The Monetary Theory of Production

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1

Introduction

1.1 The theory of the monetary circuit

Over the last twenty years, mostly owing to research carried out by French and Italian scholars, a new formulation of monetary macroeconomics, the so-called 'Theory of the monetary circuit', also denominated 'The circulation approach' (Deleplace and Nell 1996), has been gaining ground. The basic theoretical tenets of the theory can be synthesised in three main propositions: rigorous distinction between banks and firms, endogenous determination of the money stock, and rejection of the marginal theory of distribution.[1]

The circulation approach in the early Swedish and German literatures

Under a strictly chronological criterion, the first description of a monetary circuit is found in Knut Wicksell's rightly celebrated monograph on *Interest and Prices*.[2]

[1] A general presentation of the circuit approach is contained in Lavoie 1987, Graziani 1989, Halevi and Taouil 1998. An implicit description of the circuit mechanism can be found in Bossone 2001. An excellent review and critical assessment of the post-Keynesian reading of the macroeconomic model is given by Arestis 1997, chapter 3. A detailed analysis of the concept of endogenous money and of the debate between accommodationists (supporters of endogenous money) and structuralists (accepting endogenous money only under severe qualifications) is contained in Fontana 2001.

[2] Wicksell 1936 [1898], chapter 9, section B. In Wicksell's wake, the Swedish school has analysed the monetary circulation along the same

Wicksell's analysis strongly influenced a number of authors belonging to the Austrian and German schools, both having a long tradition in the analysis of money and banking.[3] The very term 'circuit', introduced in contemporary literature by French authors, reproduces the German *Kreislauf*, a term used by German writers to describe the circulation of money and of real goods (Schumpeter 1934 [1911], chapter 1). Neisser devoted two works to the analysis of money circulation. The first one (Neisser 1928) gives ample space to the relationships between banks and firms. The second one (Neisser 1931) is specifically devoted to the analysis of circulation among firms and between firms and wage earners. N. Johannsen, the famous amateur economist recalled by Keynes in the *Treatise on Money* (1971 [1930], chapter 27), analyses in detail the monetary circuit in his book *The Circuit of Money* published in 1903 under the pseudonym of J.J.O. Lahn (an analysis of Johannsen's book is contained in Hagemann and Rühl 1987). The German contributions to the analysis of the circular flow between the 1930s and the 1960s are analysed in detail by Schmitt and Greppi (1996).

More recently, a revival of the circulation approach in Germany has been carried out by the so-called School of Monetary Keynesianism, headed by Hajo Riese in Berlin. The Berlin school describes the market mechanism as a monetary circuit, rejects the marginal theory of distribution and defines money as an institutional entity and not as a spontaneous product of the market (Lüken Klassen 1998; Riese 1998).

lines (Lundberg 1937). The 'Introduction' by L. Berti to the Italian edition of Myrdal 1939 is an excellent guide to the Swedish monetary theory considered in this perspective.

[3] Schumpeter 1934 [1911]; von Mises 1934 [1912]; Hahn 1920; Neisser 1928, 1931 and 1950 [1934]; Schneider 1962, chapter 2. A detailed analysis of Schumpeter's monetary thought is contained in Messori 1984. De Vecchi 1993 is a most important piece of research centred on works written by Schumpeter before he moved to the United States.

The circulation approach in France

In many aspects, the French school of the circuit had a precursor in an isolated French scholar, Jacques Le Bourva. To him is due one of the first and more lucid presentations of the monetary circuit as well as of the process of money creation and destruction, both viewed as endogenous phenomena (Le Bourva 1962; reprinted with a 'Comment' by Marc Lavoie 1992).

More recently, the revival and analytical development of circuit theory in France has been due to three main groups of authors. The so-called Dijon school is headed by Bernard Schmitt, an author who has given a precise formulation of the principles of the theory, defined a particular terminology and constantly applied both of them in his works. The research by Schmitt goes beyond mere theoretical analysis and is largely concerned with problems of both international payments and developing countries, which he examines from his very individual theoretical point of view (Schmitt 1972).

A second set of scholars gathers around Alain Parguez, for many years the editor of the series 'Monnaie et Production', published under his editorship by ISMEA of Paris between 1984 and 1996. The series contains contributions by scholars from various countries. So long as it was published, it was the only really international connection established between French followers of the circulation approach and their counterparts in Anglo-Saxon countries. The group headed by Parguez is strictly connected to French-Canadian authors, among whom the best known are Marc Lavoie and Mario Seccareccia from the University of Ottawa (in fact, one of the first reviews of circuit theory and of the contributions of the main authors belonging to it is due to Lavoie (1987)). The Parguez group is not as particular as Bernard Schmitt in adhering to the conceptual and terminological subtleties on

which he often insists, and is largely concerned with present-day problems of economic policy in advanced countries. Among the French and French-Canadian representatives of the circuit theory, Parguez and Lavoie are the two who move closest to the post-Keynesian approach (Parguez 1975 and 1984; Lavoie is himself the author of a handbook titled *Foundations of Post-Keynesian Economic Analysis*, Lavoie 1993).

A third group, active mostly in the 1980s, was formed in Bordeaux around François Poulon. Starting from the basic ideas of circuit theory, Poulon has endeavoured to construct a complete macroeconomic model. Poulon is the only French follower of the theory to have written a complete handbook of macroeconomics (Poulon 1982).

The circulation approach in Italy

Among the Italian precursors, a special mention is due to Professor Paolo Sylos Labini who, in contrast to the dominant Italian doctrine, has always maintained that the money stock is endogenously determined thanks to the creation of money by the banks in response to the demand for credit from firms (Sylos Labini 1948). In more recent years, the doctrine of the monetary circuit has aroused wide interest among Italian scholars. A detailed analysis of circuit theory is given by Graziani 1989; a typical circuit analysis is performed by Messori 1985.

The circulation approach in Anglo-Saxon countries

Approaches very similar in content to the circuit approach are to be found in the so-called Anglo-Saxon high theory of the 1930s. An analysis of money circulation identical in substance to the circulation approach is to be found in Keynes's works, in particular in the *Treatise on Money* (1930) as well as in the 1937–39 essays which followed the publication of the

General Theory (this point is illustrated in detail in Graziani 1991). A similar approach was followed by Joan Robinson in an often neglected chapter of *The Accumulation of Capital* (Robinson 1956: 25, 'The meaning of money'), as well as by other contemporary Anglo-Saxon authors (Dillard 1980; Godley and Cripps 1981; Godley 1990; Wray 1993; and, along the same lines, Eboli 1991).

1.2 Theoretical vicissitudes

Any elementary presentation of monetary theory makes clear that money, besides being a *numéraire* used for measuring prices, performs two main functions: (a) money is an *intermediary of exchange*, since, in present-day economies, payment is nearly always made in money, barter having practically disappeared; (b) *money is a form of wealth*, since anybody can hold the whole or part of his or her own wealth in the form of liquid balances, while waiting to establish what seems to be the most profitable placement.

Money as an intermediary of exchange is the older and more intuitive notion of money. In fact, in the imagination of the person in the street, money is no more than a means of enabling agents to buy commodities. If money, instead of being spent in the market, is kept as an idle balance, this is commonly understood as being a merely temporary destination, connected to the uncertainty of the moment and accepted only by agents waiting to make use of it in its natural function: being exchanged for real goods.

The conception of money as an intermediary of exchange is the first to appear in the history of economic thought. Adam Smith explains how the adoption of money is a consequence of the division of labour and a spontaneous reaction of the market to the practical problems that direct barter would create. After telling the long story of primitive money, Smith concludes: 'It is in this manner that money has become in all civilised nations the universal instrument of commerce,

by the intervention of which goods of all kinds are bought and sold, or exchanged for one another' (Smith 1993 [1776], book I, chapter 4: 34). Similarly, in Stuart Mill's words, money is 'the medium through which the incomes of the different members of the community are distributed to them, and the measure by which they estimate their possessions' (Mill 1909 [1848], book III, chapter 7, §3: 487).

If money is a mere intermediary of exchange, and if, as is postulated in general economic equilibrium theory, each agent keeps a strictly balanced budget (equality between the respective values of goods and services bought and sold), the final outcome is that all that an agent buys is paid for by means of real goods or services supplied (this is why supporters of this view insist on the fact that money, if properly understood, while being an intermediary of exchange, is no means of payment in itself). The whole market mechanism appears to be in the nature of a general barter, made easier by the intermediation of money, possibly obscured by the 'veil of money', but not altered in its substance.[4]

Carl Menger, a stauch supporter of the definition of money as an intermediary of exchange, used to consider money as being the spontaneous product of market choices. According to his historical reconstruction of the origin of money, among all goods traded in the market, one of them emerged because of its being scarce, durable and easy to carry.[5] Gradually all

[4] Patinkin and Steiger 1989 critically examine the character of the veil assigned to money. Paradoxically, some circuit theorists, like Schmitt and Cencini, come very close to the neoclassical approach in defining money as a mere technical instrument allowing goods to be exchanged on the market. In this view, payments made by an individual are actually completed only when the budget is perfectly balanced so that the purchase of each single commodity has been paid for by means of other commodities. 'Money is a pure instrument of circulation. It is no wealth, nor is it endowed with purchasing power. It is a mere numerical instrument having the function of measuring and making exchange possible' (Cencini and Schmitt 1992: 115).

[5] Menger 1892. Menger's teaching was followed by Hicks, who adds that, as soon as a specific precious metal became a recognised intermediary of exchange, the state was ready to come in and take over the coinage of money (Hicks 1989: 63ff.).

agents came to demand that particular good exclusively as payment for any other goods supplied, with the consequence that that good finally became the general intermediary of all exchanges. In Menger's view, paper money is (and should be) no more than a representative of metal money, this being the only real and sound money.

While being adequate at the intuitive level, the concept of money as a mere intermediary of exchange was abandoned because of two serious analytical problems associated with it, the first being the *correct definition of the utility of money*, the second being the *possibility of considering money itself as an observable magnitude*. Both aspects deserve detailed examination.

The controversy concerning the correct definition of the utility of money, which took place at the end of the nineteenth and the beginning of the twentieth century, was one consequence of the dominance of the theory of value based on utility. At the time, according to the dominant theory, the value of any good was determined by its marginal utility. Money, being used not for direct consumption but as an instrument for acquiring other goods, was not considered to be the source of any direct utility. The utility of money was therefore defined as an indirect utility, determined by the utility of the bundle of commodities that could be purchased by means of a given money stock. This point, already put forward by von Wieser and Böhm-Bawerk, was formulated with special vigour by Maffeo Pantaleoni in his famous *Pure Economics*. When introducing his analysis of money, Pantaleoni writes: '[Money] may be absolutely destitute of all direct utility . . . The more the particular thing we use as money is destitute of direct utility, the more essentially it is money . . . Money is only endowed with an indirect utility, consisting in its power of obtaining for us, solely by means of exchange, some direct commodity' (Pantaleoni 1898: 221). The same principle was finally codified by Ludwig von Mises in his famous 1912 *Theory of Money*: 'In the case of money subjective use-value

and subjective exchange-value coincide . . . The subjective value of money always depends on the subjective value of the other economic goods that can be obtained in exchange for it' (von Mises 1934 [1912]: 97, 98).

However, as Helfferich convincingly remarked, the volume of goods that a unit of money can buy depends on the level of money prices and therefore on the exchange value of money. Thus, in order to measure the utility of money and its value, one should already know its value. We are clearly arguing in a circle (Helfferich 1919; a detailed discussion of the same problem is contained in Schumpeter 1954, part IV, chapter 8: 1086–91).

In fact von Mises himself was fully conscious of the problem and, in a somewhat devious way, tried to find a solution to it. Von Mises tried to introduce a distinction, which subsequently entered into common usage, between individual experiments and market experiments (Patinkin 1965, Mathematical Appendix, n. 1). Individuals, when entering the market, ignore the ruling prices. This does not prevent them from preparing a strategy of action (their demand or supply schedule) or from determining the quantities that they are prepared to buy or sell as functions of all possible prices. What consumers decide upon when entering the market is not the quantity that they will actually buy (a quantity that will only be determined once the prevailing price is known), but their demand function, in which prices appear as parameters. In any possible price constellation, money will have a different purchasing power and therefore a different utility. The individual is ready to face any possible set of prices and therefore any possible value of money. Individuals ignore the actual level of prices; but, by considering prices as parameters, they are ready to consider their own money balance as being endowed with a marginal utility which will itself depend on the actually prevailing set of prices. On the basis of plans previously drawn, individuals will start negotiations, thus contributing to the determination of equilibrium

prices. Once the set of prices that makes demand and supply equal in each market has been reached, negotiations come to an end, equilibrium prices are known to all participants and the marginal utility of money is also determined. It is a well-known principle of demand theory that the reciprocal interdependence of prices and quantities exchanged does not make the problem indeterminate. In the same way, the interdependence between prices and value of money does not lead to a circular argument.

Unfortunately, von Mises's presentation (1934 [1912]: 97–107) was made obscure by his attempt (this one surely wrong) to demonstrate that a single individual is able to know the utility of money *even before* the market has reached an equilibrium position. In order to show that an individual is able to plan his market strategy before knowing the equilibrium level of prices, von Mises imagines that the individual, when entering the market, assumes present prices to be equal to those prevailing in the previous period. The same prices should determine the value of money, and therefore its utility. Any period thus relates to the previous one, back to an initial time in history when commodity money was used not as money but as a material good having a direct utility. The value of money thus comes to depend on the value of gold as a commodity. Von Mises's initial intuition was correct. But the development of his reasoning was unfortunate and he was himself accused of arguing in a circle (Patinkin 1965, appendix D).

From this moment onwards, the theory of money took a different route. Instead of reformulating von Mises's reasoning in a more correct way, it seemed simpler to modify the theoretical approach at its very root. Thus the idea was introduced that the utility of money is not an indirect one (derived from the utility of goods that money can buy), but the direct utility that an agent draws from having a money holding. By this definition, money is considered to yield utility not when spent but when kept idle. An individual who demands money in order to spend it is considered as demanding

goods, not money; a true demand for money is only expressed by individuals wanting money in order to keep it as a liquid balance.

Clear traces of a similar idea can be found in Marshall (1975 [1870]: 166–7) and Wicksell (1936 [1898], chapter 6, section A). The first to give a rigorous analytical formulation of this approach was the almost forgotten economist Karl Schlesinger. In an essay published in 1914 on the *Theory of a Money and Credit Economy* (Schlesinger 1914), he suggested that the need that money satisfies, rather than being a need for real goods that money can buy, is the need of having a liquid balance as protection against uncertainty. In Schlesinger's own words: 'Let us suppose that chance deficits cannot be covered by credits. They can then be covered only by selling the firm . . . or else by cash reserves held against such contingencies . . . The individual loss in not earning an interest on these cash reserves can be regarded as a risk premium' (Schlesinger 1914: 96–7). Schlesinger's book went unnoticed and remained totally ignored for many years.

Indications along similar lines are given by Irving Fisher, who writes: '. . . in a world of chance and sudden changes, quick saleability, or liquidity, is a great advantage . . . The most saleable of all property is, of course, money: and as Karl [*sic*] Menger pointed out, it is precisely this saleability which makes it money. The *convenience* of surely being able, without any previous preparation, to dispose of it for any exchange, in other words its *liquidity*, is itself a sufficient return upon the capital which a man seems to keep idle in money form' (Fisher 1930: 215–16; similar statements are in Fisher 1963 [1911]: 8ff.). Finally J. R. Hicks's famous article of 1933 made it clear that money yields utility in the form of protection against uncertainty, and that consequently the utility of money comes not from spending but rather from *not* spending it. The demand for money is therefore present only in conditions of uncertainty and is a demand for a stock of

wealth. This result finally overcame the problems connected to the definition of the utility of money and meant that money could be considered capable of yielding direct utility. Thanks to his rigorous presentation, Hicks was credited as having been the first to resolve the utility-of-money controversy.

The second kind of problem connected to the definition of money as an intermediary of exchange emerges most clearly in the analysis of money circulation in modern times.

Nowadays, money is paper money introduced into the market by means of bank credit. The banking system grants credit to single agents having to make a payment, for instance firms having to hire labour and pay wages. The moment wages are paid, the firms become debtors and the wage earners become creditors of the bank. The result of the operation is the emergence of a stock of money equal in amount to the credit granted to firms. The money stock stays in existence as long as the debt of the firms is not repaid. Once the debt is repaid, the money circuit is closed and the money initially created is also destroyed.

Let us now assume a world free from uncertainty and populated by perfectly rational agents. In this world, any agent will go into debt only at the very moment in which he has to make a payment. Similarly, any agent who receives a money payment tries to spend it as soon as possible on goods or on securities. Both kinds of expenditure bring the money back to the firms, who immediately repay their debt to the bank. In a hypothetical world free from uncertainty and from frictions, the aforementioned steps would take place in an immediate succession with no time lag. This means that money is created, passed on from one agent to the next, and destroyed in the same instant. If this is the case, money is no longer an observable magnitude and the paradoxical result emerges of a monetary economy being defined as an economy in which money, in spite of its being by definition necessary for

exchanges to take place, escapes any observation and any possible measurement. If all agents behaved as J.B. Say imagined, namely spending any amount of money as soon as received, the velocity of circulation would be infinite, money would be destroyed as soon as it was created and any attempt to measure the money stock in existence at any given moment of time would invariably produce a zero result. As a paradoxical consequence, the image would emerge of a monetary economy (in the sense of an economy having ruled out barter and in which all payments are regulated in terms of money) in which money did not exist.[6]

A consequence is that it is almost impossible to reconcile a similar definition with the Walrasian model of general equilibrium. If, as is typical of the Walrasian model, the negotiations for the definition of equilibrium prices precede actual exchanges, and if all exchanges take place at the same moment at equilibrium prices, all agents simultaneously sell and buy goods having an identical total value. Thus the whole process of exchanges takes the form of a great barter, which no longer requires the use of money. If the model is extended to a number of periods, but the assumption of predetermined prices is preserved by assuming the presence of future markets, equilibrium prices are simultaneously determined for the current as well as for all future periods. Once more, the model depicts an economy which can work without money. The theoretical approach of the Walrasian model, owing to the simultaneous determination of all present and future prices, ignores any possible uncertainty, thus ruling

[6] Knut Wicksell saw this problem and envisaged a model structured so as to avoid it: in Wicksell's model, wage earners buy finished products not from producers but from traders, who sell the product of the previous production cycle and pay the revenue into bank deposits earning the current rate of interest. At the end of the current production cycle, traders buy the finished product and replenish their stock. In this case, an amount of money equal to the initial liquidity requirements of producers is always in existence.

out any possible demand for liquid balances.[7] General equilibrium theory, owing to the problem of reconciling it with the theory of a monetary economy, was downgraded to the theory of barter economy.

For money to be an observable magnitude, it must be kept by single agents for a finite period of time, no matter how short, thus taking the form of a cash balance, be it notes or bank deposits. Since, as mentioned earlier, liquid balances are kept as a protection against uncertainty, this means that, for money to be an observable magnitude, the market must be operating under uncertainty. If we move in a hypothetical market free from uncertainty, liquid balances disappear, and with them the possibility of observing and measuring the money stock in existence. As Benetti and Cartelier have remarked, once one decides to abstract from uncertainty, the very existence of money balances is ruled out, except when the economy is out of equilibrium (Benetti and Cartelier 1990). In fact, when Keynes, in the *General Theory*, defined money as a cash balance having the function of protecting agents from uncertainty, he was choosing the only analytically satisfactory solution and accepting the only possible conception of money which could make it an observable magnitude. It is no surprise that the Keynesian approach to money has been considered for over half a century the final conclusion of a long controversy.

[7] A similar result is well known. As long ago as 1930, Erik Lindhal, who was working in the framework of a general equilibrium model, had noticed that money creation on the part of the banking system is only possible out of equilibrium (Lindhal 1930, part II, chapter 1). The same remark can be found in later authors (Debreu 1959; Arrow and Hahn 1972: 338; Hahn 1982). An indirect proof of this point is that Clower, in order to give a role to money in a general equilibrium context, builds a model in which, in contrast to the typical structure of Walrasian models, exchanges are not synchronised and can be started only if at least some of the agents dispose of an initial money balance to finance their initial expenditures (since Clower does not consider bank credit, the nature of money in his model remains undefined; Clower 1969: 202–11. An excellent review of the problem is given by Villieu 1993).

The definition of money as a stock of wealth was considered unobjectionable and became universally accepted.[8] However, once universally adopted, the definition of money as a stock of liquid wealth went through gradual alterations and through a parallel degeneration. Since money was no longer considered in its role as a means of payment and was considered only as a part of the stock of wealth, it was no longer identified with the flow of payments performed over a period of time. A consequence was a tendency to consider the stock of money as a given parameter.

Nothing would have prevented, in principle, money being placed on the same footing as any other commodity, and the production of money being analysed along with the production of other commodities. By proceeding in this direction, it would have been possible to analyse the formation of the money stock as the result of negotiations between banks and firms in the money market. In fact the very definition of equilibrium was an obstacle in this direction. A general equilibrium is defined not only by the objective conditions (equality of supply and demand in all markets), but also by the so-called subjective conditions, requiring that the budget constraint be satisfied for all agents so that all individual budgets are rigorously balanced. The budget constraint being interpreted in its most restrictive meaning (not only as an equality between assets and liabilities but as a strict balance of current income and expenditure), equilibrium was made to coincide with a position in which all agents have

[8] An aside is in order. As previously mentioned, Menger emphasised the fact that a specific commodity emerges as money as the consequence of a spontaneous choice made by market agents. In the *Treatise on Money*, Keynes, following Knapp, had defined money as a means of payment recognised by the state: '. . . it is a peculiar characteristic of money contracts that it is the State . . . which decides what it is that must be delivered as a lawful or customary discharge of a contract . . .', Keynes 1971 [1930], vol. 1: 4, 6. In the *General Theory*, while trying to demonstrate that, owing to uncertainty, once money is present it may become the more convenient form of wealth, Keynes doesn't give any explicit definition of money. Knapp's definition has been recently revived in a most convinced way by Wray 1998.

extinguished any possible debt, including their debt to the banking sector. If in equilibrium all debts have been extinguished, the money stock has disappeared. Once more it seems impossible to reconcile a rigorously defined equilibrium position with the presence of money, with the only difference that, in this case, the disappearance of money does not depend on an inconsistency between a demand for money balances and rational behaviour in the absence of uncertainty, but on the simple fact that agents automatically eliminate the presence of money by simply respecting their own budget constraints (on this point more will be added later, see §2.2).

This time, the way out was found by enlarging the model and including in it the government sector. In principle, the government sector is not held to have a balanced budget. Consequently, the presence of a current deficit in the government's budget is not incompatible with a general equilibrium. More precisely, a position of full equilibrium is defined as one in which the amount of government debt not financed by placement of securities (and therefore the amount of legal money outstanding) is equal to the amount of money demanded in the market. In fact nowadays this kind of solution (money entirely created by the government deficit and being in the nature of an exogenous magnitude) is presented as an obvious truth in any introductory presentation.

However, this solution is in itself weak. To begin with, it modifies the very nature of fiscal policy in that the level of the government deficit is conceived as determined not by the requirements of the community in terms of government services, but by the money stock needed to ensure the smooth circulation of goods in the market. The government is no longer viewed as a supplier of social services but as a supplier of liquidity (Riese 1998: 56). If both roles of the government are to be satisfied at the same time, the final level of government deficit has to be such as to fund the provision of social services while at the same time supplying the required stock

of money – two targets hard to reach with the same level of government deficit (Sawyer 1985: 16; Tobin 1986: 11).

In addition to that, if, as is customary in most of modern macroeconomics, monetary theory considers money as a given stock, this leaves unexplained how the available purchasing power is distributed among single agents or among social groups present in the market. This is no great loss for anyone who is a true follower of neoclassical theory. In fact, in a neoclassical theoretical perspective the purchasing power at the disposal of each individual does not depend on the money stock in his possession but on the amount of real goods or services that he is willing to supply and able to sell. The initial distribution of the money stock among single agents, in itself, is not a relevant factor. The same is no great loss either to the followers of the post-Keynesian school, especially to the followers of Kaldor. To them, the banking system performs a totally passive role vis-à-vis the demand for credit coming from producers. The firms can consequently carry out their production plans free from any financial constraint.

The same loss becomes, however, a substantial limitation to anyone who thinks that, when creating liquidity, the banking system operates a selection process. In this case, the agents endowed with an autonomous and potentially unlimited purchasing power are not all possible agents present in the market but only those who are considered eligible for bank credit. These usually belong to the class of entrepreneurs, to the exclusion of wage earners. Circuit theorists subscribe to this train of thought (this point is dealt with later on in this chapter, §1.4). To them, the definition of money as a means of payment remains an essential element in the analysis of macroeconomic equilibrium.

1.3 The circuit version

In opposition to the dominant Keynesian view of money as a stock of wealth, circuit theorists remark that the first and

foremost role of money is to make possible the circulation of commodities. Therefore money appears in its authentic capacity only when a good is exchanged against money and money passes from the balances of one agent to the balances of some other one. In this perspective, the more rigorous among circuit theorists insist on the fact that when money is kept idle, even if only to cover future payments, it is no longer an instrument of circulation but rather a stock of wealth (Schmitt 1996: 132ff.).

In opposition also to the neoclassical view of money as a mere intermediary of exchange, circuit theorists emphasise the fact that money should be viewed as an authentic means of payment. Money, they remark, enters the market by way of bank credit. When a firm is making use of a bank overdraft, it is in fact acquiring commodities or labour without giving any real good in exchange; which means that it is using money as a means of payment. In terms of substance, circuit theorists remark that money exerts its primary influence on macroeconomic equilibrium when it is used for buying commodities and not when it is kept as an idle balance. Under this aspect, circuit theorists clearly differ from the followers of Keynes, who insist on the fact that money makes its presence felt just because it can be kept as a liquid balance and become idle money.

The decision of circuit theorists to shift their attention away from the time that liquid balances are kept as such and to concentrate on the time that money is used in order to make a payment displaces the focus of theoretical analysis. The dominant theory of money, when analysing the demand for money, enquires about its motivations and possible fluctuations; when analysing the money supply, the theory often considers the money stock as the result of independent decisions taken by the monetary authorities. Circuit theorists instead concentrate their analysis on the chain of payments, starting with the initial creation of liquid means, going on to the successive utilisations of money in the market, and ending with the final destruction of money. The very term

'monetary circuit' draws its origin from the fact that the theory examines the complete life cycle of money, from its creation by the banking system, through its circulation in the market, to its being repaid to the banks and consequent destruction.

1.4 Circuit theories and neoclassical analysis

The approach adopted by circuit theorists opens a deep theoretical cleavage separating the circuit doctrine both from neoclassical and from Keynesian theory.

It is a well-known fact that neoclassical theory has been the object of a number of analytical criticisms: starting with the older objections from students of welfare theory (lack of perfect competition, external economies or diseconomies, increasing or constant returns, presence of indivisibilities), down to Sraffa's critique concerning the possibility of measuring capital and therefore of applying the marginal theory of distribution, and on to the modern theories of asymmetrical information and of interdependence between quality and price.

Most if not all of these criticisms do not reject the individualistic approach typical of neoclassical theory. On the contrary, according to circuit theorists, so long as this approach is preserved, the fundamental limits of neoclassical theory are not overcome. The first and most important of those limits, according to circuit theorists, is that any theory based on an individualistic approach is necessarily confined to microeconomics and is unable to build a true macroeconomic analysis. A proof of that is given by the fact that all theories based on an individualistic approach have in common the definition of macroeconomics as the result of an aggregation performed on a microeconomic model and not as an independent analysis based on new and different assumptions.

In the perspective of circuit theory, a simple aggregation of the individual behaviour functions doesn't turn a

microeconomic model into a true macroeconomic theory. The starting point for a construction of a macroeconomic model can only be the identification of the social groups present in the community, followed by the definition of the conditions necessary for their reproduction and perpetuation over time. An example of a true macroeconomic approach is given by the classical economists, who started from an *a priori* subdivision of society into a number of social classes, each of them having a different initial wealth endowment (landowners own productive resources, entrepreneurs are able to organise productive factors, wage earners can only supply their own labour). The same can be said of Marxian analysis, based on the distinction between capitalists and proletarians, a distinction corresponding to the separation between labour and means of production. The same is also true of Keynes, who made use of a sort of *a priori* distinction between consumers, who evaluate consumption goods according to their immediate utility, and investors, who evaluate capital goods according to subjective and uncertain profit expectations.

In a similar perspective, circuit theorists introduce a preliminary distinction between producers and wage earners, producers having access to bank credit and wage earners being excluded from it. The two groups enter the market having different initial endowments. Entrepreneurs, being admitted to bank credit, can rely on a potentially unlimited purchasing power, while wage earners can only dispose of as much money as they have previously earned. The two social groups have to comply with totally different budget constraints, which makes a basic difference in the definition of their own behaviours.

The contrast with neoclassical theory appears even more clearly if one thinks of the fact that in a perfect market, such as the one assumed in the neoclassical model, the fact of having money actually available does not create a constraint to the purchasing power of the agent. As already mentioned, in the neoclassical model, while it is true that no agent can violate

his own budget constraint, the purchasing power of each individual is determined by magnitudes which are not monetary but real in nature, such as his working ability and the amount of his real fortune. In a perfect market, any real resource can be converted into money at the ruling price, whenever the opportunity arises to exchange it for a different good. In this setting any possible liquid balance is but one of the various kinds of wealth pertaining to the agent and deriving from real income previously produced. Even more: any agent expecting to get in the future a higher flow of income, or to become the owner of new wealth, has access to bank credit and can get immediate liquid resources against the promise to repay the debt when due. Therefore, the purchasing power of an agent is not limited by his present wealth but is determined by his ability to produce real goods in a much wider time horizon.

Circuit theorists start with a totally opposite vision. In their view, in a monetary economy, precise mechanisms prevail which bring purchasing power into the hands of some agents rather than others. To begin with, since the market does not guarantee full employment, the purchasing power of an agent is never determined by the simple ability to perform productive work but rather by the fact of being actually employed and of being paid in terms of money. The same is true of credit, which is not granted to anyone presumably able to repay his debt, but only to selected agents, usually being productive firms. Only firms have actual access to bank credit and therefore enjoy a purchasing power exceeding their present wealth. As a rule, instead, wage earners can enter the market only after they have sold their own labour and received the corresponding pay.[9] A similar assumption clearly echoes the

[9] Such an assumption is explicitly made by Benetti and Cartelier (1990) and by Cartelier (1996). This is by no means a new idea. In the eighteenth century it was commonly accepted that money and power should go hand in hand (a most persuasive analysis of this point is performed by Giacomin 1994). In some sense the same assumption is to be found