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# Money, credit and the structures of social action.

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## 1 Introduction

I am skeptical about the proposition: *All money is credit*. At the same time, I think that we can bunk the traditional alternative proposition that *all* money (ultimately) has to be a commodity. Nonetheless, there are crucial differences between money and credit that have to do with the primary concerns of any theory of money worth its name: Our attitudes towards the future and the way we handle uncertainty („we" referring to the human species under the circumstances defined by a capitalist economy).

There are several reasons for my skepticism:

a) Given the long history and evolution of what we call money, it may be wrong to push for one unified theory of money. Such a theory would have to maintain that whatever served as money has identical characteristics. It may be more adequate to think of the term „money" as a family name, with different kinds of money sharing, like family members, some characteristics while remaining distinct but related individuals; the implication is that the search for one unified general theory of money is futile.

b) Relative to what Bohannan (1959) called the „shatteringly simplyfying idea of money", credit systems and instruments are not simple. A credit system is supported by social structures and institutions that are more complex than those supporting a monetary system. This difference is blended out when it is suggested that such ancient, ubiquitous and simple social practices as borrowing and lending are primitive forms of credit. Borrowing and lending may be elements of reciprocal communitarian relations, in contrast to credit relations that are based on and imply the use of money (at least in terms of quantitative calculation, more strongly in the sense that money objects are elements of credit transactions).

c) Some arguments in support of the „all money is credit"- proposition are problematic in proposing that all the constitutive elements of credit transactions are also elements of simple monetary transactions. Against this, I argue

that spot transactions in which cash is used do not presuppose contracts specifying payment obligations for a debt incurred. They do not require knowledge of the other person, nor more than a minimum of trust, etc.

d) Modern money is both a „creature of the state“ as well as credit money (in a sense to be specified). Nonetheless there remain crucial differences in the extent to which credit instruments as opposed to money can be used as means of payment. If the way Schumpeter (1954) argued for the „credit theory of money“ (as opposed to the „monetary theory of credit“) is in any way exemplary, this distinction is based on weak arguments: Schumpeter held that credit instruments can completely replace money and that neither are final means of payment, in contrast to consumer goods. This kind of argument is rooted in the conviction characteristic of mainstream economics that „consumption... is the sole end of production“ („to repeat the obvious“, as Keynes (1936: 104) said). This conviction crucially underestimates the way in which the goal of acquiring money motivates economic activities. Rather than being a „harmless voucher for unspecified utilities“, money has turned into the ultimate object of desire, being the target of the „orientation to pecuniary acquisition for its own sake“ (Weber 1964: 158). Capitalism means that the acquisition of more and more wealth in the form of money has not only become an end in itself, but has become the dominant moving force of economic life. (To be more specific: Most of us work for money to buy the means of consumption that will enable us to work again for money. But the circular patterns constituting capital are about increasing it in its money form, with no other end in sight except the accumulation of more and more and more...)

e) Monetary crises reveal periodically that Schumpeter was wrong when he proposed that credit instruments can do all the jobs that money does, while being more convenient and saving transaction costs. Money (the officially instituted legal tender) maintains a supreme position among all sorts of near-monies simply because, when the market price of too many things turns out to be uncertain and they cannot be sold (or sold only with heavy losses), solely money payments count.

To deal with these issues, this paper is organized as a conceptual analysis that focuses on the social structures (in the sense of interaction patterns) implied in monetary and credit transactions: Can we find stable differences be-

tween the interaction patterns constituting monetary as opposed to credit transactions? The argument is conducted on the level and with the standard assumptions of microeconomic analysis, with two exceptions.
Normal microeconomic reasoning uses the following set of conceptual tools:
*Utilitarianism (U): Agents maximize utility.
*Rationalism (R): Agents are rational (Meaning mostly that they have given, consistent preferences and use the best available means to achieve their ends).
*Individualism (I): Agents are self-interested individuals. Collective agents only exist as voluntary associations of such individuals.
*Equilibrium (E): The interplay of individual activities is considered in terms of the question of whether it will result in or, rather, whether it is compatible with an equilibrium state.

Although one can certainly be skeptical about all these tools and their combination (URIE), I will defect only in terms of two, utility maximizing and equilibrium. Utility maximizing is characteristic of only one subset of the agents involved in a capitalist economy; the other complementary subset maximizes disposition over money. Since such maximizing is an open-ended, never to be completed project –there is always more money to be had-- this implies that equilibrium, at least in the traditional sense of a sort of resting place for a social system, is not a relevant concept for understanding a monetary economy. I will use the other two tools as heuristic devices. Assuming *rationality* does not mean that one has to believe that real agents are rational all the time, but rather the assumption provides for a benchmark to distinguish rational from non-rational activities. More importantly and in addition, it exerts pressure to not flee prematurely into sociology and invoke unexplained norms to explain seemingly non-rational actions. Assuming *methodological* individualism primarily means that, for a start, we reject action explanations in terms of (unexplained) supra-individual agencies (social systems, the state, the community...). As to assumptions on the knowledge of agents I reject the traditional perfect knowledge, complete information assumptions, including the Arrow/Debreu version of „uncertainty“ (with its implication that agents know all the possible contingent future states of the world).

Procedure: Analyze structure of monetary interaction, then of credit interaction. Aim: demonstrate that neither one is reducible to the other. Credit interaction implies an ongoing concern between borrower and lender (unfinished business, as it were), whereas money binds people into an ongoing system that is composed of pair-wise transactions between agents who are only ephemerally connected and may as well remain anonymous for each other.

## 2 The structure of monetary interactions

To highlight the specifics of monetary interactions, I will refer to the two person barter setting that Edgeworth (1881: 31n) called the „catallactic atom“ as a contrasting case. This does not imply that the catallactic atom is anything but a heuristic construct. It allows us to specify the minimum set of agents involved in money use, the patterns of buying and selling, the chain of monetary transactions. As in barter, the emphasis in monetary transactions is on „*do ut des*“ and “*quid pro quo*”, but in contrast to barter the time horizon must involve past, present and future in a distinct way. The past, because the present buyer must have acquired the money from some other (ultimately some „first“?) buyer; the future because the seller only accepts money today with the expectation of using it as a buyer tomorrow. This expectation involves both committing resources in a sort of bet on an uncertain future (Could it happen that what you accept as money today will not be accepted as money by others tomorrow? Can we protect us against such a possibility?), and the intention of providing for the future, attempting to create some certainty in an uncertain world (what Davidson (2005) called money as a “security blanket”). By acquiring possession (now) of a means to buy whatever is offered on the market (in the future), we attempt to provide today for our needs tomorrow.[1] Money is the preferred object for such provision, because it is the „absolute means“ (Simmel) that is transformable into all sorts of goods and services.

That money is „abstract wealth“ implies that the „desire for wealth must be insatiable“ (Senior, N. 1854, ch.3, §3). As Marx observed, our activities concerning money are governed by the contradiction between its “qualitative aspect”-- in which there are “no bounds to its efficacy ... because it is directly convertible into any other commodity” (Marx 1867: 142) -- and the fact that the

[1] This temporal aspect of money use is lost in the static equilibrium framework of traditional microeconomics—that is at least one, if not the major reason why the latter has no place for money.

amount of money anybody holds is always limited. Because of this contradiction the drive to acquire ever more money is not constrained by our natural or socially defined limited needs.

<Further specifications of structure: Money objects move from agent to agent. You can use a given piece of money (as a means of circulation or payment) only once. (A cashless economy has to rely on electronic simulation of the movement of money objects). Money is the tool that you have to give away in order to use it[2]. You do not have to trust the buyer, you only have to trust her money. This possibility of abstraction supports the instrumental attitude among buyers and sellers. There is no private money (but role of the state is not to be discussed here). Here we only consider legitimate ways of acquiring money. Characteristics of money objects are secondary, but money use is based on the general presumption that something like an equal difficulty of access to money holds for (almost) everybody. The result is a decentralized system, in which effective prices are formed by buyer/seller pairs at the point of transaction, when money and commodities change owners. Markets are public, so that there is continuous mutual observation among such pairs. This leads to public knowledge of prices. Freedom (of entering or completing transactions), equality (insisting on getting the same price as the next agent) and Bentham (not the greatest utility for the greatest number, but rather a generalized instrumental attitude towards others).>

Let us try to specify the minimal components of a monetary system. In buying and selling, there are at least four players involved and a time frame that reaches beyond the present. As Keynes (1936: 294) said: „Money in its significant attributes is, above all, a subtle device for linking the present to the future." The seller who accepts money now does this because he expects a third person to accept the money in the future, in a subsequent transaction. Compared to the „catallactic atom" the expansion of the bilateral setting takes place in three directions: *Materially*, a money object is used as an intermediary; *temporally*, both the past and the future enter into the transaction: The buyer´s money must come from somewhere –normal players cannot produce it themselves[3]-- and is accepted by the seller in the expectation of it being usable again as money in the future; *socially*, there are at least two additional players involved, one from whom the current buyer got the money in a previous transaction and a second one who is expected to accept the money in the

[2] „*Geld* ist eine Sache, deren *Gebrauch* nur dadurch möglich ist, dass man sie *veräußert*. Dies ist eine gute *Namenerklärung* desselben (nach Achtenwall), nämlich hinreichend zur Unterscheidung dieser Art Gegenstände der Willkür von allen andern..." (Kant 1920: 401).

[3] „Money cannot be produced by any private individual" (Williamson/Wright 1994: 107).

future that the current seller is receiving now. What are the implications of letting these elements of the outside world intrude into the “catallactic atom”?

The least one can say is that the acceptance of money by any seller requires a large dose of confidence in the stability of institutional arrangements: When I accept your money now, I must expect unknown others to do in the future as I am doing now. There is no way to found such an expectation in the rationality of single-minded utility maximizers.[4] The standard economic explanation of an action consists of using a player´s definition of the situation and his preferences to derive his decisions. (That a decision is not yet an action is usually ignored.) In accepting money, the definition of the situation by a player must also include the belief that business will go on as usual and that the money object will in turn be accepted by (unknown) others[5]. This belief may well be backed by everyday experience. But as it clearly is a belief in a social fact, and social facts are the results of what we do, and whatever we do we can do differently, there is an irreducible element of uncertainty in the acceptance of money. Ego has to believe that an unknown alter will act in predictable ways when confronted with money. How is such a belief formed?

If we consider the use of money as something we learn and rely on in the same way as we learn to speak and use language to communicate, the question of why we accept money seems to lose some of its bite. After all, the use of language includes a large dose of irrational or sub-rational elements, too. It is difficult to imagine an explanation in terms of rational actions for the fact that this animal is called “dog” in English, “chien” in French, “perro” in Spanish, and so on. We simply use the word we have learned to designate the object we want to communicate about. Using the proper word works. Others who speak the same language can understand me.

Is not the use – and therefore the acceptance—of money an analogue to language use in this respect? In a way, yes, because just as the selection of the sound sequence for a word in a natural language is mostly arbitrary and has

[4]Beyond utility considerations, they have to deal with the social setting by forming expectations about what others will do. "There is an oddly circular characteristic in the value of fiat money--sellers are willing to accept it because other sellers are willing to accept it. However that may be, and several hundred years of speculation and empirical study have not removed the perplexity, we can take the acceptability of money for granted." (Arrow 1981: 148)

[5] Weber defines the medium of exchange as an object that is ”typically accepted primarily by virtue of the fact that the recipients estimate that they will, within the relevant time horizon, be able to utilize it in another exchange“ (Weber 1968: 75f. (ch. 2, § 6).

no relation to its meaning, the selection of a physical object to serve as a money object appears to be arbitrary, apart from some well-known technical properties (easy transport, durability, divisibility, forgery resistant, etc.). But while we may underwrite the language analogy by saying: “Money talks”, we also have to say: “When money talks, it says good-by”. Once you have learned the language, speaking does not require much effort, whereas each acceptance and use of money as a means of exchange or payment demands a sacrifice[6], as it were. Normally, you have to deliver something desirable or expend all sorts of undesirable efforts to get hold of money in the first place. What you get is something you cannot use other than in a next exchange. You hope that by subsequently ceding ownership of your money, by giving it to a future trading opponent, you will succeed to make him do what you want. If a subsequent exchange cannot be accomplished, the money object deteriorates into a piece of paper or a piece of metal, or the information in your account turns into noise. Given that this is a real danger, although it may not loom over us every day, how can we –as rational beings--stick firmly to the expectation that whatever we accept as money will be accepted by a sufficient number of other players in the next round? The bootstrap answer seems to be: we *all* stick to the expectation because we all know that this is the only way to make the expectation come true. Do we have to presuppose an underlying *collective* commitment of money users? It is certainly not explicit, but if it is there at all, it is in conformity with the observation that money works best when nobody thinks about how it works. In this sense, the irrational element in money use seems to have more weight than the irrational elements we can detect in language use. However, empirically, even extremely clever real agents are evidently able and willing to ignore this underlying irrationality of money use in their everyday doings. The main reason for such suppression simply seems to be that we all successfully grew into playing the money game. The child learns that this is how we accomplish property change in a peaceful and mutually accepted, mostly frictionless way. It works reasonably well for the realization of our objectives so that we continuously and unquestioningly partake in the collective intentionality supporting it --while the collec-

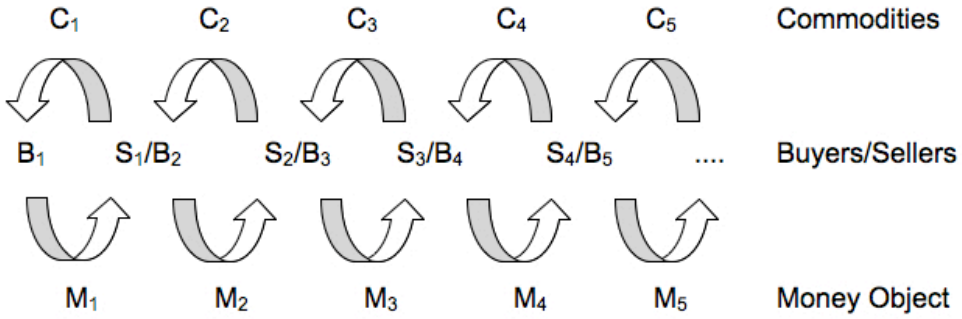
[6] But remember how Swift had the wise men of the Academy of Lagado avoid the sacrifice involved in using language, the wear and tear of the speaking apparatus.

tive intentionality has somehow slipped into Searle´s “background” (Searle 1995).

Apart from such own experience of successful money use, perhaps one reason for not questioning the viability of the money game in rational terms and unquestioningly joining in the collective intentionality underlying it is that, in taking or spending money in a given moment, we can see ourselves as building one more link in a long chain of transactions that has started a long time ago. The “we”-intentionality has immense historical depth. Imagine Croesus to be the first buyer, buying the service of one of his soldiers with one of his newly invented coins in the 6th century BC. The soldier then transmogrifies from a seller into a buyer, finding someone who sells him a house; the seller of the house buys a boat, and so on. If it were not for all sorts of things happening to the coin, like being buried, getting lost, losing weight, being melted and made into a ring, etc., and if it were not for the changes of monetary systems, the original piece of money could still be wandering from buyer to seller until today, with people easily understanding their respective intentions and thus being able to coordinate their actions by using the coin across many generations and spaces. Thus, the history of money use offers a practical proof of its own viability.[7] In a first person perspective: I feel that I can safely continue playing a game that appears to have worked reasonably well most of the time for most people. As individual players we simply form a link in an ever-expanding chain of transactions, and we can accept money because we see ourselves as forming such a link.

[7] The regularly occuring crisis being but a footnote in a long success story...

**Diagram: The chain of monetary transactions**




Commodities move from seller to buyer, money objects move from buyer to seller and each player performs a role change from seller to buyer. All transactions are final[8], but the time horizon is open towards the future.

Clearly, to single out one such chain of transactions does not even come close to adequately depicting the complex workings of a monetary system. But the chain image can be used to visualize, *first* of all, the social, temporal and material aspects of money use. To repeat: Compared to the catallactic atom, it involves expansions in all three dimensions. With the exception of the "first buyer" (and the question how he acquired (or produced) the money objects in the first place), each player is performing two roles in a sequence, interacting with at least two other players, selling a commodity *now* for a piece of money that comes out of the *past* with the expectation to buy another commodity in the *future*.

*Second*, the chain of transactions illustrates the way we gain experience in money use. When a seller turns into a buyer, she will carry the knowledge of the previous into the next transaction, so there is a built-in process of information collection and information use accompanying the movements of money objects through time, space and the social network.

*Third*, whereas commodities disappear into the private spheres of consumption or production where they are sooner or later used up, money objects re-

[8] Unless something turns out to be wrong with the commodities traded or with the money used, for example, if it is forged.

appear in the semi-public space of what is somewhat misleadingly[9] called "circulation", that is, they move from one player to the next with more or less speed. After each transaction, the money holder has the choice of saving or spending.[10] If we imagine many such interwoven chains of transaction and some event that will shock a sufficient number of sellers and stop them for a while from turning into buyers, the whole social metabolism accomplished through the change of ownership of commodities can be seriously disrupted[11].
*Fourth* and most important, each transaction is a locus of price formation. Each buyer/seller pair can negotiate and may or may not agree on a price. Price formation will be influenced by the fact that transactions are interdependent along the chain. Money not only has to flow, but it is flowing in definite amounts between each buyer and seller. Buyers are constrained in their offers by what they previously received[12]. Players form links, have memories and will observe other, similar transactions when forming prices. In addition, all this is happening in a setting with private, independent producers in a division of labor, thus operating in mutual dependence in the form of input-output intertwinements. Despite this material interdependence each buyer/seller pair is interacting in a setting of double contingency. In principle, they are free to fix whatever price they can agree on[13]. Therefore, each transaction is also independent of all the others—as long as the buyer has enough money.

## 3 Credit

Compared to the structure of basic monetary interactions, credit is primarily a way of loosening budget constraints. To see the difference, return to the chain of transactions diagram. Without credit, each buyer is constrained in the amount of money she can spend as a result of her previous success as a seller. Given the possibility of credit, buyers and sellers can assume the additional roles of borrowers and lenders. When the buyer cannot pay now, the

[9] They normally do not come back as individual objects to individual players.
[10] And the ensuing choice of saving in the form of holding cash or of investing in some interest bearing assets (Clower 1969a, Davidson 2005)
[11] For Marx (1867), the „separation of purchase and sale" installed by money use constituted the „possibility of crisis". For parallels to Keynes, cf. Kenway 1980.
[12] A credit system will obviously soften that constraint, as we will see below.
[13] As an early critic of deterministic value theory put it: „Whatever circumstances... act with assignable influence... on the mind in the interchange of commodities, may be considered as causes of value." (Bailey 1825: 182f.)

seller may nonetheless let her take away the goods for a promise to pay in the future. At first sight, this appears to be simply a case of temporal expansion of the pair-wise interaction. As we will see, however, the temporal expansion is feasible only because it coincides with further material and social expansions. But not only that. While credit relations may evolve as a simple temporal modification of the basic buyer-seller relation, functional differentiation leads to pure borrower-lender relations. Once there is the foundation of a basic monetary system—say, the use of coins—agents can specialize in the role of lenders. As selling for a promise to pay is a risky affair, normal sellers may refuse and—instead of extending credit themselves—push their potential buyers to seek a money lender. The lender will be a specialist in calculating and handling the risk of not being repaid. The role is feasible only if the lender is somehow rewarded for his activity: Interest will be charged, whether openly or covertly.[14]

Before pursuing such questions further, it is useful to address some ambiguities in the discussions on money and credit. As Schumpeter once put it, there are monetary theories of credit and credit theories of money, meaning that either credit relations are seen as a subset of monetary relations or monetary relations are seen as a subset of credit relations. Within the latter school of thought there are those who, like Schumpeter, would hold that the subsumption of monetary relations under credit relations is a historically rather recent phenomenon, but also those who argue that credit is older than money, so that the first forms of money evolve out of pre-existing credit relations. I will discuss these views by first addressing the "credit is older than money"-proposition, then the "all money is credit"-proposition, and, finally, Schumpeter´s argument for a credit theory of money instead of a monetary theory of credit. I think these propositions are inappropriate. They contribute to confusion about the nature of money. I will argue that the first proposition implies ignoring the difference between a monetary and a non-monetary economy and that the second proposition is based on a misunderstanding of the role of money as a means of payment.

[14] In his „Medici Money", Parks (2006) gives a fascinating account of how early Florentine bankers calmed their conscience by donating art to the church after they had found dubious ways to circumvent the prohibition of taking interest for loans.

### 3.1 Monetary relations as a subset of credit relations?

Social practices of giving without simultaneously taking have been widely observed in societies that do not use money, so they may rightly held to be not only older but also more widespread than the use of money. But apart from the apparently common constitutive role of promises in the practices of gift giving (Mauss 1990, Hyde 1983) and of buying on credit, the credit relations typical for monetary economies have little to do with such more general practices. They should remain conceptually distinguishable. A suitable proposal is Polanyi´s distinction between "reciprocity" and "exchange". The context of reciprocity is a community in the sense of the term proposed by Tönnies (1922 [1887]): "Community" refers to social units based on face-to-face contacts, with personal ties and corresponding obligations, in contrast to "society", in which contractual relations based on shared interests are dominant. Members of a community are likely to mutually support each other spontaneously, be that in terms of services or the transfer of goods. There is little calculating attitude behind communal give-and-take. Symmetry, as in returning a favor, is expected, but only roughly and in the long run. In contrast, the exchange transactions typical for „society" are entered with an instrumental attitude, requiring symmetry of give-and-take[15] in the peculiar way of combining opposing and converging interests in the formation of effective prices. Participants aim for quantitative calculability, both in terms of the objects exchanged and the time structure. Using money answers the needs, desires and strategies involved in exchange, as money allows for both the calculation and the precise realization of the symmetry of give and take.

To distinguish between the reciprocal relations involving –perhaps only implicit--promises to compensate for services or goods one has received and credit relations that involve promises to pay, we can simply apply the criterion of money use: A credit relation is constituted by the acceptance of a promise to pay an amount of money in the *future* in return for the performance of a service, the transfer of a good, of an ownership title or of a sum of money *now*. This proposition reverses the ordering suggested in some credit theories of money: Credit relations are a subset of monetary relations, not the other

[15] Often described as a requirement of „equivalence".

way around. With respect to the possibility that elements of reciprocity may play an important role in monetary relations, too, the proposition should not be read to mean that the use of money necessarily implies the dominance of instrumental attitudes among the agents involved[16]. But in general, the challenging *differentia specifica* of a monetary economy—and the credit relations inherent in it—is that it appears to reproduce without relying on more than instrumental attitudes in the social relations constituting it. Only if we set aside relations of reciprocity where trust between persons is taken to prevail are we led to the question crucial for understanding credit relations in a monetary economy: *What can make a promise to pay acceptable among buyers and sellers or borrowers and lenders who merely have an instrumental interest in each other?* This question is circumvented by theories in which credit relations are held to underlie all monetary relations and are thus seen as a subset of reciprocal relations governed by morally defined mutual obligations. Frequently, this notion of credit as a form of reciprocity is combined with the second proposition mentioned above: All money is credit. The effect of this combination is the --at least implicit-- conjecture that all monetary relations involve reciprocity.

This implication is manifest in the radical version of the "all money is credit"-proposition suggested by A. Mitchell Innes (1913, repr. in Ingham 2005), an author recently rediscovered by neo-chartalists (cf. Goodhart 2005).

"Money.. is credit and nothing but credit. A´s money is B´s debt to him, and when B pays his debt, A´s money disappears. This is the whole theory of money." (Innes 1913: 402)

Innes suggests that whenever we pay, we pay with a promise to pay. The only way to accomplish a "final" payment is to transform the buyer and seller relationship into a debtor and creditor relationship that can then, in turn, be extinguished in clearing operations that imply repaying the debt with a promise to pay issued by the creditor himself. The creditor has made the promise as a buyer or borrower from a third person (Innes 1913: 394). In other words, the picture of the monetary system drawn by Innes is derived from the way in which traders do business using written promises to pay a fixed amount at a

[16] Zelizer (1989, 1997) has shown that money has more meanings than the standard set of instrumental functions listed in traditional theories, depending on social context.

fixed date for a specified commodity. The simplest case suggested by the description given by Innes is circular: A cedes ownership of a good to B, B "pays" with an IOU, A uses B´s IOU to "pay" C, C uses B´s IOU to "pay" the debt he has to B. There are likely to be more agents involved, so that more transactions may be accomplished using B´s IOU. The contracts may be more complicated by obliging third persons to act as intermediaries. But in the end, B will be paid with his own IOU. The IOUs that served as "money" disappear. The system works because:

"Debts and credits are perpetually trying to get in touch with one another, so that they may be written off against each other" (Innes 1913: 402).

This touching inner urge of debts and credits to create harmony through mutual extinction is supported by the banker, whose business it is "to bring them together" (ibid.). If they do not clear, the banker may step in as a second order lender.

While Innes adequately described the procedure among traders using promissory notes, it is quite daring to suggest that all monetary transactions follow these same patterns. The contortions required to pull through such an argument indicate some over-generalization. Operations that have nothing to do with credit have to be read as if they involved credit. Thus with coinage:

"By issuing a coin, the government has incurred a liability towards its possessor just as it would have done had it made a purchase, -- has incurred, that is to say, an obligation to provide credit by taxation or otherwise for the redemption of the coin and thus enable its possessor to get value for his money." (ibid.)

To repeat: "By issuing a coin, the government...has incurred...an obligation to provide credit by taxation..." It takes some strange way of thinking to view taxation as a way for a government to provide credit for the redemption of the very coins issued by that government. If we assume that the government is not only the operator of the mint[17], but also the original owner of the coins that it produces there, the government can use it to make purchases. To do that, it has to find a seller willing to accept the coins. Acceptance will depend on the seller´s expectation that other sellers will also accept it. One may argue at this point, that general acceptability is conditioned (Ingham 2004) or enhanced by

[17] The first building erected by the United States government after the declaration of independence was the mint in Philadelphia.

the government declaring that it will in its turn accept the coin when taxes have to be paid. But it is simply redundant to read credit relations into all this. Taxation is a way of appropriating resources, transferring them from the subjects to the sovereign. Whether that is accomplished by taking the resources in kind, as in pre-monetary economies, or by taking taxes in money form is secondary compared to the fact that taxes are imposed one-sidedly by political fiat. Thus, taxation cannot be reduced to a voluntary exchange. Once taxes are defined in money terms and have to be paid with money, there is a clear connection between the monetary system and taxation (Ingham 2004). Whatever the form and amounts of money objects, a state that does not accept the money objects it issues when they come back as a means of payment of taxes will clearly undermine the very monetary system it intends to control and maintain, apart from issues of legitimacy[18]. But this is a question that is quite independent of whether the money objects used are coins or central bank notes, whether they enter circulation through credit relations or not.

Taxation or not, it is important to distinguish between money and credit instruments. That Innes fails to do so seems to be the result of seeing money in the not entirely disinterested perspective of a banker. He reads the operation of depositing money in a bank as "selling your credit" to that bank. When discussing the adequate response to monetary crisis, he argues for abolishing the law of legal tender. Innes wants everybody to "realize that, once he had become a depositor in a bank, he had sold his credit to that bank and was not entitled to demand payment in coin or government obligation." (Innes 1913: 405) But why should anyone deposit money in a bank if the bank will not guarantee to pay it back on demand? Innes wants his readers to ignore –quite conveniently for the banks-- that the bulk of the operations of a commercial bank consists of profitably transforming the short-term liabilities it has towards its depositors into long-term assets it holds against its borrowers. Such operations evidently involve the risk that too many holders of short-term deposits may demand their money back when the bank has lent the money to somebody else. Innes wants to convince his readers that such demands to get

[18] As von Glahn (2005: 67f.) reports, this happened in China. „In 1394, after the value of the *baochao* had fallen to less than 20 percent of its face value, the Ming took the extraordinary step of banning the use of even its own coin in exchange."

back what you put in, namely money, are illegitimate[19]. If one has to admit that depositing money is the same thing as "selling your credit" to the bank, depositors who have done so have relinquished their right to demand back exactly what they deposited. All they should get is a promise to pay issued by whomever the bank chooses, since what they deposited was not more than a promise to pay in the first place, even if it was a promise given by the state or the central bank. Innes´ world-view here looks decidedly non-chartalist and much more like that of a banker reflecting on the drama of a run on his bank. If the banker could weasel out of the obligation to give depositors back on demand exactly what they gave him, a run would not cause headaches. By contrast, state intervention into the banking business to protect depositors is a cause of crisis for the banker. Even by merely defining what can serve as "legal tender", the state is unnecessarily restricting the responses of banks to depositors´ demands. "No law is required; the whole business regulates itself automatically." (Innes 1913: 406)

For Innes, it follows from the proposition that all money is credit that a "sale... is not the exchange of a commodity for some intermediate commodity called the ´medium of exchange´, but the exchange of a commodity for a credit." Once that much is accepted, to abolish something as archaic as coins appears to be a mere matter of convenience, because there "is absolutely no reason for assuming the existence of so clumsy a device as the medium of exchange when so simple a system" (i.e. buying and selling with promises to pay, HG) "would do all that is required." (Innes 1913: 391) Innes reduces the various ways to accomplish buying and selling to the alternative of either using the "clumsy device" of a commodity serving as the medium of exchange or of using promises to pay in credit operations, only to find credit operations everywhere. Stretching that argument a little further, contemporary neo-chartalists like Ingham suggest that debt-credit-contracts underlie even the most ephemeral everyday cash transactions: "It should be noted that ´spot´ monetary exchanges also involve short-term debt ´contracts´ in which a coin is handed over, for example, to settle a debt incurred in contracting to buy a

[19] The refusal to distinguish between money and credit instruments, discussed below in the case of Schumpeter, may have this practical background.

newspaper.“ (Ingham 2006: 261) With that kind of argument, one can see credit contracts everywhere. Real life is much simpler. As Chuck Berry sang:

„Drop the coin right into the slot,
you´ve got to hear something that´s really hot“.

With most everyday cash payments, there is no need for a contract, especially not a contract as conceptualized in the common law tradition that stresses offer, consideration and acceptance as constitutive elements of a contract. The reason why a contract is unnecessary is that paying with a coin or with a central bank note implies an immediate transfer of purchasing power to the amount stated on the money object, with no further strings attached. There is no need to extend the given spot relation between seller and buyer in the temporal, material or social dimension. In contrast, the way Innes describes buying and selling, the relationship between buyer and seller can*not* end with the transfer of the items exchanged. Rather, it must continue as a creditor-debtor relationship because there is no such thing as a final payment. So he assumes a temporal expansion even when the buyer uses cash in a spot transaction. But there is no such expansion. The origin and the form of the objects used as cash do not matter. What matters is the finality[20] of the transaction. The buyer-seller relationship ends when “money says good-bye” to the buyer.

By contrast, Innes seems to see everyday monetary transactions from the banker´s point of view, thus obscuring rather than explaining the relations between money and credit. In view of such confusions, why is it attractive to refer to authors like Innes in current controversies? Perhaps it is because they Innes can be used to construct a tradition, and not just that, but a tradition claiming historical depth[21] by combining the “all money is credit”-proposition with the “credit is older than money”-proposition.

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[20] „Final payment is made whenever 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). Of course, this leaves open the meaning of „equal value“.

[21] Another example of creating a self-imposed need to rewrite the history of money by advocating the „all money is credit“-proposition is offered by Heinsohn and Steiger **(**2000). They argue that money is a title to property created in a credit contract. The credit is given against collateral, the lender demands some security in case the promise to pay back is not kept. The property offered as collateral can then no longer be fully used, especially, it cannot be sold. Interest is taken to be a compensation for this loss of freedom. „When money –as an anonymized title to property—is created in a credit contract, the interest causing loss is the loss of an immaterial yield which we have called the *property premium* (...). In the money-creating and money-forwarding credit contract, property has to be encumbered. Through this

"What we have to prove is not a strange general agreement to accept gold and silver, but a general sense of the sanctity of an obligation. In other words, the present theory is based on the antiquity of the law of debt" (Innes 1913: 391). [22]

By referring to the "sanctity of an obligation" as their common background, Innes placed monetary relations in the same class as the reciprocal relations of help among kin and neighbors in old forms of community life. Thus, this type of theory overlooks the qualitative differences between monetary and reciprocal relations.

In sum, neither of the two propositions, that monetary relations are a subset of credit relations and that all money is credit, is convincing. With regard to the first proposition, there is no difficulty to admit that borrowing and lending are older and more widespread than the use of money, but these pre-monetary relations have little relevance for understanding money and monetary relations of credit. With regard to the second proposition, it should be modified. Money, in the sense of cash, whether coins or fiat paper, is not necessarily and in general tied into relations of borrowing and lending, quite the contrary. However, there is no question that modern central bank money is credit money (in a sense to be clarified) and that the modern financial system has made it increasingly difficult to distinguish money from credit instruments – except in times of crisis. While the "all money is credit"-proposition is not valid in general, it may hold in a more restricted way for contemporary forms of money.

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collateralization, the freedom of property is temporarily blocked, that is, the property premium is given up**."**(Heinsohn/Steiger 2000: 67) There seems to be a fundamental confusion: B is the banker and A wants a credit from B. A promises to pay back what B lends plus interest. B wants protection against the risk that A will not keep the promise. A offers security in the form of collateral. This means that A not only loses the freedom of disposing over the collateral, but that A also has to pay interest. To connect the two issues in the way of Heinsohn and Steiger is absurd: „The loss which has to be compensated by interest" (ibid.) is the loss of the creditor, i.e. the owner of money. He cannot use his money. The freedom to dispose over the collateral is lost by the debtor, the person who has to *pay* interest on top of paying back the money borrowed.

[22] According to Ingham, the debt relationship moves on from buyer to seller, along with the money: „In the most basic sense, the possessor of money is owed goods...Money cannot be said to exist without the simultaneous existence of a debt that it can discharge."(Ingham 2004: 12) Either this excludes some forms of money from „moneyness" (whatever that is) or one has to overgeneralize and thus water down the notion of „debt" along the lines of Aglietta (1997: 416) who talks of „*une dette réciproque entre chaque individu et la société".* Who *owes* goods to a possessor of money? Nobody. I may be moved to sell you something if you offer enough money. But there simply is no debt-relation involved in normal buying and selling on spot markets. <Macleod 45: "no one can compel another person to sell him anything in exchange for Money or Credit."> That one has to accept a given kind of money as a means of payment if it is legal tender does not force anybody to *sell* goods to a holder of that money.

This seems to be the position of Schumpeter who has greatly influenced this whole debate with the suggestion to stylize it as a controversy between "monetary theories of credit" and "credit theories of money".

### 3.2 Monetary theories of credit *vs*. credit theories of money?

Schumpeter does not argue that all money is credit. He asserts a priority of coins as money historically and he distinguishes such money, including state paper currency, from credit instruments. However, for Schumpeter this distinction does not imply that we have to understand modern money by considering it as a result of the evolution modification and development of older forms, because

„logically, it is by no means clear that the most useful method is to start from the coin—even if, making a concession to realism, we add inconvertible government paper—in order to proceed to the credit transactions of reality. It may be more useful to start from these in the first place, to look upon capitalist finance as a clearing system that cancels claims and debts and carries forward the differences—so that ´money´ payments come in only as a special case without any particularly fundamental importance. In other words: practically and analytically, a credit theory of money is possibly preferable to a monetary theory of credit." (Schumpeter, J.A. 1954: 717)

This is a rather guarded statement, but one referring to a substantial reason for "possibly" preferring the "credit theory of money": The modern capitalist financial system works largely without money in the sense specified. Clearing institutions set off claims against debts. If an imbalance remains, it is carried forward until the next date for clearing. The need for money payments, to balance whatever cannot be cleared, arises only as a special case "*without any particularly fundamental importance*" (ibid., my italics, HG). *Ex negativo*, one can conclude that Schumpeter would *not* prefer a credit theory of money to a monetary theory of credit if money payments *did* have a "particularly fundamental importance".

In an earlier section of his "History of Economic Analysis", Schumpeter proposes a second argument for his theory option, making a much stronger claim. Money, Schumpeter tells us, is the only case in which a

„claim to a thing can, within limits, to be sure, serve the same purpose as the thing itself: you cannot ride a claim to a horse, but you can pay with a claim to money. But this is a strong reason for calling money what purports to be a claim to legal money, provided it does serve as a means of payment."

What are these „limits“ for a claim to money functioning as money that Schumpeter refers to? His criterion for counting something as money despite it not being „legal money“ is that it serves as a means of payment. So are there any differences in the ways in which this function is fulfilled? Apparently not:

„Bank notes and checking deposits eminently do what money does; hence they are money. Thus credit instruments, or some of them, intrude into the monetary system; and, by the same token, money in turn is but a credit instrument, a claim to the only final means of payment, the consumer´s good.“ (Schumpeter, J.A. 1954: 321)

Thus, when credit instruments serve as means of payment, they turn into money “and form part of the supply on the money market” (ibid.). This intrusion affects the nature of money itself: it turns into just another credit instrument. The reason, then, why Schumpeter prefers the credit theory of money is that neither money nor credit instruments are *final* means of payment. Therefore, the historically justified distinction between money and credit instruments no longer matters and can become obsolete. For Schumpeter final payment can apparently only be accomplished by “the consumer´s good”. With this reasoning, Schumpeter relies on an all too familiar romantic reductionism prevailing in mainstream economic theory: What matters in the end even in a monetary economy are “real” consumer goods. Compared to consumer goods, money and credit instruments are one and the same in that they are both can*not* be consumed. Therefore they cannot be final means of payment.
This argument misses the crucial difference between a monetary economy and the neoclassical barter economy (Dillard 1987). It implies the proposition that “money is a veil”, which in turn implies the proposition that “money is neutral”. Enough has been said on this, but let us question Schumpeter´s proposition: Can only consumer goods be final means of payment? If two traders agree on a contract, specifying deferred payment and the means of payment to be used, the buyer (the borrower) can accomplish a final payment. He just has to deliver the agreed upon means of payment in the correct amount at the correct date. If the contract is in terms of money, money will be required -- unless the seller (the lender) agrees to accept some substitute. If Shylock insists on payment with your own flesh, as promised, you have to pay with your own

flesh. *Pacta sunt servanda*. The distinctive property of money –as opposed to credit instruments-- is precisely that it is the means to fulfill contracted obligations between any two agents once and for all. The agent receiving the payment may or may not feel satisfied, may or may not transform the money received into a consumer good. That is of no concern for the payer. “Payment is in some sense final” (Shackle, as quoted in Goodhart 1989: 26).

In view of everyday monetary practices, Schumpeter´s argument that one cannot distinguish money from credit instruments because neither are final means of payment, in contrast to consumer goods, is not only romantic in reducing an economy geared to the acquisition of money to a utility oriented economy, it is simply wrong. Finality of payment has to do with ending a specific social relation, not with the individual deriving ultimate satisfaction from eating porridge. Nonetheless, Schumpeter´s distinction and his preference for the „credit theory of money“ instead of the „monetary theory of credit“ has been widely accepted. It is not possible to pursue this issue further here, but an intriguing irony could be hidden here, if the argument for the “credit theory of money” rests on the presupposition that money is a mere veil which in turn implies the argument that money is neutral.

One can certainly imagine better arguments for a credit theory of money. It neither has to rely on the idea that there is an implicit relation of credit and debt even when we use cash nor on the idea that consumption, “to repeat the obvious” once again, is the sole end of production. The Schumpeterian proposition that monetary relations have turned into a subset of credit relations wrongly presupposes that the lender-borrower setting characteristic of credit relations is inherent in each contemporary monetary transaction. This would imply that the more extensive social, temporal and material expansions of the catallactic atom characteristic of credit relations would be shared by all modern monetary relations. If we think of a typical everyday cash transaction, this does not appear plausible at all, especially with regard to the temporal expansion that the buyer/seller relation undergoes when it turns into a lender/borrower relation: It rains in the big city. Umbrella salesmen appear on all street corners. You buy an umbrella for $10 and walk away, protected from the rain. Neither the umbrella salesman nor you have any reasons to waste a

second thought on a transaction that took about 5 seconds. It is final. There is no deferred payment. The seller has the money. The buyer has the goods.

The only question with regard to credit that an observer may have is: What has been used as money? It may indeed have been credit money (in a sense to be clarified), but that does not change the fact that the simple buyer-seller transaction in which an umbrella and $10 change hands does *not* imply a credit relation. People can use credit money as cash, without entering into a borrower/lender relationship. The time structure of the credit relation is more complex than that of the cash transaction because borrower and lender agree now ($t_0$) that the borrower will pay (back) later ($t_2$), with the borrower engaging in further transactions in the meantime ($t_1$) to acquire the means that will allow her to fulfill the payment promise (at $t_2$).

It follows that a credit theory of money has to focus on the *form* of modern money. And it would be preferable to a monetary theory of credit if indeed the modern credit system has left behind the constraints characteristic of older payment systems.

### 3.3 The structure of credit relations

To see the difference between a monetary and a credit transaction, let us use the former as the reference case. Using money pure and simple, what you can spend depends on what you have (earned). If the potential buyer does not have the money, to pay the price negotiated, the transaction does not take place. In contrast, the credit relation starts from such a constellation. The buyer does not have the money and offers a promise to pay

A *credit relation* is constituted by the acceptance of such a promise to pay. It involves an agreement on the amount of money to be paid at a fixed date in the *future* in exchange for the ownership of a good, the provision of a service, the transfer of an ownership title or a sum of money *now*. We can construct a dialogue to illustrate the type of difficulties involved in accepting a promise to pay.

Buyer: I want what you have and I am willing to pay xM. But right now, I do not have xM. Will you accept a promise to pay $x^+M$ at time $t_2$ instead of spot payment xM now, at $t_0$?
Seller: How good is your promise?
Buyer: You know me. I have always kept my promises. I have a solid reputation in our community...

Alternative:
Buyer: You don´t know me, but I can give you references...
Seller: What about collateral, or a pledge in case of your failure to fulfill the promise to pay?
Buyer: OK. Let us write a contract. In case of my failure to pay at $t_2$, you will gain possession of my asset $a_b$, worth $x^+M$.
Alternatively:
Seller: What about a guarantee by a third person?
Buyer: There will be a payment to me of $x^+M$ by C, due at $t_1$. C has a good reputation, you know C. Here is his written IOU as proof how much and when he has to pay.
Seller: Why don´t you give me C´s promise to pay as a collateral?
Buyer: OK, but if I do, why should I still be involved? You can get the money I owe you directly from C.
Seller: OK, but if there are any problems with C, I will get back to you. Please sign C´s IOU here to indicate that you will still have to pay me in case C fails to pay.

Note that the dialogue starts from a general problem and ends with suggestions of various specific solutions. These solutions in turn offer starting points for more complex transactions emerging as iterations and generalizations of specific action patterns.

Remember Innes: If the buyer in turn uses C´s IOU to pay the next seller, and so on, a whole network can be built. But it requires sufficient knowledge among the agents involved, namely, that they all know about C´s solid reputation or sufficient collateral. Also, the in-between buyers will remain debtors as long as C has not paid.

One crucial difference between the monetary and the credit transaction consists of the additional uncertainty involved in the latter. It results from the nature of a promise: It is a commitment to do something in the future. The future is unwritten, so nobody can know for sure whether the commitment will in fact be honored when it is due. However, there are various factors influencing the acceptability of the promise. They may help to transform the uncertainty into calculable risks. The probability of promises being fulfilled can be modified: Failure to keep the promise can lead to appropriation of a collateral, or to claiming the pledge given by a third person, or to legal sanctions, or to losses of reputation that damage the ability to obtain credit in the future, etc. The gains to be made by accepting the promise will be compared to the potential losses. Both gains and losses can be modified by additional factors brought into the transaction.

In contrast to the cash nexus among buyers and sellers who do not have to trust each other but rather have to trust the money being used, the characteristic sociological aspect of credit is that players revert to personal relations in which trust and reputation play a major role despite the basic instrumental attitude prevailing among agents.[23]

As we have considered them so far, credit networks are "know-who" networks (Shubik 2001: 5). In such a "know-who" network, promises to pay can serve as means of payment, as illustrated above with the example of promissory notes circulating among traders. If the debtor has a good reputation, his promise to pay will be acceptable within a given "know-who" network. It can therefore be used as a means of payment (with the proviso that the failure to keep the promise by the original debtor will reinstall as debtors the intermediate buyers who used it as a means of payment).

This reliance on knowledge of the personal characteristics of the traders sets clear limits for the extension of this type of credit network. As long as means of communication are primitive, these limits will also be spatial. Nonetheless, a "know-who" network may overcome long distances[24] in both space and time if its links are repeatedly used and thus tested and reliable. They involve "relational" contracting[25]. However, a perennial question emerges in such credit networks: How can the limits set by the requirements of personal "know-who" be extended?

There seem to be two major ways:

*First*, a network can link persons who do not know each other and can thus be more extensive than the „know-who" network if membership in the network is subject to strict, broadly known but locally applied criteria, so that members will trust each other without further knowledge of the other person. The trust is based on the knowledge that the others have passed through the same sort of social "filter" in order to gain membership in the network. Max Weber gave a classic description of such a mechanism when he tried to identify the reasons

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[23] "The competitive market functions best under mass anonymous transactions (...), yet the credit markets function best with the availability of an analyzed dossier on each individual." (Shubik 2001: 5)

[24] Because of the risks of theft and loss when transporting currency over long distances, the advantages of using promissory notes that can be cleared against each other seem to have impressed long distance traders first.

[25] Relational contracts are agreements sustained by the expected benefits of continuous relationships.

for the economic success of members of protestant sects in the USA in the 19th century.

“When a sect member moved to a different place, or if he was a traveling salesman, he carried the certificate of his congregation with him; and thereby he found not only easy contact with sect members but, above all, he found credit everywhere.”

The *second* way of extending credit networks is through mediation by third persons or organizations. Deferred payment with bills of exchange can illustrate the mechanism. A bill of exchange is an order written by the buyer to a third person or organization to pay a specified sum of money at a specified future date to the bearer of the bill. At first sight, it seems unlikely that such mediation can increase the acceptance of a promise to pay. How can the seller, the person to be paid, expect the order to be effective? From the seller´s point of view, instead of reducing uncertainty about the fulfillment of the buyer´s promise to pay, the insertion of a third agent into the buyer/seller interaction could increase uncertainty, simply because the seller now has to deal with two other players instead of one. He needs more information (cf. Goodhart 1989: 40f.) and in terms of trust has to make two selections instead of one. The transfer of the obligation to pay from the buyer to an agent of the buyer can only decrease uncertainty if –compared to the buyer-- the agent is better known, has a more solid reputation, so that there are less doubts about his ability and readiness to pay. An additional factor may be that a seller would rather accept a promise to pay instead of a real payment because he may fear the potential loss of the money objects, for example, during long and risky voyages. In terms of contemporary credit systems, one can add: if the third agent *guarantees* payment regardless of what the buyer does –as credit card issuers do--, the respective relations of buyer and seller to credit card issuer simply replace the relation of seller to buyer.

An additional way of overcoming the limitations of credit relations imposed by the requirement of personal mutual knowledge is tied to the secondary use of a bill of exchange as a means of payment. The original seller, as the person to be paid, can quickly turn into a buyer by using the bill as proof of an incoming payment, demonstrating credit-worthiness. The next seller will accept the bill as a –provisional-- means of payment if she expects to be able to use it in

the same way as a buyer. The use of the bill thus accelerates transactions: Nobody has to wait for “real” money to come in. The written promise to pay, the indicator of an expected payment, demonstrates credit-worthiness, backing up a second, third, fourth... transaction in which the promise to pay is sufficient to accomplish the transfer of commodities that can be used now (for whatever purposes) and paid for later. In a trading network in which agents habitually use such bills, a given promise by A may be obtained from B and used by C to fulfill an obligation to pay A –as described by Innes above. If, in a given time frame, each buyer/borrower is also a seller/lender, the bills can be collected and cleared against each other by special agents (who are paid for their services by the users of bills—how?). If an agent has more outgoing than incoming promises in a given period, the deficit has to be dealt with in some way (Cartelier 1996). Again, this may be done with a promise to pay, but it will be more difficult to establish the credibility of such a second promise that is supposed to take the place of unfulfilled first promises. Collateral or pledges by third agents may be demanded, etc. Insofar as such debts are carried forward, as Schumpeter and Innes would agree, there is no special role played by money (in the sense of cash, of legal tender) in such a credit network. Just like gold reserves in 19$^{th}$ century international trade had to be used only occasionally in international trade to even out imbalances, money would be used occasionally in case clearing was impossible and the imbalance could not be carried forward. Does that mean, “that ´money´ payments come in only as a special case without any particularly fundamental importance“ (Schumpeter 1954: 717)? In the normal run of things, yes. In a monetary crisis or a credit crunch, no. When anticipations of incoming payments in the form of promises go wrong for a critical number of traders, the credit network breaks down and only money payments count. Prices of assets may deteriorate rapidly, so their role as collateral is undermined. When everybody wants or needs cash, there simply is not enough around to fill the gaps left by unfulfilled promises. The need to pay forces agents to attempt to acquire cash through “fire sales”, but as almost everybody needs cash and those who have it want to keep it, hardly anybody wants to buy, markets stall, pricing becomes impossible for many assets. Bankruptcies abound. Strangely, in terms of the theory that money is a symbol, it turns out in the crisis that only the symbol counts,

whereas what the symbol is supposed to ”stand for”, namely, assets, commodities, “real” values, all have to be sacrificed to acquire the symbol that counts alone as the effective means of payment.

Again, the sociologically interesting aspect is how the lender´s person-specific trust in the borrower´s willingness and ability to (re-)pay is extended, not least through the use of written documents, to become “trust” in more or less known third agents and, finally, trust in the “system”. The result is a network of credit relations that connects many agents who actually do *not* know each other sufficiently well to trust each other. But as long as such business on credit is pulled through smoothly, it would look foolish to insist on tighter conditions for granting a credit. One would voluntarily exclude oneself when everybody is making money.

In basic credit transactions, the lender has to assess the risks/uncertainty involved in accepting a promise to pay. Normally, this is a relevant obstacle against the over-extension of credit. But this obstacle is circumvented if agents can shift risks onto others at no cost. Such third parties will take on these risks on the assumption, however, that the originator of a loan has performed a proper risk assessment. But the originator may not have assessed risk properly precisely because he can shift it. The buyer of a share in a fund composed of such loans will therefore be exposed to more risk than he opted for. The ability to repackage and “sell” the originator´s reliance on promises to pay by others as an ownership paper therefore introduces grave moral hazard into the credit system.

### 3.4 Credit money

How do credit operations result in credit money? There seem to be three principal ways.

*First*, think of early banks. Bankers were coin experts, determining the value of all sorts of coins of different origins relative to a standard unit and changing foreign coins into the local ones and vice versa. At the same time, they offered the service of safeguarding your coins, so one could deposit money objects with them and use them only when needed. From there, it is easy to imagine the steps in an evolution at the end of which a certificate of deposit by the banker or a letter advising the banker to pay from the deposit to the bearer

of the letter could be used as means of payment. The “real” money remained in the coffers of the banker but changed ownership as documented by written statements. It is also easy to imagine that the banker would expand his role in two ways, first, by turning into a money lender, for example, when a depositor needed a sum larger than the one deposited; second by learning that, on average, the sum of the requests for paying out some of the money deposited remained well below the total deposited. So with a low risk that he would be unable to honor the promise of paying out deposits on demand, the banker, charging interest, could lend out a large share of the money that others deposited with him. This possibility increased with the share of monetary transactions that were accomplished without agents having to resort to cash payments themselves. In the end a multiple of the “real” money deposited could be used in the form of accounts managed by the banker, where buyer A would write a check, a letter advising the banker to pay xM to B, the bearer of the letter, and the banker would simply transfer the respective amount from account A to account B. No cash would be used, so for all practical purposes, it does not need to exist.

Does credit “creation” amount to creating money?

This experience encouraged bankers to open accounts on credit: Agent E comes to the bank, has no money but has a great business plan. E convinces the banker. The banker “lends” money to E by opening an account for E, with some maximum amount of money at the disposal of E. The banker thus places a bet on the ability of E to make enough money not only to repay the amount borrowed but also an additional amount charged as interest. Is the banker “creating” money out of nothing? That depends, but much of the emphasis (Riese 1995) on “*creatio ex nihilo*” looks misplaced. In the banker´s accounts, the money lent to E is booked as an asset (payment outstanding, to be received), with a corresponding liability (obligation to pay, to honor the checks written by E).[26] For sure, the holder of the new account can pay somebody else by writing checks without ever having deposited money. But

[26] „Lending creates equal amounts of positive (asset) and negative (liability) money. When economic textbooks describe how ´banks create money´ or ´debt creates money´, they do not count the negative liabilities as money, and thus their money is not conserved. In our operational definition of money, we include all financial instruments with fixed denomination, such as currency IOUs and bonds, but not material wealth or stocks, and we count both assets and liabilities. With this definition, money is conserved... (Dragulescu/Yakovenko 2000: 4).

the banker has to take care that his total liabilities and assets remain in some sustainable relation to the bank´s capital. If E has spent but cannot repay, the banker has to write off his assets and adjust his liabilities accordingly.

Of course, the banker expects the borrower to use the money so that eventual repayment will be possible. But the banker has limited control over how E spends the money. The credit could have been extended in an optimistic mood, with the banker supporting a speculative business venture in a boom.

The rather harmless practice of lending out other people´s money can turn into a highly risky activity in this way, lured by the gain of extra interest income. The problem for banks that arose from time to time and is still with us today, usually with some drama, is the relapse into the use of “real” money triggered by some event causing a chain reaction in failed payments. Bad rumors could be enough to set off a run on a bank and the prophecy that it was unable to pay would turn out to be self-fulfilling.

Second, discounting bills of exchange is a further distinct source of credit money. Traders using bills of exchange as means of payment frequently run into the problem that a bill may not be accepted beyond a given know-who network. So instead of waiting for the desired transaction until they receive generally acceptable means of payment or exchange through sales etc., they use a bank to transform the bill of exchange into a more readily acceptable credit instrument. Banks offer –against a fee, for sure – to transform bills of exchange with limited acceptability into their bank notes with a wider acceptability. In the underlying credit operation – the bank is the lender, the trader is the borrower, the bill of exchange functions as a kind of collateral – the interest has the form of a discount. What the banker pays for a bill of exchange is less than the full sum stated on the bill of exchange. How much less depends on the time until payment is due and on the going rate of interest. The banker assumes the risk of not receiving payment as promised on the bill of exchange. The trader can use the bank note, as far as it goes, to buy in the know-who network now extended through the bank. The bank itself may iterate the same operation with a more widely known bank, for example, a regional bank may re-discount with a nationally operating bank. The evolution of such a system tends to generate a central bank, with the state adding the legal tender property to central bank notes. But whether a banknote is issued by

the central bank or by a bank in the lower ranks of the banking hierarchy does not change the operation: The banknote as a promise to pay replaces the bill of exchange as a promise to pay. In the end, promises to pay serve as means of payment. But the central bank´s position is special, at least within a national context. A more credit-worthy agent/organization does not exist, so its notes can serve as a final means of payment, even when convertibility (into silver or gold, according to the legal definition of the monetary unit) is suspended.

*Third* : When states moved from minting coins to simply printing paper money, no credit relation was involved.[27] However, modern states use the central bank in a dual position. On the one hand, it functions as the bank of banks (the lender of last resort) in the context of a banking system operating with the currency of the nation-state; on the other hand it is the banker of the nation state. Instead of simply printing money, states borrow money from the central bank which, in turn, sells state debt certificates. On these, states pay interest. The debts are periodically paid back, but mostly by refinancing, by incurring new debts. The whole operation relies on the promise of future tax revenues.

In this way, modern central bank money has to be seen not only “as a creature of the state” (Lerner 1947), but also as credit money. Credit relations are its origin, but this does *not* mean that all the transactions in which such money is used are automatically credit transactions. Central bank money is used to make final payments.

### 3.5 Credit, money, and uncertainty

As credit is a way to soften budget constraints, part of the disciplinary force of the monetary system is lost. Whoever receives a loan can buy or has bought without having first sold. On the one hand, the ability to pay with a promise to pay increases current certainty—in terms of the availability of commodities or money *now*. On the other hand, contingencies for tomorrow increase. Promises can never be as certain as cash or a commodity in hand.

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[27] „First of all custom turns a certain, relatively worthless object, a piece of leather, a scrap of paper, etc., into a token of the material of which money consists, but it can maintain this position only if *its function as a symbol is guaranteed by the general intention of commodity owners*, in other words, if it acquires a legal conventional existence and hence a legal rate of exchange. Paper money issued by the state and given a legal rate is an advanced form of the token of value, and the only kind of paper money which directly arises from metallic currency or from simple commodity circulation itself." (Marx 1970:116)

Wicksell (1906: 24) states two conditions under which a promise to pay is just as good as a medium of exchange. 1) It must be “properly secured”. 2) It must be “redeemable at will”. It is not difficult to understand the meaning of “properly secured”: The promise must be backed by a recognizable ability to pay, be that in the form of expected income, collateral or pledges by third parties. But what is the meaning of “redeemable at will”? It amounts to a guarantee of instant liquidity for the lender who has accepted the promise to pay. However, if instant liquidity were available, why settle for a promise to pay in the first place? “Redeemability at will” must be a fiction. Of course, one can understand how it was concocted by remembering the guarantee of redeemability as stated on older bank notes. The promise was that the presenter of the note would receive a specified amount of precious metal. But whenever the promise was seriously tested by too many holders of notes, it turned out to be empty precisely because it is the business of banks to transform deposits into loans, short-term liabilities into long-term assets. The working assumption is that increased uncertainty is balanced by increased rewards in the form of returns for transactions based on credit. However, this assumption may turn out to be wrong.

The basic borrower-lender relationship is iterated to form chains and networks of borrowers who receive loans because they are expecting payments and can show (written) promises to pay to prove this. The borrower-lender relationship constituted by a transfer of the power to purchase is not only iterated, but also reversed. Short sellers find buyers to whom they can sell without owning the object sold. In terms of uncertainty, this means that credit partly destroys the uncertainty absorption function of money. Going through the ways in which money absorbs uncertainty and reconsidering them as credit is used, we can see that the whole system becomes even more ambiguous in terms of a balance between the creation and the absorption of uncertainty.

There is no change in (1) the function of money to create a uniform expectational horizon: Whether they use credit or not, agents interacting in a monetary economy maximize their disposition over money and they expect each other to do just that. But the function of money (2) to establish a social hierarchy according to money holdings is certainly perturbed: credit allows agents to make others belief that they are wealthier than they actually are. So, as in the

fairy tale about the emperor´s new cloth, a world of make-belief may be established—until a child calls out that the emperor is naked. With regard to (3) the function of money as a "security blanket", the ambivalence introduced by credit is especially drastic. Access to credit can be a substitute for access to cash for the borrower in need of liquidity, but what the borrower may gain, the lender may lose. The lender who suddenly calls in loans may be in for a bad experience. Access to credit may seduce agents to engage in speculative transactions. The built-up of positive feedback loops leads to bubbles. When bubbles burst, only cash counts. This is a return to the original role of cash in the absorption of uncertainty. Mere promises to pay are no longer acceptable. The function of money (4) to create pressure towards the uniformity of price and a consistent system of prices may be enhanced by credit, as the example of arbitrage financed by credit illustrates. But, at the same time, speculative built-ups of bubbles certainly distort prices, destroying their signaling function. With regard to (5) the dual function of money to depersonalize and dehistorize social relations, credit introduces a reversal. In a credit system, the lender wants the credit history of any potential borrower. In a cash economy, there is no role for credit rating. As to the (6) function of money to enhance formal rationality, a generalized calculating attitude and the ensuing discipline in self-governed or imposed activities such as work, the first effect of credit, the softening of budget constraints, appears to undermine that function. However, there is a secondary effect that at least partly compensates for the softening of budget constraints. Once in debt, agents are under much more pressure to increase the (formal) rationality of their actions and perform in disciplined ways. One could argue, additionally, that a credit system induces people to think more and more in terms of risks and probabilities and to apply this kind of thinking to all areas of life. Finally (7), the function of money to allow its users to redefine conflicts and problems as issues of demanding money, thereby reducing complexity and thus uncertainty, seems to be unaffected by the use of credit.

Many of the transactions characteristic of the contemporary credit system can be seen as attempts to transform/redefine uncertainty into calculable risks. Derivatives and their use have been praised as ways to exclude or minimize risks in the normal operation of business. However, in all these operations the

aggregate outcome cannot be the elimination of uncertainty. Rather, agents may succeed in transferring parts of the risks they are taking to others, because there is a mutually complementary interest in doing so. Think of hedging in futures markets as the simplest, original case. As the recent and previous financial crises have demonstrated these attempts to push back uncertainty have actually led to higher levels of risk-taking. If all agents think that they have shifted some of their risks to others, they feel free to undergo further risks. Thus, hedging may generate ubiquitous moral hazard that, in turn, works in a positive feedback manner and destroys the very possibilities of calculating these risks. The financial crisis is a drastic reminder that uncertainty cannot be eliminated in a system that operates on the fragile grounds of contingent actions.

The major effect of a credit crisis ironically turns out to be that everybody falls back on the one social tool that promises more certainty: Money. “All you need is cash” was the title caption of the Economist in November 2008. Thus, while the monetary system may become invisible or a minor sideshow when the “great wheel of commerce” is turned by easy credit, the self-induced crisis of the credit system demonstrates that it is in effect relying on the monetary system when the pyramids built out of promises to pay crumble.

## Conclusion

*Not all money is credit*. A modern theory of money must nonetheless be a credit theory of money, but in a different sense than that suggested by Schumpeter. All modern money is credit money insofar as the state issuing it is obliged (for reasons of bookkeeping?) to follow a procedure that lets the central bank take on the role of lender while the state mimics a borrower. As a result, the central bank holds payment obligations by the state as assets. The central bank notes “created” in this way then serve the state as (functional equivalents of) cash: Payments made with these notes are final. In this way, the credit operations underlying the “creation” of modern money loses its significance. What money users use as cash counts as cash. The use of cash amounts to creating loose networks in which each buyer/seller relation may be transient and impersonal. In these pair-wise transactions only the validity of the money objects and the quality of the goods and services count, not the other person/agent.[28] By contrast, credit relations, as relations between borrowers and lenders defining the time and size of payment obligations, persist as long as the payment obligation is not fulfilled. They are entered only if the lender believes that the borrower can service and repay the debt. This re-

[28] As most large transactions are performed using credit, the cash economy will normally play only a minor part in contemporary economies.

quires information about the creditworthiness of the borrower composed of knowledge about past performance, assets serving as collateral, belief in future payment capability. Thus, what Keynes said about money in general, namely, that it "is, above all, a subtle device for linking the present to the future", should be specified. Whereas the link between the present and the future in the use of money as cash only exists in the belief of the seller that the money object accepted in a sale will be accepted by unknown others in the future, the link between the present and the future in a credit relation exists as an ongoing relationship between lender and borrower, based on the belief that the borrower will be able to pay in the future.

This difference between monetary and credit relations may appear to be rather trivial. But it involves very different types of social relations with very different ways of coping with uncertainty and therefore, very different potentials of going wrong. This suggests that even those economists who do not share the mainstream custom of abstracting from money may occasionally need a little help from sociologists who insist on observing the nature of the social relations underlying economic activities.

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