

## 4.1 GROWTH, MONEY AND PRICES

The following passages are taken from J.Gouverneur, *CONTEMPORARY CAPITALISM AND MARXIST ECONOMICS*, Oxford, Clarendon Press, **1983**, 300p. The first passage is a **section of chapter 8** and is devoted to « **the growth of the quantity of money** » necessary to face the requirements of growing production and transactions (p.185-187 and 190-191). The second passage retakes the **whole of chapter 10**, which examines the relations between « **accumulation, money and prices**» (p.211-236).

The symbols used on p.186 and 191 are the same as those used in *THE FOUNDATIONS OF CAPITALIST ECONOMY* (2005):

$C + V + S$  = value of means of production + corresponding value (equal to the « value of labour-power») + surplus value

$C + V + S$  = constant capital + variable capital + surplus revenue

$L$  = number of workers

$M$  = number of means of production

$pm$  = average value of means of production

$d$  = labour-time per worker

$E$  = monetary expression of values (or: money equivalent of value)

On the other hand, footnote 22 on p.235 alludes to problems connected with the calculation of  $E$ , referring readers to chapter II. The examination of these problems is retaken in point 4.4 of our item «Complements to the textbook ».

## Some Fundamental Tendencies of Capitalist Growth

### *The Growth of the Quantity of Money*

As we have already said, the expanded reproduction of capital involves a proliferation of market transactions: increased purchases of means of production and of labour-power, increased sales of commodities. As market transactions involve the utilization of money, this increased volume of transactions has to be matched by a corresponding increase in the quantity of money.

We will consider first the factors which determine the quantity of money necessary for market transactions. We will then outline the essential transformations which made it possible for the money supply to meet these particular needs.

#### *The quantity of money required for market transactions*

The basic principle involved can be stated in the following way: in so far as money is used to exchange commodities, *the quantity of money required depends primarily on the sum total of the prices of the commodities which are exchanged.*

We can illustrate this principle by a simple example. Let us assume that in the course of a given period (one day), ten commodities are offered for sale and are actually purchased for a total price of £1000: the quantity of money required to carry out these transactions is £1000. Let us now assume that twenty commodities are offered and purchased at a total price of £2000: the quantity of money required is £2000.<sup>25</sup>

Now the sum total of the prices of the commodities is equal to the sum total of the values of these commodities expressed in monetary terms:

$$\text{Sum total of prices} = \text{sum total of values} \times E.$$

The possible variations of the monetary expression of values (E) will be examined in chapter 10 (pp. 228–33). We will see that, in the long-term, the normal tendency is for E to *rise*. This makes for an increase in the sum total of prices, and therefore in the quantity of money required.

Disregarding the variations of E, how does the sum total of the value of commodities evolve along with the growth of capitalism? This total value consists of past value transferred (C) and new value

created ( $V + S$ ). Now the expanded reproduction of capital causes both to increase. As we saw, it involves first of all an expansion of the waged labour employed in the production of commodities and therefore an increase in the new value created.<sup>26</sup> It also involves increased mechanization, which increases the quantity of means of production used per wage-earner (the  $M/L$  ratio) and tends to increase the  $C/(V + S)$  ratio: as a result of this, the mass of past value transferred normally grows and may even grow more than the mass of new value created.<sup>27</sup>

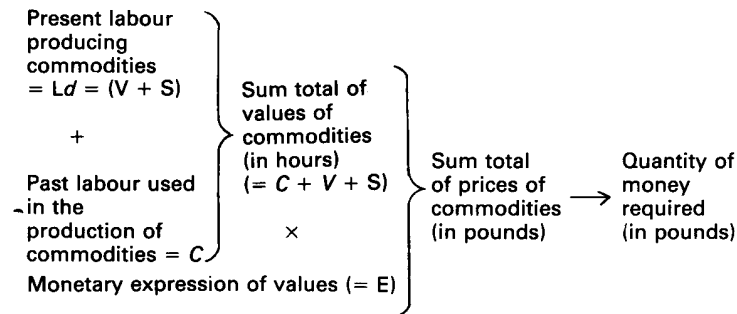


FIGURE 8.1 Essential factors determining the quantity of money required for market transactions.

Figure 8.1 synthesizes the essential factors which determine the quantity of money required for market transactions. Since  $L$ ,  $C$  and  $E$  tend all three to increase in the long-term, the sum total of prices of commodities must necessarily increase, and hence also the quantity of money required.<sup>28</sup>

#### *The adjustment of the money supply to the needs of market transactions*

Faced with the continuous increase of the sum total of values and of the sum total of prices of commodities, the corresponding growth of the money supply has been made easier by the progressive 'dematerialization' of money: *metallic money*, originating in metal production, has been gradually replaced by *credit money*, originating in banking activity.

In the dawn of capitalism, the prevailing form of money was metallic: the quantity of money available was thus linked to the hazards of metal production and was strictly limited by the size of the exploitable deposits.

With the growth of capitalism, metallic money progressively lost ground, faced with the expansion of 'credit money'. The distinctive

feature of this new money (which takes the form of bank-notes and then of entries in bank accounts) is that it is created by the banks *when credits are granted to economic agents*. It is created especially to assist industrialists who want to expand their business. The banks create monetary means (bank-notes or advances) which enable these industrialists to purchase the means of production and labour required to increase production. In so far as the new products find purchasers, the sum total of values increases. And this *increase in the sum total of values* is accompanied (and even preceded) by an *increase in the quantity of money* (in the form of credit money).

Chapter 10 will analyse more closely the evolution of the different types of money and the specific problems connected with credit money. The few indications provided here should be enough to suggest how the growth of credit money has facilitated the adjustment of the quantity of money to the needs of the expanded reproduction of capital and of market transactions.

#### NOTES

25. While not questioning the basic principle we have stated, we should explicate various elements which are implicit in the example given (and which should be integrated into a more precise theoretical construct). The example is actually based, for simplicity's sake, on several hypotheses.
  - (1) It assumes that the money requirements result solely from transactions involving *commodities*. In fact, money is also necessary for *other* transactions, for example those which involve securities (shares, bonds etc.) or natural resources.
  - (2) It assumes that the money requirements arise solely from *present* transactions. In fact, money is also necessary to settle *previous* forward transactions when they fall due.
  - (3) It assumes that the same sum of money is used for only a single transaction per day (the '*velocity of circulation*' of money = 1 transaction per day). In fact, if the same sum of money can be used

for several transactions, the total quantity of money required for them is reduced accordingly.

- (4) It assumes that there is no 'clearing' (mutual cancelling out) in the payments to be made. In fact, if there is such 'clearing', only the outstanding *balances* have to be paid in money and the total quantity of money is reduced accordingly.
26. More precisely, the new value created depends on the number of productive workers ( $L$ ) and on the labour-time per productive worker ( $d$ ); we can write:  $(V + S) = L.d$ . If the labour-time per worker ( $d$ ) remains constant,  $(V + S)$  increases in the same proportion as the number of productive workers ( $L$ ). If the labour-time varies,  $(V + S)$  grows more or less rapidly than  $L$ .
27. Using the symbols, introduced earlier, we can write:

$$C = L \cdot \frac{C}{L} = L \left( \frac{M}{L} \cdot pm \right)$$

It appears that  $C$  will rise provided the decline of  $pm$  (due to productivity increases in the sectors producing the means of production) does not offset the rise of *both*  $L$  and  $M/L$ ; and  $C$  will rise *more* than  $L$  (or more than  $V + S$  for a given labour-time) if  $C/L$  increases, that is, if the decline of  $pm$  does not offset the rise of  $M/L$ .

28. Two important observations must be made to clarify the meaning and the scope of the preceding argument.

1. The *sum total of prices* of commodities should not be confused with the *general level of prices* (or the average unit price of commodities): algebraically, the sum total of prices is equal to the quantity of commodities exchanged, multiplied by the general level of prices. The evolutions of the general level of prices (in the long and the short term) are examined in chapter 10.

2. The preceding argument passes over several important questions which will also be examined in chapter 10. It actually ignores:

- (1) the existence of *non-commodity production*: we assume here that all the workers are employed in commodity production.
- (2) the possibility of '*losses of value*' in commodity production: we assume here (a) that all the commodities produced are sold (all the present labour therefore creates value), and (b) that the past labour or the value of the means of production is normally transferred to the finished products (there are no losses due to the obsolescence of machinery).
- (3) the possibility of an *excess of money*: we assume here that the quantity of money is perfectly adjusted to the requirements arising from market transactions.

## Accumulation, Money and Prices

The last chapter distinguished two stages in the expanded reproduction of capital (the stages of 'classical' and of 'contemporary' accumulation) and offered an analysis of the lines along which each stage developed. This analysis did not cover the problems relative to the evolution of money and prices. The object of chapter 10 is precisely to move on to the study of these problems, returning again to the distinction between the two types of accumulation.

The first section concerns *money*. It brings out the twofold transformation which money has undergone with the growth of capitalism: on the one hand, in the 'classical' accumulation stage, the gradual increase of the importance of *credit money* in relation to metallic money; on the other, moving on to the 'contemporary' accumulation stage, the definitive replacement of convertible credit money by *inconvertible* credit money.

The second section concerns '*excess money*', that is, a growth of credit money exceeding the growth of the sum total of values. It shows that such an imbalance may have two quite distinct origins: one inherent in the functioning of capitalism (the 'losses of value' in commodity production), the other contingent (the budgetary deficits of the state). It also shows that the reaction of the banking system, with regard to these imbalances, varies according to the type of money involved: if credit money is *convertible*, the banking system will help to get rid of the excess by creating less money; if credit money is *inconvertible*, the banking system will on the contrary be able to continue to create money with no parallel growth of the sum total of values.

The third section deals with the problem of the *evolution of prices* in the two stages we have distinguished (before and after the Second World War). Building on the arguments of the two previous sections, it seeks to explain the evident contrasts presented by these two stages: the *alternation of rises and falls* in prices before the Second

World War (both in the long and short term) and the *continuous rise* subsequently, accelerated with the structural crisis of contemporary accumulation.

#### THE EVOLUTION OF TYPES AND FORMS OF MONEY

##### *Before the Second World War: Metallic Money and Convertible Credit Money*

###### *Metallic money*

1. *Its evolution.* Money exists from the moment commodities are exchanged: it has therefore existed for several thousands of years. Originally various material goods constituted money but, as time went by, *precious metals* (especially gold and silver) were adopted by virtue of their intrinsic qualities (solidity, homogeneity and divisibility).

Metallic money first appeared in the form of ingots of no settled weight or form: these ingots had to be weighed and their actual metallic content summarily verified. It then appeared in the form of coins bearing the official mark of the person (money-changer, merchant) 'coining money': this mark attested the weight and the purity of the metal in the coin. From this time, money could be counted out instead of being weighed.

The rulers quickly took over the monopoly of minting money: a mint takes in the metal from private owners and gives back authenticated coins bearing a name. At the same time, the rulers make their coins 'legal tender': everyone is legally obliged to accept them as means of payment (while previously the acceptance of coins issued by such and such a person was based solely on trust and not on legal constraint).

2. *The definition of (the metallic content of) the monetary unit.* We know from chapter 2 that the value of commodities is expressed as a certain price, that is, as a certain quantity of money. In the case of metallic money, how do we obtain, from a form of price expressed as a certain quantity of *metal* (which we assume to be gold), another form of price expressed as a certain quantity of *monetary units* (*pounds* for example)?

Without trying to stick to historical facts, let us briefly explain – by way of a purely hypothetical example – the transition from one

form of price to the other. In practice, the authority which mints money chooses a certain weight of metal as *standard* or *unit of measure* (for example a weight of 10 g of gold), gives this unit a *name* (for example the 'pound') and inscribes, on the gold bars or coins it turns out, the number of units (expressed in pounds) they contain: thus a gold piece of 10 g will carry the inscription '1 pound', another of 50 g will be called '5 pounds', and so on.<sup>1</sup>

As we can see, the standardization carried out to express and measure values is analogous to the standardization carried out to express and measure lengths. In order to express and measure the length of objects, a fixed 'quantity' of length is chosen by the competent authority as unit of measure and this unit is given a fixed name, for example, the 'metre': thanks to this double choice (of the unit of measure and of its name) all lengths can be expressed in metres. In order to express and measure values, a quantity of metal is chosen by the monetary authority as a unit of measure (for example 10 g of gold) and this unit is given a fixed name, for example, the pound: thanks to this double choice, all values can be expressed in pounds. In both cases, the unit of measure and its name are chosen in a purely conventional (arbitrary) way; but at the same time, these need to have a universal character (at least within given frontiers): they must therefore be fixed by law.<sup>2</sup>

In deciding on the monetary standard (that is, the weight of metal serving as a unit of measure) and also on its name, the monetary authority determines the *definition of the metallic content of the monetary unit* or again (in shorter but less precise terms) the 'definition of the currency'. This may be seen as the weight of metal officially contained in the monetary unit expressed in pounds (in the example, 1 pound = 10 g of gold, or 10 g of gold per pound), or, conversely, as the number of pounds represented officially by a unit of metal expressed by weight (in the example, 1 g of gold = 0.10 pounds or 0.10 pound per g of gold).<sup>3</sup>

#### *Convertible credit money*

*The nature of the bank note.* The seventeenth century saw the birth of a second form of money, the bank-note; as it developed, the use of the bank-note was superimposed on the use of metallic money. This note is an acknowledgement of debt, issued by a bank and exchangeable at any time for metallic money: the bearer of a note can always go to the bank which has issued it and obtain immediate repayment, in metallic money, of the sum written on the note; in other words, the note is completely 'convertible' (into metal).



The issue of such notes by the banks arises from two quite distinct types of operation.

- (1) The notes can be issued in exchange for a *deposit* of metallic money, made by individuals. Let us call these notes receipt notes.
- (2) They can also be issued in response to requests for credit on the part of the bank's clients. Rather than lend metallic money, the banks lend notes which can be exchanged for metal (brought in by depositors or belonging to the bank). Let us call these notes credit notes.

In so far as the public relies on the promise of conversion into metal written on the notes, these notes can play the same role as metallic money: they can be used *inter alia* as means of payment (as a medium of exchange) and circulate on the same footing as metal coins (over which incidentally they have obvious practical advantages: less weight, easier to carry).

And in so far as the notes effectively play this role of medium of exchange, their conversion into metal is not normally requested. This allows the banks, when credit is requested, to issue notes not backed by metal. The usual degree of acceptance of notes by the public gives the banks an empirical indication of the normal proportion to be kept between the amount of notes issued and the amount of metallic money held. Whatever this proportion may be, the notes which are not backed by metal constitute *additional* money and money of a different kind: they are added to the existing metallic money and constitute, specifically, credit money.<sup>4</sup>

*From multiplicity to standardization of bank-notes.* Within each of the capitalist countries, we can distinguish two stages in the history of the bank-note.

The first stage sees a *multiplicity* of bank-notes. Each bank issues its own notes, its own promises to pay in metallic money. In each country, the monetary mass therefore comprises (apart from metallic money which is legal tender) a mass of different private notes coming from different banks but whose common characteristic is that they are all convertible into metallic money (which enables notes to circulate between clients of different banks).

The second stage sees the *standardization* of bank-notes, following action by the public authorities. The monopoly of issuing notes was usually given to one bank, which was promoted to the status of

central bank. Its notes were declared legal tender and everyone was now obliged to accept them without question as means of payment, on the same footing as metallic money.

The central bank's monopoly does not in any way prevent the other banks from carrying on their earlier operations: they continue to accept metallic money as deposits and to grant credits. But the notes they issue for this purpose are now the central bank's notes, and it is from the central bank that they have to obtain them. The central bank provides them with its notes in accordance with the two standard types of operation: either the banks *deposit* their metallic money at the central bank or they obtain *credit* from the central bank.<sup>5</sup> The situation can be summed up in the following way. The only notes in circulation are the notes of the central bank (while formerly different notes issued by each of the individual banks were in circulation). But the different banks retain the power of giving credit and of thus injecting additional money in the form of the central bank's notes.

Incidentally, the legal tender of notes does not in any way affect their convertibility. Legal tender means that the notes are recognized by law as valid means of payment: no seller or creditor can oblige his debtor or purchaser to pay in metallic money rather than in notes. But these notes are still convertible into metallic money: every holder of notes has the right to exchange them for metallic money at the central bank. So the central bank must ensure that it maintains a reasonable proportion (variable according to the degree of acceptance of notes by the public) between the mass of notes in circulation and the stock of metallic money held.<sup>6</sup>

*Current account money*<sup>7</sup>. Another form of credit money developed alongside the bank-note: current account money, created by the different banks. This new form of money developed mainly in the twentieth century and was to become the prevailing form of money after the Second World War.

Like the bank-note, current account money is an acknowledgement of indebtedness issued by a bank. Here the acknowledgement of indebtedness takes the form of sums entered by the banks in their clients' accounts: the holders of these accounts can always arrange with their banks for the sums entered to be changed into notes issued by the central bank. While notes circulate from hand to hand (like metallic coins in earlier times), current account money can circulate from one account to another and from one bank to another by a simple entry: the instructions relating to these transfers of money are

given to the banks by means of cheques or transfer orders (such as standing orders).

As with the bank-notes, current account money can originate in two ways.

- (1) It can arise from *deposits* (in notes) made by the banks' clients: these deposits are recorded by entries in the depositors' accounts.
- (2) It can arise from *credits* granted by the banks to their clients. Rather than lend notes, the banks open a credit for a certain amount in favour of their clients: the latter are authorized to draw cheques or to make transfers up to the amount of their credit.

In so far as the amounts entered in the accounts can be freely converted into notes, current account money can play the same role as notes: it can *inter alia* be used as a means of payment (as a medium of exchange) and circulate on the same footing as notes (over which incidentally it offers obvious practical advantages: speed of settlements, no risk of loss or theft etc.).

In so far as the public effectively accepts the use of current account money (in so far as it does not ask for it to be changed into notes), the banks can, when credit is requested, open accounts for an amount larger than the amount of notes they hold. Here too, the usual degree of acceptance of current account money by the public indicates empirically to the banks the right proportion to be maintained between the total amount of credits in their books and the total amount of notes they hold.<sup>8</sup> Whatever this proportion may be, current account money not backed by notes constitutes *additional* money created by the banks (beyond the direct control of the central bank).<sup>9</sup>

Bank-notes and current account money therefore constitute two different forms of the same type of money, that is, credit money. Whatever its form, this money is *created* by the banks when credit is requested. And the money thus created is *destroyed*, ceases to exist as money, when the credit is repaid (when the client gives back to the bank the notes he has borrowed or when he repays the sum credited to his current account). If the total mass of credit money continues to grow, it is because new credits are constantly being granted before repayment of previous credits.

*After the Second World War: Inconvertible Credit Money*

The foregoing pages described in some detail both metallic money and the two forms of credit money which competed with it (bank-notes and current account money). Confining ourselves to essentials, we can sum up under two heads the evolution of money prior to the Second World War (the 'classical' accumulation stage). On the one hand, metallic money, while continuing to be effectively used in market transactions, is gradually superseded by the growth of *credit money* (especially in the form of notes) and the proportion of metallic money in the total quantity of money in circulation is gradually reduced. On the other hand, this expanding credit money is still *convertible* into metallic money.

It remains to indicate by contrast the major changes affecting money after the Second World War (the 'contemporary' accumulation stage).

On the one hand, metallic money ceases in practice to be used in the internal transactions of each country. Gold may still have a role as a means of payment at the international level but it is no longer used for the settlement of internal transactions. At this level, metallic money is entirely superseded by credit money (which develops more in the form of current account money than of bank-notes).

On the other hand, credit money ceases definitively to be convertible into metallic money: the 'contemporary' accumulation stage is also the stage of inconvertibility. It is true that the previous stage saw certain periods of inconvertibility (especially in periods of war and political unrest): but these were only temporary exceptions to the well-established principle of convertibility. After the Second World War, on the contrary, the principle which has continued to prevail is the principle of the inconvertibility of credit money: current account money can of course be changed into notes but there is no further question of changing bank-notes into metallic money.<sup>10</sup> Therefore the central bank is no longer liable, as it was earlier, to the constraint of convertibility, which required it to maintain a reasonable ratio between the credit money in circulation and its own metallic holding.<sup>11</sup>

The move from convertibility to inconvertibility will have important consequences in at least two fields: it will affect the means of *absorbing an excess creation of money*; it will also affect the principles governing the *evolution of the general level of prices*. This is what will emerge from the following two sections.

GAPS BETWEEN THE QUANTITY OF MONEY AND THE  
QUANTITY OF VALUE

We saw at the end of chapter 8 that the quantity of money required for market transactions depends on the sum total of the prices of the commodities exchanged and therefore, for a given level of E, on the sum total of the values of the commodities (comprising past and new value).

We also saw that, in principle, credit money makes a flexible adjustment possible between the quantity of money and the sum total of values: in granting credit to the capitalists who wish to expand their business (and thus to increase the total value transferred or created), the banks increase correspondingly the total quantity of money put into circulation.

However, this principle raises two questions:

- (1) If credit money is issued in this way by the banks in order to finance commodity production, which should normally result in a corresponding increase of value, what happens if *the anticipated increase of value is not fully realized*? This is typically the case when credit-financed products do not find a purchaser: it is also the case, as we shall see, when, due to technical progress, the machinery employed is made obsolete.
- (2) What happens if credit money is issued by the banks in order to finance activities which do not produce commodities and are therefore *unproductive of value*? This is typically the case with unproductive activities carried out by the state, when they are financed by credit rather than by taxation.

In the first as in the second situation, we have to do with an excess creation of money, with a gap between the quantity of money created and the quantity of value. We will see that the solution to the problem of this gap differs according to whether the credit money issued is convertible or inconvertible. But we must first emphasize that the two situations we are considering do not have the same significance for our analysis of capitalism: the first is inherent in the very functioning of capitalism (we cannot imagine the expanded reproduction of capital without recourse to credit or without the risks of not selling or of obsolescence) while the second is relatively contingent (the expanded reproduction of capital in no way implies that state expenditure should be financed by credit). So we will

devote the greater part of the analysis to the problems involved in the first situation.

*Credit Money and 'Losses of Value' in Commodity  
Production*

Let us consider the case of an 'average' industrial capitalist, taken as representative of the whole group of capitalist commodity producers, who borrows money from the banking system in order to expand his production.

Let us assume for example that this capitalist borrows £500 000. Our capitalist uses this money to purchase a machine, the value of which is 500 000 hours (and the price £500 000). This machine has a normal use life of 5 years and should ensure an annual production of 2 000 units of a commodity A: the past value to be transferred is therefore 50 hours per unit of A.<sup>12</sup> If we assume that the new value per unit is 10 hours, the unit value (past and present) is 50 hours + 10 hours = 60 hours. If these figures correspond to the average conditions of production, the unit price of A is £50 + £10 = £60.

*The hypothesis of complete valorization*

Let us assume that our capitalist is entirely successful in his aims: the machine acquired by means of the loan works effectively for 5 years (it is not made prematurely obsolete through the competition of improved machinery) and the commodities produced during these 5 years are sold in their entirety at a price of £60. What are the consequences, as regards value and revenue, of this twofold success of the capitalist's private initiative?

The *sale* of the commodities shows (after the event) that the production venture has been sound from the viewpoint of society. This sale has a twofold impact as regards value and revenue. The labour-power has been usefully employed: the labour carried out in the production has created value, the variable capital is recovered (increased by the profit); and the means of production have also been usefully employed: with no obsolescence, their value is transferred to the commodities produced, the constant capital spent in acquiring them is recovered.

*That there was no obsolescence* shows (after the event) that the choice of machinery has also been sound from the viewpoint of society. This favourable situation allows the capitalist who sells his commodities to transfer *in full* the value of the machinery employed and to recover *in full* the capital spent on acquiring it. In the example, the

capitalist recovers £50 per unit, £100 000 per year, £500 000 after 5 years: the price of the machinery is thus fully recovered.

As he has now recovered the capital he has laid out, the industrial capitalist is in a position to repay the borrowed money (plus interest). This repayment confirms in its turn the soundness of the banker's private initiative: the money issued for the purpose of the credit has been created judiciously from the viewpoint of society since it has made possible the creation of new commodities and has then been repaid to the banker; the latter then obtains, in the form of interest, a part of the profit created in the production.

This example enables us to deduce the two following principles:

- (1) The success of the industrial capitalist's private initiative (in the creation and transfer of *value*) entails the success of the banker's private initiative (in the creation of *money*): the sale of commodities makes possible the repayment of the loans and the industrialist's profits are shared with the banker (in the form of interest).
- (2) On the other hand, the joint success of industrialist and banker entails a 'parallelism' between the variation of the quantity of *money* and the variation of the quantity of *value*. This applies both to rises and falls. The granting of credits entails the issue of notes (or of bank advances), and therefore the increase of the quantity of money in circulation; but it increases the production of commodities and therefore brings about the increase of the total quantity of value in circulation. Once the commodities are sold, the total mass of value in circulation is reduced; but the sale makes it possible to repay the credits (to liquidate the debts): the money advanced returns to the bank, and this reduces the quantity of money in circulation.<sup>14</sup>

#### *The reality of 'losses of value'*

Let us now assume that the industrial capitalist of the previous example does not completely succeed in his aims: either because he fails to sell his product or because his machinery becomes obsolete. Let us examine each of these two cases in turn.

#### *The non-sale of products*

1. *Loss of value and excess money.* Failure to sell is a risk in all commodity societies. It shows (after the event) that the capitalist's private initiative was not sound from the viewpoint of society. It has a

two-fold impact as regards value and revenue. The labour-power has not been employed usefully: the present labour put into the unsold productions has not created any value and the variable capital laid out has not been recovered. The means of production have not been usefully employed either: their value is lost (it is not transferred to the finished product, as this, being unsold, has no value) and the constant capital laid out to acquire them is not recovered. At the worst, the industrialist becomes bankrupt.

As he does not recover the capital laid out and may even become bankrupt, the industrial capitalist is not in a position to repay the money he has borrowed. The non-repayment shows in turn that the banker's private initiative was not socially sound either: it results in a loss for the banker (and in bankruptcy if he continues to grant credits which turn out badly).

The case of non-sale therefore allows us to draw the two following conclusions.

- (1) The failure of the industrial capitalists' private initiatives (lack of value creation and of value transfer, losses of revenue, possibly leading to bankruptcy) entails failures and losses for the bankers in so far as they do not recover the money they have lent out.
- (2) These joint failures result in a discrepancy between the variation of the quantity of *money* and the variation of the quantity of *value*: the mass of money in circulation increases without a corresponding increase in the mass of value in circulation. Credit money has been created and put into circulation (the industrialists have purchased their means of production and labour-power) but the mass of value has not increased in proportion (the industrialists have produced use-values which are socially useless, without value). In so far as the credit money cannot be repaid by the industrialists, the imbalance between the quantity of money in circulation and the mass of value is not spontaneously taken up: the excess of money is not automatically cancelled out.

2. *Reactions of the banking system.* What are the possible reactions of the banking system, when faced with these joint losses and this excess of money in circulation? They differ according to whether the credit money is convertible or inconvertible.

*The case of convertible credit money.* Let us consider the case of a 'non-unified banking system and of a unified banking system.



In a *non-unified* banking system, each private bank issues its own notes and must itself provide for their conversion into metal on the bearer's demand. Each bank is therefore obliged to maintain a reasonable proportion between the metallic money it holds and the amount of notes it issues. As we know, this 'reasonable' proportion takes account of the usual degree of acceptance of the notes by the public. But this degree of acceptance is dependent in turn on the soundness of the industrialists' and the bankers' private initiatives.

If these initiatives result in the effective creation of value (if the commodities produced are *sold*), the additional credit money circulates effectively and is not normally presented for conversion, the ratio (metallic holding/notes in circulation) is reduced, but the demands for conversion do not increase.

On the other hand, if the initiatives are unsound (if the bank has injudiciously granted too many credits) the ratio (metallic holding/notes in circulation) is reduced, while the demands for conversion tend to increase. The insufficiency of the metallic holding tends to bring about a general loss of confidence among the bearers of notes and a massive demand for conversion into metal. The bank loses all its metal (without being able to repay all the bearers of notes) and becomes bankrupt. The notes which have been repaid are replaced, in the monetary circulation, by the metal obtained in exchange for them. As for the notes which are not repaid, they disappear from monetary circulation: they are in fact demonetized (they cease to count as money), since the bank can no longer honour the promise of conversion. The total money in circulation is therefore reduced by the disappearance of the private banks which have injudiciously created too much credit money and by the subsequent demonetization of their credit money.

In the case of a *unified* banking system, the constraint of convertibility is less immediate and less powerful than it was previously: convertibility is no longer the responsibility of each private bank, but of the central bank, which has the monopoly of the issue of bank-notes; besides which, the fact that these notes are legal tender increases their degree of acceptance by the public. All the same, the central bank must ensure the aggregate convertibility of its notes and must maintain a reasonable proportion between the metallic money it holds and the amount of notes in circulation. If it appears that the private banks have injudiciously granted too many credits, setting off a dangerous reduction in the ratio (metallic holding/central bank's notes in circulation), the central bank must react by restricting its credit to the private banks, who will

themselves have to restrict the credit granted to industrialists. This restriction of credit amounts to a *reduction of monetary creation* and therefore to a reduction of the total quantity of money in circulation.<sup>15</sup>

Consequently, when there is convertibility, the initial imbalance between the growth of the quantity of money and the growth of the sum total of values is bound to be taken up by a reduction of the money in circulation (through the demonetization of the private banks' notes or the reduction of the volume of the central bank's notes).<sup>16</sup>

*The case of inconvertible credit money.* In this case, the reaction of the banking system may be different. No longer having to maintain any metallic backing, the central bank is no longer obliged to restrict credit nor to take up the excess of money in this way. The banks may even continue to lend in order to enable industrial enterprises facing shortfalls of sales to make up their losses and to continue working.<sup>17</sup>

Consequently, when there is inconvertibility, the imbalance between the increase of the quantity of money and the increase of the sum total of values is not necessarily taken up and may even become more marked. Further on, we will see the consequences as regards the evolution of prices.

#### *The obsolescence of equipment*

1. *Loss of value and excess money.* Obsolescence has already been defined as the technological ageing of machines, in contrast to their physical wear and tear. It refers to the situation where equipment, which has been installed and is still capable of functioning, is overtaken by new equipment which is technologically more advanced and can be produced and/or used at lower cost. Obsolescence is inherent in capitalist society which is based on competition and technical progress and it also results in losses of value and of revenue (even if the whole production is sold). Let us illustrate these points, working from the previous example.

We assumed that a capitalist borrows money in order to purchase a machine, the value of which is 500 000 hours and the price £500 000. This machine has a normal use-life of 5 years and it should be capable of an annual production of 2000 units of a commodity A: so the past value to be transferred is 50 hours per unit of A. The unit value (past and present) is reckoned to be 50 hours + 10 hours = 60 hours, the market price, £50 + £10 = £60. Our capitalist recovers £50 of constant capital per unit, £100 000 per annum, £500 000 over 5 years:

the constant capital recovered therefore enables him to repay his loan (the interest on the loan is taken from the profit realized).

Let us now assume that after 3 years, rival producers adopt a new production technique which requires a machine of equal use-life (5 years) but of only half the value (250 000 hours) or capable of double the production (4000 units per annum): in both cases, the value transferred is only 25 hours per unit. If we assume that the new value per unit is still 10 hours, the social unit value falls to 25 hours + 10 hours = 35 hours, and the unit price on the market becomes £25 + £10 = £35. Our capitalist can in theory choose one of two solutions: either of immediately adopting the new technique introduced by his rivals (adjusting his individual unit value to the social unit value) or of using his obsolete equipment until it is physically worn out (while adjusting to the new market price). Whatever his choice, he finds himself faced with losses of value and of revenue. If he adopts the new technique, only three-fifths of the value of the old machine will have been transferred to the final commodities (300 000 hours instead of 500 000 hours), and equally only three-fifths of the constant capital will have been recovered (£300 000 instead of £500 000): to repay his loan, our capitalist will have to cut substantially into his profit. If he carries on for two more years with the old machine, he will have to conform to the new norms of value and of price: he will only be able to transfer 25 hours of past value per unit or £25 of amortization of the constant capital (instead of the previous 50 hours and £50), which will bring about in 2 years a loss of value (not transferred) of 100 000 hours and a loss of revenue (constant capital not recovered) of £100 000 (which in this case too, has to be recovered by cutting into the profit).

In so far as the purchase of machinery is financed by recourse to credit, the obsolescence of equipment and the resultant losses of value bring about a situation analogous to that described in the case of the 'non-sale': the quantity of credit money in circulation grows more than the sum total of values.

2. *Reactions of the banking systems.* As in the case of 'non-sale', the reaction of the banking system, faced with this imbalance (between quantity of credit money in circulation and sum total of values), varies according to whether the credit money issued is convertible or inconvertible. With *convertibility*, the banking system will have to reduce the quantity of money in circulation: banks will refuse to grant new credits and thus to 'consolidate' the debt of enterprises faced with losses through obsolescence. With *inconvertibility*, the

banking system is not obliged to reduce the excess of money in circulation: banks can 'consolidate' the debt of an enterprise, thus increasing the initial imbalance.<sup>18</sup>

### *Credit Money and the Financing of Public Expenditure*

The previous chapters showed that the state intervenes in economic activities in various capacities: as commodity producer (through public or quasi-public enterprises), as purchaser of commodities (through public sector contracts), as initiator of non-commodity production ('administration', including education, social security etc.), as provider of subsidies (for public or private enterprises). What is the position of these various public activities with regard to the relations between value creation and money creation?

*Public enterprises* can be considered in the same category as the whole body of private enterprises engaged in commodity production. Like them, they produce value and revenue (their activities are 'productive') and they can have recourse to credit in order to finance these productive activities; and in so far as they rely on credit but face the problems of obsolescence or non-sale, an imbalance develops between money creation and value creation.

Public sector contracts, non-commodity production and subsidies present quite a different problem, for the state no longer intervenes as a producer of value and of revenue: public sector contracts constitute *consumption of value*, non-commodity productions employ labour which by definition is *not intended to create value* (as it does not produce commodities), subsidies *make good losses of value* and of revenue in public or in private enterprises. So we have the problem of the financing of these 'unproductive' activities, which produce neither value nor revenue: where can the state find the money required for its purchases of commodities, for the payment of its officials, and for the granting of subsidies?

The financing of this unproductive expenditure can be carried out in two main ways: recourse to taxation (or to other obligatory charges, like National Insurance contributions) and recourse to credit.

Recourse to taxation does not affect the total quantity of money in circulation: a proportion of the revenue created in commodity activities is simply transferred to the state. The state therefore finances its expenditure without altering the overall balance between the quantity of money and the quantity of value.

If taxes are not sufficient to finance state expenditure, the budgetary deficit must be made up by recourse to credit. Here the

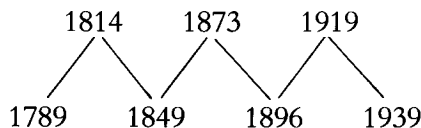
situation is quite different. In so far as the granting of credit amounts to the creation of money (rather than to mere financial intermediation), the financing of unproductive state expenditure by means of credit results in the creation of an imbalance between the total quantity of money in circulation and the total quantity of value in circulation.

The reaction to this imbalance depends once again on the prevailing monetary system. With *convertibility*, the choice is the following. Either the principle of convertibility is maintained and the state is obliged to restrict its recourse to credit (either by reducing its unproductive expenditure, or by increasing its fiscal burdens). Or the state maintains the amount of its unproductive expenditure financed by credit and convertibility is temporarily suspended: this has typically been the case in time of war.<sup>19</sup> With *inconvertibility*, as we have already seen, the banking system is not obliged to absorb any excess of money in circulation: it can step up its credits to the state ('consolidate' the public debt), thus increasing the overall imbalance between the quantity of money and the quantity of value.<sup>20</sup>

#### THE EVOLUTION OF THE GENERAL LEVEL OF PRICES

The evolution of the general level of prices (that is, of the 'average' unit price of commodities) presents some marked contrasts according to which of the two main periods we are considering.

Before the Second World War, the evolution could be characterized in the following way. First, we observe an alternation of long-term trends of rising and falling prices, schematically represented below:



Second, superimposed on each of these long-term trends, there are *conjunctural fluctuations* of prices, parallel to the conjunctural fluctuations of production: the boom periods of production are also periods of rising prices (the conjunction of expansion and 'inflation'), the periods of downturn of production are also periods of falling prices (depression and 'deflation').

The evolution is very different *after* the Second World War. First, during the period of rapid growth which prevailed up to around 1970, we observe a slow but *continuous* rise in prices, ('creeping' inflation): 'contemporary' accumulation saw the disappearance both of conjunctural recessions and of the falling prices associated with them. Second, the period of crisis and of slow growth of the seventies presents an entirely unprecedented character: the downturns or slowdowns of production are accompanied by an *acceleration* of the rise in prices ('open', even 'galloping' inflation).

Such are the phenomena which we will try to explain in this third section, building on the previous arguments concerning the evolution of types of money (pp. 212–17) and the gaps which may occur between the growth of money and the growth of value (pp. 218–26).

#### *Factors Affecting the Evolution of Prices*

We know from chapter 2 that the unit price of commodities is equal to their unit value, multiplied by the magnitude of the monetary expressions of values:<sup>21</sup>

$$\text{Unit price} = \text{unit value} \times E$$

Hence the evolution of the general level of prices depends on the factors affecting the unit values of commodities on the one hand and E on the other.

#### *Factors affecting the unit values of commodities*

We know that the unit values of commodities depend on labour productivity. The latter is influenced by such factors as natural conditions, work organization, skill and intensity of work, but above all by the state of technology and the degree of mechanization.

Technical progress and increased mechanization continuously raise productivity and bring down the unit value of commodities in the different branches of production. In itself, this therefore tends constantly to bring down the general level of prices.

If we observe periods where there is a rise (or even stability) in the general level of prices, there must necessarily be a growth of E more than proportionate (or at least proportionate) to the fall of unit values. What, therefore, are the factors affecting E and capable of counteracting the influence of technical progress and mechanization?

*Factors affecting the monetary expression of values*

Let us recall first, that the magnitude of E is obtained statistically by dividing the sum total of prices or of revenues by the sum total of values.<sup>22</sup>

$$E = \frac{\text{sum total of prices}}{\text{sum total of values}} = \frac{\text{sum total of revenues}}{\text{sum total of values}} = \dots \text{ pounds per hour}$$

But a *method of calculating* E does not show us the *factors which affect* E. Let us consider what these factors are, first in the case of *convertible* credit money, then in the case of *inconvertible* credit money.

*The case of convertible credit money.* In this case, the level of E may be affected by two kinds of factors: an excess creation of money (that is, an imbalance in the growth of the quantity of money and that of the sum total of values); a change in the definition of the currency or in the value of metal.

1. *Excess creation of money.* We saw at the end of chapter 8 that the quantity of money necessary for the circulation of commodities depends on the sum total of prices: allowing for the restrictive assumptions we have made (velocity of circulation = 1, absence of 'clearings', of non-commodity transactions and of deferred payments),<sup>23</sup> the quantity of money *necessary* is equal to the sum total of prices of the commodities. And if the quantity of money *effectively* in circulation corresponds to the quantity necessary, we can write:

$$\text{Sum total of prices} = \text{quantity of money in circulation}$$

It then becomes possible to express the magnitude of E in a new form:

$$E = \frac{\text{sum total of prices}}{\text{sum total of values}} = \frac{\text{money in circulation}}{\text{sum total of values}} = \dots \text{ pounds per hour}$$

The foregoing equation enables us to advance the following proposition: if the money in circulation increases in parallel to the growth of the sum total of values, E remains constant; on the contrary, if the monetary mass grows more than the sum total of values, E increases (as does the relation, sum total of prices/sum total of values).

2. *Changes in the definition of the currency or in the value of metal.* The foregoing equation is valid whatever the prevailing monetary system. But in a system based on metallic money and convertible

credit money as before the Second World War, the magnitude of E can equally be expressed as a function of two other factors: the legal definition of the currency (expressed in pounds per unit of weight of metal) and the unit value of the metal (or more exactly the labour time socially necessary to produce a unit of weight of metal).

$$E = \frac{\text{definition of the currency}}{\text{unit value of the metal}} = \frac{\text{pounds/g of metal}}{\text{hours/g of metal}} = \dots \text{ pounds per hour}$$

Consequently, in a system based on metallic money and convertible credit money, E can increase for two reasons: a *devaluation* of the currency (the pound is defined by a smaller quantity of metal, which amounts to expressing the same weight of metal by a greater quantity of pounds) and/or a *fall in the unit value of the metal* (due to the discovery of deposits which are easier to exploit and/or to the introduction of technical progress in their exploitation).

In the framework of the assumptions we recalled above, and provided there is no excess creation of money, the two theoretical expressions of E should coincide.

*The case of inconvertible credit money: excess creation of money.* When credit money ceases to be convertible into metallic money, as is the case since the Second World War, the level of E no longer depends on the definition of the currency or on the value of the metal. Its evolution can be analysed only from the first equation given above:

$$E = \frac{\text{sum total of prices}}{\text{sum total of values}} = \frac{\text{money in circulation}}{\text{sum total of values}} = \dots \text{ pounds per hour}$$

As stated above, E increases if there is excess money creation, that is, if the quantity of money in circulation grows more than the sum total of values.

### *An Explanation of the Observed Evolution of Prices*

#### *Before the Second World War*

*The long-term trends of rising and falling prices.* These long-term trends can be explained by comparing the evolution of productivity in the production of commodities on the one hand, and the evolution of productivity in the production of metals on the other.

During the whole of this period where the monetary system is based on metallic money (metallic coins are in circulation and credit money is convertible into metal), we can in fact express the unit



prices of commodities in the following way (taking the second theoretical expression of E)

$$\text{unit prices} = \text{unit values of commodities} \times \frac{\text{definition of the currency}}{\text{unit value of the metal}}$$

or again:

$$\text{unit prices} = \frac{\text{unit values of commodities}}{\text{unit value of the metal}} \times \text{definition of the currency}$$

For a given definition of the currency, the evolution of the general level of prices consequently depends on the evolution of the unit value of commodities and of the metal, respectively, and therefore on the evolution of productivity in the production of commodities and in the production of the metal, respectively.

Thus rises in prices from 1849 to 1873 and from 1896 to 1920 may be explained by the more rapid fall of the value of gold (compared to commodities as a whole), following the discovery and exploitation of more productive gold mines (California and Australia around 1850, Alaska and South Africa around 1890). The falls in price from 1814 to 1849 and from 1873 to 1896 may be explained by the fall in productivity in the principal mines in operation: the value of the metal levels off or tends to increase, while the general advances in productivity bring down the value of commodities.

We should observe that the recorded price *rises* (in the long term) cannot be explained by the phenomenon of devaluation or by a possible excess in the creation of money. A *devaluation* can certainly explain a sudden increase in prices at a given moment, but not a long-term rising trend. As for *excesses in the creation of credit money* (as a result of losses of value or of the financing of budgetary deficits), the banking system must absorb them rapidly in order to maintain the convertibility of the currency;<sup>24</sup> their influence can therefore only be exercised in the short-term, as we shall see in examining the conjunctural fluctuations of prices.

*The conjunctural fluctuations of prices.* Conjunctural fluctuations of prices are to be explained primarily by the variations of the relations between commodity supply and demand, on which are superimposed the effects of an excessive issue of credit money in the final stage of the expansion.

The recovery is characterized by an upsurge of demand coinciding with productive capacity considerably reduced as a result of bankruptcies in the recession. This situation is favourable to a rise in

prices. This continues during the expansion, as demand pursues its cumulative momentum. The end of the expansion and the crisis see the rise in prices accelerated due to the excessive issue of credit money: credit reaches the maximum growth compatible with the demands of convertibility, while the mass of value tends to stagnate (the insufficient growth of consumption capacity results in enterprises failing to sell and in value losses).

The crisis of overproduction (excess of supply) starts off a cumulative fall in prices and an equally cumulative reduction of the quantities produced (as a result of bankruptcies and of cutbacks in production). The sum total of prices is reduced and the quantity of money in circulation also follows a downward course: at the end of the trade cycle, the excess of money in circulation is completely absorbed.

#### *After the Second World War*

Since credit money is not convertible into metal, the magnitude of E is no longer affected by the value of the metal or by the legal definition of the currency:<sup>25</sup> the evolution of E depends solely on the relation between the growth of money in circulation and the growth of the sum total of values. The unit prices of commodities have therefore to be expressed in the following way

$$\text{unit prices} = \text{unit values} \times \frac{\text{money in circulation}}{\text{sum total of values}}$$

How do we explain, from this, the moderate rise in the general level of prices during the period of rapid growth (1945–74) and its accelerated rise during the period of structural crisis (since 1974)? As we saw in the previous chapter, the first period is characterized by marked progress in productivity and consumption, the second by much slower progress both in productivity and in consumption. The problem consists in assessing the effect of this rapid or slow progress on the evolution of unit values on the one hand, and on the evolution of E on the other. As regards E, we will recall the two possible causes of imbalance between the growth of money in circulation and the growth of the sum total of values: on the one hand, the credit-financing of the ‘losses of value’ inherent in the functioning of the capitalist system (losses due to obsolescence and/or to non-sale), on the other hand, the credit-financing of possible budgetary deficits.<sup>26</sup>

*The slow inflation in the period of rapid growth (1945–74).* The rapid progress in productivity has the effect of rapidly reducing the unit

values of commodities: this in itself tends to *bring down* the general level of prices.

What about the factors causing E to *rise*? The losses of values due to *failure to sell* can be disregarded: the characteristic of this period is precisely the parallelism between the rapid increase both of productive capacity and of markets. Similarly, the credit-financing of possible *budgetary deficits* can be disregarded too: the large increases in productivity make it possible to finance public expenditure by taxation without adversely affecting the scope for wage-earner consumption and for capitalist accumulation. On the contrary, the rapid growth of productivity entails an equally rapid *obsolescence* of plant, resulting inevitably in losses of value and of revenue. Inconvertibility, however, enables the banks to consolidate the debts of enterprises facing losses due to obsolescence: this results in an increasingly serious imbalance between the growth of money in circulation and the growth of the sum total of values and therefore in a continuous rise in E.

In short, the moderate rise in the general level of prices is the result of the contradictory effect of two factors: on the one hand, the fall in unit values, on the other, the credit-financing of losses due to obsolescence.<sup>27</sup>

*The rapid inflation in the period of structural crisis (since 1974).* The acceleration of the rise in the general level of prices can be explained by the combined effect of several factors.

First, the slowing-down of the advances of productivity tends to slow down the fall of unit values. The factor making for a fall of prices therefore becomes less powerful than before.

At the same time, the factors making for a rise in E become on the whole stronger than before. The slowing-down of advances in productivity stimulates capitalists into looking for new forms of technical progress (for example robotization): in so far as these forms of technical progress are actually adopted, the phenomenon of *obsolescence* and the losses of value and of revenue associated with it remain significant. On the other hand, the slowing down of advances in consumption increases the losses of value and of revenue due to *failure to sell* and encourages enterprises to minimize these losses through recourse to credit. Similarly, the joint slowing down of productivity and consumption in practice forces the *public authorities* to resort to credit and to the creation of money to finance a proportion of their expenditure: to resort exclusively to taxation would only further reduce the scope for wage-earner consumption

and for capitalist accumulation, thus aggravating the structural crisis which the capitalist system is now going through.

This brief analysis calls for the following conclusion. The accelerated inflation which the capitalist system has been experiencing since 1970 is not due to external 'shocks' (the 'shock' of the oil crisis!) or to 'mistakes' of policy (the 'ill-considered' issue of credit money). On the contrary, it is directly linked to the structural crisis of 'contemporary' accumulation: it derives basically from the slowing-down of progress in productivity and in consumption which affects the capitalist system. The capitalist way out of the present inflation will not therefore be through the application of one or other 'technique'; it presupposes a bypassing of the crisis itself and therefore, as we saw at the end of the previous chapter, a joint revival of productivity and of consumption on a world-wide level.

#### NOTES

1. Originally, the monetary label given to the metal was the same as that used to measure the weight of objects: the metal bar, named 'pound' by the monetary authority, actually weighed one pound.
2. However, the analogy between the measurement of lengths and that of values is an imperfect one. For while the standard of lengths is invariable in time (a metre always measures a metre), the standard of values on the contrary is a *standard* which is *variable in time* (the quantity of metal chosen as a unit of measure has a value which diminishes as productivity in the production of metal increases: the higher this productivity, the less number of hours necessary to produce a given quantity of metal). On the other hand, the 'universal' character of the unit of measure and of its name is extremely relative in so far as money is concerned: a fragmentation of currencies corresponds to the political fragmentation of the Middle Ages and different national currencies to the different national states of the nineteenth century.
3. The monetary authority which defines the metallic content of this monetary unit (in this example, 1 pound = 10 g of gold) can proceed to a devaluation of the currency, that is, a *de jure* reduction of the metallic content defining the monetary unit (for example 1 pound = 5 g of gold). (The converse operation, less frequent in practice, constitutes a revaluation.)
4. Let us be clear that the creation of additional money involves a credit operation but that every credit operation does not necessarily involve the creation of money.
  - (1) The creation of additional money involves credit: as long as the

banks restrict themselves to issuing receipt notes, these are necessarily covered by the metal taken in on deposit.

- (2) Every credit operation does not necessarily involve the creation of money. In fact, the banks can lend out metallic money deposited by individuals: in this case they are merely acting as *financial intermediaries* (who lend out the money they have collected).
5. In so far as the central bank grants credit to credit organizations (to the banks), it acts as 'lender of last resort.'
6. For example, that the relation of notes to metal does not exceed the ratio of 3:1.
7. This new form of money can also be referred to as *checking account money* (American usage) or *demand deposit money*.
8. For example, to ensure that the proportion of checking account money to notes does not exceed the ratio of 10:1.
9. As before (note 4), let us be clear that if the creation of additional money involves a credit operation, every credit operation does not necessarily involve the creation of money: banks can lend notes deposited by individuals, thus merely acting as *financial intermediaries*.
10. As an *international currency*, US dollars held by foreign countries continued to be convertible into gold until 1971. But as the *national currency* of the United States, dollars held by American citizens had ceased, like other national currencies, to be convertible since the Second World War.
11. If the central bank still has the official role of controlling the creation of money, the limits imposed on its creation will depend on internal guidelines or on constraints *other* than the demands of convertibility.
12. In this example, we are not counting the value of the raw materials used and thus the *circulating* constant capital laid out.
13. In this example, we are assuming that simple prices = prices of production = market prices.
14. Although the credit money put into circulation is thus taken out of circulation each time (in the hypothesis of complete valorization), it is however still possible for the total mass of credit money in circulation to increase with time: as we already said, for this to happen it is sufficient that new credits should be granted, before repayment of the previous credits.
15. The unification of the banking system does not in any way rule out bankruptcies (of the banks). Banks which have injudiciously granted too much credit make losses (as they are not repaid) and those losses cannot be compensated for by recourse to credits from the central bank (since the latter is obliged to restrict credit in order to safeguard convertibility). The difference from the case of the non-unified banking system is that the private banks no longer face the additional risk of general demands for conversion due to a loss of public confidence in their own money.

16. To be more precise, the initial imbalance is taken up by a greater reduction of the money in circulation in relation to the quantity of value (which is itself reduced cumulatively in the process of recession involved in the shortfall of sales).
17. We can understand the important effects of the banks' behaviour on the trade cycle. When there is *convertibility*, the crisis of overproduction and the shortfalls in sales which accompany it force the banking system to restrict credit: this accentuates the industrial enterprises' difficulties and the cumulative process of bankruptcies, unemployment and recession. When there is *inconvertibility*, the banking system can on the contrary carry on its credit activities: this helps to mitigate the effects of this cumulative process.
18. A crucial question, which has still to be properly answered, is of knowing the possible limits of this imbalance: can the sector of commodity production increase its debt to the banking system indefinitely?
19. With convertibility, the choice is actually less simple than it appears. For the state can maintain both the amount of its unproductive expenditure *and* the convertibility of credit money, provided it carries out a devaluation of the currency (that is, by reducing *de jure* the metallic content of the monetary unit, for example, of the pound): such a devaluation reduces automatically the quantity of metal required to meet the demands for conversion.
20. As in the case of private credit, we have the question of the possible limits of the imbalance: can the state increase its debt to the banking system indefinitely?
21. As we are dealing with the evolution of the *average* unit price of commodities, we can disregard here the difference between simple prices, prices of production and market prices.
22. Two methods of calculation are theoretically possible: either to relate the sum total of *gross* prices or revenues to the sum total of *present and past* values or to relate the sum total of *net* prices or revenues to the sum total of *present* values. From the practical point of view, the first method of calculation encounters insurmountable problems (calculation of past values) and is abandoned in favour of the second method (cf. chapter 11). From the theoretical point of view, however, it is necessary to argue here in terms of *gross* prices and revenues and of *present and past* values: it is the only way to compare the sum total of prices and the quantity of money required.
23. See chapter 8, p. 185, note 25.
24. In periods during which convertibility has been suspended (for example, in times of war), the imbalance between money creation and value creation did not have to be taken up by restriction of the quantity of money: the maintenance of the imbalance then contributed to the rise in prices (in a way analogous to the situation which was to prevail after the

- Second World War, with the permanent adoption of inconvertibility).
25. It is possible that the law may continue to define the currency by reference to a certain quantity of metal (1 pound = x g of metal); but in so far as credit money is no longer convertible, this definition does not have the same significance as before.
  26. The principles we have just recalled are sufficient to suggest one important difference between a *Marxist* and a '*monetarist*' approach to inflation. Both theories explain rises in the general level of prices in terms of an 'excess of money'. But monetarists ignore market losses, either through lack of sale or through obsolescence: for them, the state (not private initiative) is thus the only possible source of excess money (the 'ill-considered' issue of credit money to finance budgetary deficits).
  27. A more thorough analysis should explain why these two contradictory factors actually result in a *moderate rise* in the general level of prices: the fall in unit values and the rise in E could in theory be such that the general level of prices would tend rather to *fall*.