



XI Congreso Internacional de la AEHE
4 y 5 de Septiembre 2014
Colegio Universitario de Estudios Financieros (CUNEF)
Madrid

Sesión X: Dinero, finanzas y ciclos económicos en la historia del pensamiento económico

Título de la comunicación: A conceptual model of money, credit and currency from the basics of monetary theory in the Austrian School of Economics

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**A conceptual model of money, credit and currency from the basics of monetary theory
in the Austrian School of Economics**

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Abstract: This paper introduces a conceptual model in order to address the problem of the analysis of monetary institutions as “*complex phenomena*”. In this regard, we propose the deconstruction of monetary theory as it has been prevailing presented in most universities - nowadays- through a more qualitative and argumentative than only quantitative approach. That is to say, we support analysis that uses the most basic elements that are currently a great part of modern monetary systems. This model aims to introduce: a. A critical analysis of the evolutionary institutions related to the monetary system; and b. A basic guide to understanding the difficult economic and monetary environment in which the real world is immersed. Consequently, this paper brings large number of topics in to a more coherent research agenda: it departs examining the origin of money, its definition and additional functions. Then engages with the concept of credit, the interaction between credit and exchange (merging a complementary study of interest, risk and expectations). Finally a discussion of a non-standard definition and the notions of currency-money and currency-credit are bring to the light.

Keywords: *monetary institutions, money, price of money, direct and indirect exchanges, credit, deferred exchanges, risk and expectations, currency money-and currency- credit.*

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I. Introduction

In modern life there are a lot of institutions (social, legal and political rules), which in one way or another govern and define our behaviour according to the environment in which we exist (Messeguer Martinez, 2006). Most of these institutions or rules are not explicitly understood but it is not necessary to understand them, as long as they are respected and followed. So for example one may feel encouraged to break the law through stealing, but it is clear that they will cause a distorting element in the social process; he who transgresses the law does not have to understand the social consequences of their behaviour, but these same institutions are responsible for stopping behaviours that distort the social process, at least to the extent that they can eliminate external interference (Huerta de Soto, 1992, pg. 126-131).

Money, or more generally currency, is one of the most important (economic) institutions to which we previously referred; it may also be by far the most misunderstood of all (Keckeissen, 1976, pg.). This institution, like the rest, has certain mechanisms that curb distorting behaviour, but the misunderstanding and growing distortions created around it over the last few centuries has made imbalances that will turn into recurring cycles of boom and bust, to the amazement of most economists and specialists who still wonder what are the causes of these phenomena (O'Driscoll, 1977, pg. 135).

Given this misunderstanding from very diverse sectors, money or currency has long been and continues to be attacked as the cause of all the ills of society. These critics, of course, rarely explore the issue in depth, neither paying attention to the details nor subjecting them to a thorough analysis (Mises, 1912, p.67-68). If you attack money without considering its importance as an institution, you should at least provide an alternative to it, and answer the question: how should we distribute produced goods? Moreover, what if we change the distribution of goods? Will it change production too dramatically? As has been established, production and distribution are closely linked and it is not possible to transform one without dramatically modifying the other (O'Driscoll et al, 2009, pg. 234). If we disregard money or any other generally accepted means of exchange, it is likely that we will regress several thousands of years, as far as division of labour is concerned, with the majority of human beings producing solely for their own personal or family consumption, or in the best case for a very small community (Huerta de Soto, 2012).

Nevertheless, many questions are asked concerning the very definitions of money, credit or currency – what they are or are not. The current state of economic science and in particular monetary theories shed little light on the matter. Moreover, most of them do not distinguish

between credit and money, or create sterile monetary aggregates, which merge and distort the two (Baggus, 2011). The mistakes they make all relate to this incorrect starting point, and therefore, their conclusions are far removed from what actually happens in the real world. Consequently, the aim of this paper is to introduce an alternative conceptual model in order to address the problem posed by the analysis of monetary institutions. This model proposes to introduce an evolutionary analysis of the institutions related to monetary system as a basic guide for understanding the complex economic and monetary environment we find in the real world.

As this paper attempts to bring together a large body of research topics in to a more coherent research agenda, it has been organized into three main sections. The first section examines the origin of money, its definition and additional functions. In addition, other important subjects such the price of money, direct and indirect exchanges and the trend towards the unification of different kinds of money are explored. The second section engages with the concept of credit, its main characteristics, the interaction between credit and exchange, deferred exchanges and its trends, interest, risk and expectations. The third section discusses the theory of currency, a non-standard definition and the notions of currency-money and currency-credit. Finally, a set of conclusions is submitted.

II. Money

II.1 Origin of Money

Before discussing the origin of the money we will start with a brief digression on the reasons why human beings exchange goods and services. The reason for this lies in the increased productivity gained, being in equal conditions, specialization allows even small communities to significantly increase their total amount of production (Mises, 1949, 180-190), which is why people stop producing for home consumption and start producing for their neighbours, that is to say the market, although this is of considerably smaller dimensions than, say, a village. Therefore, it should be noted firstly that exchange and the need to share always precedes the concept of money (Menger, 1871, pg. 319-345). This need to share is derived simply from the increased productivity achieved from specialization can deal with a widening range of human needs (Jones, 1976, pg.758-775).

The earliest forms of exchange were between very small population centres. In this era, direct exchange or barter worked well, but as both the division of labour and the division of knowledge spread (Huerta de Soto, 1992, pg. 80-82), and with the extension of trade, barter

became inadequate, mainly due to the problem of a double coincidence of needs. In any given time and place, there must be two people with different subjective valuation concerning the goods they possess, i.e. one person must have something that a second person wants, and in turn, the first must desire something from the second, in order for the opportunity of a mutually beneficial exchange to emerge, and this must occur at the same time and place. It is feasible to think that this may occur in the early stages of division of labour; however, according to the needs of expanding trade, barter presents unassailable difficulties (Mises, 1949, pg. 233-234).

To overcome the obvious difficulties of barter, individuals are gradually realizing that there are certain goods that satisfy the needs of many individuals, and therefore they have a greater sales capacity. Thus, certain goods arise in an evolutionary way that are not acquired to satisfy a need directly, but as an intermediate step, before being sold for goods that actually meet the needs of the different economic agents. This is where the monetary demand of this good arises, separated from its application as a good. That is, people begin to demand the goods mentioned, which have an increased sales capacity thanks to their greater marketability or monetary qualities, but not thanks to their ability to satisfy needs. This does not mean that they do not continue to have strong demand as non-monetary goods; it is precisely this demand that makes these goods become money (Mises, 1912, pg. 32-34).

In short, money is born as a response to the growing need of human beings to exchange goods and services and to meet their needs more diligently, together with the impossibility of barter to address this need.

II.2 Definition of Money

Thus, we have made a short review of the way in which money arises, so we are now able to define the concept of money:

In this paper, we understand the institution "money" as any present economic good that performs the function of being the generally accepted mean of exchange for economic agents in a civil society. Let's review the different concepts included in the definition of money;

- First, money is understood as an economic good, i.e. a good that is considered valuable by humans; it is scarce and therefore can't meet all the needs subjectively felt by individuals.

- It is a present economic good, i.e., through the use of money; human beings exchange some present economic goods for others. This is of vital importance, since we see that the right to receive a future economic good, i.e. for credit, may substitute the role of a generally accepted means of payment.
- The generally accepted means of payment (whose main function, as we have seen in the previous section, is meeting the needs of trade) is the good against which other goods can be exchanged more easily. As long as the most commercial good is spreading throughout society, it will gradually become money as long as it is accepted by the population.

We can conclude that the main function of money is to provide liquidity to the person that demands it. However, we see liquidity from two points of view. Firstly, as a need subjectively felt by economic agents, is then "the need to dispose of a highly commercial economic good to get efficient interpersonal exchanges" (Bondone, 2012, pg. 21). Secondly, we can also define liquidity from the point of view of an essential characteristic of an economic good. This essential characteristic is capable of satisfying the latest needs of many people (Rallo and Rodríguez Braun, 2011, pg. 87). Therefore, in either definition, the subjective valuation of goods is crucial to cataloguing their liquidity, and thus, their suitability as a generally accepted means of payment, so that the objective characteristics of the goods confer greater or lesser liquidity in conjunction with the valuation of the subjects that use them. In this way, we see money as the most liquid present good of the economy.

II.3 Additional Functions of Money

Although we have outlined that the main purpose of money is to act as a generally accepted mean of exchange, an evolutionary analysis of the institution of money and economic theory shows that even though it is the main function of money, it is not the only one by far. We classify at least two additional functions of money; it serves as a unit of account and as a deposit value:

- Its use as a unit of account is derived from its use as a general means of exchange; that is, as soon as the members of a community start using a good as money, it will be present in almost all transactions (including credit as discussed below). As such, it is inevitable that other goods will gradually come to be valued according to the one that

serves as money, so agents conduct their economic calculations in monetary units or in a more extended unit of the good that is used as money.

- Its use as a deposit value is also derived from its use as a general means of exchange. Goods that are used as a means of exchange, it should be an economic asset not only at the time of purchase, but also for some time after, long enough at least to provide the user of that money time to sell it. Put another way, the money must retain its economic good characteristic long enough for it to be accepted by another economic agent without loss of value, and the least deterioration there is, the more likely it is that others accept this good without any loss in value. In other words, in order to fulfil its function efficiently, money must be the most durable goods possible, and the higher the durability, the greater its ability to be accepted as the ultimate means of exchange in society. Thus, money has gone from being goods like cocoa or cattle with poor durability, and thus, fulfil the functions of money inefficiently, to being precious metals which have a much higher durability; in the end, gold was adopted because of its ability to stand the test of time.

II.4 The Price of Money

Much has been written in the history of monetary theories about the price of money. A mistaken, but widespread about interest is that the interest rate is the price of money (Mankiw, 1997, pg. 458). This deviation of monetary theory is the result of failing to distinguish between money and credit, and treating them as though they were identical entities. It is reasoned as follows: if the interest rate (the alleged price of money) decreases, the supply of money through banks increases. The error is in not considering that it is not expanding the supply of money, but the supply of credit, so consequently, the interest rate is not the price of money, but rather the price of credit, or the price of economic time (Bondone, 2012, pg. 19).

The price of money is merely the exchange rate between goods, with one good expressed in terms of another. So for example if in the market ten ounces of gold can be exchanged for a vehicle, we would say that the price of the monetary unit "ounce of gold " was 1/10 vehicle, or if we could exchange one ounce of silver for 25 loaves of bread, the price of the monetary unit "ounce of silver" would be 25 loaves of bread. So, assuming we use money, when buying goods all we really do is offer or sell money and when selling goods what we really do is demand money. The price of money is just a relative price within the economy; what

distinguishes it from other prices is simply that it is present in the vast majority of exchanges that occur.

The price of money depends on, as in the case for any other good, supply and demand. Its demand is determined by its demand as a good, combined with the demand of individuals that wish to amass money. The supply consists of the total stock of the goods used as money; in the case of gold, the total gold stock would be the total supply of money (Cannan, 453-461, 1921).

II.5 Direct and Indirect Exchanges

Many economists have thought that the main effect of money is to separate the act of purchasing from the act of selling (Stuart Mill, 1844, pg. 94-95), and therefore the nature of money is such that it is necessary to study it as if it were a separate entity. However, in light of what we have seen so far we know that this is not true. Money is already in itself an economic good that satisfies the latest needs of many people, so its exchange with any other good is an act of sale. A person selling a commodity, and therefore buying money, satisfies the need for cash, while the person who buys a commodity and sells their cash gives up money in order to enjoy the services provided by the newly purchased good; this is an act of sale just like any other: present goods are delivered in exchange for present goods, and certainly, the subjective estimates of both participants the goods that they deliver and receive will differ (the seller of goods prefers the money and the seller of money prefers the goods).

At this point it should be clarified as to what direct and indirect exchanges refer to. Usually, we refer to exchanges in which money is used as indirect exchanges (purchasing intermediate goods to reach the desired end), as opposed to direct trade or barter, of which we spoke earlier. However, if we consider that the exchange itself is a necessity subjectively felt by individuals and that money (or currency as discussed further) satisfies that need, it follows that any exchange is, by definition, direct. This also goes against Von Mises (1912, pg.53-60) and other Austrian and "mainstream" economists that separated money from other goods and placed it in a different economic category. Holding and sharing the same thesis proposed by Carl Menger, with goods of first order (consumption goods), and goods of a higher order (capital goods) (Menger, 1871, pg. 108-111), money in its monetary function is always a capital asset. From the individual point of view it provides a service of liquidity; individuals can access any good and service at no extra cost (Rallo and Rodríguez Braun, 2011, pg.96), while from a social perspective it provides the service of being a means of exchange.

Moreover, accepting as valid the argument that indirect exchange is one in which an intermediate good is used before reaching the final desired good, a barter economy would almost certainly require many more indirect exchanges to reach the desired good than in an economy where there is already a generally accepted medium of exchange. In a developed economy where there is already a generally accepted means of exchange, only one intermediate step is only necessary to get to the good wanted by the economic agent, i.e. the economic agent sells their goods in exchange for money and then offers money for the desired goods. Therefore, only two operations are performed. In an economy without a generally accepted means of exchange it is highly unlikely for a double coincidence of needs to occur. So for the economic subject to finally reach their desired good, it is likely that they will have to perform several actions in which they exchange goods for others with more marketability, until finally they can get the one they desire. From this point of view, the economy with less indirect exchanges would be using the generally accepted means of exchange, while the most indirect would be the one that uses barter (Anderson, 1917, pg.433-434).

II.6 Trend to the unification of different kinds of money

When money acts as currency is easy to see how the trend in the market is to unify the various moneys into one. From an anthropological point of view this is absolutely true, due to different currency used at different times and by different cultures that were gradually converging towards precious metals, specifically towards silver and finally to gold (Menger, 1871, pg. 319). The reasons for unification are practical: having two or more units of account is highly inefficient and hinders economic calculation, and also has the disadvantage of multiplying the number of exchanges depending on whether you want to obtain liquidity or otherwise retain the value.

This does not mean that there can't be different moneys or currencies each with a different monetary function. For example, cattle have come to be used as a generally accepted means of exchange and salt as a store of value. Currently, paper money, monopolized by the state, is used as a means of exchange and gold and other assets are used as a store of value.

III. Credit Present and exchange

III.1 Deferred Exchanges

There are two ways to make an exchange; one is exchanging present goods for present goods, either by barter, or by money (remembering that we have defined money as the present good that it is generally accepted as a medium of exchange). In this case there is an immediate exchange of goods between the two people involved in the exchange, so everything is settled at the time of the exchange. It is not necessary that the two economic agents know each other or have established contact before. As mentioned previously when discussing trade, it is only necessary that the subjects have different subjective valuations of the goods they own, i.e. that everyone values more what they receive than what they give up, regardless of whether or not one of these goods is money.

The second way to exchange goods is through deferred exchanges, in which one party delivers its property in exchange not for another good, but a promise to deliver a good in the future. The deferred exchange can be considered *a full exchange* when the other party delivers the present good in the agreed future time. The person delivering the present good, trusting in the promise of future payment for the good of his counterpart, will be called the lender, while the person receiving the present good and promising to deliver a future good is called the borrower. This is how credit is built into the economy. It can be said that the exchange is finally settled when the borrower delivers the agreed good in the future (Scherman, 1938, pg. 3-11). Therefore, the concept of credit has nothing to do with money or currency, only the exchange, i.e. once the exchange takes place, the need for credit emerges almost immediately, and certainly before the need to use a generally accepted means of exchange, as seen in the section concerning credit.

Evidently, the person delivering the present goods trusts that the other will be able and willing to meet their part of the exchange in the future, as otherwise this deferred exchange would not occur. Why trust that the exchange will be carried out? Normally to be worthy for credit an economic agent has to earn it, i.e. has to gain the trust of the lender, achieved by having an unblemished record of payments in past deferred exchanges, or equally, earning a good name within the market.

The same as in present exchanges, here the parties continue to value more what they receive than what they deliver (this is a principal of all exchange, either immediate or deferred). That is to say, in this case one party values more the present goods to be received rather than the future goods to be delivered, while the other values it the opposite way, believing it is

preferable to discard their present goods in exchange for a certain amount of future goods (Mises, 1949, pg. 578-583).

III.2 Trend to Meet Deferred Exchanges

Statistics show that the default rate is constant even during periods of relatively low economic instability, that is, the percentage of deferred exchanges that are actually executed is very high, and in fact vast majorities do it. For example, in April 2011 defaulting in Spain totaled 8.7%, meaning that 91.3% of deferred exchanges were fulfilled. The results are even more daunting if we turn back to years of economic boom. In 2006, when defaulting stood at 0.72%, 99.28% of deferred exchanges were fulfilled. This leads us to wonder what could be the reason for this to happen (Bank of Spain, 2012).

There are at least three reasons why humans have a tendency to fulfil such commitments:

- The first is the feeling of honesty that inspires us to fulfil the second part of a deferred exchange; human beings are sociable by nature and like to be accepted or feel part of a group to which they belong, so fulfilling their promises can make them feel more integrated into a group and breaking them will exclude him from it.
- The second concerns the self-interest of the borrower. Not completing systematically deferred exchanges works against the person concerned, since from then on no one will want to give that person credit, or even want to do any business with them. As Scherman (1938, p. 71) has claimed, this is because "*it is very economically dangerous to be dishonest*".
- The third element is compulsion, whether it comes from the government or any other entity. Through this third element the lender protects them from the possibility of the borrower not wanting to complete a deferred exchange. It can be said that the existence of such compulsion encourages the implementation of a greater number of credit agreements than currently exist.

III.3 Origin of Credit

As mentioned above, the need for credit arises almost as soon as the need for exchange does (Bondone, 2012, pg. 17-19), and is of course possible without the intervention of money. So for example in a small community in which crops are planted and harvested twice a year it is perfectly understandable that farmers receive credit from their neighbours until the harvest is gathered, at which point the debts will be settled. That is to say, the other residents of the small community will give their present goods and in return will get a payment promise of a future good from the farmers; as soon as the harvest is gathered and the agreed good delivered, the exchange can be considered complete.

Cash credit is only a particular case of credit that can occur in modern economies. In fact, nowadays it is quite possible to establish credit without the intervention of money, although not very common. The fact that the payment obligations are denominated in the generally accepted means of exchange is merely a temporary phenomenon. Contracts in which present goods are delivered in exchange for the promise of future goods by establishing credit, independent of specific terms, are one such example.

III.4 Definition of Credit

Following Bondone (2006, pg.114), a credit transaction can be defined as one in which an economic agent delivers a present economic good to another agent, in order to later reimburse them for an economic good after a period of time. This is nothing more than an interpersonal exchange similar to one of cash –due to the exchange of economic goods- except that one of the parties won't deliver one or more physical economic goods in the present moment, but will do it after a certain amount of time.

Therefore, credit is simply an exchange of interpersonal and inter-temporal economic goods; the exchange is carried out between two economic agents and in two different time points. So it can be said that, according to Bondone, the only difference between interpersonal cash exchanges and credit is the presence of a time span in which one party must deliver the economic goods agreed. This is enormously important because, as we will see, the price of credit is precisely the price of economic time.

III.5 Main Characteristics of Credit

The main feature of all credit, including interpersonal and inter-temporal exchange, is the time span between the delivery of the present goods from the lender and the delivery of the future goods from the borrower, and this applies to the exchange of present goods as well. But this lapse in time between deliveries creates the need for a trust relationship, where both agents are certain that the exchange will be successfully closed on an agreed upon date in the future, although there is always an ineradicable uncertainty inherent in any future act (Huerta de Soto 1992, 45-46).

One of the central elements in the discussion of credit is, undoubtedly, trust. This trust, that is paramount in the establishment of a credit agreement, is not as necessary in the trading of present goods, or at least not as noticeable. To be more specific, the term refers to the trust that the lender (i.e. one who delivers present goods and therefore temporarily waives the ownership and enjoyment of those goods) places in the borrower (i.e. the person committed to providing a future good in exchange for the present good that the lender gives). The lender certainly trusts that the borrower will be able to pay at the future time and under the agreed upon conditions, otherwise the deal would never be made.

What should a borrower do to gain the confidence of lenders? There are two elements to consider. The first is the borrower's payment history of deferred exchanges, or in other words, the borrower's honesty. This will affect the lender's inclination to give the other party the future good referred to in the credit agreement. The second element refers to the ability of the borrower to fulfil the credit agreement. That is to say, not the lender's willing to pay, but the borrower's ability to do so. To determine this, we can take into account both a balance sheet specifying the assets and liabilities of the borrower, as well as their ability to generate income from those assets.

Clearly, if the potential borrower has trouble with either of the two elements mentioned they will have very restricted access to credit, if any at all. This still applies even if the borrower has the ability to deal with future payments; if the borrower has a balanced accounting sheet and the ability to generate a high income relative to the requested credit, but failed to pay deferred exchanges in the past, potential lenders most likely will not trust that this credit exchange will come to fruition, and therefore will not trust their present goods to such a borrower. If they do, it will be with the promise of a larger future payment than usual (a very high interest rate) and through the use of collateral warranties in case of nonpayment, such as a property through a mortgage.

On the other hand, even if the potential borrower has a good reputation for being diligent in fulfilling past commitments, but requests a credit for an amount or quantity of goods much higher than they are likely to be able to repay in the future, we can expect once more that the lenders will not want to supply their present goods in exchange for the promise of a future payment. As in the previous scenario, the lenders will only do so with a high interest rate and with additional safeguards or warranties. The potential borrower does not necessarily have to provide these; other solvents and those with good credit history can endorse the borrower.

Another central element concerning the practice of credit is uncertainty. This is, once again, an element characteristic of both deferred exchange and present exchange, but to a much lesser extent in the latter. Every deferred exchange carries a great deal of uncertainty; as seen above, the borrower can break a promise on their part of the exchange, either through personal or external circumstances, and nobody can be absolutely certain that the deferred exchanges will be met in the same way that no one can be absolutely certain about anything in the future. Using the example given above in which the farmer receives present goods from his neighbours and then promises to fulfil the exchange when the harvest is collected, here there is a possibility that adverse weather will threaten the harvest and therefore he will be unable to fulfil the deferred exchanges through a formalized credit agreement, with none of the parties involved to blame.

In short, the central element of credit, in sharp contrast to cash exchanges, is the presence of time. This creates the need to establish trust between lenders and borrowers, trust that the latter will fulfill their part of the exchange. But if there is an element of uncertainty about the borrower's reliability or anything else the contract cannot be finalized. As soon as the trust is established, the credit flows, but while there are doubts the credit will be restricted.

III.6 Types of Credit

According to Bondone (2006, pp. 119 -120), credit can be classified depending on how the parties involved agree the borrower should deliver the future good. Thus we have:

- Regular Credit, in which the borrower to the lender specifies both the quantity and quality of the future good to be delivered. That is, at the time of the contract the two parties know and agree about the conditions of how the exchange will end. The

lender gives up their present good in exchange for the promise of a specific future good.

- Irregular Credit, in which the borrower to the lender does not specify the due date and / or the quantity and quality of a future good. That is, at the time of the contract, the exact conditions under which the exchange will be fulfilled are not known. The lender gives up their present good in exchange for the promise of a future good, but does not know for sure when this will be.

It can be seen that most credit is regular and that very few people would agree to an irregular credit agreement. However, virtually all of our modern monetary system is based on irregular credit, because we can't know for sure exactly what quantity and quality of assets we should charge, for example, for a dollar or a euro. This leads us to conclude that, contrary to most people's beliefs, we exchange more with irregular credit than with regular.

We should bear in mind however that even in the case of regular credit, which specifies both the quantity and quality of a future delivered good, an element of uncertainty and possible noncompliance with the exchange still applies. Although both parties know exactly what should be delivered and the time it should arrive, it is still possible that the borrower could be unable or unwilling to fulfil the previously made promise.

III.7 Price of Credit, the Interest

According to the law of temporal preference, an economic agent prefers to satisfy their subjective needs as soon as possible; therefore, people prefer present goods to future goods (Huerta de Soto, 1998, pg. 217). What this law means is that all human beings value their time in some sense. As our existence is temporally limited, we cannot consider time either a free good or an economic good. It is scarce by nature, but the fact that we all value time does not mean that this assessment will be identical between different human beings. This opens up a range of possibilities for deferred exchanges mutually beneficial to both sides of the exchange.

Thus for example if two people agree to enter into a credit agreement where the lender delivers 100 sheep (present goods) to the borrower in return for a promise by the latter to give back 110 sheep after a year (future goods), we would say that the price of credit is 10% per

year, which is equal to what we could call the interest rate, and equal as well to what we would call the price of economic time (Bondone, 2012, pg. 19).

In this sense, Huerta de Soto (1998, pg. 228) has insisted that we call note rate or interest rate the market price of present goods in terms of future goods. We could define interest as the compensation that the lender receives for postponing their consumption and the price paid by the borrower to advance their consumption. The two of them value present goods more than future goods; however their valuations differ, so that the deferred exchange is seen as mutually beneficial, otherwise this exchange would never occur.

Returning to our example, the lender may value 100 present sheep equal to 105 future sheep, so if they got 110 sheep in the future in return for 100 present ones, then the lender would definitely have made a beneficial exchange. While the borrower may value 100 present sheep equal to 115 future sheep, so the borrower will be prepared to pay 110 sheep next year. Thus, the 100 present sheep are more valuable to him and consequently the borrower will also have performed a beneficial exchange (Böhm Bawerk, 1884).

The example proves and has shown that for credit to exist and for the exchange of present goods for future goods to exist there is no need for money or a generally accepted means of exchange at all.

Though, from this point of view it would seem that there is an interest rate for each good, which means that each good will have its present price based on the price of the same good in the future. It is easy to imagine that just as there is an interest rate for sheep, there could be one for wood, steel, cattle, etc.

However, the fact is that the interest rate tends to be equal on all goods thanks to the money market, i.e. the practice of using a generally accepted means of exchange leads to using it in deferred exchanges as well as it in cash exchanges, so it's logical that credit agreements are improved to perfection when using money as soon as it appears or when it is the generally accepted means of exchange.

III.8 Interest and Price of Time, Risk and Expectations

While it has been stated in the previous section that the interest rate is the price of economic time, this definition is somewhat incomplete. In fact, the price of economic time is only part

of the phenomenon of interest. The assertion that the interest rate tends to be equal on all goods through the money market is correct but insufficient. What is certain is that through the money market equalizes the interest rate for each period and risk profile (Rallo and Rodríguez Braun, 2011, pg. 115-117).

From the moment we define the interest rates as the price of economic time, it is clear that there will be growing interest rates as the credit period increases. In other words, if the lenders have to wait longer to enjoy their assets, the interest rate will grow. This is the reason why the interest rate of a week, for example, will be less than the interest rate of a month and this in turn will be less than the interest rate of a year.

Here we can see that as the time frame increases, the interest increases too, i.e. as the lender is willing to give up present goods for a longer time, the interest or price of those goods during that time increases.

Similarly, according to Rodríguez Rallo and Braun (2011), there is another element that influences interest, and this is the risk associated with the non-compliance of the deferred exchange; that is to say, the risk perceived by the lender of the exchange not going as planned. So, if lenders or the market perceive, for example, that in a particular industry the chances of business success are low, then the interest rate increases required of borrowers since the chances of having the goods delivered are decreased. This could happen to countries, to industries, and even to individuals, so the risk profiles, as well as being subjective, are almost infinite.

Furthermore, the increased interest rate based on perceived risk also has a lot to do in the manner stated in the yield curve. The further into the future the second part of the deferred exchange is, the harder it is for both parties to accurately predict the future, i.e. there is a greater probability of an unexpected event that makes it impossible to complete the exchange as originally planned (Sherman, 1938, pg.85-114).

There is one last element that influences interest or the price of credit, and these are the expectations about the future price of a good once the exchange has been completed. This is often called the expected inflation premium. If credit is formalized in the generally accepted means of exchange and is, for some reason, expected to depreciate over time, we can expect the lender to ask for an additional premium for the goods that they cannot access precisely because of the depreciation in the value of the currency.

To sum up, interest is the price of present goods in terms of future goods, and is affected by three elements; the credit period, the perceived risk, and the inflation expectations. The longer the credit period and the higher the perceived risk and expected inflation, the greater the interest rate will be.

IV. Currency

IV.1 Credit as Payment

Credit may become a means of payment in a free market without any compulsion or without the need to resort to the banking system. Once the deferred exchange is completed, the promissory notes issued by the borrowers can circulate throughout the economy, especially if these borrowers enjoy a good reputation, i.e. if they are known for their good work within the market.

In our example, the promise of a payment of 110 sheep in a year by the borrower may be used by the lender for making any payment to a farmer, for example, if the latter knows the good work of the borrower and believes that the deferred exchange that took place between the two will come to fruition. Nevertheless, this does not mean that farmers accept that credit title outright (i.e. accept it at its nominal value of 110 sheep), since, as already discussed, present goods are more valuable than future ones, so the farmer will exchange his goods and services for less than the estimate of 110 sheep. In other words, the promises of future payment will circulate as long as the parties believe that these promises are reliable and will do so at a discount from its nominal value, the further in time the fulfilment of one's promise will be.

The temporal link between the different elements that we have been discussing in this paper can be visualized like so (Keckeissen, 1976, pg. 54-55):

However, most of the literature on monetary theory considers that the generally accepted means of exchange is without doubt, money; however, money was defined in this paper as the present good that performs this function. Nothing prevents this indispensable function in modern economies from being achieved with future goods, or more precisely with the promise to deliver a good in the future, that is, with credit. Consequently, it is very useful to make a theoretical distinction between whether a monetary base refers to present goods or future goods (Mises, 1912, pg. 6).

IV.2 Definition of Currency

Currency is defined as the generally accepted means of exchange that meets the need of liquidity or temporary immediacy subjectively felt by individuals (Bondone, 2012, pg.21).

So currency is the economic good found in most exchanges, as is the case with money. It is a good against which you can easily exchange other good and is the economic good with a greater marketability. The difference with money is that it does not have to be a present good.

In regards to temporal immediacy, currency is a good which enables its possessor to get rid of it or leave it in the desired quantity with little loss in value.

IV.3 Currency money-and Currency- credit

It must be emphasized that currency can be both a present good and a future good. When the generally accepted means of exchange is a present good, then, we say that the currency is money, whereas if the exchange of common use is a future good, then, we call the currency credit. As Bondone has identified (2012): *"The currency as an economic good satisfies the liquidity need of being an economic present good (money), or an economic future good (credit)."* [Italics added]

What we are really doing is defining a broad concept of currency, whose primary function is to be the main mean of exchange along with its additional roles, which are subdivided according to the type of good that the monetary function performs, which is either present and refers to money, or of the future and refers to credit.

In exactly the same way as discussed in the case of money, its use as a unit of account is derived from its use as a general mean of exchange, so when the use of an economic good is extended to point the point that it becomes currency, it will be present in almost all transactions. Other goods will be judged according to the one which works as currency; consequently, people will make their economic calculations in monetary units.

Again, as happened in the case of money, when looking at the function of money as a store of value, we also need to understand that it is derived from its use as a general means of exchange, and that the economic good that is used as a mean of exchange should have the

characteristic of being an economic good not only at the time of purchase, but also for enough time after the purchase of the currency for the owner to be able to sell it.

Which means that although its primary function is only to satisfy liquidity, it is given further functions as both a unit of account and a deposit of value. If money does not satisfy these conditions like current fiat money, it will be a bad means of exchange.

IV.4 Market and Currency

The origin of all currency, whether it is money (present good) or credit (future good) is the market (Bondone, 2012, pg. 28). It is true that the state can considerably influence the decisions that economic agents make in regards to currency, by for example proclaiming itself the ultimate monopoly in this area or requiring the payment of taxes in a certain currency. However, the final decision on the acceptance or rejection of a currency falls to the individuals that are going to use it, i.e. it is the market that ultimately decides whether or not to use the currency.

In addition, the government can transfer its debt to the relevant monetary authority and this will issue its reinforced liabilities by legal force, but not until the moment that the title of credit has been accepted in commercial exchange and has begun to expand its use enough to be considered currency. That is to say, individuals could reject such titles and use any other good or title for their trade. However, they decide, for whatever reason, to use paper money monopolized by the state. The ultimate decision about what becomes the generally accepted means of exchange cannot be made outside of the market, and of course this generally accepted means of exchange cannot exist without the market (Mises, 1912, pg.30).

V. Conclusions

1. After a thorough analysis of the main elements of the modern monetary systems, it is of vital importance to know and separate the nature of money and credit. In both their essence and origin they are very different. However, both can perform as currency or a generally accepted mean of exchange in a free market. Currently, most of the modern monetary system is based on credit.

2. The main difference between money and credit, where monetary function is concerned, is that the former is a present good and the second is a future good, so to start building and properly analyzing a solid monetary theory, we should take this into consideration. It has been previously common to establish monetary aggregates, especially by Austrian authors who try to merge money and credit, and within the latter, loans or credits of varying quality. These authors err the moment they try to join two completely different entities under the same denominator, so any further analysis that stems from this viewpoint will be flawed.

3. We consider it essential to build and develop a strong and healthy monetary theory based on the principle outlined above, distinguishing clearly between credit and money. In this essay, it is suggested that we use the proposal set forth by Bondone whereby we define currency as the generally accepted means of exchange and the distinction between money and credit depends on whether it is based on a present good or future good.

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