

## CHAPTER 4 — PRICES AND CONSUMPTION

### CHAPTER SUMMARY

In a money economy, the money commodity is on one side of every transaction, and hence reduces the number of relevant prices. The direct exchange ratio between any two commodities can easily be computed from their respective money prices. The “price” or *purchasing power* of money is the array of goods and services for which a unit of money can be exchanged.

Individual supply and demand schedules in a money economy are determined by the same principles applicable to a barter economy. An individual’s value scale contains units of the money commodity as well as all other commodities and services, and the individual will engage in market exchanges to achieve the bundle of goods (including units of the money commodity) that he or she believes will yield the greatest utility. There have been various attempts to gauge the total “surplus” that individuals enjoy from the existence of markets, but these procedures suffer from methodological errors. Individuals benefit from voluntary exchanges, but it is nonsensical to ask how *much* they benefit, because utility is not a cardinal magnitude.

The utility from *selling* a good for money is the value of the most highly ranked use to which the additional money can be devoted (whether to spend on consumption, invest, or add to the cash balance). The utility from *buying* a good with money is the value of the most highly ranked end (consumption, production, or future sale) to which the good can be devoted.

Unlike the position of other goods, the economist must offer some explanation for the precise position of units of money on individuals’ value scales. In short, the economist must explain, not only the relative prices of real goods, but also their absolute *nominal* (money) prices. For example, why aren’t money prices double, or half, of what they in fact are?

To explain the current purchasing power of money (PPM), the economist relies on the current *anticipations* of the *future* PPM. That is, people right now give up other goods for units of money, because these people expect that these units of money will be exchangeable for other goods in the near future. The current anticipations of future PPM, in turn, are explained by people’s memories of the prices of the immediate past, i.e. by the past PPM. Ultimately, then, today’s PPM is largely influenced by yesterday’s PPM, and yesterday’s PPM was in turn influenced by the day *before* yesterday’s PPM, and so on. We push this explanation back until the moment when there were no media of exchange, and (what is now) the money commodity was valued solely for its direct use in consumption and/or production. (This is Mises’ famous *regression theorem* or *money regression*.)

Durable goods yield a flow of *services* over time. The price of a service is the *rental* or *hire* price of the good and is determined by the marginal productivity or marginal utility of the service. The outright purchase price of a durable good is its *capitalized value*, and tends to equal the (discounted) present value of its total expected flow of future services.

## CHAPTER OUTLINE

### 1. *Money Prices*

The great advantage of a monetary economy is that the same commodity (i.e. the money good) is on one side of (almost) every transaction. In a barter economy there is a separate price or exchange ratio for each pair of goods. A simple question such as, “What is the price of a TV?” would have no simple answer. The TV might exchange for 1000 berries, or ½ of a cow, or 5 radios. Before answering the question about its price we would need to clarify, “In terms of which good?”

The introduction of the money good simplifies things greatly. Because virtually *every* transaction involves the money commodity on one side, any good’s price is quoted as its exchange ratio with the money commodity. Thus there are only as many prices as there are different commodities. There is a tendency for *one price* to emerge on the market for each separate commodity.

The direct exchange ratio between any two goods can easily be calculated once their respective money prices are known. However, one must not fall into the common trap of abstracting away from the role of money in the real world. Acting humans in modern economies do *not* exchange real commodities directly against each other, but almost always act through the medium of exchange.

When talking about the “price” of money, we mean its *purchasing power*. It is thus the *entire array* of goods and services that can be exchanged for one unit of the money commodity. (Notice that in barter, the price of *every* good is ultimately an array of its exchange ratios with all other goods.)

### 2. *Determination of Money Prices*

Money prices are generated by the actions of individuals, and must ultimately be explained by reference to individual value scales. Each individual in the market ranks various units of each commodity, including the money commodity, on an ordinal scale of value. The individual’s demand schedule for each good in terms of money prices is then determined in the exact same way as under barter (Chapter 2), except that here one of the goods happens to be the universally accepted medium of exchange. (In later sections we will analyze the precise *position* of the money commodity on the value scale.) Because of diminishing marginal utility, an individual’s demand curve cannot be upward sloping. The summation of each potential buyer’s demand schedule gives the *market* demand schedule, i.e. the number of units demanded at each hypothetical money price for the good. The determination of the market supply schedule is also comparable to the barter analysis. The *equilibrium (money) price* is the (money) price at which quantity supplied equals quantity demanded.

### 3. *Determination of Supply and Demand Schedules*

To the extent that actors correctly forecast the future equilibrium price in a market, their supply and demand schedules will become more elastic, and will hence speed the movement toward equilibrium. For a *given* stock of a good, the supply curve

will tend to be almost vertical, as there is little else the owners can do besides sell the existing units for money.

4. *The Gains From Exchange*

All participants to voluntary exchange benefit; each values what he or she receives more than what he or she gives up. However, the mainstream technique of calculating consumer and producer “surplus” is entirely fallacious. In this approach, a consumer who would have been willing to pay up to, say, \$10 for the first unit of a good, but only has to pay the market price of \$5, is said to enjoy \$5 of surplus on this first unit. The smaller surpluses on subsequent units are calculated and added together to reveal this consumer’s total surplus. Yet this procedure assumes (a) that we can deduce information from individual’s value scales that are not revealed in action, (b) that money is a stable measuring rod of subjective value, and (c) that it makes sense to add “units of utility” together. Other attempts at measuring psychic surpluses involve interpersonal utility comparisons, and thus involve yet another fallacy.

5. *The Marginal Utility of Money*

A. THE CONSUMER

As with all goods, the consumer allocates additional units of money to the most highly ranked end that is yet unsatisfied. Units of the money commodity can be (a) used in direct consumption, (b) exchanged for other consumption goods, (c) invested in factors of production, and (d) added to the cash balance. At any given time, *all* units of money in the economy are held by someone; there is no such thing as money “in circulation.”

Options (b) through (d) above present an apparent problem: The marginal utility of a unit of money depends largely on the marginal utility of the various goods (consumer or producer) for which it can be exchanged. I.e. the marginal utility of money depends on its anticipated *purchasing power*. But to explain the purchasing power of money, the subjectivist cites the marginal utility of money. That is, people voluntarily give up real goods and services in exchange for units of money, because they value the money more than what is given up. Taken together, these two explanations seem to involve a circular argument, by which the purchasing power of money is ultimately explained by the purchasing power of money. In the next section we resolve this conundrum.

B. THE MONEY REGRESSION

To explain the current purchasing power of money, we must explain why people *right now* sacrifice valuable goods and services in exchange for units of the money commodity. They do this because (of course) the marginal utility they receive from the additional money units exceeds the marginal utility from the goods and services sold. But *why* do these units of money offer utility? Disregarding direct consumption, individuals derive utility from holding money units because they *anticipate* the

possibility of exchanging them for goods and services *in the future*. Thus, the *current* purchasing power of money (PPM) is influenced by individuals' expectations about the PPM in the (perhaps immediate) *future*. Note that this explanation, so far, does not involve a circular argument, because we have introduced the time element.

Yet what governs the expectations of the future PPM? Mises argued that it was the experience of money's purchasing power in the immediate *past*. This is not a strict relation; people do not automatically assume that the PPM tomorrow will be identical to yesterday's PPM. But when trying to estimate the amounts of various goods and services that a unit of money will fetch tomorrow, individuals must naturally rely on recent prices.

Now it seems that we have merely transformed the problem of circularity into one of infinite regress: We explain today's PPM by yesterday's PPM. But *yesterday's* PPM must be explained by the PPM the day *before* yesterday, and so on.

The regress is not infinite, however. Mises argued that we can trace back the PPM until the moment when the money commodity first emerged as a medium of exchange. Before then, the community was in a state of direct exchange, and hence the purchasing power (exchange value) of (what is now) the money commodity could be explained in the normal way, by reference to its marginal utility in consumption or production.

### C. UTILITY AND COSTS

The utility from *selling* a good for money is the value of the most highly ranked use to which the additional money can be devoted (whether to spend on consumption, invest, or add to the cash balance). The cost of selling a good is the value of the most highly ranked alternative end (whether consumption, production, or future sale) to which the good could have been devoted, had it not been sold.

The utility from *buying* a good with money is the value of the most highly ranked end (consumption, production, or future sale) to which the good can be devoted. The cost of buying a good with money is the value of the most highly ranked alternative use (expenditure on consumption, investment, or addition to cash balance) that the units of money can no longer satisfy.

*Ex ante* refers to anticipations before an action, while *ex post* refers to judgments after an action. Thus an actor always maximizes his *ex ante* psychic revenue, i.e. the actor always chooses the end that he *predicts* will deliver the highest psychic revenue. But actors may make mistakes, and may decide *ex post* that they should have chosen differently.

### D. PLANNING AND THE RANGE OF CHOICE

Individuals in a market economy form their own plans based (in part) on the expectations of actions by other individuals. There is no reason to suppose that "central planning" will yield a better or more orderly outcome. In fact, as *Man, Economy, and State* demonstrates, there are systematic tendencies for the decentralized market pricing system to coordinate individual plans.

6. *Interrelations Among the Prices of Consumers' Goods*

Goods are related by their *substitutability* or *complementarity*, as summarized on page 286. The more substitutes for any given good, the greater the elasticity of its demand schedules will tend to be.

7. *The Prices of Durable Goods and Their Services*

Durable goods (whether producer or consumer) yield a flow of *services* over time. The price of a service is the *rental* or *hire* price of the good; it is how much someone would pay to use the durable good for a given period of time. The rental or hire price is determined by the marginal productivity (if a producer good) or marginal utility (if a consumer good) of the service.

The outright purchase price of a durable good is its *capitalized value*, and tends to equal the (discounted) present value of its total expected flow of future services. Because of time preference, an actor will not evaluate a given unit of service in the distant future the same as a unit of service available today or tomorrow. The process of capitalization explains why finite prices are paid for (virtually) infinitely durable goods, such as land.

8. *Welfare Comparisons and the Ultimate Satisfactions of the Consumer*

All of the praxeological truths of chapter 1 are still applicable in a money economy. Ultimately, what the economist labels a "consumer good" in the market place may in fact truly be a higher-order good for the consumer, because so-called consumer goods (such as cans of Pepsi) are really just *means* to more ultimate ends (such as satisfying thirst).

9. *Some Fallacies Relating to Utility*

Mainstream economists often derive an equilibrium condition in which the marginal utility of each good, divided by the price of the good, is equal for all goods. The argument is that the marginal penny must yield the same increment in utility, regardless of the good on which it is spent, because if this *weren't* the case, then the consumer could achieve a greater amount of total utility by rearranging his or her expenditures. The fallacy here is that utility is not a cardinal concept, and hence it makes *no sense* to perform arithmetical operations on the "marginal utility" of a given good.

APPENDIX A  
THE DIMINISHING MARGINAL UTILITY OF MONEY

Money is a commodity and hence is subject to the law of diminishing marginal utility: the greater the units of money one has, the lower its marginal utility. In the case of money, we must be careful to maintain the *ceteris paribus* assumptions. For example, prices may change between the time that the 100<sup>th</sup> and 101<sup>st</sup> units of money are acquired, and this will affect the individual's estimate of their respective marginal utilities.

## APPENDIX B ON VALUE

There are many uses of the word *value*. In modern Austrian economics, the term usually refers to the *subjective value* an individual places on a good. However, in the present chapter the *capital value* of a durable good was its *objective exchange value* on the market, i.e. how many units of money could be obtained by selling the durable good. Economics is primarily the study of how underlying subjective valuations give rise to objective exchange values in the form of market prices.

### NOTABLE CONTRIBUTIONS

- Rothbard’s devastating critique of measuring psychic surpluses (pp. 258-260) is still relevant.
- Mises was the first economist to fully incorporate money into the subjectivist, marginal utility approach that economics had developed for the case of barter. His regression theorem evaded the apparent problem of circularity that had stumped earlier theorists. Before Mises, economists used “micro” analysis to explain barter exchange ratios, and then superimposed money prices using a “macro” approach involving “the price level” and the total stock of money. (See Rothbard’s footnote 19 on pp. 269-270.)
- Figure 38 (p. 274) depicts the temporal elements of gold prices, during a state of first direct exchange and then indirect exchange.
- Rothbard ingeniously deals with the famous example of Buridan’s ass (p. 310), which was placed equidistant between two equally attractive oases and dies of thirst. Rather than illustrating the relevance of indifference, this example merely shows its silliness. Only an ass would be unable to choose in such a situation, because to stand still would really be “choosing” to die of thirst, and this is clearly an inferior option.

### TECHNICAL MATTERS

- A barter economy with  $n$  goods would in principle require  $n(n-1)/2$  different prices, one for each pair of commodities. (A barter economy with 20 different goods, for example, would require 190 different prices.) In contrast, a money economy with  $n$  goods only requires  $n$  prices, and the (money) price of the money commodity itself is of course always 1.

Study Guide to Rothbard's Man, Economy, and State  
by Robert P. Murphy

- Mainstream economists no longer believe that diminishing marginal utility necessarily implies the Law of Demand. (Their argument would lie beyond the scope of this text.) Austrians should therefore take care when making this point to mainstream peers.
- On page 252, Rothbard's first reason for holding a good is "(a) the *anticipated later sale* of the same good for a higher money price." Note that this "speculative" demand must also include the desire to hold certain commodities as a store of wealth. E.g. someone who buys rubies or even shares of stock with the intention of selling them later on may not necessarily anticipate a higher future money price.
- As Rothbard points out in footnote 21 (p. 273), the "crucial stopping point" in the regression argument is *not* the point at which the money commodity ceases to be a universal medium of exchange, but rather the earlier point at which the commodity ceases to be a medium of exchange *at all*.
- The classical economists believed that the factors Land, Labor, and Capital earned the income of Rents, Wages, and Profits (Interest) respectively. The Austrian view is entirely different: *All* productive factors (including land, labor, and capital goods) earn rents, and *all* durable goods yield interest over time. Consider a piece of land that can be rented for \$1,000 annually to sharecroppers. If the capitalized value of the land is \$10,000, then these annual *rents* of \$1,000 are, at the same time, an annual *interest return* of 10 percent on the invested capital funds. (This example is adapted from Irving Fisher.)
- The neoclassical economist would respond to Rothbard's critique (pp. 304-305) by claiming that mainstream economics no longer *really* believes in cardinal utility. Rather, through the use of "representation theorems," the modern neoclassical feels that he or she can use cardinal utility functions as a convenient shortcut, while still believing in the ultimate ordinality of consumer preferences. It is good that the neoclassical at least recognizes that utility is ordinal, but most Austrians would deny that the representation theorems are a valid justification for the continued mainstream use of cardinal utility functions.

STUDY QUESTIONS

- (1) What is the significance of the fact that the “number of markets needed is immeasurably reduced” in a money economy? (pp. 233-235)
- (2) Why doesn't *every* good have a purchasing power that consists of an array? I.e. what is so special about the money commodity? (pp. 236-237)
- (3) What does it mean to “sell” money? To “buy” money?
- (4) Why do individuals hold cash balances? (pp. 264-265)
- (5) Why does Rothbard argue that buying more eggs will make the marginal utility of butter increase? (p. 266)
- (6) Are money prices a measuring rod of subjective value?
- (7) Why did economists before Mises find difficulty with a marginal utility explanation of money demand? (p. 268)
- (8) How does Mises' money regression apply to fiat money?
- (9) Can an individual really know the true cost of an action, even *ex post*? (p. 277)
- (10) Does the diminishing marginal utility of money prove that a progressive income tax would increase total social utility? (p. 302)