

Section 2. Money and money creation

Most economists, philosophers, sociologists, historians see the crucial thing in money in its being a practical intelligent technical improvement over barter and in state fiat money in its being a similar improvement over commodity money (gold and silver). In addition, they are interested in theoretically understanding the “phylogenetic” origin of money and of state fiat money, as a social invention, a technique, a structure, an institution, or as a code or as a media of communication as a more academic issue. These are all, indeed, interesting and important questions. However, the crucial thing about money, for a theory of capitalism, which includes its prosthetics, is neither the general origination of money nor the technical advantages, which money and state fiat money carry. It rather is that in an *existing* world of money, you may be able to create more of this scarce and powerful stuff, already via merchant credit money creation, much more via private bank credit money creation and limitlessly more via state fiat money creation. In particular, state fiat money gives a power to the states, which is often more valuable than all its policemen and soldiers. It is also the single method of the state to procure value without having to take something away from somebody else and using force. In other words, it makes a lot of sense to look at money backwards from what it can do today

If we take this into account, then the insight may strike us that the rather recent ultimate historic transition from commodity money, gold and silver, to state fiat money in 1971 (paper, token coins and account entries with no right of conversion into commodity money) may not have been due to the greater elegance, practicability, and cost efficiency, etc. of state fiat money over commodity money, but primarily to state fiat money radically easing money creation, to an extent, which was far beyond alchemist hopes.

Yes, money creation also existed prior to state fiat money, but how clumsy it was to find gold or silver and to mine it (or to rob it)! In fact, even money creation by merchants and private fractional reserves banks, as we shall see later, while much more powerful than finding and mining or robbing gold and silver, turns out only to be an intermediate stage on the way to state fiat money and to state alchemy at an industrial scale.

Money

Many “left-wing” economists – Sismondi, Marx, Keynes, Kalecki, Minsky – occupy prominent places in this book. However, regarding insights into money, money creation, and fiat money this book owes more to the other side of the spectrum. Marx made a few interesting and critical remarks about money creation in the third volume of *Capital*, but even he presented himself as more amused by just another of

capitalism's absurd features, rather than trying to systematically work out the issue. Keynes, obviously, deals more with money, but mainly with bank credit money creation and this did not have a great effect on his *General Theory*. More recently, radical social anthropology, e.g., *David Graeber*, and so-called *modern monetary theory*, which may be regarded as “left-wing”, have also expressed certain insights. However, the greatest contribution to a critical analysis of monetary phenomena still comes from the “Austrian Economists”, and from their conservative branch in particular. As radical liberals and political supporters of conservative middle-classes, this branch of the “Austrians” abhorred socialist, semi-socialist, and national-socialist state interference, particularly in monetary matters, and fought to defend “pure capitalism”. For this purpose, they liked sharp terms and notions. Their work is, thus, a good starting point for monetary analysis. For this book *Ludwig von Mises’* critical theoretical analysis of monetary issues and money creation through credit money and fiat money is particularly important. Certain amendments will, however, also be necessary.⁴²

Indirect exchange, media of exchange, and the origin of commodity money

After exchange and value-in-exchange appear in history, there is normally no lengthy period of barter before money appears too. Money allows you not to wait until, by chance, somebody shows up at your place, at the right time, who needs what you have and *also* offers what you desire. Money, rather, renders it sufficient that somebody wants what you offer, here and now, and somebody else, later and even elsewhere, has and offers what you want; credit allows us to even turn the sequence

42 The name “Austrian Economists” may have originally been invented to ridicule thinkers coming from a country better known for alps, opera, and Mozart kugels than for economic theory, but the name later grew into an expression of respect for notional sharpness and intellectual consistency. The political and theoretical orientation of the “Austrians” is, yet, far from homogenous. *Carl Menger*, alongside Jevons and Walras, invented the subjective theory of value and marginalism, *Eugen von Böhm-Bawerk* authored strong early criticism of Marx's labor theory of value—Karl Marx and the close of his system, 1898—, which should already have buried it. *Josef Schumpeter's* work contributed to a better understanding of entrepreneurship, and its financing, and provided deep insights into the history of economic theory. He was also an important theoretician of democracy (*Capitalism, Socialism and Democracy*, 1942). Moreover, Schumpeter was a colorful person who allegedly took Vienna prostitutes to the Vienna Opera in convertibles to make a point and challenged the director of the Vienna library to a duel because of the early closure of its reading room (well done!). *Friedrich von Hayek* was less picturesque than Schumpeter. Yet, he delivered a fierce and important critique of state interference and saw money creation, fiat money, and inflation as milestones on “the road to serfdom”. While the conservative branch of the Austrians was not quite as insightful about the limits of capitalism, it was, indeed, very insightful in almost everything else. In this book, we mainly refer to the powerful monetary theories of *Ludwig von Mises*.

around.⁴³ Money splits up barter into two transactions, a sale and a purchase, and shifts itself in between as a *media of exchange* that connects these two transactions. Von Mises called the separation of sale and purchase “indirect exchange”.⁴⁴ Indirect exchange renders the economy much more effective and greatly contributes to the propagation of the economic system. These practical advantages, which money conveys, cannot be denied and they are rightly used to explain the money’s rapid historic success as an institution. While we do not deny their relevance, we might add that M–C–M’-players have a particular interest in the dissemination of the use of money.⁴⁵

Marx, of course, tried to use his theory of labor value to explain how the value-in-exchange arrived in commodity money and to derive a dialectic explanation of money therefrom. However, he only carried the mystification, which is immanent in his labor theory of value, one step further – into money. Recent radical social anthropologists and so-called modern monetary theorists tend to attack the view of money as essentially a valuable *thing* and try instead to explain it as a *debt-relationship*. We do not agree, as will be explained below. In credit money (bank deposits, bank notes, bank token coins of non-precious metals, or claims against states/central banks to convert state notes or entries on state accounts into gold or silver) money may, indeed, appear as debt, but money’s decisive general property, on the contrary, lies in its capacity to fulfill claims, do away with debt, and absolve from it.

Von Mises places interest in the question of what kind of commodity will be selected as a medium of exchange. If I want to exchange something in a system of barter, I will observe that there are commodities that are “more sought” in the market by more counterparties. I shall seek to obtain these more sought out and more marketable commodities in order to make the exchanges, which will get me what I want quickly. I shall, thus, attempt to “move up on the ladder” to the more desired or more “liquid” commodities. In von Mises, this ultimately leads to the *general selection* of one or several commodities as preferred media of exchange which, thereby, become “*commodity money*”. “A medium of exchange is acquired neither for the purpose of its consumption nor for the employment in productive activities but with the intention of exchanging it at a later date...”⁴⁶. The best suited media of exchange are those that have widely sought-after values-in-use, can easily be split into parts, are enduring, and have high value-in-exchange to weight ratios. Commodities, which

43 Money is generally seen as freeing exchange on the spatial, time, and personal levels, (e.g., Feldeyer/ Homburg (2003) page 78.

44 E.g. von Mises (1949) page 327.

45 See page 86. The advantages mentioned are often used to explain fiat money. That is a mistake. Fiat money does not convey significant transactional advantages over credit money, which represents a claim for gold or silver.

46 von Mises (1949) page 401 and 405 et seq.

were highly fit for the monetary function were, thus, platinum, diamonds, grains, or gold and silver. Yet, from here on, we shall develop the argument in terms of gold and silver alone.

Commodity money, credit money, and fiat money

When von Mises wrote *The Theory of Money and Credit* (2nd edition of 1924), monetary theory still largely labored the distinction between “metallic money” and “paper money”. Von Mises, quite rightly, discarded this distinction as superficial, misleading, and obsolete. The term “metallic money” encompassed money out of gold or silver, metallic coins with value-in-exchange outside of their monetary use, hence commodity money, as well as money out of non-precious metals, metallic “token money”, which had no value-in-exchange outside of its monetary use; in other words, the term “metallic money” confused commodity money and state fiat money. “Paper money”, on the other hand, included banknotes, which represented *legal claims* for the delivery of gold or silver against a bank or the state,⁴⁷ hence credit money, which is essentially as good as commodity money, (unless the debtor becomes illiquid), and fiat money, which involved no legally enforceable claim against the issuer for conversion. Thus, both sides of the distinction between “metallic money” and “paper money” confused apples and pies and hid the essential economic difference. Furthermore, the distinction wholly ignored the appearance of “deposit money” or “book money”, consisting of credits on bank accounts⁴⁸ – a modern monetary phenomenon of the utmost importance.

Substantial insights into money, and in money creation in particular, require better distinctions than between “paper” or “metallic”. *Von Mises* writes: “The economic theory of money is generally expressed in a terminology that is not economic but juristic. This terminology has been built up by writers, statesmen, merchants, judges, and others whose chief interests have been in the legal characteristics of the different kinds of money and their substitutes.” However, he proceeds by saying that “...for purposes of economic investigation” this categorization “is practically valueless”.⁴⁹ Von Mises then introduces a new terminology, one independent of legal or commercial distinctions, which serves the purpose of economic theory much better. He proposes three main monetary categories: *commodity money*, *fiat money*, and *credit money*: “We may give the name of commodity money to that sort of money that is at

47 Even “money certificates” or “money substitutes”, which von Mises defines as fully and immediately liquid and as valuable as commodity money, see *von Mises* (2013) page 52.

48 “...for banknotes... and cash deposits differ only in mere externals, important perhaps from the business and legal points of view, but quite insignificant from the point of view of economics” (*von Mises* (2013) page 53). From a legal point of view, a credit entry on a deposit account represents a claim similar to a claim for repayment of a loan; yet economically it is already money in the form of “credit money”.

49 *von Mises* (2013) page 59.

the same time a commercial commodity; and that of fiat money to money that comprises things with a special legal qualification. A third category may be called credit money, this being that sort of money which constitutes a claim against any physical or legal person. But these claims (which constitute credit money) must not be both payable on demand and absolutely secure; if they were, there could be no difference between their value and that of the sum of money to which they referred...".⁵⁰

Von Mises' most fundamental distinction is between commodity money and fiat money. In *commodity money*, the money-thing itself is a commodity with value-in-exchange outside of its monetary use (e.g., oxen, grains, skins, silks, etc., copper,⁵¹ even iron, or, later, mainly gold or silver), while the money-thing has no value-in-exchange outside of its monetary use in fiat money.⁵²

Commodity money, thus, has the "down-side protection" that even if it is demonetized, its holder still owns gold or silver with a market-value. If commodity money is ever artificially pushed underneath the value-in-exchange of its precious

50 von Mises (2013) page 61. In this statement, von Mises emphasizes the difference between commodity money and credit money in terms of the security and the speed at which the holder can access the underlying commodity. While this point is well made, for the purposes of our argument, the commonality between commodity money and credit money is more important. Commodity money "consists" physically of a commodity with value-in-exchange outside of its monetary function; credit money, while it consists only of paper, token coins, or bookkeeping credits, *also at least conveys a legal claim for the delivery of commodity money*. Commodity money carries the value-in-exchange "piggy back" and cannot even physically be separated from it, credit money. e.g., a bank note, only carries a legal claim for the value-in-exchange "piggy back". Fiat money carries nothing "piggy back".

51 Copper was mainly used in China from the Ch'in to the Ch'ing dynasty over two thousand years of monetary history. Copper money was commodity money, as far as its nominal value-in exchange did not exceed the market value of the copper content. E.g., bronze, which is mostly made out of copper, was an important export commodity in the Sung dynasty, just behind silk, tea and porcelain (*Golas, The Sung fiscal administration*, page 208). To the extent, the nominal value of copper coins was above the value-in-exchange of the minted copper, it was fiat money.

52 It should be noted that the "fiat" in fiat money does not suggest that its opposite, commodity money, may not be "man-made" or produced – of course, the typical commodity-money-things, gold or silver, are extracted from mines and often embossed and insofar man-made. Furthermore, the money-thing of commodity money possessing value-in-exchange prior to its monetary use does not mean that this value-in-exchange is "inherent", "intrinsic", "innate", "in rem", or God-given in the commodity-money-thing. *No value-in-exchange in human society is ever "in rem", but all value-in-exchange is attributed or ascribed*. Hence, commodity money does not force us to fall back on reifying thinking. In particular, economists who see themselves in the tradition of Austrian economists, should not fall victim to this fallacy. Many Austrian thinkers were heroes of subjectivist and constructionist reasoning; think of *Menger*, as the co-inventor of the subjective theory of value, of *Mach*, *Wittgenstein*, *Freud*, *Gödel* and of *Heinz von Foerster*.

metal content, then its holder can demonetize it and sell it as the precious metal itself (disregarding its embossment). Fiat money has no such downside protection. Conversely, commodity money may acquire an *additional layer value-in-exchange* because of their additional monetary utility. This layer can surface as an initial *seignorage* (as an excess of nominal value over and above the value of the precious metal) or through a later *debasement* of the precious metal content underneath the nominal value, both enabling a gain for the issuer. Von Mises points to this fact,⁵³ but does not delve into the issue further. The layer possesses all properties of *fiat money* and should be considered as a *fiat money-layer in commodity money*, given that this add-on-layer originates with monetization of a commodity and disappears again with its de-monetization. As fiat money creation in such add-on-layers is always quite limited in volume, e.g., as the embossing state normally only collects a small seignorage, such add-on-layers only gained a limited relevance to fund of prosthetics. Still, the observation is important for theoretical reasons.

Credit money, as we have already observed, includes bank notes, tokens coins, or credit entries on deposit accounts, if they convey a claim for conversion into commodity money.⁵⁴ The legal claim for conversion is independent of the respective credit money's monetary use and survives it; accordingly, if the credit money has been demonetized, the creditor still holds a claim against the issuer, e.g., the bank, for commodity money. Obviously, if the debtor also becomes illiquid or the legal system collapses too, then credit money may get as bad as fiat money – but otherwise credit money is superior. Accordingly, *credit money also provides some downwards protection*, like commodity money and unlike fiat money, but only in the amount of the value-in-exchange of the claim for commodity money. As it is normally better to own a thing than a claim for that thing, this conversion-claim is normally less valuable than its ultimate goal: commodity money itself; the creditor carries the risk of insolvency of the issuer, the “address risk”; he has a “default concern”. On the other hand, in exceptional circumstances, as the claim is directed towards standard quality and a standard weight of gold or silver, if the bank remains solvent, the claim may even be somewhat “better” than specific commodity money (1) as coins of commodity money are exposed to risks of wear and tear, debasement or fraud

53 von Mises (1949) page 408.

54 “Credit money” might, thus, also be called “claim money”. We repeat that von Mises restricts the term credit money to such claims that are *not* perfectly and absolutely secure and immediately due and, thus, *no* “money certificates” or “money substitutes” and that, hence, they are not as good as commodity money. See von Mises (1949) page 432 et seq. In this book, we use the term *credit money* for all money whose value-in-exchange comes from the conveyance of a legal claim, irrespective of whether reserves are held or where the claim is fully valuable.

or (2) if you live under circumstances in which you are in danger of losing your commodity money, e.g., in case of a shipwreck, or of being robbed.⁵⁵

The question of reserve holding (full or fractional reserves) must be seen as a separate matter. It concerns a special banking issue; it is comparable to an airline allowing a special flight to be overbooked or not allowing it. It must be well distinguished from the issue of the general solvency of the bank or of the airline. Even if a flight is overbooked, and a passenger misses their flight, they will receive their fare back from the airline – as long as it is solvent. If the airline is insolvent, then he misses the flight and loses the fare paid. Equally, a fractional reserve bank may be solvent, or a full reserves bank, like an airline who does no overbooking, can become insolvent.⁵⁶ We have a first hint here concerning an important distinction, to which we will return later.

Fiat money, von Mises' third main category,⁵⁷ is at the other extreme end of the spectrum. The money-thing in a fiat money regime neither has value-in-exchange outside of its monetary use, nor does it convey a claim for a commodity with such value-in-exchange. It is still the best and most convenient money one can have as long as the fiat money remains monetized. Fiat money is normally state fiat money; it can, as a rule, only come into being alongside the introduction of a general fiat money regime by a state.⁵⁸ Three strategies are typically applied to support fiat

55 This was so in the early years of the *Amsterdam Wisselbank*, when its credit money was allegedly often preferred over commodity money as the money holders were relieved of checking coins for wear and tear and were less exposed to robbery or theft.

56 Note that even a bank that holds 100 % reserves for deposits, bank notes and token coins issued, it is not protected against insolvency. The statement that a bank holds 100 % reserves for issued bank credit money only looks at the relation between *certain assets* on the asset side (gold or silver holdings) and *certain liabilities* on the liability side (conversion liabilities for bank credit money), yet the bank's solvency depends on more.

57 Monetary theory uses the distinction of *exogenous* and *endogenous* money. If a system of commodity money exists, then the gold and silver or other precious metal money is said to have been determined exogenously. Likewise, if fiat money exists, then the money issued by the central bank is said to have been determined exogenously. On the other hand, if banks create money by granting circulation credit out of fiduciary media of exchange, then the money supply is said to have been expanded endogenously. From our perspective, money creation by the state or by the central bank and money creation by private banks are functionally very similar. That being said, it is true that state fiat money creation is much more powerful than private bank credit money creation.

58 The transition to state fiat money is probably easier than is often believed. There is no necessity to first build up a general consensus or significant trust in the society at large. People will initially only need to hold onto a small portion of their wealth in fiat money, so small that this is almost riskless. Trying out fiat money with such riskless amounts will greatly strengthen it everywhere. A few years ago, the National Museum of India in New Delhi exhibited *shells*, which were allegedly used as money in the very early strong local city-community of Harappa, which was a part of the Indus Valley Culture (IVC; 2600–1900 BC). Given

money regimes, (1) states *accept fiat money to pay state taxes*; this is the most important strategy; it adds a Chartalist moment to von Mises' theory, (2) to make fiat money *legal tender*, thereby forcing private citizens to accept it as payment for private debt instead of gold or silver (even if it may sometimes be difficult to enforce), and (3) to *suppress gold and silver (or other commodities, e.g. copper, iron and silk) as commodity money* as an alternative medium of exchange, e.g., by trying to absorb it by the state or the central bank, and illegalizing its monetary use and private gold and silver possession etc.

The value of state fiat money and the reasons for its acceptance

State taxes, legal tender, and fiat money

We shall begin our account of “the value of state fiat money” and the reasons for its acceptance with a historical argument, which departs from a case made by *David Graeber*. He proposed a theory of how small unit money coins originated in direct connection with warfare by mass armies, a “*mass-army-theory of money-coins*”, which introduces into the issue very well. The need for humans to eat, drink, and for some fun does not go away during warfare, of course. In very simple and local conditions, it is taken care of by warriors carrying subsidies for a few days with them (and then going home to re-fill their supplies). Later, tribes or states establish lines of communications and transport supplies to their armies' camps. In historic mass migrations, when whole tribes moved slowly to distant target locations over decades, the fighters were supported by their villages, which followed their moves. In all of these cases, the supporters at the “home front” were rewarded by the outcome of the war – by receiving a share of the loot or by not losing their women, children, property, and life. Of course, warriors also always sought to source supplies in the theaters of war, plants from the field, hunted game, pastured cattle and, occasionally, robbed valuables; in smaller early ventures they appear to have done so mainly by force, without paying for local supplies.

The old-fashioned way of supply had to be adjusted as settlements and armies grew in size (to mass armies, e.g., enabled by the use of iron instead of bronze), as distances became larger, and as campaigns grew longer, e.g., for the armies of the Chinese Warring States period, for the Greek armies of the Persian and the Peloponnesian war, the armies of Alexander the Great, and for the Roman legions. Huger volumes of supplies had to be secured now in more distant and hostile environments.

the obvious convenience of using them and, e.g., assuming a lack of gold and silver, today's museum-visitor can easily imagine that they would have willingly accepted the mussels for small transactions as well, the acceptance of which would have helped to trigger a positive trust-spiral. (Yet, some historians also argue that the shells were mostly used for badges and ornament.)

Of course, that could still be done by force (and often was). However, if armies or soldiers could pay, such sources would flow more abundantly. In addition, supplies from home also took the form of a convoy of merchants following armies who sold their goods for money to the troupes and an increasing number of soldiers became mercenaries, who no longer fought for their home villages, tribes, or states – but for the pay. That money had to be in small and robust units, hence in coins, in order to pay the soldiers of the new mass armies.

Commodity money (gold and silver) was, of course, the money that was most easily accepted in the field. It would maintain its value even if it was issued by an enemy state and after this state was defeated, notwithstanding the coins carrying embossment or stamps of it. Athens was, thus, enormously lucky to discover a new rich streak of silver in its mines in Laurium (preceding the second Persian war) just as the Spaniards and Portuguese were to find and be able to (have the local population) mine tons of gold and silver in the Americas. Alexander the Great was equally lucky to even capture the Persian state treasure after the fall of Persepolis and some Persian mines⁵⁹ in 330 BC: Alexander is said to have paid out half a ton of silver to the 12,000 men in his army each day.⁶⁰

However, Graeber's approach also allows us to explain war financing by fiat money. Taxation is crucial in this context: If states levy taxes and accept their own state fiat money to discharge tax obligations, then they thereby attribute value to the fiat money they issue, – even if the state fiat money would otherwise not be accepted as a general medium of exchange. In other words: The states give fiat money, e.g., coins, to soldiers, they give them to merchants and peasants for their supplies and cheap thrills, and the recipients can use them to pay taxes to the state. State fiat money coins not only work for those who directly receive them as “free passes” against taxation, but for anybody who is taxable. In this way, they become tradable. If the merchants and peasants who collect them are not taxable by the issuing states, then the coins flow to somebody who is (likely at a discount). Military suppliers of the state paid with coins (or notes) can also make good use of them, they can keep their gold or silver and still avoid tax execution, expropriation, prison etc. by using the fiat money.⁶¹ The point is not that the tax-collecting state would be very eager to pocket its own fiat money chips again (it can create them anew at discretion anyway), but that taxable subjects, who do not want to spend their superior gold or silver, can use the state fiat money instead. The mechanism would even work, if states would, instead of collecting taxes in fiat money, force tax-“payers” to *burn* or otherwise destroy the amount of state fiat money, which was assessed as taxes

59 Graeber (2011) page 229.

60 Graeber (2011) page 229.

61 Graeber (2011) page 49 et seq.

against the respective individuals in a supervised manner– and then coin or print new money.

The mechanism, hence, must be understood as working backwards. The state first enshrines laws to pay taxes in commodity money (or fiat money) and, second, accepts fiat money as tax payments in order to give value to state fiat money.

This general idea was already developed by *Georg Friedrich Knapp*. Fiat money had value and was accepted for a *very solid and earthly reason*: It is a reliable means against state violence in a circuit set up by states and consisting of state fiat money spending and state fiat money tax collection. Fiat money, in other words, derives its value from the state's sovereignty and from state violence, and from the state's ability to levy taxes, fees, and other contributions specifically.⁶²

Certain quantitative limitations apply: They can be best understood in situations, in which – like in Graeber's case of mass armies – lasting and stable stasheship is not secured. First, state fiat money will work only with a view to the period ahead, in which the issuing state is expected to remain sufficiently strong to collect taxes. Second, the accepted volume of fiat money will be limited by the expected volume of the taxes (or other state contributions), which are likely collected in that period. "Excess-fiat money", fiat money beyond the volume, which can foreseeably be spent on taxes in the expected period of remaining strength of the issuing state, may, thus, only reluctantly be accepted; e.g., military suppliers may ask their deliveries to be partially paid in commodity money. In view of this mechanism, states can, absurdly enough, raise the volumes of useful state fiat money by increasing taxes, as this will open up new possibilities to make good use of it. While this reasoning shows limits concerning the propagation of state fiat money in situations of unstable stasheship, it also implies that fiat money automatically acquires strength with an increasing ratio of taxation or the state quota to GDP and with increasing political stability of the state. The more Leviathan evolves into a Behemoth, a "social state", and the more undisputed it becomes, the stronger its fiat money.

States also attribute value to fiat money by forcing private creditors to accept fiat money as payment for private debt. Hence, states side with debtors and force creditors to accept payments in dubitable fiat money instead of in better commodity money. Thereby, fiat money becomes "legal tender". Rendering fiat money legal tender is, though, not nearly as effective in supporting fiat money as allowing taxes to be paid in fiat money. If the value of fiat money becomes dubitable, then creditors will simply only enter into exchange contracts if payment in "commodity money" is agreed or if other goods are bartered. "Legal tender" as a support-mechanism for state fiat money, thus, often weakens if it would be most needed.

62 See *Knapp* (1905) and *Polanyi* (1944) page 205: "The state... was in fact the guarantor of the value of token money, which it accepted in payment for taxes".

If a fiat money currency is demonetized, states may still accept it to settle taxes or, which has the same effect, exchange the old fiat money into a new state fiat money, such as when the German Mark was introduced in the former German Democratic Republic or when the Euro substituted the old currencies of the Euro-zone-countries. In more dramatic circumstances of demonetization – in the French Revolution, after the Russian Revolution, after the German hyperinflation of 1923, etc. –, states will, yet, typically not exchange the old currency into the new currency (at least at a reasonable rate) and will also no longer accept it for tax payments.⁶³ In this case, “demonetization” not only puts an end to the use of the fiat money currency as money in the markets and discontinues its status as legal tender, but it also abolishes its power as “free pass” against taxes. Leviathan, master of the law, as it created a kernel of value in fiat money at its introduction, destroys that kernel again and makes the fiat money completely worthless.

We conclude this section with a formal observation: Credit money (e.g., paper bank notes, non-precious token coins, and credit entries on deposit accounts) have a *legal claim* attached thereto. What underlies the value of state fiat money is different – in a way, it is the opposite. State fiat money only possesses the capacity to *fulfill* tax (and other state) claims. Fiat money is, thus, like a *set-off-potential*, a *counterclaim*, a *tax credit* (a credit usable against future state taxes, state fees, and state contributions), a *tax exemption*, or a *tax privilege*. If state fiat money has been made legal tender, this, in a way, also allows you to raise an objection against private creditors of yours who asks for commodity money; you can send them home with mere state fiat money. Fiat money is, in other words, only good for defense. Its value can only be realized if you are a debtor already. If you rend a visit to Leviathan and tell him: “See I have this amount of your fiat money, please give me gold for it, or a house, or food...”, Leviathan might shake his head. “But”, he might add “... wait until I tax you, which I certainly will, – then I will have to take it and you can get rid of your fiat money!”

Additional comments on state fiat money

A few comments on state fiat money may be added. The first is that a reflective mechanism doubles up on the power of the hard kernel of value of fiat money derived from its power to discharge taxes and of its being legal tender in stable, normal situations. In such situations, everybody expects everybody else to accept fiat money and expect fiat money to be accepted in the medium term at least. Therefore, people will not worry and calculate volumes of tax volumes, execution power of the state, etc. but will simply *trust* that the fiat money will be accepted in at least the near future. We

63 The German middle classes, which were by the hyperinflation of 1923 would have loved to be allowed to continuously use their pre-inflation “Mark”-notes to pay their taxes.

are, thus, again, in the arena of self-fulfilling prophecy or reflexive witchcraft of society. We have already pointed to the astonishing fact that observations, that can be straightforwardly incorrect at the beginning, if observed by others, have the miraculous capacity, to not only practically justify themselves because everybody shares the error, but to render themselves right and true and dissolve the “erroriness” of the idea at a second level. Because this works even in favor of initially clearly false observations, it will work even more powerfully for observations which already initially have a kernel of truth, such as the state’s acceptance of fiat money for tax payments.

Second, we see that state fiat money is not based on some kind of implicit “social contract”, whereby the members of society agree to give up their archaic obsession with bulky commodity money or credit money and progress to a modern, more civilized, more enlightened, and more efficient type of money. The ascent of fiat money is also not due to society’s collective insight that money does not need to possess an “intrinsic value” to fulfill its function”. This “modernization” or “rationalization”-theory of fiat money misses the fact that the weakening of the value of money, which comes along with fiat money, does not go as far as it assumes. It fails to see the surviving, strong “materialistic” moment in fiat money, which is as strong as the modern state.

Third, there is both some justification as well as a possibility to tumble into fallacy when using semiotics to analyze monetary phenomena. *Von Mises’* original German word for fiat money was “Zeichengeld”, literally translated as “sign-money”,⁶⁴ which at least carries a trace of semiotics. And in fact, the question is legitimate: Should one not look at state fiat money as a *sign*, whose *signifier* would represent commodity money as its denotation or as the signified (albeit, admittedly, without conveying a claim for its delivery)? This signifier-signified-model could elegantly explain why, if the gold or silver content in coins is lower than the nominal value (because of seignorage or debasement), the coins may still keep their value-in-exchange. The reasoning could go: The value-in-exchange of the substance of the coin, realizable outside of its monetary function, goes down; however, this loss is compensated for by a semiosis simultaneously raising the signified value, so that the total of the hybrid value of the coin (a mix of the market value of the gold or silver substance and of the value communicated by the semiosis) remains the same.⁶⁵ As nice

64 Here a translation freed a term of a misunderstanding that the original term nurtured. This book would not have used the term “Zeichengeld” as prominently as it uses “fiat money”.

65 If an originally 100 % gold-coin is successively debased by 100 %, but retains its nominal value, then this could, accordingly, be explained as 100 % of the market value of the gold in the former commodity money or “currant money” having been substituted by “semiotic value”. This could operate on a gliding scale, with a nominal value of money always being backed by a mix of commodity value content and “semiotic” value content.

as it sounds, this semiotic approach is fallacious for two reasons. (1) It silently presupposes that “money proper” ought to be gold or silver with an “intrinsic” value and concludes, from that presupposition, that if state fiat money is used, then it ought to at least denote “money proper”. We cannot agree with this. (2) It ignores the true “materialistic” power of state fiat money, providing a “free pass” against taxation. (3) It cannot explain why people would accept money, which admittedly *only* signifies something with value proper without actually also conveying a legal claim for it. Any debtor can produce a piece of paper that “signifies” the payment he owes, but his creditors will certainly not accept this as payment. People know that fiat money has no value-in-exchange outside of its monetary use, but they accept it nevertheless. They accept fiat money not because it signifies anything, but because they can settle tax debt and acquire the trust to also continuously be able to settle other debt with it. A semiotic theory of fiat money misses that point.

Money creation

Creation of commodity money, credit money and fiat money

We have already put a great deal of emphasis on the relationship between fiat money and money creation. It is important to understand that money creation also existed in the world of commodity money already. Not only would the Greek mine commodity money at Laurium, and the Spanish mine silver at Potosi, both leading to money creation, but banks could also create money in a commodity money regime, via fractional reserve banking, by issuing credit money beyond their reserves in commodity money. *In all these cases money was created without the involvement of state fiat money.* Furthermore, if fiat money is issued, then this may happen without money creation (the creation of additional money), if the issuing state simultaneously withdraws a corresponding amount of gold or silver from circulation, e.g., to put it into reserves. If a state issues a higher amount of fiat money than the nominal value of the gold or silver that it puts into reserves, then it only creates money in the excess of the fiat money issued over the gold or silver dispatched to the vaults.⁶⁶ If a state issues fiat money beyond the reserves held, then the excess of the fiat money emitted is money creation. It is comparable to the open or hidden seignorage added by a state when it issues embossed commodity money coins; the added seignorage-layer is fiat money.⁶⁷

66 Reference is made to Matrix II on page 26.

67 Commodity money can, theoretically, also function as credit money and can have a fiat money component: Assume a state issues an embossed 50-gram gold coin (with a nice portrait on it, of course) and which, for some reason, conveys a claim for an additional 100-gram's worth of gold, but is given a nominal value, accepted by the markets, of 250-gram of gold. This coin, then, is commodity money with its real gold component, credit money with its claim component and fiat money with the excess.

Commodity money is a very unsuitable tool for money creation because it must carry its commodity, gold or silver piggyback – otherwise it is not commodity money. Accordingly, one has to “get physical”, go out and find,⁶⁸ mine, rob, or otherwise procure gold or silver, at the least by giving other commodities away for it, and transport it to where it will be used as money in order to create new commodity money. The same is true even if a less precious metal, copper, is used, as the Chinese did from the Ch’in to well into the Ch’ing dynasty. Over two thousand years, they minted small round coins with a square hole in the middle which allowed assemble standardized numbers of the coins to so-called “strings” to overcome the comparatively little commodity value of copper, e.g., of 1000 coins; off course seignorage was often added and the nominal value of the coins or strings was mostly much higher than the market value of the copper. Still, there were times, when the desired growth of the monetary base was impeded by the lack of copper.⁶⁹ Credit money, with full reserve holding in commodity money, only somewhat loosens the closeness and directness of the “piggyback”-relationship to gold or silver – but it does little more than that. Yes, gold and silver no longer have to be carried around with the money, but the bars must still sit, if idly, in a vault. It does not matter, then, whether they have a ribbon around their neck, relating them to specific credit money bank notes, token coins, or credit entries on customer deposits, or if they only have a certain value-relation to the issued notes in the aggregate, e.g., full reserve banking. Money can still not be created without procuring new gold or silver. Indeed, even if states issue fiat money and want to back it, although it does not convey a claim for conversion, with gold or silver in the amount of its nominal value, as they sometimes do, they still need new gold or silver.⁷⁰ Reserve holding in commodity money, thus, keeps money creation as impractical as it always was. We can now see that the ease of money creation is not a matter of whether the gold or silver is carried around piggyback or stored in vaults, but is instead solely a matter of whether there have to be gold or silver reserves at all. Money creation by credit money or fiat money are both equally easy, provided that they are not backed by reserves. Banks just print bank notes, emboss token coins, and book deposit entries against which they do not hold commodity money. Alternatively, states issue credit money (with a conversion claim) or straightforward state fiat money (without a conversion claim) in precisely this way.⁷¹

68 See on page 66 on how Pallas Athene helped the Athenians in their war against the Persians.

69 See, e.g., on the Sung: *Colas*, *The Sung fiscal administration*, p. 207 et seq.

70 Germany used to back its fiat money with reserves at a third of the fiat money issued before World War I.

71 To repeat: Fiat money being covered by reserves does not mean that it involves a legal claim for conversion into commodity money; it only means that the state has put the same amount of commodity money in a vault. Credit money always involves a claim for conversion into commodity money, whether reserves are kept or not.

Money creation and reserve holding vs credit money and solvency

Our later analysis, on prosthetic spending financed by money creation, will help us to better understand and to disentangle two other monetary issues. The question of whether newly created credit money issued by private banks is fully, fractionally, or not all covered by reserves (reserves holding) must be kept separate from the question of whether and under what condition such credit money may lose its value and banks may default on it. These questions are *not* the same.

Money creation and reserve holding

The easiest way to think of the issue is to imagine credit money creation in a commodity money regime and to consider the relationship between credit money issued and commodity money reserves. As seen, it depends solely on the commodity money reserve holding whether or not there is money creation; if 100 % commodity money reserves are held in reserves for newly issued bank notes or entries on deposit accounts, then there is no money creation; if 50 % commodity money reserves are held, half the amount of newly issued credit money is newly created; if 0 % reserves are held, the full amount of newly issued credit money is money creation. However, the reserves percentage also decides upon money creation if existing credit money, e.g., issued by another bank, or even fiat money is kept in reserve. Amounts put into reserves, and “blocked” there, reduce the aggregate volume of the money that is in circulation. They, thus, are to be “netted” against newly created money. Reserve holding (of all types of money) compared to newly issued money (also of all types, today mostly credit money and state fiat money) decide upon the volume of money creation. This is the most important issue macroeconomically.

Credit money and solvency

The second issue – credit money and solvency –, which is easily confused with the first issue, is of a lesser caliber macroeconomically, but still of great bearing for the credit money holders. If a private bank issues credit money in a commodity money regime, like with any other debt that it has, it may or may not be able to honor the obligations arising therefrom. Accordingly, it may not be able to convert the credit money in commodity money on demand (or at least in credit money of other issuers). The issue does not disappear in a state fiat money regime. In a fiat money regime, the bank that issues credit money may also be able or unable to exchange the credit money issued into state, e.g., state bank notes (or at least credit money from other issuing banks). Its credit money holders will suffer a loss in the event that it defaults. Now, this possibility is, in fact, ultimately independent of whether the bank carries full reserves, fractional reserves, or no reserves at all. A debtor's solvency depends on the debtor's balance sheet *as a whole*, i.e., on what aggregate assets are opposed to what aggregate liabilities, and *not* on the relationship of a *special part of its debt* to a *special part of its assets*. It is certainly nice to know that a bank held a

100 % coverage in gold or silver,⁷² when it issued credit money, but that is no guarantee that it will always be able to honor the whole of its debt or even the whole of its debt resulting from issuing credit money. A full reserves bank can also go bust if it loses too much money elsewhere – without any customer asking for conversion of his bank credit money into gold or silver. Conversely, a fractional or no reserves bank, whose customers have invested the loans received wisely and who can meet their repayment obligations (and who itself runs its own operations carefully), may prosper. Accordingly, if a state instructs banks to hold a certain fraction of their credit money issued as reserves, this is *primarily directed towards monetary politics*. In addition, at best, it may have an intermediate favorable, yet unreliable, effect on the bank's solvency.

For central banks or states it is much easier to save fractional reserves banks in state fiat money regimes than in commodity money regimes. If depositors demand conversion of their credit money into gold or silver in a commodity money regime, then the uncommitted gold and silver even in the vaults of the central bank, may be too scarce to satisfy all demands. In a state fiat money regime, this restriction no longer exists. The central bank can never run short of state fiat money a base money. It can either loan fiat money to the troubled bank as a “lender of last resort” in the sense meant by *Walter Bagehot* or it can buy the bad assets from the troubled bank as “dealer of last resort” in the sense meant by *Perry Mehrling*⁷³ and, thereby, can bail out the troubled bank. Bailouts have become an issue of will only, rather than of limited firepower.

The possible default of debtors must, of course, be distinguished from the other issue of whether a certain type of money can default as such. We have already observed that commodity money cannot possibly default (as it carries its downside

72 While the *Amsterdam Wisselbank* is said to initially have been a full reserves bank, the *Stockholm's Banco*, which opened in 1657, is said to have been a fractional reserve bank from the very beginning, see *Ferguson* (2008) page 50.

73 See *Mehrling* (2011) page 132 et seq. Mehrling describes how central banks, the Fed in particular, transformed from classic “lenders of last resort” in *Bagehot's* sense to “dealers of last resort” and how the institutions and practices (primary dealers, repo-market) adjusted in this context. Instead of making loans to cover private banks' losses or liquidity problems, the central bank would simply buy the assets. Liquidity then becomes a question of “shiftability” to the central bank (page 35), which has the tendency to eliminate the distinction between liquidity and solvency as such (page 44). Mehrling comes close to stating that the willingness and capability of private dealers to purchase assets may, at some stage, become exhausted. “The point is that, in a really severe crisis market liquidity is no longer a matter of the funding liquidity of private dealers, but rather of shiftability to the Fed. If an asset is not shiftable to the Fed, it may not be shiftable at all...” (page 106). However, Mehrling does go so far as to make the point that the willingness of private wealth owners to absorb both private and sovereign debt could, as such, reach its limits and that then central banks ought to become the main “holder of last resort”.

protection piggyback), but that credit money, whether it holds reserves or not, can default. Fiat money cannot default as such, given that from the very beginning it does not claim to convey any claim against a debtor (who does not exist). It may, however, lose its value if it is no longer accepted in the markets following inflation, hyperinflation, demonetization, or currency reform. Matrix II of the Foreword (on page 26) is now further evolved by showing these cases in Matrix III.

Figure 3: Matrix III – Reserves and money creation vs default concern

	Commodity money	fiat money	Credit money based on commodity money	Credit money based on fiat money
Reserves and money creation	reserves carried piggyback no money creation without new gold or silver	money creation if no commodity money reserves are held for newly issued fiat money	money creation if no commodity money reserves are held for newly issued credit money	money creation if no fiat money reserves held for newly issued credit money
Default concern	no default risk, default risk protection carried piggyback	no conversion claim no protection of fiat money holder in inflation or demonetization	value-in-exchange of claim for commodity money mainly depending on solvency of issuer of credit money	value-in-exchange of claim for fiat money depending on solvency of issuer of credit money and value of fiat money

Where the new money goes: Money creation and the geopolitical rivalry of states

If people participate in a gold rush, alchemist experiments to produce gold, or criminals engage in counterfeiting schemes, they are driven by the expectation that the gold, silver, or counterfeit money that they may get out of this venture will be *theirs*. The ultimate motive for money creation lies, thus, where “normal people on the streets” will suspect it – money is created to spend it in favor of its recipients. Private banks, too, use newly created credit money to enrich themselves via the interest they earn on it or via other profits from investing it. And states, finally, also go after the gain they realize through the spending it enables, be it in armament build-up, infra-structure development or financing social transfers. Money creation is not like adding water to the oceans because of smelting ice at the North

Pole or South Pole, but the new monetary wealth *immediately accrues to some specific owner*. Still, macroeconomically, money creation is a means to extend processes of economic systems building through time and beyond presently covered spaces – to enable exchanges (additional elementary economic events) which would not have taken place without it.

Most economists, it they think about money creation, do not sufficiently consider the *point of entry* of the additional money; they rather only look at the overall quantity of money raised. Often, they move from here to deduct a general rise of the price level based on the quantity-theory-of- money. Insofar, they consider the inside of the economic body as quasi “structure-less”, like a basin with water, in which only the total swapping quantity matters, or, to give another example, they make no difference about whether blood is being injected into the belly or veins of a human being or if food is placed into a human being’s stomach or rectum.⁷⁴ However, money, which, resulting in an increase of the money volume, is sitting idle in accounts of a sterile wealth owner, does not do a thing. Only new money that buys additional produce in the productive economy has a macroeconomically stimulating effect or, if supplies cannot be increased, competes with for the same goods (which may lead to inflation regarding these products and regarding the inputs going into them). The rise’s size depends on the specific situation. Reserves of stored products or assets, fast additional supplies for additional demand, reserves in production capacities, or existing or upcoming rigidities influence the prices, as do the strategies of suppliers and demanders, cartels, or by the state’s anti-cartel-policies.

The main historic use for state money creation was for the military and warfare. This particular use subsumes states’ money creation to a *law of escalation*. Strategic and military contests, e.g., those, which the planet has seen since 1500 AD, are contests without an umpire, and, thus, without anybody having the power to limit the efforts of the contestants, the money invested, the means applied, the places where wars are fought, and their duration. Accordingly, if any side escalates, which it can at its discretion, the other side is forced to follow suit or to be defeated. No strategic situation is stable as long as another side can grab an advantage by escalation. Oftentimes, it may be enough to only show your readiness to escalate to avoid further escalation, but already this will require significant build-up of armament; which will already put great pressure on financing. Sometimes, of course, you have to show your cards. Clausewitz’s thinking centers on how the law of escalation may drive war to an “absolute war” while other moments have a moderating effect.⁷⁵ War, though, is the master of everything, and ultimately, its escalating logic feeds back on pre-war military and politics. Thereby it also becomes to dominate economic state policies, fiscal and monetary, including money creation. This, then, drives state lead-

74 See already von Mises (2013) page 139; von Mises (1949) page 447.

75 See von Clausewitz (1980) Chapter I.

ers not only beyond international and military politics, which they might have preferred as otherwise conservative family fathers, businessmen, or bankers, but also beyond economic policies, which they would normally have pursued as sound. In other words, imperial competition and the search to dominate others rather than to be dominated by them triggers a military logic of escalation, and as long as this logic prevails, financially “stretching to the utmost” and “over-stretching” in indebtedness and money creation becomes rational and responsible (one might think). In fact, the decisive advantage may come from not only spending the financial resources you have, but from spending resources *you do not have*, including by taking on debt and by money creation⁷⁶ The law of escalation, accordingly, renders necessary what is normally irresponsible and unreasonable. It makes the unreasonable reasonable and the reasonable unreasonable. In summary, we find that not only microeconomic motives of private banks to the raise the volume of loans they can hand out or of firms to use such loans, but probably mainly geostrategic and military motives of states pushed money creation in the past and may continue to push it in the future, far beyond what common wisdom would consider responsible.

Section 3. The economic system

With *Max Weber*, we do not consider goods procurement by violence to be part of the economic system.⁷⁷ Strictly speaking, thus, an expression like “violence economics” or “robber economies” would be incorrect. If, in the environment of an economic

76 The law of escalation also operates by raising the readiness to take on sovereign debt. However, as long as debt remains redistributive (without money creation), its redistributive character (somebody must be willing to depart with the limited scarce money and it must be repaid), sets strict limits on the possibilities of escalation. These limits can be pushed, e.g., if an externally strong state can debt-finance war efforts with existing wealth of foreign countries, but only the combination of debt and money creation can wholly unleash the law of escalation. The distinction between redistributive debt (without money creation) and expansive debt (with money creation, e.g., fractional reserves credit money creation or fiat money creation) will be further developed below on page 399 et seq. and page 407 et seq.

77 Max Weber writes: “Wirtschaftlich orientiert’ soll ein Handeln insoweit heißen als in seinem gemeinten Sinne nach an der Fürsorge für einen Begehrt nach Nutzleistungen orientiert ist. ‚Wirtschaftlich‘ soll eine friedliche Ausübung von Verfügungsmacht heißen...” (Weber (1980) page 31). “Wirtschaftlich orientiertes Handeln’ (verwendet) die die aktuelle Gewaltbarkeit als Mittel” (loc. cit. page 31). “Wirtschaftlich orientiert kann jede Art von Handeln, auch gewaltsames (z.B. kriegerisches) Handeln sein (Raubkriege, Handelskriege). Das Pragma der Gewaltbarkeit ist (aber) dem Geist des Wirtschaftens – im üblichen Wortsinn – sehr stark entgegengesetzt. Die unmittelbare aktuelle gewaltsame Fortnahme von Gütern und die unmittelbare aktuelle Erzwingung eines fremden Verhaltens durch Kampf soll also nicht Wirtschaften heißen.” (loc. cit. page 32).