by the valuations of the lowest bidder among the actual buyers and the highest offerer among the excluded would-be sellers, and whose lower limit is set by the valuations of the lowest offerer among the actual sellers and the highest bidder among the excluded would-be buyers.

This law of price is just as valid for indirect as for direct exchange. The price of money, like other prices, is determined in the last resort by the subjective valuations of buyers and sellers. But, as has been said already, the subjective use-value of money, which coincides with its subjective exchange value, is nothing but the anticipated use-value of the things that are to be bought with it. The subjective value of money must be measured by the marginal utility of the goods for which the money can be exchanged.[1]

It follows that a valuation of money is possible only on the assumption that the money has a certain objective exchange value. Such a *point d'appui* is necessary before the gap between satisfaction and "useless" money can be bridged. Since there is no direct connection between money as such and any human want, individuals can obtain an idea of its utility and consequently of its value only by assuming a definite purchasing power. But it is easy to see that this supposition cannot be anything but an expression of the exchange ratio ruling at the time in the market between the money and commodities. [2]

Once an exchange ratio between money and commodities has been established in the market, it continues to exercise an influence beyond the period during which it is maintained; it provides the basis for the further valuation of money. Thus the past objective exchange value of money has a certain significance for its present and future valuation. The money prices of today are linked with those of yesterday and before, and with those of tomorrow and after.

But this alone will not suffice to explain the problem of the element of continuity in the value of money; it only postpones the explanation. To trace back the value that money has today to that which it had yesterday, the value that it had yesterday to that which it had the day before, and so on, is to raise the question of what determined the value of money in the first place. Consideration of the origin of the use of money and of the particular components of its value that depend on its monetary function suggests an obvious answer to this question. The first value of money was clearly the value which the goods used as money possessed (thanks to their suitability for satisfying human wants in other ways) at the moment when they were first used as common media of exchange. When individuals began to acquire objects, not for consumption, but to be used as media of exchange, they valued them according to the objective exchange value with which the market already credited them by reason of their "industrial" usefulness, and only as an additional consideration on account of the possibility of using them as media of exchange. The earliest value of money links up with the commodity value of the monetary material. But the value of money since then has been influenced not merely by the factors dependent on its "industrial" uses, which determine the value of the material of which the commodity money is made, but also by those which result from its use as money. Not only its supply and demand for industrial purposes, but also its supply and demand for use as a medium of exchange, have influenced the value of gold from that point of time onward when it was first used as money. [3]

2 The Necessity for a Value Independent of the Monetary Function Before an Object Can Serve as Money

If the objective exchange value of money must always be linked with a preexisting market exchange ratio between money and other economic goods (since otherwise individuals would not be in a position to estimate the value of the money), it follows that an object cannot be used as

money unless, at the moment when its use as money begins, it already possesses an objective exchange value based on some other use. This provides both a refutation of those theories which derive the origin of money from a general agreement to impute fictitious value to things intrinsically valueless [4] and a confirmation of Menger's hypothesis concerning the origin of the use of money.

This link with a preexisting exchange value is necessary not only for commodity money, but equally for credit money and fiat money. [5] No fiat money could ever come into existence if it did not satisfy this condition. Let us suppose that, among those ancient and modern kinds of money about which it may be doubtful whether they should be reckoned as credit money or fiat money, there have actually been representatives of pure fiat money. Such money must have come into existence in one of two ways. It may have come into existence because money substitutes already in circulation, that is, claims payable in money on demand, were deprived of their character as claims, and yet still used in commerce as media of exchange. In this case, the starting point for their valuation lay in the objective exchange value that they had at the moment when they were deprived of their character as claims. The other possible case is that in which coins that once circulated as commodity money are transformed into fiat money by cessation of free coinage (either because there was no further minting at all or because minting was continued only on behalf of the Treasury), no obligation of conversion being *de jure* or *de facto* assumed by anybody, and nobody having any grounds for hoping that such an obligation ever would be assumed by anybody. Here the starting point for the valuation lies in the objective exchange value of the coins at the time of the cessation of free coinage.

Before an economic good begins to function as money it must already possess exchange value based on some other cause than its monetary function. But money that already functions as such may remain valuable even when the original source of its exchange value has ceased to exist. Its value then is based entirely on its function as common medium of exchange. [6]

3 The Significance of Preexisting Prices in the Determination of Market Exchange Ratios

From what has just been said, the important conclusion follows that a historically continuous component is contained in the objective exchange value of money.

The past value of money is taken over by the present and transformed by it; the present value of money passes on into the future and is transformed in its turn. In this there is a contrast between the determination of the exchange value of money and that of the exchange value of other economic goods. All preexisting exchange ratios are quite irrelevant so far as the actual levels of the reciprocal exchange ratios of other economic goods are concerned. It is true that if we look beneath the concealing monetary veil to the real exchange ratios between goods we observe a certain continuity. Alterations in real prices occur slowly as a rule. But this stability of prices has its cause in the stability of the price determinants, not in the law of price determination itself. Prices change slowly because the subjective valuations of human beings change slowly. Human needs, and human opinions as to the suitability of goods for satisfying those needs, are no more liable to frequent and sudden changes than are the stocks of goods available for consumption, or the manner of their social distribution. The fact that today's market price is seldom very different from yesterday's is to be explained by the fact that the circumstances that determined yesterday's

price have not greatly changed overnight, so that today's price is a resultant of nearly identical factors. If rapid and erratic variations in prices were usually encountered in the market, the conception of objective exchange value would not have attained the significance that it is actually accorded both by consumer and producer.

In this sense, reference to an inertia of prices is unobjectionable, although the errors of earlier economists should warn us of the real danger that the use of terms borrowed from mechanics may lead to a "mechanical" system, that is, to one that abstracts erroneously from the subjective valuations of individuals. But any suggestion of a *causal relationship* between past and present prices must be decisively rejected.

It is not disputed that there are institutional forces in operation which oppose changes in prices that would be necessitated by changes in valuations, and which are responsible when changes in prices that would have been caused by changes in supply and demand are postponed and when small or transitory changes in the relations between supply and demand lead to no corresponding change in prices at all. It is quite permissible to speak of an inertia of prices in this sense. Even the statement that the closing price forms the starting point for the transactions of the next market [7] may be accepted if it is understood in the sense suggested above. If the general conditions that determined yesterday's price have altered but little during the night, today's price should be but little different from that of yesterday, and in practice it does not seem incorrect to make yesterday's the starting point. Nevertheless, there is no causal connection between past and present prices as far as the relative exchange ratios of economic goods (not including money) are concerned. The fact that the price of beer was high yesterday cannot be of the smallest significance as far as today's price is concerned—we need only think of the effect upon the prices of alcoholic drinks that would follow a general triumph of the Prohibition movement. Anybody who devotes attention to market activities is daily aware of alterations in the exchange ratios of goods, and it is quite impossible for anybody who is well acquainted with economic phenomena to accept a theory which seeks to explain price changes by a supposed constancy of prices.

It may incidentally be remarked that to trace the determination of prices back to their supposed inertia, as even Zwiedineck in his pleadings for this assumption is obliged to admit, is to resign at the outset any hope of explaining the ultimate causes of prices and to be content with explanations from secondary causes. [8] It must unreservedly be admitted that an explanation of the earliest forms of exchange transaction that can be shown to have existed—a task to the solution of which the economic historian has so far contributed but little would show that the forces that counteract sudden changes in prices were once stronger than they are now. But it must positively be denied that there is any sort of connection between those early prices and those of the present day; that is, if there really is anybody who believes it possible to maintain the assertion that the exchange ratios of economic goods (not the money prices) that prevail today on the German stock exchanges are in any sort of causal connection with those that were valid in the days of Hermann or Barbarossa. If all the exchange ratios of the past were erased from human memory, the process of market-price determination might certainly become more difficult, because everybody would have to construct a new scale of valuations for himself; but it would not become impossible. In fact, people the whole world over are engaged daily and hourly in the operation from which all prices result: the decision as to the relative significance enjoyed by specific quantities of goods as conditions for the satisfaction of wants.

It is so far as the money prices of goods are determined by *monetary* factors, that a historically continuous component is included in them, without which their actual level could not be explained. This component, too, is derived from exchange ratios which can be entirely explained by reference to the subjective valuations of the individuals taking part in the market, even though these valuations were not originally grounded upon the specifically monetary utility alone of these goods. The valuation of money by the market can only start from a value possessed by the money in the past, and this relationship influences the new level of the objective exchange value of money. The historically transmitted value is transformed by the market without regard to what has become its historical content. [9] But it is not merely the starting point for today's objective exchange value of money; it is an indispensable element in its determination. The individual must take into account the objective exchange value of money, as determined in the market yesterday, before he can form an estimate of the quantity of money that he needs today. The demand for money and the supply of it are thus influenced by the value of money in the past; but they in their turn modify this value until they are brought into equilibrium.

4 The Applicability of the Marginal-Utility Theory to Money

Demonstration of the fact that search for the determinants of the objective exchange value of money always leads us back to a point where the value of money is not determined in any way by its use as a medium of exchange, but solely by its other functions, prepares the way for developing a complete theory of the value of money on the basis of the subjective theory of value and its peculiar doctrine of marginal utility.

Until now the subjective school has not succeeded in doing this. In fact, among the few of its members who have paid any attention at all to the problem there have been some who have actually attempted to demonstrate its insolubility. The subjective theory of value has been helpless in face of the task here confronting it.

There are two theories of money which, whatever else we may think of them, must be acknowledged as having attempted to deal with the whole problem of the value of money.

The objective theories of value succeeded in introducing a formally unexceptionable theory of money into their systems, which deduces the value of money from its cost of production. [10] It is true that the abandonment of this monetary theory is not merely to be ascribed to those shortcomings of the objective theory of value in general which led to its supersession by the theory of the modern school. Apart from this fundamental weakness, the cost-of-production theory of the value of money exhibited one feature that was an easy target for criticism. While it certainly provided a theory of commodity money (even if only a *formally* correct one), it was unable to deal with the problem of credit money and fiat money. Nevertheless, it was a complete theory of money insofar as it did at least attempt to give a full explanation of the value of commodity money.

The other similarly complete theory of the value of money is that version of the quantity theory associated with the name of Davanzati. [11] According to this theory, all the things that are able to satisfy human wants are conventionally equated with all the monetary metal. From this, since what is true of the whole is also true of its parts, the exchange ratios between commodity units

and units of money can be deduced. Here we are confronted with a hypothesis that is not in any way supported by facts. To demonstrate its untenability once more would nowadays be a waste of time. Nevertheless, it must not be overlooked that Davanzati was the first who attempted to present the problem as a whole and to provide a theory that would explain not merely the variations in an *existing* exchange ratio between money and other economic goods, but also the origin of this ratio.

The same cannot be said of other versions of the quantity theory. These all tacitly assume a certain value of money as given, and absolutely refuse to investigate further into the matter. They overlook the fact that what is required is an explanation of what determines the exchange ratio between money and commodities, and not merely of what causes changes in this ratio. In this respect, the quantity theory resembles various general theories of value (many versions of the doctrine of supply and demand, for example), which have not attempted to explain price as such but have been content to establish a law of price variations. [12] These forms of the quantity theory are in fact nothing but the application of the law of supply and demand to the problem of the value of money. They introduce into monetary theory all the strong points of this doctrine; and of course all its weak points as well. [13]

The revolution in economics since 1870 has not yet been any more successful in leading to an entirely satisfactory solution of this problem. Of course, this does not mean that the progress of the science has left no trace on monetary theory in general and on the theory of the value of money in particular. It is one of the many services of the subjective theory of value to have prepared the way for a deeper understanding of the nature and value of money. The investigations of Menger have placed the theory on a new basis. But till now one thing has been neglected. Neither Menger nor any of the many investigators who have tried to follow him have even so much as attempted to solve the fundamental problem of the value of money. Broadly speaking, they have occupied themselves with checking and developing the traditional views and here and there expounding them more correctly and precisely, but they have not provided an answer to the question: What are the determinants of the objective exchange value of money? Menger and Jevons have not touched upon the problem at all. Carver[14] and Kinley[15] have contributed nothing of real importance to its solution. Walras[16] and Kemmerer[17] assume a given value of money and develop what is merely a theory of variations in the value of money. Kemmerer, it is true, approaches very close to a solution of the problem but passes it by.

Wieser expressly refers to the incomplete nature of the previous treatment. In his criticism of the quantity theory he argues that the law of supply and demand in its older form, the application of which to the problem of money constitutes the quantity theory, has a very inadequate content, since it gives no explanation at all of the way in which value is really determined or of its level at any given time, but confines itself without any further explanation merely to stating the direction in which value will move in consequence of variations in supply or demand; that is, in an opposite direction to changes in the former and in the same direction as changes in the latter. He further argues that it is no longer possible to rest content with a theory of the economic value of money which deals so inadequately with the problem; that since the supersession of the old law of supply and demand as applied to commodities, the case for which it was originally constructed, a more searching law must also be sought to apply to the case of money. [18] But Wieser does not deal with the problem whose solution he himself states to be the object of his

investigation, for in the further course of his argument he declares that the concepts of supply of money and demand for money *as a medium of exchange* are useless for his purpose and puts forward a theory which attempts to explain variations in the objective exchange value of money (*objektive innere Tauschwert des Geldes*)[19] by reference to the relationship that exists in an economic community between money income and real income. For while it is true that reference to the ratio between money income and real income may well serve to explain *variations* in the objective exchange value of money, Wieser nowhere makes the attempt to evolve a *complete* theory of money—an attempt which, admittedly, the factors of supply and demand being excluded from consideration, would be certain to fail. The very objection that he raises against the old quantity theory, that it affirms nothing concerning the actual determination of value or the level at which it must be established at any time, must also be raised against his own doctrine; and this is all the more striking inasmuch as it was Wieser who, by revealing the historical element in the purchasing power of money, laid the foundation for the further development of the subjective theory of the value of money.

The unsatisfactory results offered by the subjective theory of value might seem to justify the opinion that this doctrine and especially its proposition concerning the significance of marginal utility must necessarily fall short as a means of dealing with the problem of money. Characteristically enough, it was a representative of the new school, Wicksell, who first expressed this opinion. Wicksell considers that the principle which lies at the basis of all modern investigation into the theory of value, namely, the concept of marginal utility, may well be suited to explaining the determination of exchange ratios between one commodity and another, but that it has practically no significance at all, or at most an entirely secondary significance, in explaining the exchange ratios between money and other economic goods. Wicksell, however, does not appear to detect any sort of objection to the marginal-utility theory in this assertion. According to his argument, the objective exchange value of money is not determined at all by the processes of the market in which money and the other economic goods are exchanged. If the money price of a single commodity or group of commodities is wrongly assessed in the market, then the resulting maladjustments of the supply and demand and the production and consumption of this commodity or group of commodities will sooner or later bring about the necessary correction. If, on the other hand, all commodity prices, or the average price level, should for any reason be raised or lowered, there is no factor in the circumstances of the *commodity* market that could bring about a reaction. Consequently, if there is to be any reaction at all against a price assessment that is either too high or too low it must in some way or other originate outside the commodity market. In the further course of his argument, Wicksell arrives at the conclusion that the regulator of money prices is to be sought in the relations of the commodity market to the money market, in the broadest sense of the term. The cause which influences the demand for raw materials, labor, the use of land, and other means of production, and thus indirectly determines the upward or downward movement of commodity prices, is the ratio between the money rate of interest (*Darlehnszins*) and the "natural" or equilibrium rate of interest (*natürliche Kapitalzins*), by which we are to understand that rate of interest which would be determined by supply and demand if real capital was itself lent directly without the intermediation of money. [20]

Wicksell imagines that this argument of his provides a theory of the determination of the objective exchange value of money. In fact, however, all that he attempts to prove is that forces operate from the loan market on the commodity market which prevent the objective exchange

value of money from rising too high or falling too low. He never asserts that the rate of interest on loans determines the actual level of this value in any way; in fact, to assert this would be absurd. But if we are to speak of a level of money prices that is "too high" or "too low," we must first state how the ideal level with which the actual level is compared has been established. It is in no way sufficient to show that the position of equilibrium is returned to after any disturbance, if the existence of this position of equilibrium is not first explained. Indubitably, this is the primary problem, and its solution leads directly to that of the other; without it, further inquiry must remain unfruitful, for the state of equilibrium can only be maintained by those forces which first established it and continue to reestablish it. If the circumstances of the loan market can provide no explanation of the genesis of the exchange ratio subsisting between money and other economic goods, then neither can they help to explain why this ratio does not alter. The objective exchange value of money is determined in the market where money is exchanged for commodities and commodities for money. To explain its determination is the task of the theory of the value of money. But Wicksell is of the opinion that "the laws of the exchange of commodities contain in themselves nothing that could determine the absolute level of money prices." [21] This amounts to a denial of all possibility of scientific investigation in this sphere.

Helfferich also is of the opinion that there is an insurmountable obstacle in the way of applying the marginal-utility theory to the problem of money; for while the marginal-utility theory attempts to base the exchange value of goods on the degree of their utility to the individual, the degree of utility of money to the individual quite obviously depends on its exchange value, since money can have utility only if it has exchange value, and the degree of the utility is determined by the level of the exchange value. Money is valued subjectively according to the amount of consumable goods that can be obtained in exchange for it, or according to what other goods have to be given in order to obtain the money needed for making payments. The marginal utility of money to any individual, that is, the marginal utility derivable from the goods that can be obtained with the given quantity of money or that must be surrendered for the required money, presupposes a certain exchange value of the money; so the latter cannot be derived from the former. [22]

Those who have realized the significance of historically transmitted values in the determination of the objective exchange value of money will not find great difficulty in escaping from this apparently circular argument. It is true that valuation of the monetary unit by the individual is possible only on the assumption that an exchange ratio already exists in the market between the money and other economic goods. Nevertheless, it is erroneous to deduce from this that a complete and satisfactory explanation of the determination of the objective exchange value of money cannot be provided by the marginal-utility theory. The fact that this theory is unable to explain the objective exchange value of money entirely by reference to its *monetary* utility; that to complete its explanation, as we were able to show, it is obliged to go back to that original exchange value which was based not on a monetary function at all but on other uses of the object that was to be used as money—this must not in any way be reckoned to the discredit of the theory, for it corresponds exactly to the nature and origin of the particular objective exchange value under discussion. To demand of a theory of the value of money that it should explain the exchange ratio between money and commodities solely with reference to the monetary function, and without the assistance of the element of historical continuity in the value of money, is to make demands of it that run quite contrary to its nature and its proper task.

The theory of the value of money as such can trace back the objective exchange value of money only to that point where it ceases to be the value of money and becomes merely the value of a commodity. At this point the theory must hand over all further investigation to the general theory of value, which will then find no further difficulty in the solution of the problem. It is true that the subjective valuation of money presupposes an existing objective exchange value; but the value that has to be presupposed is not the same as the value that has to be explained; what has to be presupposed is *yesterday's* exchange value, and it is quite legitimate to use it in an explanation of that of today. The objective exchange value of money which rules in the market today is derived from day's under the influence of the subjective valuations of the individuals frequenting the market, just as yesterday's in its turn was derived under the influence of subjective valuations from the objective exchange value possessed by the money the day before yesterday.

If in this way we continually go farther and farther back we must eventually arrive at a point where we no longer find any component in the objective exchange value of money that arises from valuations based on the function of money as a common medium of exchange; where the value of money is nothing other than the value of an object that is useful in some other way than as money. But this point is not merely an instrumental concept of theory; it is an actual phenomenon of economic history, making its appearance at the moment when indirect exchange begins.

Before it was usual to acquire goods in the market, not for personal consumption, but simply in order to exchange them again for the goods that were really wanted, each individual commodity was only accredited with that value given by the subjective valuations based on its direct utility. It was not until it became customary to acquire certain goods merely in order to use them as media of exchange that people began to esteem them more highly than before, on account of this possibility of using them in indirect exchange. The individual valued them in the first place because they were useful in the ordinary sense, and then additionally because they could be used as media of exchange. Both sorts of valuation are subject to the law of marginal utility. Just as the original starting point of the value of money was nothing but the result of subjective valuations, so also is the present-day value of money.

But Helfferich manages to bring forward yet another argument for the inapplicability of the marginal-utility theory to money. Looking at the economic system as a whole, it is clear that the notion of marginal utility rests on the fact that, given a certain quantity of goods, only certain wants can be satisfied and only a certain set of utilities provided. With given wants and a given set of means, the marginal degree of utility is determined also. According to the marginal-utility theory, this fixes the value of the goods in relation to the other goods that are offered as an equivalent in exchange, and fixes it in such a manner that that part of the demand that cannot be satisfied with the given supply is excluded by the fact that it is not able to offer an equivalent corresponding to the marginal utility of the good demanded. Now Helfferich objects that while the existence of a limited supply of any goods except money is in itself sufficient to imply the limitation of their utility also, this is not true of money. The utility of a given quantity of money depends directly upon the exchange value of the money, not only from the point of view of the individual, but also for society as a whole. The higher the value of the unit in relation to other goods, the greater will be the quantity of these other goods that can be paid for by means of the same sum of money. The value of goods in general results from the limitation of the possible

utilities that can be obtained from a given supply of them, and while it is usually higher according to the degree of utility which is excluded by the limitation of supply, the total utility of the supply itself cannot be increased by an increase in its value; but in the case of money, the utility of a given supply can be increased at will by an increase in the value of the unit. [23]

The error in this argument is to be found in its regarding the utility of money from the point of view of the community instead of from that of the individual. Every valuation must emanate from somebody who is in a position to dispose in exchange of the object valued. Only those who have a choice between two economic goods are able to form a judgment as to value, and they do this by preferring the one to the other. If we start with valuations from the point of view of society as a whole, we tacitly assume the existence of a socialized economic organization in which there is no exchange and in which the only valuations are those of the responsible official body. Opportunities for valuation in such a society would arise in the control of production and consumption, as, for example, in deciding how certain production goods were to be used when there were alternative ways of using them. But in such a society there would be no room at all for money. Under such conditions, a common medium of exchange would have no utility and consequently no value either. It is therefore illegitimate to adopt the point of view of the community as a whole when dealing with the value of money. All consideration of the value of money must obviously presuppose a state of society in which exchange takes place and must take as its starting point individuals acting as independent economic agents within such a society,[24] that is to say, individuals engaged in valuing things.

5 "Monetary" and "Nonmonetary" Influences Affecting the Objective Exchange Value of Money

Now, the first part of the problem of the value of money having been solved, it is at last possible for us to evolve a plan of further procedure. We no longer are concerned to explain the *origin* of the objective exchange value of money; this task has already been performed in the course of the preceding investigation. We now have to establish the laws which govern *variations* in existing exchange ratios between money and the other economic goods. This part of the problem of the value of money has occupied economists from the earliest times, although it is the other that ought logically to have been dealt with first. For this reason, as well as for many others, what has been done toward its elucidation does not amount to very much. Of course, this part of the problem is also much more complicated than the first part.

In investigations into the nature of changes in the value of money it is usual to distinguish between two sorts of determinants of the exchange ratio that connects money and other economic goods; those that exercise their effect on the money side of the ratio and those that exercise their effect on the commodity side. This distinction is extremely useful; without it, in fact, all attempts at a solution would have to be dismissed beforehand as hopeless. Nevertheless its true meaning must not be forgotten.

The exchange ratios between commodities—and the same is naturally true of the exchange ratios between commodities and money—result from determinants which affect both terms of the exchange ratio. But existing exchange ratios between goods may be modified by a change in determinants connected only with one of the two sets of exchanged objects. Although all the

factors that determine the valuation of a good remain the same, its exchange ratio with another good may alter if the factors that determine the val uation of this second good alter. If of two persons I prefer A to B, this preference may be reversed, even though my feeling for A remains unchanged, if I contract a closer friendship with B. Similarly with the relationships between goods and human beings. He who today prefers the consumption of a cup of tea to that of a dose of quinine may make a contrary valuation tomorrow, even though his liking for tea has not diminished, if he has, say, caught a fever overnight. Whereas the factors that *determine* prices always affect both sets of the goods that are to be exchanged, those of them which merely modify existing prices may sometimes be restricted to one set of goods only. [25]

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[1] See pp. 99. Also Böhm-Bawerk, *Kapital und Kapitalzins*, Part II, p. 274; Wieser, *Der natürliche Wert*, p. 46. (Eng. trans. *The Theory of Natural Value*.)

[2] See Wieser, "Der Geldwert und seine Veränderungen," Schriften des Vereins für Sozialpolitik. 132:513 ff.

[3] See Knies, *Geld und Kredit* (Berlin, 1885), vol. 1, p. 324.

[4] Thus Locke, *Some Considerations of the Consequences of the Lowering of Interest and Raising the Value of Money*, 2d ed. (London, 1696), p. 31.

[5] See Subercaseaux, *Essai sur la nature du papier monnaie* (Paris, 1909), pp. 17 f.

[6] See Simmel, *Philosophie des Geldes*, 2d ed. (Leipzig, 1907), pp. 115 f.; but, above all, Wieser, "Der Geldwert und seine Veränderungen," p. 513.

[7] See Schmoller, *Grundriss der allgemeinen Volkswirtschaftslehre* (Leipzig, 1902), vol. 2, p. 110.

[8] See Zwiedineck, "Kritisches und Positives zur Preislehre," *Zeitschrift für die gesamte Staatswissenschaft*, Vol. 65, pp. 200 ff.

[9] See Wieser, "Der Geldwert und seine Veränderungen," p. 513.

[10] See Senior, *Three Lectures on the Value of Money* (London, 1840; 1931), pp. 1 ff.; *Three Lectures on the Cost of Obtaining Money* (London, 1830; 1931), pp. 1 ff.

[11] See Davanzati, *Lezioni delle monete*, 1588 (in *Scrittori classici italiani di economia politica, Parte Antica* (Milan, 1804), vol. 2, p. 32. Locke and, above all, Montesquieu (*De l'Ësprit des lois, edition Touquet* [Paris, 1821], vol. 2, pp. 458 f.) share this view. See Willis, "The History and Present Application of the Quantity Theory," *Journal of Political Economy* 4 (1896): 419 ff.

[12] 31. See Zuckerkandl, *Zur Theorie des Preises* (Leipzig, 1889), p. 124.

[13] See Wieser, "Der Geldwert und seine Veränderungen," p. 514.

[14] See Carver, "The Value of the Money Unit," *Quarterly Journal of Economics* 11 (1897): 429 f.

[15] See Kinley, *Money* (New York, 1909), pp. 123 ff.

[16] See Walras, *Théorie de la Monnaie* (Lausanne, 1886), pp. 25 ff.

[17] See Kemmerer, *Money and Credit Instruments in Their Relation to General Prices* (New York, 1907), pp. 11 ff.

[18] See Wieser, "Der Geldwert und seine Veränderungen," pp. 514 ff.

[19] [See p. 124 n. H.E.B.]

[20] See Wicksell, *Geldzins und Güterpreise* (Jena, 1898), pp. iv ff, 16 ff.

[21] *Ibid.*, p. 35.

[22] See Helfferich, *Das Geld*, 6th ed. (Leipzig, 1923), p. 577.

[23] *Ibid.*, p. 578.

[24] Dr. B. M. Anderson, pp. 100-110 of his excellent work *The Value of Money* (New York, 1917), has objected to the theory set forth above that instead of a logical analysis it provides merely a temporal regressus. Nevertheless, all the acute objections that he manages to bring forward are directed only against the argument that finds a historical component in the exchange ratios subsisting between commodities, an argument with which I also [see pp. 133 ff. above] am in definite disagreement. But Dr. Anderson recognizes the logical foundation of my theory when he declares, "I shall maintain that value from some source other than the monetary employment is an essential precondition of the monetary employment" (p. 126).

[25] See Menger, *Grundsätze der Volkswirtschaftslehre* (Vienna, 1923), pp. 304 ff. [In the German edition of this book, the above paragraph was followed by an explanation that German writers, following Menger, usually refer to "the question of the nature and extent of the influence upon the exchange ratios between money and commodities exerted by variations in those determinants of prices that lie on the monetary side" as the problem of the *innere objektive Tauschwert* of money, and to "those concerned with variations in the objective exchange value of money throughout time and space in general" as the problem of its *äussere objektive Tauschwert*. Since this distinction has not been usual in English terminology, it has been omitted from the present version; and, in what follows, wherever "the objective exchange value of money" is referred to, it is the *innere* exchange value that is meant unless the contrary is explicitly stated. H.E.B.]

Chapter 8: THE DETERMINANTS OF THE OBJECTIVE EXCHANGE VALUE, OR PURCHASING POWER, OF MONEY

The usefulness of money derives solely from its purchasing power. Therefore, today's valuation of money is dependent on its purchasing power *yesterday*, which in turn was influenced by money's purchasing power two days ago. Such reasoning does not lead to an infinite regress, because at some point in the past we arrive at the state of direct exchange, when goods were only valued for their direct use. This theory of the origin of money is the only one compatible with a subjectivist explanation.

The historical continuity in the value of money distinguishes it from all other commodities. People do not derive their utility from apples or oranges based on their prices, but people *do* evaluate the usefulness of a quantity of money based on its purchasing power.

The problem with many rival theories of the purchasing power of money—such as a simple quantity theory or "supply and demand" explanation—is that they have to take the value of money as given, and can only explain *deviations* from this stipulated starting point. They can't explain the *absolute* level of money-prices, i.e., they can't explain the actual exchange ratio between money and other goods at a particular time. The subjectivist, marginal-utility theory developed by Menger and his successors *can* explain the precise, absolute money-prices of the market today.

The exchange ratio between money and all other goods—in other words, the purchasing power of money—may be affected by changes in people's valuations of the money side *or* the (other) commodities side of the ratio. In its crudest form, the quantity theory of money is obviously wrong: It is simply not true that, say, a doubling in the quantity of money will lead to an exact doubling of all prices (quoted in money).

Modern value theory must explain the demand to hold money by starting with the subjective preferences of the individual. The community's demand to hold money is simply the summation of the individual demands. No individual can make use of the popular "macro" approaches, which employ formulas involving "total volume of transactions" and "velocity of circulation." Economists therefore should not use such concepts when explaining the purchasing power of money.

Money certificates are money substitutes that are fully "covered" by money proper, while **fiduciary media** are money substitutes that are issued above the redemption fund.

I. THE ELEMENT OF CONTINUITY IN THE OBJECTIVE EXCHANGE VALUE OF MONEY

1. The Dependence of the Subjective Valuation of Money on the Existence of Objective Exchange Value

In order for individuals to evaluate the subjective value of money, they must first consider its usefulness which is derived solely from its purchasing power. In this sense, today's valuation of money is dependent on people's observations of its purchasing power *yesterday*. And yesterday's purchasing power, in turn, was influenced by money's purchasing power two days ago.

Such reasoning does not lead to an *infinite* regress, because at some point in the past we arrive at the state of direct exchange, when goods were only valued for their direct use. At that time, goods such as gold and silver—which would become money, down the road—were valued exclusively for their industrial and ornamental purposes.

3. The Necessity for a Value Independent of the Monetary Function Before an Object can Serve as Money

The previous discussion has established that in order for individuals to place a value upon money, they must have some basis for forecasting its future purchasing power. The only way they can do this, is if the money good already has a history of objective exchange value, which the individuals can consult.

This reasoning shows the flaw in the myths about the creation of money being due to a social pact. Rather, Menger's theory of the origin of money—in which the money commodities were originally used as ordinary commodities—is the only one compatible with a subjectivist explanation.

3. The Significance of Pre-Existing Prices in the Determination of Market Exchange Ratios

The historical continuity in the value of money distinguishes it from all other commodities. It is true that there appears to be "inertia" with respect to exchange ratios between goods; if 2 apples trade for 1 orange on Tuesday, it is unlikely that 20 apples will trade for 1 orange on Wednesday. But it is not true that Tuesday's exchange ratio somehow influences Wednesday's. Rather, the underlying determinants of Tuesday's price (such as people's subjective preferences for the two fruits) probably will not change very much by Wednesday.

In contrast, economic theory *does* need to rely on Tuesday's purchasing power of money, in order to explain Wednesday's purchasing power of money. People do not derive their utility from apples or oranges based on their prices, but people *do* evaluate the usefulness of a quantity of money based on its purchasing power.

4. The Applicability of the Marginal□Utility Theory to Money

The problem with many rival theories of the purchasing power of money—such as a simple quantity theory or "supply and demand" explanation—is that they have to take the value of money as given, and can only explain *deviations* from this stipulated starting point. For example, it is correct to say, "If a car originally has a price of $1,000, then an increase in the stock of money will, other things equal, lead to a new car price that is higher than $1,000 ."

Yet this isn't really a full explanation; why wasn't the car's original price $10 , or $100,000 ? The simple "supply and demand" approach—correct as far as it goes—by itself can't explain the *absolute* level of money-prices, i.e., it can't explain the actual exchange ratio between money and other goods at a particular time.

The subjectivist, marginal-utility theory developed by Menger and his successors *can* explain the precise, absolute money-prices of the market today, just as it can explain the precise exchange ratios between apples and oranges.

At first it appears that money is a peculiar case that cannot be handled this way, because people's marginal utility of money is itself derived from its objective purchasing power. But once we introduce the time element, we are *not* arguing in a circle. We are explaining *today's* purchasing power of money by reference to *yesterday's* purchasing power, and so on. We can logically follow the chain all the way back in time, until the point at which the money commodity was valued solely for its nonmonetary uses, i.e., before it became a medium of exchange.

4. "Monetary" and "Nonmonetary" Influences Affecting the Objective Exchange Value of Money

The preceding sections have established the *origin* of the value of money. (Namely, subjective marginal utility analysis—coupled with Menger's explanation of the origin of money—can explain today's absolute level of the purchasing power of money.) It is now acceptable to focus on the laws or principles governing *changes* in the value of money. Economists usually start at this step, even though logically they should have explained the original value of money first.

The exchange ratio between two goods can be affected by changes in the valuation for just one of the goods. For example, on Tuesday Jim may choose to drink soda over cough medicine.

But on Wednesday he may reverse his preferences, and choose the medicine over the soda. This obviously needn't be due to Jim's sudden distaste for soda. In the same way, the

exchange ratio between money and all other goods—in other words, the purchasing power of money—may be affected by changes in people's valuations of the money side *or* the (other) commodities side of the ratio.

II. FLUCTUATIONS IN THE OBJECTIVE EXCHANGE VALUE OF MONEY EVOKED BY CHANGES IN THE RATIO BETWEEN THE SUPPLY OF MONEY AND THE DEMAND FOR IT

6. The Quantity Theory

In its crudest form, the **quantity theory of money** is obviously wrong: It is simply not true that, say, a doubling in the quantity of money will lead to an exact doubling of all prices (quoted in money).

The germ of truth in the historical expositions of the quantity theory is that a connection exists between variations in the value of money on the one hand, and variations in the relations between the demand for money and the supply of it on the other. Throughout history, writers have noted the patterns, but the task for the modern economist is to express these truisms with the tools of modern subjective value theory.

7. The Stock of Money and the Demand for Money

Modern value theory must explain the demand to hold money by starting with the subjective preferences of the individual. The community's demand to hold money is simply the summation of the individual demands. No individual can make use of the popular "macro" approaches, which employ formulas involving "total volume of transactions" and "velocity of circulation." Economists therefore should not use such concepts when explaining the purchasing power of money.

In certain cases it is useful to distinguish between the individual's demand to hold money in the broader sense versus money in the narrower sense. The former is the individual's demand to hold both money and money substitutes (i.e., perfectly secure and immediate claims on money). The latter is the individual's demand to hold money proper. **Money certificates** are money substitutes that are fully "covered" by money proper, while **fiduciary media** are money substitutes that are issued above the redemption fund. For example, if a particular commercial bank accepts 1,000 ounces of gold in deposits which it keeps in the vault, but issues 1,100 paper banknotes entitling the bearer to an ounce of gold upon presentation, then 1,000 of the notes are money certificates, while 100 are fiduciary media. (In commercial practice the notes are indistinguishable, and so we can say that about 91 percent of a given note is "covered" while the remainder is "unbacked.")

8. The Consequences of an Increase in the Quantity of Money While the Demand for Money Remains Unchanged or Does Not Increase to the Same Extent

A crude, mechanical version of the quantity theory of money holds that a doubling of the stock of money will lead to a uniform doubling of the money prices of all other goods and services. The logic behind such a view rests on the true observation that any given quantity of money can perform all the services of money for the community, with the appropriate "price level." For example, we can imagine two economies side-by-side, which are equal in all ways except that the second community has twice the amount of money as the first. It is clear that in the second community, the prices of all goods and services have to be exactly double their values in the first community, in order to render these economies equal in all "real" respects.

Yet from this thought experiment, we *cannot* conclude that if we started with the first community, and then magically doubled everyone's holding of money, that we would end up with the second community. For one thing, different individuals would respond differently to the increase in their holdings of money.

Everyone would of course revise downward his or her marginal utility for a unit of money—because the stock in possession increased—but these downward movements would not be equal for all people. Because the marginal unit of money would be less valuable than before the magical increase, people would now go out and buy more goods, tending to push up prices. But different people would increase their purchases in different ways, and (in any realistic scenario) would push up the prices of some goods more than others.

Another complication is that in the real world, new influxes of money do not magically augment the cash balances of everyone in the community proportionally. Instead, new money enters the community through increased holdings of a small group of people (such as the owners of gold mines, or the customers who borrow money from a bank issuing fiduciary media). Thus the new money ripples out into the economy, as the first recipients spend the new money, then the second recipients spend it, and so on. Nobody would ever be so foolish as to claim that, say, a doubling of the quantity of sugar would lead to an exact halving of the exchange ratio of sugar against all other goods and services. Yet that is precisely what the crude Quantity Theorists assert when It comes to money.

9. Criticism of Some Arguments Against the Quantity Theory

Although in its crude form, the quantity theory is erroneous, even so we can defend it from some invalid objections. For example, some writers object that the quantity theory only holds *ceteris paribus* (i.e., when "other things are held equal"). Yet this is hardly a good objection against the quantity theory, since a critic could say the same thing about *any* law or principle in economic science.

Another objection people have raised against the quantity theory is that its predictions are in actual practice nullified by the behavior of "**hoards**." For example, the critic of the quantity theory might say that a large influx of new money *won't* have a tendency to push up prices, because some people in the community will simply expand their holdings of cash. On the other hand, say these critics, if the demand to hold money (for reasons of commerce) should suddenly increase, this won't lead to a fall in prices (as the quantity theory would predict), because the hoards will release some of their cash into the community to satisfy the new demand.

The fundamental problem with this view is that economically, there is no distinction between the normal demand to hold cash versus "hoarding." At any moment in time, *every* unit of money in the community is in someone's cash balance; there is no such thing as money "in circulation" that could be contrasted with money "sitting idle." The money held by a hoarder performs the same economic function as the money held by a normal businessperson; they are both holding the money because they expect to achieve greater satisfactions from what it can buy in the future, than from what it could buy in the present. Because of uncertainty, people do not necessarily "earmark" every unit of money for a particular future purchase. Nonetheless, when we analyze *why* people hold money at all, we realize that there is no qualitative difference between the hoarder and the nonhoarder. All hoarding really means, is that someone carries cash balances larger than his peers'.

10 . Further Applications of the Quantity Theory

Generally speaking, the demand for money increases over time, due to population increases and the intensification of the division of labor (and hence the need for exchange transactions). For this reason, it was only a theoretical curiosity for economists to try to explain what would happen if the demand for money fell, while the stock of money remained the same.

If we were to mechanically apply the quantity theory to such a situation, we would conclude that prices would rise (i.e., the purchasing power of money would fall) uniformly, in direct proportion to the drop in demand for money. However, a more satisfactory explanation needs to take into account the subjective valuations of individuals. Rather than focusing merely on crude aggregates, it is better to analyze the scenario by saying that when the demand for money falls (while the stock of it remains constant), individuals discover that they are holding larger cash balances than they desire. To improve their position, they seek to exchange some of their excess cash holdings for other goods or services. In doing so, they push up the prices of these items.

Eventually, the fall in money's purchasing power reduces the "real" size of an individual's cash balance until he is happy with it. If everyone in the community decides he or she is holding "too much money," the only way to restore equilibrium is for prices to rise.

If one person reduces his cash balance by spending, the seller necessarily increases his cash balance by the same amount. The given stock of money is rearranged among the people in the community; per capita cash balances have to remain the same. Even so, the

rise in prices can satisfy everyone's desire to hold smaller cash balances, because cash is held for the purpose of acquiring other goods and services. People evaluate the size of their cash holdings in terms of its purchasing power, not really by how many units of money they possess.

Although historically the demand for money itself generally grows—except perhaps for financial crises—there are cases where the demand for particular *kinds* of money may fall dramatically. A notable example is the demonetization of silver. As this precious metal ceased being used as a medium of exchange, and became valued solely for its industrial and ornamental applications, its exchange value fell.

III. A SPECIAL CAUSE OF VARIATIONS IN THE OBJECTIVE EXCHANGE VALUE OF MONEY ARISING FROM THE PECULIARITIES OF INDIRECT EXCHANGE

11 . "Dearness of Living"

Thus far in the chapter the analysis of the objective exchange value of money has only relied on determinants that could have just as well been applied to *any* commodity, not just the commonly accepted medium of exchange (i.e., the money commodity). In contrast, section III examines possible changes in the objective exchange value of money that can only apply because it is a medium of exchange. The context of the discussion is the layperson's complaint of the "dearness of living," meaning that every generation prices seem to be higher than before.

12 . Wagner's Theory: The Influence of the Permanent Predominance of the Supply Side over the Demand Side on the Determination of Prices

Wagner explains the general rise in prices—or what is the same thing, the general fall in the purchasing power of a unit of money—by the alleged superior power of the "supply side" of the economy. The sellers of goods and services stand more to gain from price hikes than their customers stand to lose, because the price of beef (say) affects the livelihood of the butcher far more than it affects the fortunes of the average household. Wagner's theory is flawed, however, because it cannot easily incorporate the fact that retail prices must also respond to changes in wholesale prices.

13 . Wieser's Theory: The Influence on the Value of Money Exerted by a Change in the Relations Between Natural Economy and Money Economy

Wieser attempts to explain the persistent rise in prices over time by the gradual transformation of a "Natural Economy" into a "Money Economy." As more and more people and regions are brought into the practice of monetary exchange, Wieser argues that certain

things that were previously handled through home production must now be included in the final price of goods intended for market. Wieser offers a specific example of the prices of milk and eggs rising in a rural village, once the villagers become involved with frequent trade with the much larger town. However, Wieser ignores the obvious flip-side of the development: the prices of milk and eggs will be lower *in the town* because of the new source of supply.

The integration of the rural village into the monetary nexus gives no reason for a general rise in prices, it merely explains why the gap in prices (between the town and village) should be whittled away.

14 . The Mechanism of the Market as a Force Affecting the Objective Exchange Value of Money

In direct exchange, if a potential buyer believes that the asking price of the seller is too high, the exchange will not occur. However, with the use of money, there is another possible outcome, that seems to happen in the real world. The buyer may go ahead and pay a price (in money) that he originally deemed "too high," but will compensate by increasing the asking price for the goods that *he* has to sell. Thus wage earners might acquiesce in higher food prices, yet demand pay increases from their employers. The employers, in turn, might agree, knowing that they will raise prices themselves.

None of this discussion renders the basic theory of price determination invalid. It merely underscores that with the special case of money, peculiar situations can affect its valuation that simply cannot occur in the case of direct exchange.

IV. EXCURSUSES

15 . The Influence of the Size of the Monetary Unit and Its Subdivisions on the Objective Exchange Value of Money

It is often asserted that the size of the monetary unit can affect its purchasing power, i.e., the general height of prices. In regard to wholesale prices, this is clearly absurd: merchants would adjust their large-scale transactions to achieve their desires, regardless of the unit. However, there is some truth to the assertion when it comes to retail trade. For practical reasons, everyday purchases that have very low prices compared to most other goods (such as letter postage or pieces of fruit) must correspond somewhat to the lowest available denomination of the money. The use of token coinage (which can represent fractions of the standard monetary unit) and money substitutes, as well as the practice of selling multiple units of goods (e.g., a dozen eggs) as a package, can provide a wide range of flexibility, but even so it must be admitted that the size of the monetary unit does have an influence on prices quoted at the retail level.

16 . A Methodological Comment

In a review of the first edition of the book, Professor Walter Lotz defended Laughlin from the critique leveled by Mises (on pages 125 –28 in the present edition of the book). To review, Laughlin had tried to explain the value of paper gulden (which for a time were not redeemable in precious metal) by the prospect of their eventual redemption. Mises examined the discount investors placed on bonds issued by the same government and concluded that there must be some other factor at work, to explain the premium investors placed on the paper gulden. The answer, of course, was that the paper gulden were used as money, whereas the bonds were not. Therefore the paper gulden were valued on account of their use as media of exchange.

Lotz defends Laughlin by referring to statements from influential figures that they truly did speculate on the eventual redemption of the paper gulden. Mises points out that this entirely misses the point of his critique: Even if it is admitted that the paper gulden would eventually be redeemable for gold, that fact wouldn't explain why the notes traded at a premium to bonds issued by the same government. More generally, Lotz approaches economic problems not through theoretical reasoning, but by appeal to historical circumstances, a procedure that Mises rejects on methodological grounds.

Important Considerations

On page 108 , Mises alludes to Menger and Böhm-Bawerk's explanations of how prices are determined in direct exchanges (i.e., what most people call "barter"). For example, suppose people in a community own horses, and others own cows. Each person will rank various units of each animal on his own subjective scale of values. Bill might consider his first horse as the most important animal, then his first cow, and then his second horse. John, in contrast, might consider his first and then second cows to occupy the highest- and second-highest ranks in his scale of values, while his first horse comes in at the third slot. (Note that everyone exhibits diminishing marginal utility in each animal.) People will trade horses for cows so long as there are mutually beneficial trades; perhaps Bill will trade his 17 th and 18 th cows for John's 6th horse, because such a trade makes both men better off in their own subjective views. (In this case, the "price" of one horse is two cows.)

To understand the description Mises gives to the range of possible market prices under bilateral competition, the reader should consult the numerical example in Murray Rothbard, *Man, Economy, and State* (scholar's edition, 2nd edition; Auburn, Ala.: Mises Institute, 2009 , pp. 106 –26).

• The first sections of this chapter lay out Mises's famous **regression theorem**, which successfully applies subjective value theory to the case of money. Earlier economists had been unable to accomplish this feat, because they thought the approach would lead to a circular argument in the case of money. (How can we explain the objective purchasing power of money by reference to subjective valuations, when those subjective valuations in turn are completely dependent on money's objective purchasing power? It seemed to Mises's predecessors that this approach said, "Money is valuable because money is valuable.") Mises broke out of the circularity by introducing the time element: People are willing to sell other goods and services for money *today* because they expect that same money to command purchasing power *tomorrow*. (This explains money's purchasing power *today*.) But people's expectations about the future purchasing power of money are formed by their observations of the recent past, i.e., their observations of money's purchasing power *yesterday*. We can push the explanation all the way back until the point at which (commodity) money had an objective exchange value due entirely to its use in nonmonetary applications.

• On page 160 Mises gives a simple illustration (involving a pear, lemonade, etc.) of how an individual's scale of values can be transformed with the possibility of market exchange.

Quantity theory of money: An old doctrine explaining changes in the purchasing power of money by reference to the quantity of money and the demand to hold it. (There are many versions of the quantity theory, with the more mechanical ones—which posit that a doubling of the money stock will lead to a doubling of all prices—being obviously wrong.)

Money certificates: Money substitutes that are fully backed by money (in the narrower sense).

Fiduciary media: Money substitutes issued over and above the money (in the narrower sense) held in the redemption fund. Fiduciary media are "unbacked."

Hoards (noun): People who accumulate large cash balances in certain circumstances, allegedly counteracting the predictions of a naïve quantity theory of money.

Regression Theorem: Mises's argument that the current purchasing power of money is influenced by people's memory of yesterday's purchasing power. The causality is traced back in time, until the point at which the money good was valued as a regular commodity in direct exchange.

. . . .

1. Explain: "The subjective value of money must be measured by the marginal utility of the goods for which the money can be exchanged." (p. 109)

2. If all types of money must have originally had a *non*monetary source of valuation, how can Mises explain fiat money? (pp. 110 –11)

3. If the "past value of money is taken over by the present," does that mean current conditions and expectations have no influence on the value of money today? (p. 111)

4. Explain: "If all the exchange ratios of the past were erased from human memory, the process of market-price-determination might certainly become more difficult . . . but it would not become impossible." (p. 113)

5. Explain: "[A] mechanical theory of price-determination was arrived at—a doctrine of Supply and Demand. . . . It is correct or incorrect, according to the content given to the words Supply and Demand." (pp. 128 –29)