

# MONEY, BANKING, AND FINANCE

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## Summary

The working of any contemporary economic system depends on money and banking, both of which are instrumental for production and consumption activities as well as for financial operations within and across any country's borders. Since the demise of the fixed exchange-rate regime (1946–1973), financial market transactions have been increasing in number and magnitude all over the world, and both the frequency and virulence of financial crises have soared dramatically across the globe.

This chapter elaborates on the nature and role of money and banking in mature economies. We will examine the importance of banks' credit for production and consumption activities, considering the phenomenon of inflation from a global macroeconomic perspective. This will highlight the fact that the origin of financial crises resides with banks, whose regulations proposed or implemented at the time of writing ought to be prolonged by a monetary-structural reform of banks' bookkeeping to dispose of systemic risks and thereby reduce the financial fragility of finance-led

economic systems.

## 1. Introduction

Money and banking are essential for the existence of any economic systems. Without money, goods and services would have no price, as there would be no numerical instrument to measure their value objectively. Utility, in fact, is a subjective, non-measurable dimension of any given commodity. Its assessment depends on a number of time-dependent individual preferences that makes it impossible to determine a socially-objective measure of value on the grounds of subjective preferences varying across time and space continuously. Money is indeed a non-commodity, or the social form of value, as it measures numerically in economic terms any produced goods and services, without being itself an item that needs to be measured. Banks are therefore essential, as they issue the numerical means of payment that measures the value of any objects that are exchanged in the market place. They act thereby as monetary intermediaries, carrying out the payment orders of non-bank agents as the latter need to pay their debt obligations finally.

Bank credit is closely linked to the emission of money by banks: it allows any bank's borrowers to enter a payment even if the latter do not dispose of an income (either earned or borrowed from other non-bank agents). The credit lines that a bank opens to its clients are thus instrumental in providing the "initial finance" to the latter in order for them to pay in advance of earning an income. This is an important feature of monetary production economies, as firms obtain from banks the credit amounts they need to pay their production costs, before being able to sell their output and reimburse thereby the banks with the "final finance" earned on the market for produced goods and services. Financial intermediation by banks is notably enhanced by their capacity of acting as monetary intermediary in any payment they carry out on agents' request: only banks can open a credit line without having the relevant amount in the form of pre-existent deposits with them. Bank loans generate deposits, whilst non-bank financial institutions are unable to grant a loan without disposing of pre-existent deposits.

When bank credit gives rise to new deposits within the whole banking system, the money-to-output relation is unaffected if and only if a newly-produced output is associated with the increase in bank deposits. If the amount of bank deposits exceeds the volume of output on sale in the product market, this affects the purchasing power of every money unit negatively, exerting therefore some upward pressure on the price level as agents dispose of their deposits on the market for produced goods and services. This inflationary pressure, however, can remain unnoticed when monetary authorities refer to consumer price indices in order to assess it, while agents spend their excessive bank deposits on a real or financial market whose prices are excluded from these indices. The financial crisis that burst in 2007–8 originated from this phenomenon: during the preceding decade, an increasing amount of credit granted by banks in mature economies has been used to purchase real or financial assets, in a spiraling dynamics that monetary authorities were unable to resist, since they considered consumer prices only (rather than also asset prices) in maneuvering their policy rates of interest in an attempt to guarantee price stability within the relevant economic system.

Those financial market regulations that exist or are being discussed at the time of writing, designed to avoid another global crisis to occur, address a number of problems that stem from different forms of behavior (like greed and predatory lending) noted in the run-up to the financial crisis that burst in 2007–8. The structural-systemic origins of this crisis, however, cannot be disposed of by a series of regulations designed to affect behavior: a structural reform of banking is required in this regard. In light of the essential distinction between money and credit, this contribution points out that the bookkeeping structure of banks' balance sheets ought to allow for a separate recording of payments regarding income-generating expenditures and payments that are income-transferring operations. As the 1844 reform of the Bank of England imposed to separate the latter into two distinct departments, through which money emissions and financial intermediations have been booked accordingly, there is a structural need to impose such an accounting distinction to any kind of banks – in order to avoid the emission of money in a credit operation that increases the amount of bank deposits available for purely financial market transactions, which cannot increase total output produced within the system as a whole and are therefore inflationary.

The next section points out the essence of money and credit, both of which are the result of banking. The third section explains the integration of money and production, when firms pay their production costs through a bank's advance, which gives rise to a newly-produced net income that is new in the whole economy. The fourth section provides a macroeconomic definition of inflation linking it with the emission of money. The fifth section analyses the monetary-structural origins of financial crises, whilst the sixth section presents the variety of financial regulations that exist or are being discussed at the time of this writing. The seventh section argues in favor of a structural-monetary reform in banking that would avoid further systemic crises to occur. The last section concludes, summarizing the major points presented in this contribution.

## **2. Money and credit**

Money and credit are often mixed up in economic analysis. This is so much so as modern banking, that is to say, the working of domestic and cross-border payment and settlement systems, blurs this distinction in practice. Nevertheless, money and credit ought to be separated in theory and practice. This separation, as we shall see later on, is a necessary and sufficient distinction to understand what banks can and should do, and to design the appropriate regulations to avoid that money and banking originate inflationary imbalances possibly leading to financial crises.

### **2.1. On money**

The nature of money has been puzzling economists as well as a variety of researchers in other social sciences since money was first reified into some precious metals (see, for instance, Goodhart 2005). Economists' views of money can be classified into two theories, namely, metallism and chartalism. According to the former, money is a commodity, which has often existed in the form of a precious metal such as gold or silver. By way of contrast, according to chartalism, money is a social relation independent of any material representations of it: “money is a ‘claim’ or ‘credit’ that is constituted by social relations that *exist independently of the production and exchange*

*of commodities*” (Ingham 2004: 12). Let us expand on both theories briefly.

### 2.1.1. Metallism

Metallists consider money as “a creature of the market”, that is, the result of a search process that agents spontaneously carried out in order to solve the “double coincidence of wants” problem: when two persons want to enter into an exchange but have no money, one not only has to have what the other wants but also has to want what the other has and wants to offer (see Jevons 1875: 3). In the metallists’ view this means that “any commodity to be called ‘money’ must be *generally acceptable in exchange*, and any commodity generally acceptable in exchange should be called money” (Fisher 1911/1931: 2).

In minimizing their transactions costs, traders discovered that commodities have “*different degrees of saleableness*” (Menger 1892: 242). As commodities are more or less saleable in respect of the greater or less ease with which they can be disposed of at any convenient time and at current market prices, according to Menger (1892: 244–245) the market mechanism of supply and demand induced traders to identify a commodity generally accepted in exchange for all sorts of real goods, services, and assets. This commodity then becomes a medium of exchange in the Friedman (1974: 8) sense that “[it] enables the act of purchase to be separated from the act of sale”. In this view, “a monetary system of exchange is one in which the vast majority of transactions involve money on one side” (McCallum 2004: 81–82). To put it in the famous Clower (1967: 5) phrase, “*money buys goods and goods buy money; but goods do not buy goods*”.

Money would thus have the function of an intermediary in the exchange of (non-money) goods, a definition that begs the question of money’s nature, as Clower (1967: 4) noted when he stated that “[we have] to express analytically what is meant when we assert that a certain commodity serves as a medium of exchange”. In fact, the economics profession has been defining money by its functions at least since Hicks (1967: 1) conventionally claimed that “money is what money does”. Yet, this definition is prone to circularity, and is thus useless analytically: “If it is not clear what ‘money’ is, it is also not possible to describe the functions of ‘money’” (Bofinger 2001: 4).

### 2.1.2. Chartalism

Chartalists consider that “the use of money does not necessarily imply the physical presence of a metallic currency, nor even the existence of a metallic standard of value” (Innes 1913: 379). As Innes (1913: 382) argues, “the monetary standard was a thing entirely apart from the weight of the coins or the material of which they were composed. These varied constantly, while the money unit remained the same for centuries”. According to chartalism, money is in fact a unit of account that originates in a sovereign act establishing by law, or social conventions, what object(s) people may dispose of in order to settle their debt obligations (see Keynes 1930/1971: 6, fn. 1, and Lerner 1947: 313). In this view, money originated as a unit of account and preceded market exchanges, which, as chartalists argue, are a much later phenomenon in history.

As chartalists explain, the value of money does not stem from its material support, be it

a metal or paper object, but is based on “the antiquity of the law of debt” (Innes 1913: 391). In fact, what Innes (1913: 393) calls “the primitive law of commerce” is based on double-entry bookkeeping, which records any debts and credits for further reference and settlement. Indeed, debt–credit relations, and records, have neither logically nor historically to do with any physical supports. In other words, the purchasing power of money does not depend on the stuff that carries out money’s functions.

According to chartalists, if the state accepts a given paper money in the payment of taxes and other debts that agents owe to it (such as fees, fines, duties, tithes, interests, user charges, and so on), this induces all taxpayers to accept these pieces of paper as money, as non-bank agents know for sure that everyone who has to pay taxes will accept them in turn. A similar argument can be found in the widespread overlapping-generations approach to explain money’s existence and functions (see, for instance, Balasko and Shell 1981). As Wallace (1980: 49) claims in this regard, “one person gives up goods (objects that appear as arguments of utility functions, directly or indirectly) for fiat money only because the person believes that someone else will subsequently give up goods for fiat money at an acceptable rate of exchange”. This line of reasoning has thus led some late twentieth-century economists to put forward the so-called taxes-drive-money approach (or “state theory of money”), according to which the state plays a prominent role in the creation, circulation, and validation of money by the fact that its population has to pay taxes in a variety of forms (see Wray 1998). Money would thus be “a creature of the state” (Lerner 1947).

### 2.1.3. Beyond Metallism and Chartalism

Both metallism and chartalism suffer from some analytical shortcomings (see Rossi 2007: Ch. 1). In the former theory, for example, the problem remains (and is impossible to solve logically) that those commodities used as “money” have a value *per se*, which ought to be measured by some other form of commodity-money in order to avoid circular reasoning. As is shown by Ricardo’s (1951: 43) life-long attempt at finding an “invariable standard measure of value, which should itself be subject to none of the fluctuations to which other commodities are exposed”, it is impossible to find a physical thing that features this characteristic: no commodity can have an invariable value, as commodities have to be produced, and this occurs at variable costs owing to several factors, among which wages and technology are the most prominent factors. If money is actually the standard of value, therefore, it is not itself a commodity, because otherwise it would need to be measured using another standard of value, in which case infinite recursivity makes this measurement logically impossible referring to a physical standard of value. The fact that no national accountant will ever include money in the set of produced goods and services used to measure a country’s gross domestic product (and also world total output) corroborates on empirical grounds the conception of money as a non-commodity.

As regards chartalism, it also suffers from its own problems, for instance the allegation that the state is able to issue debt (that is, fiat money) that has settlement power *per se*. “This means the [US] government can buy anything that is for sale for dollars merely by issuing dollars” (Wray 1998: ix). In fact, any purchase of goods, services, or assets implies a final payment sooner or later. Payment finality means, notably, that “a seller

of a good, or service, or another asset, receives something of equal value from the purchaser, which leaves the seller with no further claim on the buyer” (Goodhart 1989: 26). This, however, is problematic in the approach that chartalists advocate, since in their view the state obtains goods and services, including labor services, or real/financial assets, as a counterpart of nominal tokens (that is to say, bank notes or coins), which the state “fabricates” at a trifling cost – just as metallists argue, adhering to the seigniorage view. This amounts to saying that if the state pays its purchases on any markets by issuing a promise of payment, then all those agents selling any items to the state will still have a claim on it. As Graziani (2003: 60) points out in this perspective, “[i]f a simple promise of payment could perform the role of final payment, buyers would be endowed with a seigniorage privilege, namely with a right of withdrawing goods from the market without giving anything in exchange”. Fortunately, this is not what occurs in the real world.

Modern money is neither a commodity (as metallists claim) nor an acknowledgment of debt that has settlement power *per se* (as chartalists advocate): it is a mere double-entry (hence numerical) device that banks provide to measure in economic terms the debt–credit relationship between the payer and the payee. As such, money is issued by a bank every time the latter carries out a payment order for a given customer (another bank, a non-bank financial institution, a non-financial firm, the state, or a household). To be sure, any (central or commercial) bank issues money in any payment it finalizes. In so doing it acts as monetary intermediary between the payer and the payee, crediting and debiting each of them with the number of money units required to settle the relevant debt obligation between them (Figure 1).

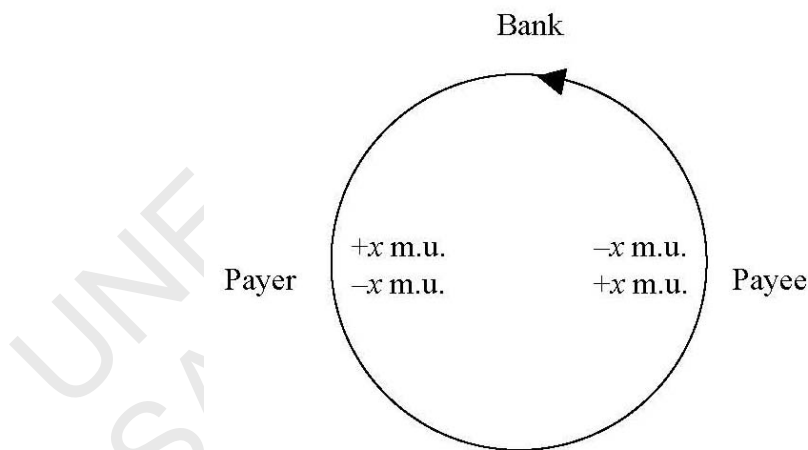


Figure 1. The emission of money depicts an instantaneous circular flow

As Figure 1 shows, the bank through which the payment order is carried out issues a number of ( $x$ ) money units (m.u.) positively and negatively, crediting and debiting both the payer and the payee in an instantaneous circular flow from and to the same bank. As such, money is neither a net asset nor a net liability: it is both an asset and a simultaneous liability, to wit, an asset-liability (Schmitt 1975: 13) whose function is to express the object of the relevant payment numerically (see Cencini 1995). If so, then one should distinguish between money and bank deposits: the former is the means of the payment through which a deposit is credited to a payee’s bank account. As a matter

of fact, deposits with banks entitle their holders with a positive purchasing power, which results from a payment that money carries out in order for these agents to be paid finally for any given item they sold to another agent. To sum up, money carries out payments, whilst bank deposits finance them. Banks, however, create just the “form” of the payment: its “content” has to be provided by the economy, although a bank is in a position to open a credit line to any of its customers in order for the latter to pay its due in time. Let us investigate this issue more closely.

## 2.2. On credit

Despite the confusion in theory and practice, the supply of money and the supply of credit are (to be kept) distinct. “The supply of credit is the supply of a positive amount of income and requires the existence of a bank deposit (a stock), whereas the supply of money refers to the capacity of banks to convey payments (flows) on behalf of their clients” (Cencini 2001: 7). As proponents of the theory of money emissions explain (see Rossi 2006 for a survey), “money is a flow whose instantaneous circulation has a stock of income (or capital) as its object. Banks create the flow but not its object, which is closely related to production. This is to say that money and credit are not one and the same thing” (Cencini 2001: 3).

Consider in this regard the stylized case illustrated by Table 1.

<i>Bank</i>			
<i>Assets</i>		<i>Liabilities</i>	
Loan to client I	+x m.u.	Deposit of client II	+x m.u.

Table 1. The loan and deposit resulting from a payment order

When a client (I) of a bank obtains a loan from the latter, the former is debited by the amount of the credit that this agent uses in order to pay some other agent, who obtains the property right on a bank deposit for the corresponding amount. (Let us assume that there is a single bank in order to simplify the explanation without any loss of analytical relevance for the case in point.) In Table 1 it clearly appears that the bank owns a claim against client I that is balanced by an equivalent claim that client II owns against the bank, which is thereby a mere go-between between the payer and the payee: the position of the former (client I) offsets the position of the latter (client II) in this bank’s accounts.

The claim owned by client II, in the form of a bank deposit, defines the credit of this client against the bank. This, however, does not mean that the bank lends the number of ( $x$ ) money units that it issues in the payment. As a matter of fact, the lending operation concerns the two agents involved in that payment: the payee (client II) grants indeed a credit to the payer (client I) via the bank, or the banking system, acting as an intermediary, even though both non-bank agents might not be aware of this financial intermediation (see Gnos 1998). The bank is neither a net creditor nor a net debtor of the economy when it issues money, as it is simultaneously debited and credited with the

number of (x) money units that it issues in the relevant payment.

Money and credit would not exist if there were no production within the economic system. Output is indeed the object of money and credit for its production, circulation, and consumption eventually. Let us therefore analyze how output is formed as a result of production and banking activities in the next section.

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### **Biographical Sketch**

**Sergio Rossi** is Full Professor of Economics at the University of Fribourg, Switzerland, where he holds the Chair of Macroeconomics and Monetary Economics (since 2005). He received the Vigener Prize 1997 for his Ph.D. degree in Political Economy from the University of Fribourg, Switzerland. He further obtained two awards by the Committee of Vice-Chancellors and Principals of the United Kingdom, for his Ph.D. degree in Economics from University College London. His research interests concern macroeconomic analysis, particularly with respect to national and international monetary and financial issues. He has authored and edited many books, contributed several chapters to books, widely published in academic journals, and frequently participates to TV talk-shows discussing contemporary macroeconomic issues at national and international level. He is also a member of the scientific board of the *International Journal of Monetary Economics and Finance*.