

# Part One

## THE BASICS OF MONEY

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# Chapter 1

## The Fundamentals of Money and Money Demand

**M**oney is the medium of exchange. Money is useful only if there is exchange, and exchange is possible only if property or, more precisely, private property exists.<sup>1</sup> In a communist commonwealth, where every resource is owned and allocated by the state, there would be no place for money. In contrast, capitalism can be defined as “a social system based on the explicit recognition of private property and of nonaggressive, contractual exchanges between private property owners.”<sup>2</sup> In such a system money will quickly become indispensable.

Of course, private property owners can exchange property without the help of money. But in such a barter economy people cannot realize the full benefits of trade because transactions are possible only whenever both parties want precisely what the other party has to offer. Person A will sell his good “p” to person B only if whatever B has to offer in

exchange, let us say good “q,” is precisely what A wants. The same is naturally true for person B. If one of the two parties has nothing to offer that the other party has use for, then the trade will not take place. Economists call this condition “double coincidence of wants,” and it severely restricts the number of transactions that will occur in a barter economy. An additional impediment to trade is that many goods are indivisible. Double coincidence of wants and limited divisibility hamper not only the exchange of physical goods for other physical goods but also the exchange of services. Despite these inevitable drawbacks of a barter economy, the exchange of goods and services started most certainly on such a limited scale with people exchanging what both parties to the trade found immediately useful.

It was inevitable that over time certain goods came to be accepted in exchange not because they were themselves of direct use to the recipient but because they could easily be traded again with someone else for other goods or services. These goods could be cloth, beads, wheat, or precious metals. Whatever they were, they acquired a special place in the universe of traded goods in that they became the most marketable, and thus could help facilitate more transactions. Now person B can buy product “p” from person A, although A has no use for B’s product “q.” B can instead sell “q” to C, D, or E, accept the medium of exchange from them as payment, and use that to buy “p” from A. Person A will accept the medium of exchange in the knowledge that others will also accept it in exchange for goods and services.<sup>3</sup>

Thus, no more than rational self-interest on the part of trading individuals is required to explain the emergence of media of exchange.<sup>4</sup> It is in the interest of everybody who wants to participate in the free, voluntary, and mutually beneficial exchange of goods and services to use media of exchange. Indeed, it is in the interest of everybody to ultimately use only one good as medium of exchange, the most fungible good, and that good is called “money.”

## **The Origin and Purpose of Money**

Money is not the creation of the state. It is not the result of acts of legislation and its emergence did not require a society-wide agreement

of any sort. Money came into existence because the individuals who wanted to trade found a medium of exchange immediately useful. And the more people began to use the same medium of exchange, the more useful it became to them.<sup>5</sup>

Money is a social institution that came about spontaneously. Other such institutions are the concepts of private ownership and of clearly delineated property and the rules and standards according to which property titles can be transferred. All these institutions came into being because people saw the immediate benefit from extended human cooperation, of cooperation that goes beyond the immediate family or clan. Such cooperation allows an extended division of labor that enhances the supply of goods and services for everyone who participates in it. Such wider human cooperation requires markets; it requires trade and thus private property and money. It is my impression that today many people would argue that we need a state, that is, a territorial monopolist of legalized coercion and compulsion, to provide society with money, to protect property, and to establish the laws and regulations to allow for peaceful exchange. Their assumption seems to be that without the state there would be no money, no laws, and no rules of exchange, and no respect for private property. This is, in my view, a misrepresentation of the historical record and a misunderstanding of the essential power of voluntary cooperation of self-interested individuals as explained by the science of economics.

Not only does the existence of money not require a state organization to issue it, but it is also inconceivable that money could have come into existence by any authority (or, for that matter, any private person or institution) declaring its unilaterally issued paper tickets money.<sup>6</sup> That money does exist in this form today is obvious. Yet, as the Austrian economist Carl Menger showed more than one hundred years ago, money could have come into existence only as a commodity.<sup>7</sup> For something to be used, for the very first time, as a medium of exchange, a point of reference is needed as to what its value in exchange for other goods and services is at that moment. It must have already acquired some value before it is used as money for the first time. That value can only be its use-value as a commodity, as a useful good in its own right. But once a commodity has become an established medium of exchange, its value will no longer be determined by its use-value as a commodity

alone but also, and ultimately predominantly, by the demand for its services as money. But only something that has already established a market value as a commodity can make the transition to being a medium of exchange.

Which commodity was used was up to the trading public. Not any good was equally useful as money, of course. Certain goods have a superior marketability than other goods. As previously mentioned, it is no surprise that throughout the ages and through all cultures, whenever people were left to their own devices and free to choose which good should be used as money, they most always came to use precious metals, in particular gold and silver, as these two possessed the qualities that were ideal for a medium of exchange: durability, portability, recognizability, divisibility, homogeneity, and, last but not least, scarcity.<sup>8</sup> Indeed, the very rigidity of their supply made them attractive. The fact that nobody could produce them at will made them eligible. They could be mined, of course, but that took time and involved considerable cost. And their essentially fixed supply contrasted with the inherently flexible supply of the goods and services for which money was being exchanged, thus ensuring that exchange-relationships were not further complicated by a volatile money supply.

To the extent that a good begins to function as money, its value is no longer determined alone by any specific use-value that the money commodity may otherwise have but also by its monetary exchange-value, by its function as facilitator of trade. When gold and silver became media of exchange their market value was no longer determined solely by their original use-value as metals in industrial production or as jewelry. Now people had demand for gold and silver as monetary assets. This additional demand, and any changes in this demand, naturally affected the prices of these metals. When the demand for money went up, the prices of gold and silver went up, assuming that all else remained unchanged; and when the demand for money fell, the prices of gold and silver fell, again assuming that all else remained the same. Gold and silver acquired an additional element of value independent of their use-value, and that was their pure exchange value as media of exchange.

Once a commodity is accepted as a medium of exchange, its usefulness as a medium of exchange cannot be enhanced by additional cre-

ation of this good. The serviceability of money is not increased by a bigger supply. Other goods deliver a more satisfying service to the public if their supply is increased. More cars can transport more people; more TV sets can entertain more people; more bread can feed more people. These things are goods because they have use-value, they can directly satisfy the needs of their owners. This holds likewise for the means of production, such as tools, plants, and machinery. Although they do not satisfy the needs of consumers directly, their usefulness lies in their ability to help in the production of goods and services that will ultimately satisfy the needs of consumers.

However, to the extent that a good is used as money, its usefulness does not lie in any ability it may have to meet any needs directly but lies exclusively in its marketability, in its general acceptance as a medium of exchange. Its value to its owner lies in its exchange value, not its use-value. Money is valued because of what you can buy with it. If an individual has more money, that individual can buy more goods and services from the producers of goods and services. But if society overall has more money, meaning that society has a bigger quantity of the money substance, society is not richer. It has more of the medium with which to exchange things but it has not more things to exchange. The exchange-value, the purchasing power of every unit of the money commodity or money substance, will be different but this is unrelated to society's overall wealth, meaning the overall quantity of goods and services. It follows from this that—outside of the extreme cases of acute scarcity or abundance of the monetary asset—any amount of the good money is optimal. Any quantity of the money commodity or money substance will be sufficient to allow the money commodity to fulfill all functions of a medium of exchange.<sup>9</sup>

To illustrate this important point, let us revisit the community of A, B, C, D, and E that we met earlier in this chapter when demonstrating the benefits of money. Let us assume this community uses gold as a medium of exchange and the available supply of gold and the various preferences of the trading individuals result in an exchange-relationship of 1/10th of an ounce of gold for 1 unit of A's product "p" and 1 unit of B's product "q." Person A is willing to sell his product "p" to person B and accept 1/10th of an ounce of gold in return for it. Person B has acquired the gold by selling his product "q" to another member of the

community. Person A can equally use the gold to buy goods and services from C, D, or E. The benefit that this community derives from using the available amount of gold as a medium of exchange is the same as if the community had a smaller or larger supply of the precious metal at its disposal. Let us assume that the supply of gold was smaller and that the exchange ratio would turn out to be 1/20th of an ounce of gold for 1 unit of “p” or “q”. Or, we could imagine a third scenario, in which the community had a much larger quantity of gold and the exchange ratio would be, let us say, 1/5th of an ounce of gold for 1 unit of “p” or “q”. Obviously, with different overall quantities of gold being available, not only would the exchange relationship between gold and the products “p” and “q” be different, but also would the exchange relationships between gold and any other tradable good and service.

If the amount of the medium of exchange that is available to the community is different, it follows naturally that the purchasing power of each unit of the medium of exchange is different. However, this does not—and, logically, cannot—affect the usefulness of the medium of exchange. The benefit that society derives from using gold as a medium of exchange is identical in every one of these cases. As gold functions as a medium of exchange and does not deliver use-value but only facilitates trade, the size of its available supply is entirely immaterial. Once a good is used as money, practically any amount of that good is optimal for fulfilling all the functions that a medium of exchange can fulfill. As long as the good in question has all the attributes listed here and is therefore the most fungible good and widely accepted, nothing stands in the way of it delivering all the services that a medium of exchange can ever deliver. All the benefits that society can derive from using a medium of exchange can be derived from any amount of the medium of exchange.<sup>10,11</sup>

The goods gold and silver fulfilled two functions, one as industrial commodities and items of jewelry, the other as media of exchange. If we consider only the former, then more gold and silver means more industrial commodities and more beautiful things that fulfill our desire for decoration and beauty. In this respect, more gold and silver means more wealth. But if we consider only gold and silver’s role as media of exchange, then an increase in the supply of gold or of silver does not enhance their serviceability as money and does not enhance

overall wealth. To the extent that a society uses its gold and silver exclusively as money, this society is not richer if it has more gold and silver.

Today, money is simply a piece of paper with numbers printed on it. Whether a pile of banknotes adding up to ten thousand dollars is a lot of money or not depends entirely on what you can buy with it. When there was a much smaller quantity of dollar banknotes, or book entry claims to dollar banknotes, circulating in the U.S. economy, ten thousand dollars could buy you more goods and services than today. The exchange value of money is different—its purchasing power is different—if the supply of money is different. This is true for any type of money. But this is all. The U.S. economy does not work any better or any worse if the overall supply of what is used as money, whether it is gold, silver, or specific paper tickets, is larger or smaller. This is the logical consequence of money having pure exchange-value and no direct use-value. Societies that have more goods and services are richer. Societies that have more “paper money” or book-entry money are not richer. Societies that have more commodity money are richer only to the degree that the monetary commodity can be reemployed as an industrial commodity or as an item of jewelry. To the extent that the monetary commodity is used as money, society is not richer if it has more of it at its disposal.

## The Demand for Money

An important concept that leads to much confusion and misunderstanding is the concept of the demand for money. How much of the monetary asset is desired?

Demand for money is not demand for wealth. In colloquial speech it is often assumed that everybody wants more money, that the demand for money is therefore limitless. But what people mean by this is the demand for wealth, for control over goods and services, but not demand for the medium of exchange as such. Money has no direct use-value. Goods and services have use-value. Thus, nobody would want to hold all his wealth all the time in the form of money. He would at least have to exchange some of his money for food, clothes, and

accommodation, thus converting some of his money-holdings into goods that have use-value. And even a person who has sufficient wealth to acquire all the consumption goods that he presently desires would probably not hold the remaining wealth entirely in the form of money but invest it in debt or equity claims or other investment goods.

The monetary asset has important disadvantages to other goods and services and claims to goods and services. It neither satisfies needs directly as consumption goods do, nor does it help produce consumption goods in the future as investment goods do. Holding the monetary asset thus involves opportunity costs. The one essential advantage that the monetary asset has over all other goods and services is its general acceptance in return for goods and services. Like no other asset, it can be exchanged for any other good or service instantly and with no or minimal transaction costs. This marketability gives its owner a flexibility that no other good can provide. The demand for money is demand for readily usable purchasing power. People have demand for money because they want to be ready to trade. The demand for money can also be called the demand for cash holdings although the term *demand for money* will be used here. It is that part of a person's overall possessions that is most readily exchangeable for goods and services on the market.

It is the uncertainty and unpredictability of life that causes people to hold the monetary asset. People hold some of their wealth in money because they want to have the flexibility to engage in exchange transactions quickly and spontaneously. The relationship between the demand for money and the number and volume of overall transactions, however, is tenuous. We can illustrate this with the following thought experiment:

If we imagine for a moment an economy in a state of equilibrium, or, as the economist Ludwig von Mises, whose work we will come across many times in the course of our investigation, put it, an "evenly rotating economy," an economy in which the same procedures and activities unfold with unvarying regularity again and again and in which therefore every transaction is completely predictable, there would be no need for anybody to hold money.<sup>12</sup> Everybody could precisely match the time and the size of their outlays with the time and the size of their incoming revenues. Excess income could always be fully

invested. In a world of no uncertainty, there would still be transactions but no need to hold a monetary asset. Everybody simply needed an accounting unit but nobody had any actual demand for money holdings. Of course, such an economy is pure fantasy. It is entirely a theoretical construct that helps the economist mentally isolate, analyze, and describe certain procedures. It could never exist in the real world. The mental construct of the evenly rotating economy is, within limits, useful for economic science. But these models struggle to account for the demand for money, which is a phenomenon of the real world of uncertainty and unpredictability.

How much of the monetary asset anybody wants to hold is ultimately subjective but it is clear that it depends crucially on the purchasing power of the monetary unit. In our example above of a community of A, B, C, D, and E, how many ounces of gold a person will want to hold as his cash balance will be different in each scenario. If the community has relatively large quantities of gold available for use as money then the purchasing power of each unit of gold will be—all else being equal—relatively low. Let us assume that exchange relationships determined by market exchange come out at  $1/5$ th of an ounce of gold for one unit of “p” or “q”. In this scenario the same person will want to hold more gold than if the community overall had relatively small quantities of gold and the purchasing power of each unit was relatively high (for example  $1/20$ th of an ounce of gold buys one unit of “p” or “q”). The purchasing power of each ounce of gold is different in the two scenarios. Therefore, the flexibility that each ounce of gold provides as a medium of exchange to its owner is different. As demand for money is demand for readily exercisable spending power, a person with an unchanging demand for money will hold different quantities of the monetary unit if money’s purchasing power is different.

The same applies to fiat money. Nobody has demand for a specific quantity of banknotes or a specific number of coins, just as under a gold standard nobody has demand for a specific amount of gold. Demand for money is always demand for readily exercisable purchasing power. It is purchasing power that one demands, not the money substance as such, whatever it happens to be. It follows that every quantity of the monetary asset is sufficient. Different quantities of the monetary asset only mean that different exchange ratios to goods and services

develop, that the monetary unit's purchasing power is a different one. And it is purchasing power that we demand when we demand money.

Naturally, every person has it in his power to adjust holdings of the monetary asset precisely according to personal preferences. Of course, a person's overall wealth sets a limit to how much of the monetary asset the person can own. Also, every person must have a bare minimum of nonmonetary goods to stay alive (food, shelter). But within these limits every person can hold exactly the amount of money he wants to hold. If a person wants to hold more money, he can sell assets or reduce money spending. If a person wants to hold less money, he can spend the money on goods and services. It would be absurd to make the claim that a person really wanted to hold less money but cannot reduce his money holdings. If nobody in the economy accepted the surplus money in exchange for goods and services, then this form of money would have ceased to function as money. After all, general acceptance is what makes money money. By the same token, no person could claim to want to hold more of his wealth in the form of money but be unable to exchange his other possessions for money. In that case, one would have to question if the person's other possessions were not worthless and if the person already held his entire wealth in the form of money. Because of the high marketability of the monetary asset, which is the precondition for its function as money, every person holds exactly the quantity of money that the person desires to hold.

But what if everybody in society wanted to increase money holdings? Would that not require somebody to come up with a plan to produce money? The answer is no.

The demand for money can always be satisfied by a change in money's price, meaning its purchasing power. If people have a higher demand for money, they will sell goods and services to raise their money holdings. This is, as we have seen, what every single individual does in order to raise money holdings. If the desire for higher money balances is widespread or, as we may assume to make the point very clear, if everybody wanted higher money holdings, everybody would start selling goods and services or reduce money-spending on goods and services. As a result, the money prices of goods and services would fall and the purchasing power of the monetary unit would rise. But the rise in money's purchasing power is precisely what will satisfy the

additional demand for money. This process will last until people are again happy with the quantity of money they hold. The increased demand for money is increased demand for purchasing power in the form of money, and this demand will be fully met by a fall in money prices, meaning the rise in the purchasing power of every unit of money.

The key difference between money and all other goods and services is again that money has only exchange value and not use-value. If demand increases for any other good, somebody has to produce more of that good for this demand to be satisfied. Additional demand for TV sets and cars can be met only by producing additional TV sets and cars because only additional units of these goods can satisfy additional demand for their services. Demand for cars and TV sets is demand for the use-value that these goods provide. Money, however, does not need a producer. Every amount of money is optimal. If the public wants to hold more money, nobody has to produce more money. As money has exchange value, the extra demand for money is synonymous with extra demand for money exchange value and can be met instantly by a drop in prices, that is, a rise in the purchasing power of the monetary unit. By selling goods and services in order to raise money balances, as all people do who want to raise their individual money balances, the community collectively exerts downward pressure on prices and the resulting drop in prices is in itself sufficient to satisfy the increased demand for money. No new money needs to be produced to meet additional demand for money. Conversely, if the demand for money declines, people will "sell" money holdings for goods and services. The result will be a rise in the money prices of goods and services, meaning a drop in the purchasing power of money. This is the unique feature of a medium of exchange. Demand for and supply of money are coordinated by changes in purchasing power, not by adjustments to the physical supply of monetary units. Just like all individuals can hold, at every point in time, exactly the money purchasing power they desire simply by buying or selling goods and services, so the economic agents in aggregate can hold, at every point in time, exactly the money purchasing power they desire simply by selling or buying goods and services and thereby adjusting the purchasing power of the existing stock of money.

Here is another way of looking at this specific feature of money: It is a fact of history that fundamentally different substances have functioned as money. Nobody will deny that gold and silver functioned as money, and nobody can deny that, today, pieces of worthless paper and even electronic book-entry claims to such pieces of paper function as money. What made these substances “money” was evidently their acceptance in voluntary exchange for goods and services rather than any ability of these substances to satisfy needs directly. But if money is money only because it is generally accepted as money in exchange for goods and services that have use-value, then its value must be pure exchange-value. Once we agree on this point, all the conclusions of this chapter follow logically: Once a good is established as money, no additional quantities of this good are needed. The performance of an economy is independent of the supply of money. Within reasonable limits, any quantity of money is optimal. Money production is redundant. Supply of and demand for money can always be brought in line by changes in money’s purchasing power. Society overall and every individual in society can satisfy their demand for the monetary asset without the help of ongoing money production.

These conclusions are necessarily true. The reader can check them for himself. As a user of money the reader will know why he holds money and what determines the amount of money he wants to hold at any point in time. We all hold cash balances because we want to be ready to trade. If we did not value the flexibility, the readiness of instantly engaging in economic transactions with others, we could as well put all our wealth in consumption goods that satisfy our needs or in investment goods that generate returns and that deliver more consumption goods to us in the future. Holding cash involves opportunity costs. We hold money balances only to the extent that we value the flexibility that they give us higher than the additional things we could enjoy if we spent the money. How high we value that flexibility is subjective. It varies from person to person and for the same person will change from time to time, depending on personal circumstances. What drives the desire for flexibility does not have to concern us here. But whatever our desire for “spending flexibility” is, how this translates into demand for a specific quantity of money naturally depends on the pur-

chasing power of the monetary unit. Demand for money is therefore demand for purchasing power in the form of money. It follows that changes in money demand can always be met by changes in money's purchasing power.

This explains why societies can function and grow with inelastic commodity money. Inelasticity of supply is no hindrance for a commodity to be used as money. Or to put it differently, there is no basis for the widespread belief that somebody has to meet the growing demand for money in a growing economy—or in an economy that may for other reasons have a growing demand for money—by creating more of the money substance. This fallacy is based on an inappropriate transfer of the laws of supply and demand from the sphere of goods that are demanded for their use-value to the sphere of money, which is demanded only for its exchange-value.

## **The Functions of Money**

The skeptical reader may at this point still raise the following objections: First, the case is built on money's function as the medium of exchange, but standard economic textbooks also ascribe other functions to money, such as a store of value or a unit for accounting and monetary calculation. Second, the changes in money's purchasing power that result from changes in money demand could be disruptive. These changes may help satisfy the new money demand, but they could be disruptive for money's role as a basis for economic calculation. Maybe it is better to adjust the money supply in response to changes in money demand in order to avoid constant changes in money's purchasing power and prevent the price level from becoming too volatile. Third, if money production is not needed, how can we account for the growth in banking, which for a long time has included the issuance of money substitutes and fiduciary media, the latter meaning uncovered claims to money proper that are used by the public just like money, for example demand deposits. How can we account for the fact that the world has moved away from commodity money of fixed supply to paper money of perfectly flexible supply?

These are all good and valid questions. We will address each one of them in detail in the course of our investigation. At this juncture it may just be sufficient to make the following points.

All additional functions that can be assigned to money are the result of money being the accepted medium of exchange. These functions, important as they are, are derivatives of the medium-of-exchange function. Because money is the medium of exchange and every good or service is traded against money, money prices are ideal for economic calculation. As to money being a vehicle for storing wealth, it is apparent that many other assets can be used for that purpose, too. Many of these have the additional attraction of potentially generating returns over time. Money does not offer any returns. It can therefore compete with other potential storages of wealth only by offering something special, and that is its universal acceptance in exchange for goods and services, its unique marketability, the ability to be exchanged for goods and services faster and more conveniently than any other asset. That, after all, is why it is money. So we are again back to the medium-of-exchange function of the monetary asset.

Certain financial assets, in particular high-quality debt claims that are traded in very liquid markets, can sometimes become “near-monies”, and their owners may thus feel a reduced need to hold money proper. But these assets are fundamentally different in that they constitute simultaneously somebody else’s liability and therefore always carry an additional risk. Proper commodity money, such as gold, but also fiat money in the form of irredeemable paper tickets, is a financial asset that is not somebody else’s liability at the same time. The purchasing power of this money only varies with changes in the demand for money, and, in the case of paper money, also with changes in its inherently flexible supply. We see here that the inflexibility of supply in the case of commodity money makes it a superior store of value.

There is obviously a scenario in which money does generate a return, and that is during times of deflation. As we will see in detail later, in an economy with an unchanged money supply but rising productivity, meaning a growing supply of goods and services, prices will on trend decline. This is called secular deflation and is to be expected in a commodity money system. The purchasing power of the monetary unit appreciates over time. The money that sits in my bank account or

that is in my pockets will over time buy more goods and services. It is clear that this is very different in today's world of universal paper money in which the paper money producers—the central banks—usually aim for a steady depreciation in money's purchasing power, which means they aim for constant moderate inflation. In short, the store-of-value function of money is fulfilled much better in a system of inflexible commodity money than in a paper money system. A detailed discussion of these points will have to wait until we discuss advantages and disadvantages of deflation.<sup>13</sup>

We will also discuss the second point regarding the potential for purchasing power stability of paper money in detail in a later chapter. But it is already apparent that this argument for the introduction of elastic money is very different from the notion that a growing money demand means somebody has to produce money and that, therefore, some form of elasticity in the money supply is required. Ongoing money production is simply not needed. It is not true that society needs a money producer who can satisfy changes in money demand and that it is probably best to entrust this role to the state. Money was not invented by the state, and it is certainly not a “natural monopoly” of the state. Money has evolved organically and spontaneously from the voluntary actions of trading individuals. Once the market has identified the suitable monetary commodity, no further production of this commodity, nor any other adjustment to its supply, is needed. Those who advocate elastic paper money cannot claim that it is necessary or inevitable. They have to show that it is superior to inelastic money. Their argument will have to be that by replacing the money of the market—a commodity of relatively inelastic supply—with elastic fiat money under the control of the state, better results can be achieved for society overall. This is obviously a much weaker argument. It relies crucially on the appropriateness of the specific theories according to which money production is beneficial. We will look at these arguments in detail later.

However, our conceptual analysis of demand for money and how it differs from demand for any other good or service has already revealed a fundamental problem for any central bank trying to avoid fluctuations in money's purchasing power that may result from changes in the demand for money. The problem is the following: If the demand for

any good or service rises and all else remains the same, the price of that good or service will rise in relation to all other goods and services. At the higher price, some of the demand for this good or service will now go unfulfilled. However, the higher relative price will provide an incentive to producers or potential producers of this good or service to produce more of it and, if indeed more of that good or service is then being produced, the extra demand may finally be met and the price recede again in response to the additional supply. This is the standard process for any good that has use-value. The situation is different with money, which is demanded only for its exchange-value. In the case of the monetary asset, a rising demand for money—all else being equal—will lift money's price relative to all other goods and services. The purchasing power of the monetary unit will rise. However, at the higher "price" no demand for money goes unfulfilled. As demand for money is only demand for money purchasing power, the higher purchasing power in itself has fully satisfied the additional demand for money.

Naturally, this cannot be said of any other good, which, in order to be a good at all, has to provide use-value, which can never be satisfied simply by a change in the good's price. It follows that even a money producer who claims to print money only to satisfy any additional demand for money and to stabilize money's purchasing power, faces a fundamental problem. In order to avoid a rise in money's purchasing power, the money producer has to anticipate the rise in money demand before it articulates itself on the market. This appears to be impossible given what we said previously about everybody's ability to satisfy changes in money demand instantly. The money producer would practically have to know that money demand were about to go up before the economic agents themselves knew. Whenever the demand for money rises, economic agents will act upon this change immediately. They will instantly raise their cash holdings and exercise downward pressure on the prices of goods and services. The purchasing power of money changes practically simultaneously with the demand for money. After such a rise in money's purchasing power has occurred, the money producer knows that demand for money has gone up but his role is nevertheless redundant: The purchasing power, which he set out to stabilize, has now risen anyway and the extra demand for money is fully

satisfied through this rise in money's purchasing power. In the case of goods and services that have use-value, changes in market prices communicate changes in the preferences of the consumer. In the case of money, price changes (changes in money's purchasing power) also communicate shifts in preferences but, at the same time, the price changes constitute the full satisfaction of the changed preferences. Those who advocate an elastic form of money in order to absorb sudden changes in money demand and to keep money's purchasing power stable will have to explain how the money producer is supposed to anticipate changes in money demand before they affect purchasing power. We will revisit this point when we discuss the concept of price level stabilization in full in a later chapter.<sup>14</sup>

The third point about the rise of banking, and fractional-reserve banking in particular, is a different one. What fractional-reserve banking is and how it came about will be explained in more detail shortly. Here, a couple of short comments may suffice.

Fractional-reserve banking introduced a degree of elasticity into the money supply even at a time when money proper was still a commodity of essentially inelastic supply. Banks created so-called fiduciary media, that is, uncovered claims to commodity money.<sup>15</sup> These claims could come in the form of redeemable banknotes or redeemable deposits, redeemable into gold that is. As these were not backed by the banks' physical holdings of the monetary commodity and yet were still used by the population just as if they were money proper, their effect was to—de facto—expand the supply of what was used as media of exchange in the economy. Because fractional-reserve banking developed spontaneously in the market, the advocates of elastic money will point toward its existence and longstanding history of practice as proof that the market has demand for an elastic form of money. How else could the market have supported fractional-reserve banking for so long? How can fractional-reserve banking as a market phenomenon be reconciled with our statement above that ongoing money production is not needed and that a changing money demand is satisfied fully and naturally by changes in money's purchasing power alone?

In order to answer these questions, we will first draw a number of additional conclusions directly from money's unique position as a good

that is solely demanded for its exchange value. We will see that whoever manages to issue a form of elastic money and have it accepted by the public as a general medium of exchange is in a very special position. In contrast to any other producer of goods and services in the economy, the money producer enjoys the unique privilege of being able to happily ignore the level of independent demand for his product and yet produce very profitably. Because of money's unique features, money production can proceed regardless of money demand.

### **The Unique Position of the Paper Money Producer**

For the reasons that the monetary asset is different from any other good, the position of the money producer is different from the position of the producer of any other good. If commodity money is replaced with fiat money—a condition that is now universal—ongoing money production becomes possible. The good “money” can then be produced very cheaply, even at essentially no cost. At the same time it can be “sold” and distributed more easily than any other good, as the characteristic feature of money is its unique marketability. The money producer can instantly exchange it for any other good or service. This is not the case with any other good or service produced in the economy, as these have necessarily use-value and thus meet specific needs. The salability of every other good is therefore limited by the as-yet unfulfilled demand for the specific satisfaction it provides. Money's use is universal.

Moreover, essentially any quantity of money can be produced and placed with the public. If, as we have seen, any demand for money can be satisfied by a rise in the purchasing power of the monetary unit, then it must be the case that any additional supply of money can be absorbed via a drop in the purchasing power of the monetary unit. One follows logically from the other. If unwanted amounts of money are being produced and distributed (they simply have to be spent by the money producer) they will tend to raise money-prices in the economy, meaning they will lower the purchasing power of each existing

monetary unit. With money demand being unchanged but with the purchasing power of every monetary unit now being lower, the public will willingly hold larger quantities of the monetary asset. As he produces ever more money, the money producer will have to live with an ever-declining purchasing power of every additional unit of money he creates (a minor nuisance given that he can produce at almost no cost), but he will never face a situation in which unsalable amounts of the monetary asset pile up in his warehouse, a situation that is indeed a risk for every other producer in the economy.

The producers of goods that have use-value, for example cars or TV sets, may also try to place extra units by lowering their price, but such a strategy faces some tight restrictions. On the one hand, there is the higher cost of production compared to the almost costless production of paper money. On the other hand, there is the fact that even at lower prices the public will not absorb unlimited amounts of additional cars and TV sets. Given that these goods offer use-value, demand for them is satiable.

Even today's mainstream consensus does not contest that an injection of new money can always be absorbed by a rise in prices. The public can essentially be made to hold any amount of money. It is certainly the case that a fast and sharp drop in money's purchasing power can lead to whatever is being used as money lose its status as a medium of exchange completely. This is what happens in the final stages of a hyperinflation that ultimately leads to a currency's collapse. But as long as an economy's form of money maintains its status as the medium of exchange, supply and demand can always be completely aligned via a simple change in purchasing power.

Because of what makes money money, the producer of money is in a unique situation: He can produce money very profitably, and although the public has no need for any additional units of his product, as any demand for money is demand for readily exercisable purchasing power and can easily be met by automatic changes in the purchasing power of the monetary unit, the money producer can place essentially any amount of his product. The privilege of ongoing money production has no basis in any need of the capitalist economy for a money producer. Nondecaying precious metals with an essentially fixed

supply are ideally suited for the role of monetary asset, and they have fulfilled that role for centuries.

## **The Monetary Asset versus Other Goods**

This is a very important point that is crucial for a full understanding of our present system of fully flexible state paper money and extensive fractional-reserve banking. Before we analyze fractional-reserve banking in more detail in the next chapter, a couple of additional conclusions can first be drawn from the fundamental difference between the monetary asset and all other goods in an economy.

As no ongoing production of money is needed, society can derive no advantage from having competing producers of the good “money.” In the case of all other goods and services, which necessarily have use-value, competition among the existing or even potential competition from new producers of goods is essential for ensuring that the optimal number of goods is produced at the lowest possible cost. In the case of the medium of exchange the optimal amount already exists, and there is no advantage to be had from lowering the cost of money production. Lowering the cost means that more money can be produced with the same or even lower factor input, but more money is of no benefit to society. More of any other good or service with use-value is a benefit to society. Thus, factors that can be allocated either to money production or the production of any other good and service should always be allocated to producing nonmoney goods and services.

The verdict is the same when it comes to choice. The advantage that competition by private producers offers in terms of delivering goods and services with different specifications that cater to individual consumer preferences and tastes does not exist when it comes to the good “money.”

The competition among producers today guarantees that the consumer gets not only one type of car and one type of TV set but a whole range of cars and TV sets. It is advantageous to society that the specific preferences of its individual members can be met. But this is the case only because these goods and services have use-value. The enjoyment somebody derives from his own car or TV set would not be dimin-

ished—and potentially would be enhanced—if these items were completely customized to meet individual requirements, and if everybody else in society used types of cars and TV sets with different specifications. This is not the case with money. The good “money” is only useful for anybody because others in society use the same good as “money.” A customized form of money that only one person uses is no longer money. It would no longer be a medium of exchange. It would be useless. A medium of exchange logically requires that others use the same form of money, too. Widespread use is the precondition for a good to be money. Universal use would be ideal. Customized money is a logical impossibility. Indeed, the more universally accepted a good is as money the more valuable it will be as a medium of exchange.

The standard reasons for why a competitive market of private entrepreneurs is best in providing goods and services—reducing the cost of production and thus allowing an expansion of production with an unchanged or even lower factor input; producing a greater variety of products to meet specific consumer needs; technical progress—do not apply to the good “money.” The very fact that money is unchanging in terms of its supply and its specifications and widely accepted in its uniformity makes it ideal as a medium of exchange, and it explains why the precious metals gold and silver have been chosen as the ultimate form of money throughout human history.

For similar reasons, proposals for “currency competition” by private money producers do not seem convincing either. One of the most famous proponents of this idea is the one by Friedrich August von Hayek, also of the Austrian School of Economics, who suggested in his book *Denationalization of Money* (1976) that the state’s territorial monopoly of money printing should be revoked and the supply of paper money opened up to the competition of private money producers.<sup>16</sup>

Hayek was, next to Ludwig von Mises, the other outstanding representative of the second generation of Austrian School economists. His first two publications, the German-language *Geldtheorie und Konjunkturtheorie*<sup>17</sup> (1929) and his first English book, *Prices and Production*<sup>18</sup> (1931), were contributions to the Austrian business cycle theory, which had been founded by Hayek’s mentor, Ludwig von Mises, with the publication of Mises’ seminal book on money in 1912. For his work,

Hayek received the Nobel Prize in Economics in 1974 (Mises having died in 1973). The work of Mises and Hayek will have a great role to play in our further analysis, although we cannot agree with Hayek on this point.

Hayek proposed competition in paper money production not because he thought that this would supply society with more and cheaper paper money but because he thought a competitive market would produce “better” paper money, meaning less inflation-prone paper money. According to Hayek, paper money competition is supposed to avoid the overproduction of money that is a constant problem if money production is under the exclusive control of the state. With competing paper monies to choose from, the public would be less exposed to the inflationary policies of a single territorial monopolist. Again, it is clear that lack of additional demand for money is no obstacle to the paper money producer if he wants to create ever more money. But in a system of multiple paper monies, if the inflationary consequences became too painful, the public could at least switch to another provider. Based on our analysis thus far, we can already identify some flaws in this proposal.

It is evident that a society with multiple media of exchange would not realize the full advantages of using money at all. The coexistence of multiple monies is suboptimal as it partially defeats the very purpose of having a medium of exchange in the first place. Money is more useful to its owner the more transactions it can facilitate instantly, without, for example, having to be exchanged for something else first. The more widely accepted a medium of exchange is, the more valuable and useful it is to its owner and thus society overall. A universally accepted medium of exchange that would facilitate any transaction between anybody in the world would, of course, be the optimal currency. This is precisely the reason why, historically, communities have exhibited a tendency toward adopting the same commodity as money. Gold was the first, and has so far been the only, practically global medium of exchange.

A look at today’s world-spanning patchwork of local state paper monies can illustrate this point. From a global perspective, markets are today partially segregated by the use of multiple state fiat monies, each of which enjoys regional dominance due to the state monopoly

of issuance, legal tender laws, and longstanding history of local use. This monetary arrangement reintroduces an element of barter into international market exchange, an undoubtedly suboptimal arrangement.

We can illustrate this with an example: If someone earns an income in the United Kingdom in pounds but wants to spend part of it in the United States, that person has to find somebody who wants to do exactly the opposite. Only then can the person exchange some of his pounds for dollars. We meet here again a form of “double coincidence of wants” that characterized the barter economy. This would not be necessary if both countries were on an identical commodity standard, such as a true gold standard. Pounds and dollars would simply be specific units of gold, and although each country would probably mint its own gold coins or print its own gold-backed money-certificates (banknotes that are not paper money but represent commodity money), they would essentially use the same money. Thus, money could flow from one country to another, similar to the way in which it flows today from one region to another region within the same country or currency area. This is how gold money facilitated international trade under a gold standard.

The closest the world has ever come to a global form of money, which is logically the most valuable form of money for co-operation on markets and a global division of labor, was the time of the Classical Gold Standard, from 1850 to 1914. Although these arrangements were far from ideal and certainly no blueprint for the best conceivable gold standard, the Classical Gold Standard still marked a remarkable period of strong growth, expanding global trade, and harmonious monetary relations between nations, a period abruptly brought to end by the First World War.<sup>19</sup>

I do not think that many people today realize that the abandonment of the international gold standard and its replacement with a multitude of local paper money franchises under state control during the twentieth century constituted economic regression and not progress. In order to deal with the inefficiency of partial barter, an active market in the various state monies has developed, the 24-hour, several-trillion-dollar-a-day foreign exchange market. Today’s public seems to consider this market the epitome of international free markets and uninhibited capital flows. This is a misconception. In fact, the global foreign exchange

market essentially constitutes a second-best solution by money users to cope, as best as possible, with politically motivated monetary segregation. The desire by every government to issue its own paper money for its own political reasons is a powerful hindrance to global market integration and effective division of labor and human cooperation across political borders. Today's foreign exchange market is a makeshift to minimize the cost from monetary nationalism. "The high technology and the elaborate financial instruments in the foreign exchange and money markets are no more the expression of a high degree of market development than the increased sophistication of burglar alarms is evidence of a greater degree of public security" (John Laughland).<sup>20</sup>

Hayek's proposal to go back to multiple monies even in societies that already benefit from the use of one unified medium of exchange would deprive money users of some essential advantages of using the established form of money and for this reason the public may simply reject it. We have already seen that money could not have come into existence by anybody issuing worthless paper tickets and declaring them money. Today essentially worthless paper tickets are accepted as money mainly because of their particular history, meaning their origin from proper commodities and the established tradition of using them in exchange. People feel comfortable using these paper tickets as they know that they enjoy wide acceptance. Against these established paper monies, new paper monies issued by new paper money producers will hardly stand a chance.

Again we see a fundamental difference between money and any good or service that has specific use-value. When governments give up monopolies in postal services, airlines or TV programming, private competitors can quickly gain a foothold, not only by finding more efficient ways of delivering a similar service but often simply by catering to individual needs and providing more tailored versions of the product or service. "One size fits all" is always an inferior approach when it comes to the provision of goods and services that deliver use-value, but in the case of money, which is demanded only for its exchange-value, "one size fits all" is indeed quite appropriate. Hayek might be mistaken when he believes that the public may want to swap a widely accepted uniform medium of exchange that suffers from a steady loss of purchas-

ing power for a multitude of less widely accepted monies that have a more stable purchasing power.

Herein lies an important advantage for the paper money producer once his money is widely accepted as a medium of exchange: The advantages of staying with the established medium of exchange are sufficiently large and the costs of switching to a new medium of exchange sufficiently meaningful that a considerable degree of ongoing decline in the monetary unit's purchasing power can be expected to be tolerated by the public. The paper money producer can create substantial amounts of new money, slowly inject them into the economy and the public will absorb this money by raising the money prices of goods and services. History shows that established media of exchange remain in use even at relatively elevated inflation rates for a long time. Of course, the public will try to protect itself as best as possible against the negative effects of the creeping loss of purchasing power. People will try to keep their cash balances fairly low or to anticipate further price rises when setting prices in the here and now. This will inevitably accelerate the decline in the purchasing power of the monetary unit and it may ultimately lead to complete currency collapse. But it is usually only in the later stages of the inflationary process that the public shuns the established money completely and switches to other media of exchange, like foreign currencies or commodities. But for as long as monetary expansion is ongoing but not excessive, the public will usually manage to adjust its economic activities to money's declining purchasing power.

This is precisely the reason why paper money standards have again become so widely accepted. They can appear to be stable and manageable for a considerable length of time. The most visible effect of elastic money is ongoing inflation, the constant deterioration in the purchasing power of the monetary unit. But as long as the inflation rate is not intolerably high, individuals and corporations have learned to live with this particular effect of an expanding money supply. If continuous moderate inflation were the only problem of expanding money, it would be difficult to see why the present system of elastic money should be unstable and unsustainable, why it could not last forever, as is indeed the consensus expectation today.

As the present economic mainstream treats inflation not only as one of many problems associated with elastic money but as the only problem,

it is maybe not surprising that paper money systems enjoy again such wide acceptance. By itself, continuous moderate inflation is not an insurmountable problem. Modern macroeconomists have even elevated moderate inflation to the status of a policy objective and the consumer price index to standard-bearer of monetary stability. However, as this book shows, changes in purchasing power are not the only effects of elastic money, and not the most sinister ones. An expanding money supply will always change relative prices, the allocation of resources, and the direction of economic activity, too. Over long periods of ongoing money injections and a constant but fairly slow decline in money's purchasing power, there must occur a continuous mispricing of assets and misallocation of resources that will lead to a progressively more unbalanced economy. These dislocations will come to the surface whenever the flow of new money slows down. If the money producer then reaccelerates money injections, these misallocations can be covered up and new dislocations can be added, at least for some time. Ultimately, the superficial stability of moderate, never-ending but easily digestible inflation will make way to a much starker and more troubling choice between either a painful deflationary recession that finally cleanses the economy of the accumulated misallocations of resources, or the progressively faster injection of ever more money that helps postpone the recession but must ultimately lead to less tolerable levels of inflation. A paper money system with moderate inflation is not as stable as it may appear for a long time—even to the paper money user. As the elasticity of the money supply is the key issue at the heart of this problem, giving the public a choice between various elastic paper monies will not avert the ultimate disaster.

The fundamental question is simply, why have a system of elastic paper money or elastic paper monies in the first place? No ongoing production of money is needed, and commodity money, which can deliver all the services money can ever deliver, comes without the systematically destabilizing properties of elastic money. It is also already denationalized money outside the control of the state. Hayek's proposal therefore appears unnecessary and impractical, and it fails to fully address the inconsistencies of any system of elastic money. It seems surprising that Hayek, in his later years, advocated competitive elastic monies and even suggested they could be better than a gold standard<sup>21</sup> considering

his close association with Ludwig von Mises and his own contributions to Mises' cycle theory half a century earlier. The implications of that theory should be that elastic paper money is always inferior to inelastic commodity money. *Denationalization of Money* thus illustrates how far Hayek had, by 1976, abandoned some essentially Misesian concepts and had—despite the unorthodox premise of his book—moved closer to the intellectual consensus of the time. Naturally, those who remained in the Misesian tradition rejected his proposals.<sup>22</sup>



With the unique position of the money producer explained we now turn to the question of fractional-reserve banking. We will see that the money production of fractional-reserve banks is equally not restricted by money demand. Fractional-reserve banking is an essential component of the present paper money system. It therefore demands closer inspection.

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