[13]
The Theory of Imaginary Money from Charlemagne to the French Revolution*

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1. If one reads the books on monetary subjects that were written in the period from the sixteenth to the eighteenth century, one frequently encounters the concept of "imaginary money." Other terms used are "ideal money," "political money," *moneta numeraria,* "money of account." What these terms meant was not very clear even to contemporaries. The most authoritative writer among the historians of French monetary vicissitudes, François Le Blanc, resigned himself to defining as imaginary any kind of money which, "properly speaking, is but a collective term comprising a certain number of real moneys." The imaginary money which almost everywhere was called "pound" or an equivalent term like "livre," "lira," "pond," was, in Le Blanc's words, "never changing in value; in fact, we have used it since the time of Charlemagne, and it has always been worth 20 sous (shillings), and each sous, 12 deniers (pence)." It is called "imaginary" because of the fact that

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1 [Translator's Note: Up to the time of the French Revolution the pound system, which still survives in Great Britain and parts of the British Commonwealth of Nations, existed in most countries of western Europe, including France, Italy, and the Low Countries. The pound (Fr. *livre*; It. *libra*; Dut. *pond*) varied in name and value from one country to another. In England, it was called the "pound sterling"; in France, the "pound of Tours" (*livre tournois*); in the Low Countries, the "pound groat" (*livre de gros ot pond grooten*). In Italy there was a great variety of pounds: *lire di grossi,* *lire di imperiali,* *lire di piccoli,* etc. Everywhere 12 pence (Fr. *denier*; It. *denaro*) were equal to 1 shilling, and 20 shillings (Fr. *sous*; It. *soldi*), to 1 pound. The universally used abbreviations for these three units were £, s., d. The different pounds should not be confused any more

229
it has never been coined; "because we have never had a real species
which has consistently been worth 20 sous or one worth 12 deniers." 
Although from time immemorial men have neither seen nor touched
any imaginary money, nevertheless, in the remote past it was something
real, "since if we go back to the time when in France people began to
count in pounds, shillings, and pence, we shall find that these imaginary
moneys owe their origin to a real thing." According to Le Blanc, Charle-
magne really coined silver shillings, 20 of which weighed a Roman
pound of 12 ounces. Thus the silver shilling was a real currency, and 20
of them weighed 1 pound, while each of them was divided into 12 pen-
nies. The pound, however, was never coined; yet from then onward
people acquired the habit of counting in pounds of 20 shillings with
each shilling divided into 12 pence. Later on, according to Le Blanc, the
shilling, along with the penny, deteriorated more and more, so that it
ceased to be the twentieth part of the pound-weight; but the public went
on counting in pounds, shillings, and pence despite the fact that the
pound tale, as Le Blanc observed, weighed in his time (1690)—or was
supposed to weigh—only 7 pennyweights and 3 grains, less than 3 per
cent of the original weight at the time of the restored Roman Empire
(800).

"These changes, I [Le Blanc] admit, are surprising because if there is
anything in the world which ought to be stable, it is money, the measure
of everything which enters the channels of trade. What confusion would
there not be in a state where weights and measures frequently changed?
On what basis and with what assurance could one person deal with an-
other, and which nations would care to deal with people who lived in
such disorder? Nevertheless, this has not prevented money, which is the
most precious and most important of all standards, from changing its
value in France almost as often as our clothes change in fashion."

2. The practice of counting in pounds, shillings, and pence—already
sanctioned by the glory of Charlemagne—became even more venerable

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than American, Canadian, and Mexican dollars are. During the period under considera-
tion, the relation between real and imaginary money was always closer in England than
on the Continent. The reader should bear in mind that the expressions "pounds, shillings,
and pence" as used in this study do not refer to English money only, but to money of ac-
count in general, unless otherwise specified in the context.

[TRANSLATOR'S NOTE: The truth is that Charlemagne never coined a silver shilling
but only a silver penny or denarius. Two hundred and forty of such pennies were cut
from a pound weight. Originally, the pound weight and the pound tale were thus the
same, since they both contained the same number of pennies. The shilling or solidus was
uncoined and was merely a numerical expression for twelve pennies.]
when, in 1226, Saint Louis coined the groat, or *gros tournois*, which had a weight and fineness equivalent to that of the sou or shilling of the imaginary pound. For a time the sou, instead of being imaginary, became real, visible, and tangible. "This is the great epoch for the value of our sou and consequently for that of the livre. The people became so strongly attached to that established value that in subsequent reigns, whenever the money was debased . . . they always asked that it be restored to the same goodness as it had formerly in the time of Saint Louis." Perhaps "it was an effect of the veneration which the French had for everything this saintly monarch had done."  

3. The idea of a form of money which for centuries remained invisible, exerted a powerful influence on the human mind: "Two kinds of money," wrote Dutot, "are the soul and the moving force of Trade: one Real and the other Ideal. Real money is of gold and silver. It was introduced to facilitate commercial intercourse, and it caused sales to replace barter by becoming the price and measure of everything which is the object of trade. But since the shipping of specie from one country to another was so embarrassing as to constitute a serious obstacle to trade, bills of exchange were resorted to as a means of transferring funds from place to place. To facilitate the making of bargains and computations, people invented moneys of account or of exchange, such as the livre, the sou, and the écu in France; the penny, the shilling, and the pound sterling in England; the groat, the shilling groat, and the pound groat in Holland. This kind of ideal or imaginary money which, properly speaking, consists of collective terms comprising also a certain number of real moneys, will be called Political Money." He speaks of a "collective term," evidently regarding ideal money as if it were some kind of compound, equivalent to a certain number of real moneys. His strange definition does not specify the kind and the number of real coins that the imaginary money is supposed to represent.

4. The Italian writers are no more helpful than the French. According to the Italian economist, Giovanni Antonio Fabbri, "money is called imaginary in so far as it has no substance, being a mere idea or product of our imagination. It is called 'of account' because it is helpful in keeping accounts and, unlike real coins, it stands firm and cannot

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arbitrarily be cried up or down. Since real coins are all variable, imaginary money performs for coins the same function which money in general performs for other goods, that is, it expresses the idea of a fixed value."

Although Ferdinando Galiani (1728–1787) did not believe that "in this world, one can hope for . . . perpetual stability and stagnation" and, although he was convinced that "a constant and unchangeable measure need not be desired or sought," since perpetual stability "is wholly repugnant to the ordering and genius of nature itself," still he did not deny the logical possibility of an imaginary money that would be stable. He wrote: "If imaginary money were a term for a definite number expressing an idea of price, and if this idea were fixed in our minds and so detached from everything that it would not be affected by any disturbances, then it would certainly be invariable and constant."

5. An idea, a product of imagination liberated from the legislator’s arbitrary action, a numerical expression, an idea detached from everything and unaffected by any disturbances—all such terms and concepts were, according to the stern verdict of the impeccable Messedaglia, "evidently the consequences of rather inaccurate and confused notions on the subject." Luigi Valeriani had an easy time discrediting and denying the concept that money of account was something "impassive, independent of all human values." This absurd notion grew out of the fact that people, as they played with the words "imaginary," "ideal," "of account," "fixed," came to believe that money of account was a mere idea, whereas "it is very improperly called imaginary or ideal, there being nothing imaginary in it but its derivation, by mental division or multiplication, from moneys which are said to be real."

6. No, money of account was not the mere idea of money, as Fabbrini believed. An idea cannot be a standard of value, or an invariable term of comparison for evaluating commodities, even if, as Galiani corrected, the idea is fixed in our minds. In that case we must assume not only that this idea is detached from everything and from all disturbances but also that man himself is invariable in his wants and in his tastes and that the

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7 A. Messedaglia, La moneta e il sistema monetario in generale (Rome, 1882), Ch. 7, p. 1.
8 Luigi Valeriani, Ricerche critiche ed economiche . . . sulle monete di conto (Bologna, 1819), Pt. I, pp. 150–51.
goods themselves are invariable in quantity and quality. But neither was
the money of account an uncoined multiple or fraction of a coin in actual
circulation, as Valeriani contended, since a double or half of a gold
florin, even though it did not happen to be coined, would be real money
no less than the florin itself.

7. Pompeo Neri, the clearest among the Italian monetary writers of
the eighteenth century, finally identified the imaginary pound as equiva-
 lent to the result obtained by dividing or multiplying a specific current
coin by a given number. In order to express a valuation, one even could
use a number without specifying the unit which was used; for instance,
by saying "that a philippus dollar was worth seven and a half, the sequin
fourteen and a half, the dobloon twenty-five and a fourth, and so on,"
except that "the public was accustomed to the words" pound, shilling
and penny, "and was scrupulous in preserving the identity of the word
pound in sound rather than in value." The number in question did not
remain unchanged, mainly because it was not related to a stable cur-
cency. Because of men's malice and princes' needs, the pound was at any
time linked to the worst moneys in circulation. "The unit of value desig-
nated by the name of pound having steadily decreased in the estimation
of the public, a forever greater number of these units became necessary
to evaluate the same quantity of metal. In the same way, to ascend a
tower, it is necessary to climb more steps if the steps are low than if
they are steep, although the height of the tower does not increase, as
some naively believe. They are deceived by the same illusion which mis-
leads the eyes of anyone who, leaving the shore in a boat, thinks that
the shoreline is moving rather than the boat."

Even though Neri's definition, "imaginary money is the result of di-
viding or multiplying a real coin by a given number," comes closer to
reality, it is still unsatisfactory. This definition contradicts what it is sup-
posed to define. The pound, quotient of the division of the gold florin by
a variable number, is indeed variable, but it is no less real than the florin.
Why then call it imaginary and oppose it to the florin, a real currency,
as if it had an entirely different nature?

8. The difficulty in finding a satisfactory definition for "money of
account" results from its history. Money of account was not created by
decree but grew almost spontaneously out of men's habit of keeping ac-
counts in monetary units, some of which corresponded in the time of

9 Pompeo Neri, "Osservazioni sopra il prezzo legale delle monete," in Scrittori classici
Charlemagne to real coins.\textsuperscript{10} Later on it happened from time to time that the money of account was pegged to a real coin which was equivalent to a pound, shilling, or penny. Such a correspondence was accidental or, if deliberate, did not last long. Except for the penny, the name given to the real coin was different. The coexistence over long periods of time of a penny in money of account and a penny in coin, one equal to the other, does not prove, as Landry (\textit{Essai}, p. 13) rightly observes, that the two systems, that of imaginary and that of real money, were linked or soldered together. It is not correct to say that through the penny both currency systems were based on a real coin. In addition to the money of account—the pound of 20 shillings and the shilling of 12 pence—were there not also coins like the gold \textit{mouton}, the silver groat (\textit{gros tournois}), and the silver penny? It was possible that at a given moment one silver penny was equivalent to one penny in money of account. But the relation between the mouton, the silver groat, and the silver penny was not so stable as that between the pound, the shilling, and the penny, since, in terms of money of account, a pound was always 20 shillings and one shilling was always 12 pence. Besides, even when the groat was rated 1 shilling, it does not follow that it contained twelve times as much silver as did the penny.\textsuperscript{11} Little by little—and this happened during the fourteenth and fifteenth centuries—the penny in coin lost its equivalence with the penny in money of account and was coined first in vellon (that is, an alloy composed mainly of copper mixed with a little silver) and then in pure copper.

9. Sooner or later, but generally at the beginning of modern times, the different monetary systems in various European countries reached a state in which they were governed by a seemingly very odd principle, very different from our modern conception.

Today each country has only one monetary unit: the lira, franc, mark, pound sterling, or dollar. This is the system established by the French assemblies at the end of the eighteenth century. In Italy, for example, the present monetary unit is the lira, defined as a given weight of pure gold, namely (1936), 0.079919113 grams.

It is possible that a real coin containing that quantity of pure gold, and having the legal fineness of 90 per cent, is not in actual circulation.

\textsuperscript{10} Not in all three denominations: pounds, shillings, and pence. According to Le Blanc (\textit{Traité}, p. xxii), as we have seen, only silver shillings were coined; according to Adolphe Landry, \textit{Essai économique sur les mutations des monnaies dans l'ancienne France de Philippe le Bel à Charles VII} (Paris, 1910), p. 11, only the penny (\textit{denarius}) was coined.

\textsuperscript{11} [TRANSLATOR'S NOTE: This was especially true in the Low Countries, where weight, alloy, and seigniorage varied from one denomination to another.]
If such is the case, its multiple of 20 or 50 or 100 lire will exist. If not, the fact does not change the principle. The silver coins or bank notes in circulation are representative money, convertible in gold because the owner of silver or paper money is entitled to have it exchanged for gold at the central bank, or for drafts on a foreign bank which will deliver the same quantity of gold. Furthermore, if in the country in question convertibility is temporarily suspended, such a suspension does not cause the monetary unit to lose its quality of real currency. The note of the Bank of Italy today (1936) is a promise to pay, at an indefinite time in the future, 0.07919113 grams of pure gold for each lira. Perhaps the market will cause that promise to be valued at a discount in order to transform it into present gold. The fact remains that the monetary unit is defined as a real physical quantity of gold, silver, some other metal, or perhaps even another commodity. On the basis of that monetary unit or on the basis of representative coins or notes, we make bargains, accept obligations, and settle debts. We promise to pay 100 lire and discharge this obligation by delivering a note of 100 lire. The note of 100 lire is real money.

10. Prior to the French Revolution, the monetary system of most European countries was based on altogether different principles. Contemporary authors could take these principles for granted and did not have to explain them to others. Their strange terminology causes us, who live in another world, to wander for a while in a dark forest. By and by, we finally understand the tacit assumptions of their discourses. The key, needed to interpret the apparent confusion of the monetary treatises written prior to the eighteenth century, is the distinction between a monetary unit used as a standard of value and of deferred payments and another monetary unit used as a medium of exchange.

11. There was, then, a monetary unit used only as a standard of deferred payments (promises to pay) or for the purpose of keeping accounts. This was the function of a money of account, an imaginary or ideal money. The public made contracts, kept books, established mortgages, or stipulated rents in pounds, shillings, and pence. In the time of Malestroit and his "Paradoxes" (1565), an ell of velvet was valued at 10 pounds tournois; a measure of wine, at 12 pounds; a pair of shoes, 12

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12 A typical example of a tangle is Marquis Girolamo Belloni's *Lettera in riposta ad un quesito proposto gli sopra la natura della moneta immaginaria* (Rome, 1727), p. 27, which the complacent editors, the Paglietti, praise as written "with such method and clarity" that it leads "the reader easily and gradually to a true understanding of imaginary money." The letter is reprinted in Vol. II of the collection, *Scrittori classicì italiani di economica politica, parte moderna*, edited by Custodi.
at 15 sous; the daily wage of a laborer, at 5 sous; the annual rent of a
gentleman, at 500 pounds; and a town-house or farm, at 25,000
pounds.\textsuperscript{13}

Although it was possible to make contracts or to keep accounts in
imaginary money—that is, in pounds, shillings, and pence—it was im-
possible to make actual payments in these monetary units, since they
had not been coined for several centuries. Payment was made in real
currency, that is, in gold coins, white money or silver coins, black money
or low-grade silver, vellon or copper coins.

The coins in circulation had a great variety of names:

\textit{Gold:} florins, ducats, sequins, angels, nobles, crowns, sovereigns, French and
other écus, moutons, gold louis, dobloons, guilders.
\textit{Silver:} Philippus and other dollars, pieces of eight, reals of Spain, silver louis,
testoons, blanks, guilders (originally gold), ducatons, etc.
\textit{Vellon and black money:} farthings, obols, Dutch stivers, French douzains, Tuscan
craze, etc.

In the time of Malestroit, a customer could pay a shopkeeper for an
ell of velvet, priced £10 \textit{tournois} in money of account, by giving him
4 écus du soleil rated at £2 10s. each. Similarly, the buyer of a barrel
of wine, costing £12, could give in payment 20 testoons current at 12 sous
per testoon. A shoemaker would be satisfied if he received 15 douzains in
black money, at 12d. per douzain, for a pair of shoes selling at 15s. In
the same way, a journeyman, whose wage was 5s. per day, would be
content with 5 douzains in currency. A gentleman would collect his rent
of £500 \textit{tournois} in the form of 200 écus du soleil; and the one who had
sold a house or a farm for £25,000 would give quittance to a buyer who
had paid him 10,000 écus at £2 \frac{1}{2} per écu. If there was a change in the
ratio between real and imaginary money—for example, if the rates of
the currency in terms of money of account were doubled or reduced by
half—the number of coins to be paid in discharge of a debt would vary
inversely. For example, if we assumed that prices remained the same,
either 2 or 8 écus, respectively, instead of 4 would be needed to pay for
an ell of velvet priced at £10 \textit{tournois}. The workman would receive
either 2\frac{1}{2} or 10 douzains instead of 5; the gentleman would collect

\textsuperscript{13} The present study was undertaken as a result of the recent publication of a hitherto
unedited memoir by the Seigneur de Malestroit, author of the paradoxes made famous by
the \textit{Response de Bodin}. For the convenience of the reader, the text of the "Paradoxes" and
a second reply by Alexandre de la Tourette to the memoir of Malestroit are republished in
the same volume; \textit{Paradoxes inédits du Seigneur de Malestroit touchant les monnoyes avec
either 100 or 400 écus instead of 200; and the seller of a house would receive either 5,000 or 20,000 écus, instead of 10,000.

12. The essence of the concept of imaginary money is not, therefore, the idea of a collective term (Le Blanc and Poulain), or of a fixed value (Fabbrini and Galiani), or even of a result obtained by using a variable divisor or multiplier (Neri). Early writers were correct in making a distinction between imaginary and real money, but their definitions of the former show that they were not sure of the basis of that distinction.

Imaginary money—here is my thesis—is not money at all. It is a mere instrument or technical device used to perform some monetary functions.

13. Let us assume the monetary unit to be the gold franc weighing 0.29 grams of pure gold (0.32 grams at the fineness of 90 per cent). Let us further assume that gold pieces of 10, 20, and 100 francs were coined; for medium-sized and small transactions, silver species of 5, 2, and 1 franc; nickel coins of 50 and 20 centimes, and copper coins of 10 and 5 centimes. However, the silver, nickel, and copper coins contain so little metal that, if melted, they cannot be sold at a price equal to the nominal value inscribed on the coin. Therefore, those coins circulate only as representative money, as tokens of the gold coins into which they are legally convertible. Let us further assume that only gold coins can be minted freely and are full legal tender for all debts. The other coins are minted by the state only and are legal tender up to a certain amount, which is somewhat larger for the silver coins than for the inferior nickel and copper coins.

In this system, that of the pure monometallic standard, there is no place for imaginary money, even if the monetary authorities should wish to introduce imaginary money for the purpose of stabilizing the currency. Keeping accounts and stipulating contracts in imaginary livres and at the same time making payments in real francs would not present any advantages and, besides, would necessitate the establishment of a legal ratio between the livre and the franc. If this ratio were 1 to 1, the two denominations would be identical. If another ratio were chosen, for example, 2 to 1 or 1 to 2, the livre would become either a fraction or a multiple of the franc. The introduction of an imaginary money would in this case only complicate matters and would serve no purpose, not even that of keeping the subsidiary coins in circulation. They would stay in circulation simply because melting them down is unprofitable, their value as bullion being so much less than their monetary value.

The device of an imaginary money is also unnecessary to prevent the overvalued subsidiary coins from driving the gold out of circulation.
They cannot do so as long as they are not coined in excessive quantities and are not full legal tender. If the rules are not observed, disturbances may occur, but they will be the result of the government's monetary policy, and the creation of imaginary money will not prevent their occurrence. This analysis, of course, presupposes the existence of rational rules and their rational application.

14. Now let us assume that the monetary system is that of the bimetallic standard. The monetary unit is still the franc, defined as being equivalent to either 0.29 grams of pure gold or 4.5 grams of pure silver. The denominations actually coined are gold pieces of 10, 20, and 100 francs and silver pieces of 1, 2, and 5 francs. Let us disregard for the moment the existence of token coins for the smaller denominations, since the remarks made above would apply to them. If left to themselves, the two kinds of francs—gold and silver—would be two different monetary units. There is no reason why the market should permanently consider 0.29 grams in gold, the weight of the gold franc, as the exact equivalent of 4.5 grams in silver, the weight of the silver franc. Such an equivalence, if it existed, would be merely accidental and ephemeral. As a natural consequence, a double standard is accompanied by a double price system: the same commodity may have one price in gold francs and another price in silver francs. Thus one hundred loaves of bread may conceivably sell for 40 gold francs or for 38 silver francs. This is not bimetallism, but duometallism, and it would be extremely cumbersome.

15. A duometallic standard with two monetary units and two price systems can be changed into a bimetallic standard with only one monetary unit and only one price system, if certain requirements are fulfilled. These requirements are: (1) that both gold and silver coins are full legal tender; (2) that there exists free coinage for both metals, so that anyone bringing gold or silver bullion to the mint will receive the same weight in gold or silver coins of the desired denominations (in order to avoid minor complications, let us assume that this transaction involves neither expense nor delay); (3) that there exists a fixed legal ratio between gold and silver. For example, this legal ratio was 1 to 15 ½ in the countries adhering to the Latin Monetary Union, which means that 100 silver francs weighed 15 ½ times as much as 100 gold francs.

16. For the bimetallic standard to operate properly, it is further nec-

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14 In fact, today the cost of minting is very small, little more than two per thousand in those countries that still charge seigniorage. In the countries, such as the United States, that have free coinage, there is still the loss of interest for the time required by the minting. For the importance of these charges, see below, paragraph 18.
necessary that the market ratio be equal to the legal ratio or, in other words, that the price ratio between gold and silver ingots or bars in the bullion market be the same as that established by the mint. As long as this requirement is fulfilled, it is indifferent to a debtor whether he effects payment in gold or silver francs, because they have the same value in bullion as in currency. For this reason, both kinds of currency will remain in circulation, and one will not have the tendency to drive the other out.

17. The accidental identity of the legal and the market ratio may last for a long time. If the mints absorb most of the gold and silver bullion offered on the market, the mint price (that is, the amount of currency supplied by the mints in exchange for a given weight of bullion) tends to dictate the market price for industrial uses, so that the bimetallic system sometimes gives the impression of lasting stability. If, however, there should be an appreciable change in the production of either one of the two metals, or in the tastes of the public for jewelry and plate, or in the preference of hoarders for gold or silver, or in the demand for gold rather than for silver coins, then the market ratio would tend to deviate from the legal ratio. While the latter remains fixed at 1 to 15½, the former may rise to 1 to 16 or drop to 1 to 15. In the first case, gold is worth more as bullion than as coin. Silver, being overvalued by the mint, will be delivered by the public to be coined. The silver coins thus obtained will be exchanged for gold at the legal ratio of 1 to 15½. This gold will then be resold at a profit on the bullion market, with the result that all the gold coins will soon disappear from circulation and their place will be taken by heavy and inconvenient silver coins. In the second case, silver instead of gold is at a premium and is worth more as bullion than as coin. Therefore, it is now silver that will be hoarded or exported or sent to the melting pot. The country will be reduced to using gold coins, beautiful, indeed, but inconvenient for petty transactions. Soon the public will complain about the lack of small change, and the officials will resort to makeshifts: they will be forced to allow the circulation of tokens or of dirty scrip, having the disadvantage of conveying contagious diseases.

Thus the bimetallic standard is bound to become an alternating monometallic standard, swinging from gold to silver and from silver to gold, to the great annoyance of the public.

18. To prevent these swings, it is possible to use two devices, while still keeping the bimetallic standard in operation. One of them is seigniorage, but it is effective to a limited extent only. The reason is that seigniorage in recent times has been very moderate. In Italy the mint
charges are only 2 per thousand to cover the expense of coinage. At any
case, seigniorage is to a certain extent a check against the practice of
selling coins in circulation for their value as bullion, whenever the
market price of bullion has risen above the mint price. On the other
hand, let us assume that silver has fallen in price because of an increase
in production. If the coinage were free of charge and not subject to de-
lay, it would be profitable to take silver to the mint as soon as the price
of the quantity of bullion contained in 100 francs dropped, even by a
very small percentage, below the amount of 100 francs. If there is a
coinage charge of 2 per thousand, the price of the same quantity of
bullion has to fall below 99.80 francs before it becomes remunerative
to bring bullion to the mint. As long as the drop in the price of bullion
on the market does not exceed the seigniorage, it is unprofitable to coin
more silver and to melt down the gold coins.

19. It must be admitted that today seigniorage, because it is either
nonexistent or insignificant, can hardly be considered an effective check
against the disruption of the bimetallic standard. This was not true of
former centuries. From Charlemagne to the French Revolution, seign-
iorage was much higher than it is today, although it varied greatly from
one country to another, from one period to another, and from one de-
nomination to another. But in those times seigniorage did not always
serve as an effective device of monetary policy, stabilizing the existent
standard. The rulers considered the mint as a source of income, and in a
period of financial stress increased seigniorage in the hope of thereby
increasing their revenue, whether or not such a measure was called for to
protect the standard at that particular time. The rulers also were reluc-
tant to increase seigniorage on gold coins. The gold coin was a symbol
of their sovereignty, and rulers rarely tampered with it; they were more
inclined to make seigniorage high for the silver coinage and still higher
for black money and vellon. It happened that they increased the seign-
iorage when they should have lowered it; they sometimes lowered it
inadvertently for the very coins which were being culled out to be sent
abroad or to the melting pot. Accordingly, seigniorage cannot be used
today and was not used in the past as an effective instrument of policy
to prevent the breakdown of the bimetallic standard.

20. The second device available to governments to preserve the bi-
metallic standard is to change the legal ratio in accordance with the
variations of the market ratio. Unfortunately, this device, too, is clumsy
and difficult to use. If the market ratio increased from 1:15½ to 1:16,
gold would disappear from circulation unless the legal ratio was also
changed and made to conform to the market ratio. This might be done in two ways, either by increasing the weight of the silver franc from 4.5 to 4.645 grams of pure silver, while the contents of the gold franc (0.29 gram) remained unaltered, or by reducing the weight of the gold franc to 0.28 gram without changing the weight of the silver franc. In both cases a recoinage, either of all the gold or of all the silver that was in circulation, would be necessary. If changes in the market ratio were frequent and appreciable, one recoinage would follow on the heels of another, and the currency would always be in a state of flux and confusion. As Ferdinando Galiano stated with reference to the disequilibrium between good and bad money, "to withdraw it [one of the two, and he was thinking of the good money rather than of the bad], to recoin it and to put it back into circulation, takes too much time" (Della moneta, ed. Niccolini, p. 181).

21. In past centuries the device used to remedy monetary disturbances was precisely the money of account or the imaginary pound. It was an instrument of extraordinary flexibility which had been slowly developed in the ten centuries after the reign of Charlemagne. Its full possibilities were realized neither by the Revolutionary Assemblies, which eventually abandoned it, nor by the monetary authorities, who during the ten preceding centuries had failed to take full advantage of it and had diverted it to dangerous uses. Apart from the imaginary pound or livre, divided into shillings (sous) and subdivided into pence (deniers), in which prices were set and contracts established, there were also real moneys. These real moneys could not be reduced to two types (with their several denominations), as is the case with the bimetallic system; on the contrary, there were several types, and each of them was a unit or denomination independent from all the others.

At the time of Cesare Beccaria (1738–1794), a famous economist and criminologist of the eighteenth century, the following coins were current in the Duchy of Milan:

**GOLD**

National Milanese: doblon (25.5.—)\(^{18}\)

Foreign

Spanish: doblon (25.10.—), another doblon with two columns (25.—.—)

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\(^{18}\) The figure between parentheses, after the name of each coin, indicates the current rate in Milanese lire di imperiali. Thus, "doblons (25.5.—)" means that the coin called doblon was rated currently, or officially, £25 5s. 0d. di imperiali, the imaginary money used in Milan.
242  ENTERPRISE AND SECULAR CHANGE

French: the old louis (25.10.—), the doblon called meriiton (24.12.6), another coin with the sun and two shields (31.——), another coin with the cross of the Holy Spirit (37.2.6), another coin with four escutcheons (26.2.6)

Venetian: sequin (14.10.—)
Genoese: doblon (25.7.6)
Florentine: doblon (25.15.—); sequin (14.10.—)
Roman: doblon of Clement XII (25.——)
Savoy: doblon (25.——); sequin (14.7.6)
Mantua: doblon (25.5.—)
Portuguese: old lisbonina (41.——), new doblon with effigy and border (110.——)
Viennese: ongaro (14.5.—)
Chemnitz: ongaro (14.7.6); Roman sequin (14.15.—); Genoese sequin (15.——)

SILVER

National Milanese: ducatoon (8.12.—); philippus dollar (7.10.—)

Foreign

Roman: ducatoon of Clement XI (8.2.6); new testoon (2.5.—); new paolo (2.15.—); half-paolo (2.7.6)
Savoy: ducatoon (8.9.—); new écu of Piedmont (7.12.—); old lira of Savoy (1.10.—)
Venetian: ducatoon (8.8.—); giustina (7.7.6)
Florentine: ducatoon (8.7.6); lisorina with the tower (6.19.—); same with the rose (6.12.6)
Mantua: ducatoon (8.9.—)
Genoese: genovina (10.5.—)
French: old écu (6.19.—); écu with the three fleurs-de-lis (17.11.—); écu with the two I L (6.—); écu with three crowns (7.16.—); écu del popone (6.5.—)
Burgundian: ducatoon (8.7.6)
German: ducatoon (8.5.—)
Bologna: écu (6.4.—)
Spanish: piece with the arms of Castile (6.17.6); half-piece (5.8.9); another piece with column and globes (6.16.—); half-piece (3.8.—); écu of St. John the Baptist of Genoa (6.——)

Beccaria does not list the black moneys and copper coins which circulated at the same time. Their inclusion would only have strengthened the impression that the currency of the small Milanese duchy was in a disorderly state. Disorder did reign, but not because of the multiplicity of monetary types in circulation; there circulated no less than 22 gold

coins and 29 silver coins, most of which were foreign. What really matters, however, is that all these types, with one or two exceptions, were independent monetary units. Table 1 shows how they may be classified according to their value in money of account.

### TABLE 1

**RATES OF THE GOLD AND SILVER COINS CURRENT IN MILAN (1762)**

#### GOLD

<table>
<thead>
<tr>
<th>Number of Coins</th>
<th>Rate in Money of Account</th>
<th>Number of Coins</th>
<th>Rate in Money of Account</th>
<th>Number of Coins</th>
<th>Rate in Money of Account</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>£ 10. 0. 0.</td>
<td>2</td>
<td>£ 5.10. 0.</td>
<td>1</td>
<td>£ 6. 2. 0.</td>
</tr>
<tr>
<td>1</td>
<td>46. 2. 6.</td>
<td>1</td>
<td>25. 7. 6.</td>
<td>2</td>
<td>14. 7. 0.</td>
</tr>
<tr>
<td>1</td>
<td>41. 0. 0.</td>
<td>2</td>
<td>25. 5. 0.</td>
<td>2</td>
<td>14. 5. 0.</td>
</tr>
<tr>
<td>1</td>
<td>37. 2. 6.</td>
<td>3</td>
<td>25. 0. 0.</td>
<td>1</td>
<td>14. 5. 0.</td>
</tr>
<tr>
<td>1</td>
<td>31. 0. 0.</td>
<td>1</td>
<td>24.12. 0.</td>
<td>1</td>
<td>13. 0. 0.</td>
</tr>
</tbody>
</table>

#### SILVER

<table>
<thead>
<tr>
<th>Number of Coins</th>
<th>Rate in Money of Account</th>
<th>Number of Coins</th>
<th>Rate in Money of Account</th>
<th>Number of Coins</th>
<th>Rate in Money of Account</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>£ 10. 5. 0.</td>
<td>1</td>
<td>£ 7. 11. 0.</td>
<td>2</td>
<td>£ 6. 0. 0.</td>
</tr>
<tr>
<td>1</td>
<td>8.12. 0.</td>
<td>1</td>
<td>7. 10. 0.</td>
<td>1</td>
<td>5. 8. 9.</td>
</tr>
<tr>
<td>2</td>
<td>8. 9. 0.</td>
<td>1</td>
<td>7. 7. 6.</td>
<td>1</td>
<td>3. 8. 0.</td>
</tr>
<tr>
<td>1</td>
<td>8. 8. 0.</td>
<td>2</td>
<td>6.19. 0.</td>
<td>1</td>
<td>2. 5. 0.</td>
</tr>
<tr>
<td>2</td>
<td>8. 7. 6.</td>
<td>1</td>
<td>6.17. 6.</td>
<td>1</td>
<td>1.10. 0.</td>
</tr>
<tr>
<td>1</td>
<td>8. 5. 0.</td>
<td>1</td>
<td>6.16. 0.</td>
<td>1</td>
<td>0.15. 0.</td>
</tr>
<tr>
<td>1</td>
<td>8. 2. 6.</td>
<td>1</td>
<td>6.12. 6.</td>
<td>1</td>
<td>0. 7. 6.</td>
</tr>
<tr>
<td>1</td>
<td>7.16. 0.</td>
<td>1</td>
<td>6. 5. 0.</td>
<td>1</td>
<td>6. 4. 0.</td>
</tr>
</tbody>
</table>


As the table shows, there was only one instance in which three coins were current at the same rate. There were only eight instances in which it happened that two pieces were rated the same. Except for these few cases, no other two coins had the same value. Moreover, none of the fifty-one coins listed by Beccaria, with one single exception, had multiples or submultiples. The exception refers to the case of the paolo rated 15s. and the half-paolo rated 7s. 6d. There are a few other instances of coins which were double the value of other coins, but this is purely accidental, since the types in question were issued by different foreign mints without any attempt being made to issue doubles or halves.

How could a coherent system be built with different monetary units? How could they be counted, and in which of the fifty units? This diffi-
cult problem was solved by using the imaginary livre. This was the ab-
stract unit which was used to evaluate all the coins in actual circulation
and to bind them into one system. By saying that the Spanish doblon
"with the two columns," the Roman and the Savoyard doblons—all
three of them gold coins—were worth £25 *di imperiali*, one stated
simply that they were equal in value; and by saying that the sequin
of Genoa, actually coined in Chemnitz, was worth only £15, one stated
that this coin was worth three-fifths of the doblons mentioned above and
was rated twice as high as the Milanese phillips current at £7.10s.
*di imperiali*.

22. It was possible that wrong rates were set for coins of the same
metal, as, for example, when two coins having different gold or silver
contents were made current at the same rate in money of account. In
fact, Beccaria shows that, of the three doblons, all rated £25, the Spanish
doblone contained 117 7/10 grains of fine gold, the Roman doblone
117 3/10 grains, and the Savoyard doblon only 112 7/10 grains. The
Savoyard doblon, being much lighter than the other two, was conse-
quently overrated to that extent. Such errors in rating, once they were
ascertained by assay, could easily be adjusted when the coins in ques-
tion were all of the same metal, be it gold or silver.

23. The problem of setting accurate rates and of establishing a work-
able monetary system was much more difficult and complex when the
coins in circulation were of two or more different metals. In this case,
the setting of proper rates in money of account for all the current coins
depended not only on the skill of the assayer but also on the ability of
the mint officials to keep in touch with the conditions prevailing in the
bullion market and to follow closely any changes in the price ratio be-
tween the metals that had monetary uses.

24. In order to simplify matters, let us assume that there are only
two coins—gold florins and silver scudos—which are full legal tender
and to which the mint extends the privilege of free coinage. Let us fur-
ther assume that the market ratio between gold and silver is 1 to 12,
which was actually the ratio in the second half of the sixteenth century,
a fact recognized by both contenders in the famous Malesstroit-Bodin
controversy. With these assumptions in mind, let us suppose that the
gold florin, weighing 120 grains of fine gold, is current at the rate of
£24 in money of account. What, then, should be the rate of the silver
scudo having the same weight of fine silver? Evidently, £2, or one-
twelfth of the rate given to the florin. For our monetary system of florins
and scudos to be in equilibrium, the proportion between the rates, £2
and £24, set by royal proclamation, has to be the same as the ratio, 1 to 12, existing in the bullion market between the price of a silver ingot and that of a gold ingot of equal weight.

Now let us suppose that the market ratio changes from 1:12 to 1:11½. In the case of the bimetallic system, as it existed during the nineteenth century in the United States and in Europe, adjustment would have been difficult to achieve unless all the gold or all the silver in circulation were recoined. Before the officials of the mint had even begun to make the necessary arrangements, all the undervalued coins would most likely already have been sent abroad or to the melting pot. In former centuries, however, an adjustment could have been made very promptly. It would have sufficed to issue a royal proclamation crying up the silver scudo from £2 to £2 1s. 9d., that is, to a number obtained by dividing £24, the rate of the florin, by 11½ instead of by 12.

And what if the market ratio changed from 1:12 to 1:12½? In such a case, the normal procedure would have been to cry down the silver scudo from £2 to £1 18s. 5d., that is, to a figure obtained by dividing £24 by 12½.18

25. The function of imaginary money in a country that had adopted the bimetallic standard was consequently that of keeping the monetary system in equilibrium. This objective was achieved by the simple process of crying the currency up or down, that is, by increasing or decreasing the current rates in money of account of the real coins. If this were done carefully, the legal rates would at all times be in accordance with the ratio between the prices of gold and silver, as determined by market conditions.

The instrument called "imaginary money" has the following connotations:

(a) Expressions in "imaginary money" are abstract numbers, notwithstanding the denomination in terms of pounds, shillings, and pence. People used these terms in their enumerations in remembrance of the historical fact that, in the past, pounds, shillings, and pence had actually existed in concrete form.

(b) Expressions in "imaginary money" are not absolute numbers.

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17 In decimal fractions, these new values corresponded, respectively, to £2.087 and £1.92. The old system of counting in pounds, shillings, and pence allowed the use of figures which corresponded more closely to currencies in actual circulation.

18 [TRANSLATOR'S NOTE: These adjustments are based on the assumption that the monetary authorities did not wish to alter the rate of the florin. Otherwise, the same result might have been obtained by crying down the florin from £24 to £23, if the market ratio changed from 1:12 to 1:11½, or by crying up the florin from £24 to £25, if the market ratio changed from 1:12 to 1:12½.]
Instead of saying: the gold florin is worth £2.4., it is possible to assign to the same coin another value, provided that other coins got new rates accordingly. The rate, in "imaginary money," of the silver scudo should be a function of the rate of the florin; and, to be precise, this functional relationship should reflect the market ratio between gold and silver.

(c) It is a matter of indifference which coin is chosen as the one whose rate is fixed, while the value of all others may vary. Both can conceivably be allowed to vary, but only on condition that the rates reflect the market ratio between gold and silver.

(d) According to historical experience, it was, however, more expedient to keep the rates of gold coins fixed, while the rates of silver coins might, if necessary, be altered. Since gold coins were regarded as a symbol of sovereignty, rulers were reluctant to damage the prestige of this symbol by alterations. Not only the rulers but also the subjects believed that gold coins should circulate at stable rates; they were convinced that an invariable archetype should serve as the standard of value. Both myths, that of the royal symbol and that of the unvarying standard, were the outcome of unfortunate experiences; the current rates of the real coins, as expressed in terms of money of account, were often manipulated for purposes other than the preservation of the bimetallic standard.

26. The discovery of "imaginary money" as an instrument of monetary policy was not the work of a theorist, but the result of a long process of historical change (see paragraph 8 above). However, if, among many contingent factors, one wanted to indicate which one came closest to being determined by deliberate choice, one should mention the longing of medieval men for the eternal, the immutable, the universal, accompanied by an abhorrence of the transitory, the mutable, and the particular. They stubbornly looked for an invariable standard of value and called it the pound; they pretended that it was immutable in the monetary chaos in which abraded, clipped, and adulterated foreign as well as domestic coins circulated side by side. Eventually they discovered that imaginary money could be used as an instrument of monetary policy, in order to obtain certain results. Legislators and economists after 1789 scorned this discovery. Far from realizing its potentialities, they failed to see its true import, considered only its passing attributes (cf. below, paragraphs 43 ff.), and then forgot all about it. If the great advocate of universal bimetallism, Enrico Ceriuschi, had meditated upon the solution offered by the age-old experience of European nations, he would have exclaimed: "Eureka!"
27. Another reason why legislators and economists misunderstood, despised, and forgot this monetary device is that the concept "imaginary money" was surrounded by the thick mist of a strange terminology, repellant to the layman and conducive to deceitful practices. We have already pointed out how difficult it is in times of monetary devaluations and revaluations to persuade men that prices have not changed but that the monetary yardstick has become longer or shorter. Yet today the terms of comparison are only two: the monetary unit, e.g., the lira (in Italy), and one unit of a given commodity, e.g., a kilogram of bread; and there is only one ratio: between the monetary unit and the unit of a commodity. Whether a change in this ratio occurs because of a change in one or the other of the two variables should therefore be easily ascertainable. At the time of imaginary money three units had to be correlated: the imaginary monetary unit (the pound), the real monetary unit (the scudo), and a unit of an economic good (e.g., a kilogram of bread). As a result, there were also three ratios: pound to commodity, pound to scudo, and scudo to commodity. Upon reflection it is a simple proposition; yet it is apt to confuse casual observers as well as more profound thinkers. When individual or class interests were at stake, endless disputes were certain to arise. The point of the great controversy between Malestroit and Bodin was that Malestroit contended that a change in the pound-to-commodity ratio had been canceled by a contrary change in the pound-to-scudo ratio, with the result that the scudo-to-commodity ratio had remained constant. On the other hand, Bodin considered only the scudo-to-commodity ratio and declared that it alone had changed.

If we assume that the price of bread had increased from £1 to £2 and that, at the same time, the rate of the scudo had increased from £2 to £4, then the price of bread had remained unchanged at ½ scudo. The public, used to counting in pounds, shillings, and pence, complained about the rise in prices, but Malestroit demonstrated that "the general rise in prices, about which everyone today complains, is only a delusion, a way of counting without consistency or substance" (Malestroit, Paradoxes, EINAUDI, ed.). The learned man was right, because the pound was a mere numerical expression, and the scudo a real silver coin. However, the people whose incomes were fixed in imaginary pounds, shillings, and pence were not wrong either. They were damaged if they did not succeed in getting their "abstract" incomes raised, because only then did they receive the same number of scudos as before. After the great monetary devaluations following the First World War we have become ac-
customed to the idea of variability in the monetary standard. Since prices are sticky, either because it is their natural tendency or because they are regulated by the government, we all suffer or benefit, as the case may be, whenever there is a change in the symbols of wealth without a change in the reality. Today monetary devaluations or revaluations attract immediate notice only through the fluctuations of the foreign exchanges in which only those few who have dealings abroad are directly interested. But this was not so in the past; then the public became immediately aware of monetary disturbances because of fluctuating domestic exchange rates, indicating current rates of real coins in terms of money of account. If the ratio between the precious metals changed from 1:12 to 1:11½, the market, being very sensitive, often anticipated the ruler’s proclamation. The rate of the silver scudo priced officially at £2 (as compared to the gold florin priced at £24) rose little by little in the market until it reached £1 1s. 9d. Such an unofficial quotation was called in Italy “in abusivo” because it was an abuse of the law, and hence strictly prohibited; coins were supposed to be current at the rate fixed by the monetary ordinances. Nevertheless, it frequently happened that the change in the market rate, although illegal, was only a prelude to a change in the official rate, to be proclaimed sooner or later, depending upon the alertness of the monetary authorities.

28. With reference to monetary matters, the language used in former centuries was so confusing that the public was befuddled as to what was actually going on. Today this same terminology is so unfamiliar to economists that it constitutes a serious obstacle to the understanding of early monetary literature.

Prior to the French Revolution, the expression “enhancement of the currency” (Fr. augmentation; It. aumento or alzamento) meant that the real coins were cried up, that is, that their rates were raised by proclamation, as, for instance, the silver scudo from £2 to £2 1s. 9d. However, in so far as people reckoned and stipulated contracts in pounds, shillings, and pence, such a rise of the current rates corresponded to a weakening (Fr. affaiblissement; It. indebolimento), deterioration (It. peggioramento), or debasement of the money of account. By “crying up” the money, a single legislative act devalued the money of account and revalued the currency, that is, the real coins. Usually the result was that, after a while, prices were raised as expressed in pounds, shillings, and pence, although they remained constant if measured in revalued gold and silver currency. Contrary to what a modern economist would expect, “crying up” (Fr. hauser la monnaie; It. alzare) was syn-
onymous with debasement or with a shift from what was called "strong" money (Fr. *monnaie forte*; It. *moneta forte*) to "weak" or "base" money (Fr. *monnaie faible*; It. *moneta debole*).

29. Conversely, the expression "abatement of the currency" (Fr. *diminution*; It. *s bassamento*) indicated that the current coins were cried down, that is, that their rates were decreased, as, for example, when the silver scudo was called down by proclamation from £2 to £1 18s. 4d. Consequently, "abatement of the currency" was synonymous with an improvement or strengthening (Fr. *renforcement*; It. *rinforzamento*) of the imaginary money of account, which was the standard of value. By such an act, the money of account was revalued, and the currency devalued. After a while, prices in pounds, shillings, and pence tended to fall, although they often remained on the same level if measured in gold or silver. "To abate the currency" (Fr. *diminuer les monnaies*; It. *s bassare*) was, therefore, a shift from weak to strong money. Often it meant a return to good money (Fr. *retour à la forte monnaie*) which had been allowed to deteriorate.

30. As today, so also between A.D. 800 and 1800, people had their minds fixed on the mirage rather than on reality. Therefore, they protested especially against the enhancements of the currency and approved of abatements. Those who complained the most—and they formed the majority—were wage earners, pensioners, and all recipients of revenues fixed in pounds, shillings, and pence. They were hurt by enhancements, and the resulting curtailment of their purchasing power, through the rise in prices as expressed in money of account. This same group naturally gave its support to the abatements, which tended to lower the price level.

31. In a monetary system based on the use of imaginary money, the banks did not and could not issue notes promising to pay in money of account instead of in real currency. What would it have meant for a bank to be a debtor of 24 million pounds toward the bearers of circulating banknotes? In so far as people used imaginary money as a standard of deferred payments, but made payments in scudos and other real coins, the said bank, in case of enhancement of the scudo from £2 to £4, could have discharged its obligations with 6 million scudi instead of 12 million, thereby gaining the difference. On the other hand, if the scudo were cried down from £2 to £1, the bank would have been compelled to repay with 24 million scudi the original 12 million for which it was obligated, and thus would have been reduced to a state of bankruptcy. Perhaps it is possible to find a bank which failed for this reason,
but, if so, it was an accident due to a mistake in the conduct of business. This mistake must then also be attributed to the halo of mystery which for a thousand years surrounded the concept of imaginary money and caused it to be mistaken for something different from what it really was. Even the careful Pompeo Neri missed the truth—as so many other writers did—when he listed the pound-banco (lira di banco) among the imaginary moneys. As a matter of fact, his own description contradicts this classification.

According to Pompeo Neri, the pound-banco (lira di banco) was created "by taking as its measure a given weight of silver, or even an unadulterated coin, and by determining its contents in pure gold or silver, without giving any consideration to subsequent adulterations introduced by custom or law. Then the values of the imaginary pound-banco and scudo-banco would be fixed, so that they would be regulated by a standard independent of arbitrary legislation or public catastrophies. As a result, contracts would be made stable, and this standard of value, being perpetual and incorruptible, would be a convenient yardstick for measuring the value of all sorts of merchandise and real money" ("Osservazioni," loc. cit., p. 153). Thus the pound-banco was a promise made by a bank which had received, let us say, 10 grains of pure gold, defined by the bank itself as a "pound," to restore to the owner an ingot of identical weight and fineness. However, this was not imaginary money but real money, and even the best of the real moneys, since it was immune from clipping and from frauds in weight or fineness. It was easily transferable from person to person, or even from place to place, and independent of variations in the name, the substance, or the rates of other currencies.

32. During the thousand years of its history the monetary system based on the coexistence of the imaginary pound and real moneys could and actually did perform the following functions in a more or less efficient way and with more or less comprehension on the part of princes, bankers, and contracting parties:

(a) This system allowed every state to have its own unit of account, the pound, which might be equal to the unit of other states, but not necessarily so; in most instances equality soon disappeared.

(b) This system also allowed every state to coin one or more real moneys: of gold only, of silver only, or of both metals. A state might even have no mint of its own, if it pleased the ruler to give currency to foreign coins. Beccaria—and Verri agreed with him—gave excellent
reasons for advising a prince, especially a small one, against minting his
own currency. Except in some particular cases, "the coinage of money is
but a comedy of transformations accompanied by an unnecessary waste
of metal in minting; it is a public burden which only profits the project-
ors, men who conceal their gains under the cloak of a pretended benefit
to the sovereign, and hence to the entire nation" (Del disordine, Floren-
tine ed., p. 478).

This single unit of account—the pound and its fractions—made it
possible to use for payments any number of coins or real moneys—gold
as well as silver, domestic as well as foreign—upon the sole condition
that their rates were fixed in proportion to the gold or silver contents
of the coins; moreover, the official ratio and the market ratio between
gold and silver bullion had to be equal.

The principal shortcoming of this system was that the official rates
set by proclamation were slow in adapting themselves to changes in the
market ratio. In order to overcome this defect, Ferdinando Galiani, by
far the best Italian economist of the eighteenth century, proposed in his
book, Della moneta (written in 1750, when he was twenty-three years
of age) a practical remedy: the current or proclamation rates should no
longer be compulsory. Instead, the current rate was simply to become
an optional price (prezzo di voce), effective only in the absence of any
agreement to the contrary. Does the state fix the prices of commodities
in general? It does not. Why, then, should it fix the price of currency?
"The prices of wheat, of wine, and of oil are much more important [than
the currency rates]. Those of land, of buildings, of rents, of interest, and
of foreign exchange are still more important, and yet those prices are
not regulated by any other law than 'the consensus of the public' "
(Della moneta, ed. Niccolini, pp. 159–60).

Ferdinando Galiani’s proposal to make the unofficial rate legal would
have compelled the prince to revise promptly the proclamation rates
whenever they were out of line with those practiced in the market. By
following this policy, he would have avoided the inconveniences and
the lack of stability inherent in the modern bimetallic system and would
have supplied the public with currency in the desired quantity and of
the desired denominations.

Since each state was already provided with its own standard of value
or imaginary pound and since the creation of paper money representing
mere numbers is and was inconceivable, a bank, even if it were a na-
tional bank, necessarily assumed in those times a supranational char-
character. The pound-banco, representing a given weight of pure gold or silver, was itself a universal currency, which, like any other of the real currencies, could be rated in the money of account of each state and which was more suitable than hard coin for the purpose of making international transfers. The bank moneys of Venice, Genoa, and Amsterdam were used in traffic all over Europe, owing to the confidence which these moneys enjoyed, because of their convertibility into invariable weights of gold and because they could easily be made current abroad. In the Christian community of medieval Europe it was possible for each nation to adopt any foreign currency as its own, by simply giving it a rating in domestic money of account.

33. If these were the functions which actually were or might be filled by imaginary money, it does not seem that a conscious effort was ever made to use it as a means to achieve a purpose—supposing this purpose were desirable and possible—for which it was particularly well suited. That purpose is the utopian idea of price stability, which must be called "utopian" for a number of reasons.

(1) An acceptable definition of the concept "the general level of prices" does not exist, since it is uncertain which goods should be included in the preparation of a satisfactory index: Only finished products, or also raw materials and unfinished products? Only tangible goods or also services? Only consumer goods or also capital goods? Furthermore, economists and statisticians are not in accord as to the criteria which should be used in constructing an index for measuring the price level itself, and all are skeptical about the possibility of adhering to those criteria, once they are chosen.

(2) The idea that it is desirable to stabilize the general level of prices—a naive and undemonstrable idea—does not have to be accepted. Why should invariability of prices exist in a world where everything else continuously changes? Should we also aim at the invariability of each single price, which is manifestly absurd? Why intend the invariability of something as abstract as the general level of all prices? One should, however, recall that medieval man was inclined to look at the world in the light of eternity and immobility. The modern popular desire for a general price level that would be constant may be a fossil remnant of that medieval state of mind.

(3) The possibility of reaching that end by means of a monetary policy which consists in decreasing or increasing the volume of money in circulation, as prices go up or down, especially if those variations are undesirable, is questionable. The success of such a policy depends en-
irely upon the assumption that everything else remains equal. If it is true that nothing, absolutely nothing, changes in the economic world except the quantity of money, then prices, by definition, will vary with this quantity. If nothing varies, except that the quantity of money is doubled, the person who has £10 instead of £5 will spend £10 instead of £5, because, if he is not willing to do so, his desire to build up monetary reserves will have changed, which is contrary to our assumption. If nothing varies, the same amount of economic goods is offered for £10, no more and no less. Consequently, one unit of an economic good priced at £5 must necessarily go up to £10. The assumption that other things remain equal is extremely useful for purposes of analysis, but does not work out very well in practice. Everything changes with the change in the volume of money in circulation: the cash reserves of the individuals, and consequently the velocity of circulation; the production of economic goods, and consequently also their supply. Monetary policy has to operate with a very delicate and complex mechanism. In order to be successful, the policy-maker must combine an analytical mind with a quick appraisal of the imponderable factors.

34. Whether one considers stability of the price level possible or utopian, desirable or naive, does not matter much; what I wish to emphasize is that the attainment of this goal might have been, and still might be, greatly facilitated by using imaginary money as a tool of monetary policy.

Today such a policy, intended to counteract undesirable price fluctuations, requires that the monetary authorities take either one or the other of the following steps if, let us suppose, prices go up and are to be brought back to their former level: (1) either the volume of bank credit and the circulation of bank notes has to be contracted, or (2) the metallic currency has to be withdrawn and recoined with a higher content in fine per monetary unit, whereby, as a result, the number of units that can be coined from the existing stock of precious metal is reduced.

On the other hand, if prices fall and the monetary authorities want to raise them to their former level, the appropriate measures to be taken are: either (1) an expansion of the volume of bank credit and the circulation of bank notes or (2) a devaluation of the monetary unit by reducing its gold or silver content, whereby the number of units that can be coined from a given stock of precious metal is increased.

The trouble is that all these measures are very cumbersome and slow and that they are liable to cause violent and unpredictable reactions
which will disturb equilibrium conditions, if such exist, in other sectors of the economy.

The use of imaginary money as a tool of policy, on the other hand, offers a tempting solution of the difficulty. Let us assume that the index of general prices is at 100; that the gold florin is current at £24 and the silver scudo at £2. Let the index now rise to 111.11. In order to adjust the matter, all one need do is to cry down the currency by one-tenth, to reduce the rate of the florin from £24 to £21 12s., and that of the silver scudo from £2 to £1 16s. The transaction resembles what is called “a monetary deflation.” The amount of currency in circulation is unchanged, but its purchasing power is automatically cut down by one- tenth. Everyone owns the same number of florins and silver scudi as before the proclamation, but everyone has one-tenth less in imaginary pounds. Since buying and selling is done in money of account, the reduction of its volume by one-tenth, by virtue of the quantity theory of money, will bring prices down again from 111.11 to 100.

And what to do if the price level drops to 90? In order to raise it again, all that the monetary authorities have to do is to issue a proclamation crying up the currency by one-ninth: the florin from £24 to £26 13s. 4d. and the silver scudo from £2 to £2 4s. 5½d. Such a transaction resembles what is called a “monetary inflation.” Although the volume of currency remains the same, its purchasing power is raised by one-ninth by legislative fiat. Everyone now possesses one-ninth more in money of account, and, since this is the standard of value, prices must go up again from 90 to 100.

35. It is conceivable that the normal sequence of events may be the following:

1. The production of precious metals increases.
2. As a result, the volume of currency in circulation, florins and scudi, increases too.
3. This increase automatically causes another increase in the number of imaginary pounds, as long as the current value of the florin and the scudo remains fixed at £24 and £2, respectively.
4. Since the quantity of economic goods that are offered for sale remains steady, as do all the other data of the problem, except the volume of money, prices tend to increase.
5. However, the prince, by crying down the currency at the opportune moment, prevents an increase in the volume of imaginary money, despite any increase in the volume of actual currency.
6. Therefore, prices, too, are prevented from rising. The problem
created by a decrease in the production of precious metals and by a
tendency of prices to fall, while the production of economic goods con-
tinues to grow, is solved by reversing the procedure described above.

36. It is not easy to understand why Irving Fisher, who examined
with such care the historical precedents for his managed and invariable
dollar, failed to mention the system of imaginary money. To those
princes of past centuries who were eager to secure for their subjects the
benefits of price stability, this system could have rendered great service.
Illusory stability, to be sure, because stable prices in imaginary pounds
would nevertheless result in the payment of a greater or lesser quantity
of florins or scudi. But did Pompeo Neri not teach that "the public was
scrupulous in preserving the identity of the word pound in sound, rather
than in value" ("Osservazioni," loc. cit., p. 110)?

37. In the same formal way, another troublesome problem of modern
times, that of foreign exchange, might have been considered solved.
But it would have been solved by being transferred from the interna-
tional to the national scene. The monetary advisor, anxious to preserve
the prestige of the domestic currency, could have reasoned as follows:

"In the system of imaginary money, by hypothesis, two national
moneys exist side by side, one imaginary and the other real. Among the
latter, we have supposed that there was a gold florin weighing 120
grains of pure gold and having a value of £24 in money of account.

"If the prince was careful to maintain the weight of the florin at 120
grains, the foreign exchanges, expressed in florins, would remain stable.
A foreign prince might reduce the weight of his sequin from 120 to 100
grains of pure gold; in that case the domestic florin would be at a
premium of 20 per cent over the sequin: a perpetual reason for na-
tional pride and prestige.

"If, later on, the prince decided to cry up the florin by one-tenth and
to increase the current rate from £24 to £26 8s., this was a domestic
matter which affected only the 'internal' exchange, or the relation existing
between the 'national' moneys: the real florin and the imaginary
pound. The foreign exchanges between the real currency of one country
and the real currency of another country were unaffected. What did it
matter to foreigners, if someone chose to modify the basis for the settle-
ment of debts between citizens of the same state?"

This analysis leads to one important observation: whereas the present
system of real money is likely to arouse emotions, because it creates the
false impression that foreigners are to blame for any devaluation of the
national currency, the ancient system of real and imaginary money made
it clear to everyone that monetary devaluation was mainly a domestic matter, important only in the relations between classes and individuals within the same nation. In domestic trade, contracts were stipulated and accounts were kept in imaginary money, while in foreign trade prices were usually fixed in gold florins.

38. The rate at which a coin was officially allowed to circulate was called "corso di grida," the current rate by proclamation. There existed also a "corso di voce" or "corso in abusivo" which, as the names suggest, was the unofficial or market rate. These two conceptions, curious as they are, are to be found at every step when one goes through the monetary tracts, treatises, and proclamations before 1800. At first, one is perplexed by these terms, then the matter becomes somewhat clearer, and finally one is attracted. Is it possible that the legislators of the French Revolution were, through their eagerness to return to the true and simple, actually opening the road to mystery and complication? What they wanted to make clear to the public was that the monetary unit was a disc of silver weighing 4.5 grams, or a disc of gold of 0.29 grams. Thereby, they erroneously assumed, people would never again fall into the error of looking at the monetary unit as perpetually endowed with a fixed value of its own. That these enlightened legislators were wrong is shown by the fact that in our days the link between various monetary units, such as the mark, lira, and franc, has again been broken. From these monetary names all precise connotations disappeared when it became no longer possible to convert the corresponding units into specific weights of precious metal; and at present convertibility is neither unconditional, prompt, nor certain. Thus, after one and a third century of fixed metallic equivalents, people are again debating attempts to give a fixed meaning to the monetary names which correspond to nothing but signs or tokens.

Legislators before 1800 had solved the problem by clearly separating money as a token or sign and money as a commodity (metal). The former was called "imaginary money," the other was the real currency. Now the theory of "imaginary money" could lead to the reality of dealing with money as a marketable good, not different from other commodities. While their contracts were made in pounds, shillings, and pence, people thought of the gold florins or silver scudi in which they would be paid; and by thinking in this way they were constantly reminded of the fact that florins and scudi had no miraculous virtues of their own. These coins, therefore, in spite of their name, had no permanent value or other characteristics but were priced as were, for instance, wine, wheat, or a farm. From the Middle Ages down to the end of the
eighteenth century, men saw much better than we do that money is a
negotiable commodity like any other. Because we exchange money only
at national boundaries, it appears to us, at least inside a country, to be
a supercommodity whose value is stable: One lire is always one lire,
one franc is always one franc, and one mark is always one mark. In
former times, because of the existence of money of account, men every
day set a price on the florins, scudi, écus, doblons, sequins, and testoons
which they received and paid out. Every day, in every single transaction,
it was made clear to their minds that the money with which they paid,
even bank money or paper money, was a commodity like any other, that
its price was governed by the market and, like any other price, was the
result of an infinite number of economic and noneconomic forces which
determine the general equilibrium of all prices.

39. In the language of the Enlightenment, my present essay would
have been called "an apology for imaginary money." After this attempt,
which I believe to be the first one of its kind, a "philippic against
imaginary money" seems superfluous. Such attacks, virulent as philipp-
ics usually are, can be found in all writings dealing with debasements
and monetary disturbances, as, for example, in the historical summary
given by Francesco Ferrara in one of his classic introductions.19

40. The myth of the immutability of the monetary unit, which could
be used in the harmless game of keeping the price level stable in terms
of imaginary money (but variable in terms of real money), or of stabi-
лизиng the foreign exchange (while allowing fluctuations in the domestic
exchange), lent itself also to other, less innocent uses. The influence
of what was a pure ideal allowed the sovereigns to engage in counter-
feiting.

41. A sovereign often could not resist the temptation to tamper with
the coinage, especially when through the expenses made in foreign and
civil wars he was under compulsion to raise additional revenue, without
being able to collect larger taxes from his subjects. One favorite method
was coinage: the sovereign decreed or banned the old coins and forced
the public to bring them to the mints so that he could deduct the seigni-
orage for the coinage of the new moneys.20 The seigniorage was usually
deducted in kind from the bullion or from the decreed coins brought to

19 "Della moneta e dei suoi surrogati," Introduction to Vol. VI of the Second Series
of the Biblioteca dell’economista, pp. xxxv–liv; republished in F. Ferrara, E. storicocritico

20. It should be observed that seigniorage was not necessarily higher on coins of base
metal. There could be a low seigniorage on an inferior coin with much alloy and little
silver, if it were not overvalued according to its current rate in money of account. On the
other hand, there could be a high seigniorage on a fine coin of nearly 24 carats, if it were
overvalued and made current at a high rate (in money of account).
the mint. This procedure allowed the prince to take away 10 or 20 per cent of the precious metals owned by the public. He was able to get more revenue without having to ask for a benevolence from the Estates General, who gave financial aid only grudgingly. It is no wonder that the mint was regarded as a source of revenue in a time when an adequate tax system had not yet been established and when revenues from the royal domain were no longer sufficient.

The system of the imaginary pound was useful in making the tribute somewhat less felt. If it had been the practice of the mint to pay 7 ounces in coin for one mark of precious metal, consisting of 8 ounces, it would have been obvious to the public that the prince retained one ounce for seigniorage. But such was not the practice. Let us suppose that the mint price was £480 for a mark of pure gold. A merchant who delivered bullion to the mint would consequently receive £480, or 20 florins of £24 each, for one mark of bullion. From this one mark of bullion the mint coined 22.85 florins instead of only 20 florins, current at the rate of £24. In so doing, the mint gained 2.85 florins on each mark, a seigniorage of exactly one-eighth. Afterward the price of bullion, expressed in new florins of £24, was likely to increase and to rise even above the mint price. If the operation was not too frequent and if the public had time to forget previous experiences, it could succeed.

High seigniorage, open or concealed, fell into disuse at the beginning of modern times. It was less easily concealed, and, when in later ages regular taxes were established, princes were no longer impelled to use this device.

42. Accusations of counterfeiting, such as the one which Dante hurled at Philip the Fair, King of France (1285–1314), were in many cases justified by the facts. The prince surreptitiously coined florins or scudi which were reduced in weight, in fineness, or in both, while he continued to call these adulterated coins by the same name as before and continued to make them current at the same rate: £24 for the florin and £2 for the silver scudo. By weighing and assaying the new coins, the public soon discovered them to be deficient in weight and fineness, and then became offended.

43. Instead of tampering with the real coins, princes could perform their operations through the instrument of the "imaginary money." A florin which hitherto had circulated for £24, or a newly coined florin of the same weight and fineness, could simply be "called up" to £30. Thereby nothing was changed, except that the circulating medium was raised one-fourth in nominal value. This would please large numbers of
people because with the same number of florins in their purses they had become richer by one-fourth; in imaginary pounds, it is true. A prince who had received 24 million pounds in the form of a million florins of £24 each could now repay his debt with only 0.8 million florins of £30 each. His debt was diminished, and he consequently gained, by 2 million florins.

44. Ferdinando Galiani justified enhancement of the currency in his theory by defining it as follows: enhancement is "a profit which the prince and the state derive from the slowness with which the majority of people change their ideas with regard to the value of money and the prices of goods." Even at present no better definition of devaluation, today's name for "enhancement of the currency," could be given. Galiani insisted that his definition had no malicious intent: "Are not the sale of noble titles, the award of honors, and a large number of other customs actually based simply on deep-rooted associations which cannot easily be changed?" And Galiani continued: "If a prince ennobles all his subjects, he does not give them added honor but takes away some honor from the word 'nobility.' The meaning of 'nobility' is changed. Similarly, if in establishing a new decoration for merit he does not confer this decoration first upon people who are already admired and illustrious, which fixes the value of the order in peoples' minds, but gives it to his lackeys, then the decoration will simply be regarded as a livery for servants, whatever its design." Similarly, "enhancement of the currency" does not produce a change of things but merely of words. The prices of commodities, in order to remain the same in reality, must consequently be changed in name. If this occurs on the same day on which the currency is enhanced and if everything is changed simultaneously and proportionately, then enhancing the currency will have no more effect than would a law giving Latin, Greek, or Hebrew, instead of Italian, names to the different coins. If there is a change in the words by which prices are expressed, and nothing else, things remain as they were. If, on the other hand, the words remain unchanged, then things themselves change. We are being told that an enhancement of prices is a remedy for enhancement (of the currency). When everything has been readjusted, the effects of the "enhancement" may be said to have vanished as the morning mist is dissipated by the rays of the sun. Disturbing effects of any enhancement of the currency must therefore be the result of the fact that prices are slow in adjusting themselves. The delay occurs because people who are accustomed to paying one ducat for a certain dish expect to be able to buy the same dish
as long as they pay something called a ducat. They complain about the avarice of whoever denies the dish to them, or they foolishly accuse others of having caused the dearth of all things. It must be noted that a prince who would repeat enhancement every month would necessarily destroy any association between a given commodity and its price, and thereby the device of enhancement would become perfectly useless and ineffective (as an instrument of monetary policy). What normally could be accomplished by an enhancement of the currency would subsequently have to be done by other means” (Della moneta, ed. Niccolini, pp. 186–87).

45. Galiani had already demonstrated that enhancing the currency favored debtors, by lessening the burden of private and public debts. It would bring about a temporary reduction of wages and salaries and taxes, thereby encouraging industry. Galiani was impatient with the defenders of those who were hurt; “Nor should one call for help and try to arouse pity with the words ‘orphans,’ ‘widows,’ ‘virgins,’ ‘pupils,’ because they are very few. The true orphan, the true pauper, is the industrious peasant, the craftsman, the mariner, the merchant. These should be pitied, and they are those who, being accustomed to paying on leases and rents, will benefit from enhancement of the currency” (ibid., p. 209.)

46. Galiani’s subtle praise is more devastating than the virulent philippic of Ferrara. In the long run, people prefer security; they prefer it to the advantage obtained at the expense of others. Through monetary devaluation or through the invisible reduction of wages owing to the fixity of popular associations regarding the value of money and the prices of commodities, debtors obtained, as in a Hebrew jubilee, partial remission. Imaginary money was a splendid instrument invented during the infancy of European nations for performing certain tasks of public policy which today are performed by other methods. However, this instrument destroyed all certainty. Instead of a crude but certain monetary unit like the grain or gram of pure gold, it established an abstract unit which the public fancied to be stable. Princes could manipulate this monetary device for their own advantage, although they acted as if it were for the benefit of the public. When the instrument was misused, the drawbacks outweighed the advantages. The device of imaginary money was consequently discarded at the end of the eighteenth century and was replaced by a real monetary unit which was fixed beyond doubt to a weight of fine gold; thus the gram of gold became the standard of value. Under this principle people lived and thrived for more than a
century. But with the coming of a universal monetary deluge (since World War I) the monetary universe entered into a period of fluidity in which the long-forgotten imaginary money made its reappearance, namely, in the writings of those who proposed what in effect amounted to a pallid imitation of the device of earlier days. What has been attempted in these pages is not the advocacy of its reintroduction. We only have tried to demonstrate that what certain modern authors advocate is a monetary device which, after having been perfected over the centuries, was abandoned in the period of the French Revolution.