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**Trust as a Key Variable of
Sustainable Development
and Public Happiness: A
Historical and Theoretical
Example Regarding the
Creation of Money**

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Summary

This article purports to trace the origin of money on the basis of factors in interpersonal relationships, affecting a sustainable development and public happiness, namely trust, reciprocity and the concept of we-rationality. Both the historical approach and the one based on traditional economic theory have been found inadequate mainly because they did not take into account these factors. The hypothesis expounded in the paper is that these values underlaid the beginning of economic activity. Initially economic activity was carried out within small human groups. In such groups interpersonal relations were not based on individual self-interest. As a matter of fact, there is historical evidence supporting the notion that the first exchanges were gift-giving and were made possible by trust and reciprocity as expounded by Polanyi (1957) and Sudgen (2000) among others. When the exchanges strengthened between elements of various groups all with the same values and moral characteristics the process toward the creation of money started, without any intrinsic value and the presence of any superior authority. In the paper it is also hypothesized that the creation of money is one of the basic factors in the progress of economic and social activity, together with ancient phenomena as language and writing. Finally, the paper advocates that in future the economic activity be permeated by those moral values on which a sustainable development can be based. This will, in turn, increase the rate of economic and social growth.

Keywords: Sustainable Development, Public Happiness, Origin of Money, Behaviour Economics, Exchanges Between Primitive Populations

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**Trust as a key variable of sustainable development and public happiness:
a historical and theoretical example regarding the creation of money**
di Nicola Genovese* and Maria Grazia La Spada⁰

We cannot flourish without trust.
This should be as plain to reason
as common sense.
So reason should be able to show
us what makes for a reliable social
order, where people find it rational
to trust one another¹

Abstract

This article purports to trace the origin of money on the basis of factors in interpersonal relationships, affecting a sustainable development and public happiness, namely trust, reciprocity and the concept of we-rationality.

Both the historical approach and the one based on traditional economic theory have been found inadequate mainly because they did not take into account these factors.

The hypothesis expounded in the paper is that these values underlay the beginning of economic activity. Initially economic activity was carried out within small human groups. In such groups interpersonal relations were not based on individual self-interest. As a matter of fact, there is historical evidence supporting the notion that the first exchanges were gift-giving and were made possible by trust and reciprocity as expounded by Polanyi (1957) and Sudgen (2000) among others.

When the exchanges strengthened between elements of various groups all with the same values and moral characteristics the process to the creation of money started, without any intrinsic value and the presence of any superior authority.

In the paper it is also hypothesized that the creation of money is one of the basic factors in the progress of economic and social activity, together with the ancient phenomena as language and writing.

Finally, the paper advocates that in future the economic activity be permeated by those moral values on which a sustainable development can be based. This will, in turn, increase the rate of economic and social growth.

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¹ See Martin Hollis (1998). This statement by Hollis was cited by L. Bruni and R. Sudgen, in their illuminating article (2000). The authors claim that the article by Hollis could be a base for a theory of trust but it is incomplete due the death of author.

1) Introduction

The aim of this paper is to provide a historical and theoretical example that lends credence to the validity of recent interdisciplinary studies, called Civil Economy, with which some economists, in collaboration with other scholars, philosophers, psychologists and sociologists, have attempted to identify the characteristics of the concepts of sustainable development and public happiness.

For these economists, sustainable development and public happiness have aspects that are not only a consequence of economic growth, as Smith said, but are also its necessary condition.

Among these aspects particular importance is attributed to interpersonal trust and cooperation, which can give rise to a new kind of rationality, “we-rationality” other than individual.

The concept of “we-rationality” was elaborated recently by some economists and philosophers, as for example Gilbert M (1989), Sudgen R (1993, 2003), Bacharach M (1993, 1999, 2006). Sudgen gives a clear idea about the concept of “we-rationality”. He writes: “In relation to a particular decisional problem, the individual may consider himself as a member of a group or a team and think then this problem not as his problem but as the problem for the group. In other words, the individual restructures the problem not as “What I should do?” but as “What we should do? This concept is fundamental in the so-called Team Agency theory.

The example presented here relates to a historical period that is at the beginning of development of human economic activity and refers to the advent of the creation of money, which allowed mankind to overcome the difficulties of barter. The creation of money may be considered near two other fundamental social phenomena as language and writings.²

The first part of the article, first and second paragraph, highlights the gaps in studies on the phenomenon of the creation of money, both from the historical point of view and mainly from the standpoint of orthodox economic theory.

With regard to the historical approach, there are serious gaps because of the insufficiency of documents and finds relating to coins.

The Numismatics and the Anthropology of Money do not give an important contribution to our research. The first limits his studies to the coins and do not discuss its monetary uses. The second would have the objective to study the passage from barter to coins but it reveals a great insecurity regarding the final target. Besides, the Anthropology of money presents some erroneous interpretations of historical facts, because of lack of consideration of the importance of interpersonal trust and the acceptance of logical argument of individual self-interest.

With regard to the orthodox economic theory of the origins of money, for a long time there was a rift between the followers of Menger's theory, which saw the money as an “unwanted” result of rational action by individual self-interested traders, and those who have supported the Knapp's State theory of money. A brief comment will be made on these authors, who are cited in many recent contributions to money literature.

Only recently, the problem of the origins of money has been re-examined by economists. After some individual try, two lines of theoretical models have been developed giving rise to two generations of contributions regarding the New monetary economics.

The first began in the late 1980's, Kiyotaki and Wright's contribution (1989) being the most representative. It gave rise to the so-called models of “search and money”. The second developed during the first 2000s, the most representative being those by Howitt (2005) and Selgin (2003).

These studies will be briefly subjected to critical analysis, highlighting their shortcomings, the discrepancy between various authors and the impossibility for them to explain a social phenomenon of great importance as the creation of money on the basis of individual self-interest.

In the second part of this paper, the third paragraph, we will discuss the role of trust, which is the base of we-rationality, in determining the general acceptance of money, in order to achieve a monetary economy.

This historical analysis starts with the conditions of human life in the period when man lived in small self-sufficient groups. In said period, he began to acquire some peculiar social characteristics. It will be shown as they gave rise to a process leading, in stages, to the creation of endogenous money.

² The parallelism between social phenomena as language, writing and money was presented by Menger. He is the first economist who considered money as an endogenous result of the activity of single individuals so as the two others social phenomena. Menger (1892). This author will be criticized in this article because his theory is based on self-interested individuals. To create the money trust, reciprocity and the we-rationality of operators are necessary as this article tries to demonstrate.

2) The Historical approach to the study of the creation of money

Historical research concerning the creation of money has serious shortcomings, both for the lack of documents and the availability of discoveries. The historical studies did not succeed in clarifying the origin of money. The birth of money was considered as the arrive point of a long and sometime irregular process of organization and regulation of commercial exchanges. As regards primitive populations the historians ask help to Anthropology of money and are divided in the interpretations of the elements elaborated by this discipline. The most historians consider up said process from barter to money not linear. They have the opinion that in the history does not exist a line of continuity, which goes from the different and numerous tentative choices of this population to overcome the difficulty of barter to the money. These choices regard the use of objects as indicators to fix the prices of commodities exchanged and may be also as means of change. These historians consider that only more advanced societies were in condition under the legal and institutional aspect to create the monetary instrument.³ Other minority as number historians think that these indicators realized utilizing various objects with a patrimonial or religious value and a large demand of it, being based on an unconditioned trust, represent the essential instrument to create the money⁴. The more studied examples regard the Pacific area and the East and Western coasts of the American United States. They are the stone money in the first area and seashells in the second. Also, some important economists shared this opinion. Samuelson and Keynes consider the exintrinsic value of certain objects sufficient to perform the function of “fiat money”⁵. Near to Samuelson and Keynes are Friedman (1992), Mankiw (2003) and Tobin (1992).

Goldberg (2005) criticized these economists. He considered them as creator of a false “myth” regarding the existence of “fiat money” in primitive populations. He sustained that the objects examined by these economists was not useless as “fiat money” is, but had a relevant intrinsic value regarding theirs religious, ornamental and social character, but he do not considered the role of trust and we-rationality which were present in this primitive population.

The contribution of historical research as regards the origin of money was not determinant. Almost all historical researches contain subjective valuations of particular historical facts or interpretations of other historical opinions. Surely, the historians need new discoveries and a more useful documentation, but it is necessary that they give more attention to the necessary particular characteristics regarding the human action for having a social phenomenon as the creation of money.

There is a particular field of study called Numismatics, in which a largely descriptive aspect prevails. This aspect was emphasized in the mid 80s, especially in Italy, when the scholars of this discipline redrew its boundaries, within which there is no more room for monetary uses as well as the archaic forms of exchange because they want to limit the field of study exclusively to coins⁶. Then it is possible to find a more accurate description of monetary instruments of societies more advanced, specially of Greek area and Asia Minor, where coinage dates back to 600 B.C.

Generally, the coin has an intrinsic value and therefore limits the role of trust as a fundamental factor in the creation of money. For coins it is prevalent the role of higher authorities, such as the States and Religious leaders, that aim to increase trust in the money and to appropriate the benefits of seigniorage.⁷

Regarding the origin of money, Numismatics does not say anything. The contribution of the Anthropology of money remains, but even this is not determinant for the explanation of the phenomenon of money creation and the role that trust had in it. Also the scholars of this discipline do not have available sufficient findings and reliable documents, but their approach to studying the behaviour of primitive populations is not always correct.

³ Many of these historians were influenced by Knapp (1924) who said: “The soul of currency is not in the material of the pieces, but in the legal ordinances which regulate their use”.

⁴ Einzig (1966). This important author gave a monumental contribution also to the Anthropology of money, specially as regards some objects used as money in primitive economies.

⁵ Samuelson (1958) considers also as “fiat money” the seashells, which are intrinsically useless as paper pieces. See also Keynes (1930). He refers to the stone money of Russell Islands as “fiat money”, but it is obvious that he means the stone money of Yap.

⁶ Panini Rosati (1984). His address was explicitly indicated in a historical ancient contribution. See Ambrosoli (1985). Knapp (1924) made a negative criticism about Numismatics considering this discipline which “usually knows nothing of currency, for he has only to deal with its dead body”.

⁷ To understand better the meaning of seigniorage, regarding the creation of money by Religious and State authority, where the role of trust and we-rationality is not determinant, see Buiter (2007).

The Anthropology of money is the study of the passage from barter to coin. The first criticism to make regards the lack of consideration of a precedent phase of exchanges based on gifts and we shall examine this to point out its particular characteristics.

In reality, the anthropologists of money speak about gift as a means of exchange, but consider it as realizable only between high-class men. They cite Herodotus (Book III, 139-144) regarding a gift from Syloson brother of the Memphis tyrant Policrate to Darius, then personal ward of Persian King Cambyses II. The gift was a splendid red mantel. Darius wanted to buy it but Syloson said that he would not have sold the mantel for any price but preferred to make a gift to Darius.

When Darius became King in Susa in 500s B. C. Syloson presented to him as his benefactor. He asked and obtained the isle of Samos. Darius could not refuse because he was obliged to compensate Syloson. For anthropologists this event was based on moral sentiments! Who ever received a gift could not refuse it and assumed the obligation to compensate the original donor with another gift the first donor, some times on his request as regarding the timing and the object to give.

We do not agree with the interpretation of this citation. It does not represent the true character of gift. In our analysis gift is very different, both as regards the participants to this exchange and the existence of an obligatory element between them.

In historical research it is possible to take an item that is of particular interest for our analysis, regarding one type of exchange in which the element of trust prevails. Also in this case the anthropologists of money give an incorrect interpretation of a narration of Herodotus (Book IV, 196).

Phoenicians landed on the beaches of Mediterranean countries, leaving their goods and then retreating to enable the inhabitants of these countries to choose freely what they needed or met their preferences.

After a certain period of time, the Phoenicians returned and in the place of the goods taken, they found as compensation precious metals, valuable minerals such as obsidian, pearls and other valuables objects. This historical event is very important because it documents how exchange could have occurred simply on the basis of gifts for which the trust becomes an important aspect.

The activity of the Phoenicians was not sporadic, but was pursued over a long period, giving rise to their commercial success. Without doubt, this exchange was based on gifts and reciprocity and the reciprocal knowledge of the preferences and necessities of participants to the exchange was prevalent.

Of course, the start of this exchange can be attributed to the trust that Phoenicians placed in the behaviour of populations with whom they were in contact. This trust was based on the character of these populations, which will be discussed in the last paragraph. Now we must remember that it was Herodotus who gave this information about Phoenicians but the anthropologists of money consider this exchange as a "silent barter"! The motivation for this definition, which we hold to be incorrect, derives from the analysis of barter presented by them.

The anthropologists of money define barter as initially very difficult to perform. Their opinion, based exclusively on individual interest, is that bartering required a great capacity of negotiation along with an uncommon ability to value the relative price of different goods to exchange. Then as regards the activity of the Phoenicians, they consider their exchanges as silent barter because in them there was not any negotiation. This definition is too simplistic.⁸

After this critical analysis of the studies of Anthropologists realized on the base of absence of fundamental principles regarding trust and reciprocity, we can look to the other contributions that they give to explain the origin of money.

They continue to underline the difficulties of barter. This was easier when exchange regarded operators in the same field, for example agriculturalists who produced the same products. The surplus product of one agriculturalist could be accepted by another that was in deficit of the same product giving another product for which the two agriculturalists were in the opposite situation

Barter became more and more difficult when the exchange was between operators who belonged to different economic classes. In this case, the Anthropologists of money consider barter as if it were impossible. How can you fix the price in an exchange regarding oil and salt or wine and a plough, especially if negotiations were realized at a long distance? This difficulty became even harder with the increase of the necessity to exchange goods.

⁸ Many Anthropologists cited the case of Phoenicians. But they did not indicate his real importance: Phoenicians continued to utilize these gifts and made use of coins only in 700s B.C. Only Polanyi (1971) dwells at length on the concept of gift as a consequence of the existence of the phenomenon regarding "reciprocity" in primitive populations, but he don't pursue the consequences of this phenomenon as regards the possibility of the creation of money. In fact he concludes his analysis with a particular term, namely "special-purpose money" which does not fiat money.

For Anthropologists of money the solution to the problems of bartering was given by government in the more evolved societies. It indicated a commodity with intrinsic economic value or religious value to fix the prices of goods. Before indicating the numerous commodities utilized for this objective it is necessary to present some considerations.

The solution adopted by Anthropologists can be criticised from a logical point of view without making any reference to history. In this last aspect, Anthropologists themselves admit they are in difficulty.

It seems that the solution presented is the consequence of the impossibility for them to imagine another solution because, as has been analyzed in this paragraph, they have not given a role to the interpersonal trust nor to we-rationality.

Anthropologists indicate a long list of objects: cattle, block of salt, a flock of sheep, compressed tobacco and tea, cocoa, stone, clay and shells. They consider them as useful pre-monetary instrument. Even today it is possible to find some of these objects utilized by actual populations living outside the civilized world for measuring prices of goods and perhaps as means of exchange, sometimes with no intrinsic value.

The insecurity of the anthropology scholars of the money, about the use of mentioned objects as a medium of exchange and as fiat money, could be overcome, if the value of trust were emphasized. Trust was an important feature in the social structure of these ancient populations. These objects could be acceptable for the payment of goods when there was trust that others would accept them for the purchase of other goods. But the question that must be answered is how such trust could have been created and spread among all those who participate to exchanges. This argument will be discussed in the third paragraph.

3) The analysis of the origin of money in traditional economic theory

As regards the origin of money, it is not easy to find in-depth analysis in the classical Political Economy, devoted particularly, to use the words of the title of the Adam Smith fundamental book, to the study of nature and causes of the wealth of nations. Therefore, the attention was concentrated on the problems of development, institutional factors, as the division of society into classes, and the real market economy.

Adam Smith (1776) himself, despite being a prominent component of a philosophical school, neglect some relevant arguments of his philosophical contribute and give great importance to the theme of "invisible hand"⁹. This regards the objectives of a self-interested individual pursued by all economic operators, whose activities as a whole would have corresponded to the collective interest. As regards the Public happiness, which is a fundamental concept that current scholars, to whom we have referred in the introduction, are studying in its various aspects, such as, for example, interpersonal trust, generosity, inherent honesty of economic operators, cooperation, Adam Smith (1759) perceived the characteristics of this phenomenon, but he once said that these virtuous characteristics would have been a consequence of economic development and not one of its conditions.

Even in neoclassical economic theory we find the above mentioned lack of interest and therefore investigations on the origin of the money. Also because it, like classical political economy, focused initially on real variables, considering the money as a neutral phenomenon that would not have had any influence on them. In this economic school, become dominant at the micro level, there is only a limited interest in the birth of money by one of its founders, Menger (1892). He put the emphasis on the origin of money, in order to strengthen his argument on the importance of "market economy", in which the behaviour of individual economic operators, looking to maximize their objectives, the profit for entrepreneurs and the utility derived from goods purchased by consumers, allowed the entire community a growing and high level of knowledge and the creation of optimal social institutions. In fact, Menger set behind the creation of the money the activity of self-interested individuals. They were able to overcome the barter and gradually to accept the money, through a process of imitation, involving all economic operators as soon as they felt the benefits that the acceptance of money assured to the first of them that used a means of exchange to the place of barter. Even in this case, a phenomenon of absolute social level, which can be compared to the advent of language and writing, which was the creation of the money, has been attributed to the behaviour of individuals, driven by self-economic interest.

The thesis of Menger was opposed by Knapp (1924), who argued that the origin of the money had its foundations in a higher authority, as the State, which required the payment of taxes and therefore the

⁹ A large discussion about the invisible hand has been opened by Kaushik B (2011)

money was accepted as a medium of exchange as it could serve to fulfil this obligation. This thesis was contrasted by Menger and his followers on the basis that for an important social phenomenon, as the money. The action of State follows a reality already existent and it is not the creator. The Statalist version still has serious shortcomings even in the light of subsequent historical investigations, which have been mentioned in the previous paragraph. They, even with their insufficient contribution, trace with reliability the advent of the issue of coins to the sixth century B. C., especially in the Mediterranean area, while reported findings and evidence of ancient primitive peoples, who had already passed the barter, using means of exchange, sometimes with no intrinsic value. In these populations there was not a higher authority, but fundamental social characteristics which in the next section, we will try to demonstrate how they are behind the creation of the money.

During the development and strengthening of the neoclassical theory, the subject of the origin of money was abandoned. Without doing a detailed description of the development of modern monetary theory both in terms of the theory of general economic equilibrium, with the first attempt of Walras (1954), who tried to incorporate into his model the money market, and those of Hicks and Patinkin (1956), and for other attempts to identify the foundations of a microeconomic theory of money, the situation remained for a long time as Hicks had called it in 1935: "After the disputes of recent years is with particularly distrust and apprehension that someone is talking about money".

In the end, the academic environment considered as contributions from all shared these by Wallace and Lucas (1980). The first author neglected the role of money as a medium of exchange, enhancing rather than as instrument for the preservation of value in an "overlapping generations model of fiat money". The second, Lucas, gave the start to so-called "cash in advance models", which require the function of money as a medium of exchange, by means of an "ad hoc restriction" for which the goods are purchased only by using money.

As can be seen, these contributions have been useful only when the existence of money was considered as given, for studying some others considered important problems of modern monetary economy. However, they are evidence of abandonment by the economists of any attempt to explain the origin of money as an endogenous phenomenon and the particular characteristics of the development of monetary exchange. Perhaps, this situation could suggest surrender by the part of dominant economic theory, given the failure of its "fundamental dogma", based on individual interest and the concept of rationality adopted.

This surrender lasted for a long time, because only at the end of 80s began to appear some studies which wanted to explain the rise of money, taking into account transaction and transport costs of goods in the condition of barter and having as their objective the analysis of barter overcoming versus the monetary exchange. These studies not initially attracted the attention of scholars, but at the end began to arouse interest and to be followed by additional contributions.

The fundamental contribution, considered as "path breaking", is given by Kiyotaki and Wright (1993), also based on transaction costs, which may be exacerbated by the phenomenon of specialization and division of labour. It would provide a general equilibrium model with an infinite time horizon, based on non-cooperative strategic behaviour unlike the model of Debreu. In this famous model, there is money without any strategic behaviour among individual operators, providing instead only a structural strategy, thanks the assumption of perfect competition in the market.

The hypothesis somewhat not realistic adopted considers the agents specialized in the production and consumption of goods: every individual, and here we return to considering only individual action in the tradition of neo-classical theory, self-produces, through an input constituted by a consume good another good that is not compatible with his preferences.

To consume and subsequently produce, he must therefore exchange, entering a market in which the agents meet "randomly" in pairs and are subject to a constraint of "quid pro quo" and even in this condition there is the prevalence of individual interest, typical of this theoretical tradition.

The fully decentralized structure of transactions, together with the hypothesis of specialization in consumption and production should allow to overcome the obstacle of "double coincidence of wants" and the adoption of fiat money, which will prove to be the strategy of exchange ensuring a welfare more elevated than barter and commodity money.

Regarding transaction costs, Kiyotaki and Wright assume for them a characteristic subadditive and therefore their sum is presented far less than in the case of using the money, even if the transactions were superior as number compared to the case of barter. The structure of the transaction costs would also allow the presence of a medium of exchange that, while prolonging the number of transactions, could reduce the average waiting time needed to reach the desired changes.

Following this way, the considered authors believe can be demonstrated the existence of a monetary equilibrium, the coexistence of the money with activities superior as yield and finally the monetary equilibrium Pareto dominance respect to the equilibrium of barter.

Another aspect that emerges from the model of Kiyotaki and Wright is that the choice of instrument to coordinate the exchanges constitutes a problem of strategic coordination. The value that an individual attaches to the money as a means of coordination regarding the exchanges, not only depends on the efficiency with which the theoretically money can accomplish this task, but also on the ability of single individuals to coordinate them self on the choice of the money as a privileged form of trade organization.

The approach "search and money" allows to derive a theory "bootstrap" of money, in which "money is accepted as money by everyone simply because it is accepted as money by anyone else." In this case, it is able to formalize the common belief that the use of money is supported by its general acceptability, but this last theoretical result, according to some others economist has introduced an element of fragility in the model.

The model Kiyotaki and Wright, indeed, has been widely criticized by other economists, indicated as authors of the second-generation models in the introduction. These criticisms mainly concern the possibility of multiple equilibriums in this model, where monetary equilibrium as an outcome of the strategic coordination that leads to not attribute any intrinsic value to money, could be replaced by a barter equilibrium or by an equilibrium based on one or more commodity moneys. The above-mentioned authors, Kiyotaki and Wright, were aware of this possibility and therefore, perhaps unknowingly, have clearly alluded to the need to consider some social phenomena, such as customs and traditions of the communities in question, in order to overcome the above difficulties and to ensure the prevalence of monetary equilibrium. This possibility corresponds fully to the principles of the current scholars of public happiness principles, which will be taken again in the next section and applied to the social phenomenon of the creation of money.

As for the authors who have given birth to a second generation of studies, concerning the origin of endogenous money creation, which go beyond the so-called theory of "search and money", among them the contribution of Howitt will be chosen as the more representative. It is one of some papers presented at a conference on "Models of monetary economies II: the next generation", organized by the Federal Reserve Bank of Mineapolis, May 21, 2004.

The attempt of Howitt (2005) is considered closer to reality, even to the actual reality! And this because it reduces the difficulties and the cost of transactions present in the models "search and money", with the introduction of "trading posts".

The "trading post" would be managed by specialized operators, which attenuate the costs of research, providing opportunities for exchange in places easily localizable and thus eliminating the phenomenon of "random matching" theorized by the previous models of "search and money". However this paper makes no mention of the fact that the inclusion of a new hypothesis as that of "trading posts" means to face a more advanced social reality and may indicate that in less advanced society cannot be the creation of money and this is in contrast with the results of historical research, albeit incomplete, which have reported the presence of money also for primitive population. However, it is necessary to continue in the exposition of this article, since it is possible to see another its aspect objectionable, that is even in contrast with that just detected.

With regard to the aforementioned "trading posts", Howitt identifies two technological characteristics necessary for their openness: one is that at least a part of the costs is fixed, regardless of the volume of trade, the other is that each location can exchange a limited amount of goods. These characteristics are particularly important, for the genesis of a fiat money: a place of exchange that does not accept "fiat money" would be unable to operate exchanges with a scale high enough to cover the fixed costs, when it should compete with other locations that instead accept this money. Its customers would be limited to individuals who have at their disposal one of the goods tradable and have preferences regarding one of the two goods that are available in this "trading post".

Howitt aims to a situation of equilibrium in which there is only the "fiat money", excluding the possibility of alternative equilibriums. To achieve this goal, he will also accept certain assumptions of the theory "search and money", with regard to some transaction costs and certain spatial separations, but openly declares that his model goes beyond those who are inspired by the above theory "search and money".

Leaving aside other aspects of the contribution of Howitt, it is convenient to dwell on only one other assumption adopted by him, given the objective of this article which aims to demonstrate the lack of significance of traditional theoretical models, in which there isn't any role for the trust. In the above model, Howitt does not consider any cost of production. Therefore, this hypothesis is inconsistent with its

closer correspondence to reality, determined by the existence of so-called "trading posts", already criticized in this article. But another possible critic exists, which goes in the opposite direction.

In fact, not existing in the model in question costs of production for each individual; it is possible, by introducing the concept of trust, a reality based on gifts and reciprocity, of which the historical investigation gives significant examples. It is thought that gift actually constitutes the oldest form of exchange that anticipates or has been joined to barter.

4) The trust and the creation of endogenous money

The assessment of historical research is not fully positive, missing integration between the different studies about the money. Spinelli attempts to achieve a synthesis of historical, numismatic and theoretical economy approaches to eliminate the occurrence of such contrasts. This attempt is done because he believes that it is the only way to heal the shortcomings of the studies that follow a single approach.

This appreciable work with the various comparisons with the authors of different disciplines also presents an important limitation. Although Spinelli (1997) cares about right characteristics of the money, as source of information and good that has a wide marketability. He makes no mention of the features regarding the people who made the choice of the money.

As regards above features Spinelli places implicitly the emphasis on self-interested behaviour of individual operators, like almost all scholars that preceded him.

Given the shortcomings of historical studies and orthodox economic theory with regard to the explanation of the origin of money, the only remaining possibility is to refer to the recent trend of thought, based on interdisciplinary contributions, which has as its object the study of sustainable development and public happiness, whose base is one that recently the same components of the profession to which economists belong has called "social capital". They have also tried to measure it. This field has interest the World Bank itself. But still studies of a theoretical nature are not enough to give a specific address to statistical measurements.

The study on sustainable development can be based on Civil Economy, which is actually a current of thought that has realized a large and growing success in economic theory. It is an interdisciplinary doctrine utilizing the contributions of philosophical, social, psychological and ethical scholars. The initial impulse to this new sector of study was given by Italian economists between them it is a must to cite Zamagni (2004), Bruni (2004) and Porta (2004). The Philosopher Antonio Genovesi, and others followers of continental enlightenment movement inspired these economists.

Civil economy is an indication of ancient and recent contributions regarding the past and the future of market economies. These economies have problems for which traditional economic theory fails to find appropriate solutions, also for the advent of globalization and especially in the face of significant obstacles of social character.

Civil economy study topics that are beyond the dominant theoretical analysis, are, for example, the behaviour of individuals faced with the problem of public goods and the reform and the creation of social institutions. These are issues of importance growing more and more. One of the fundamental principles utilized in the study of Public Happiness by Civil Economist is the concept of interpersonal trust¹⁰, which can help to develop the so-called "we-rationality".

The example presented in this paper is significant, because the great social phenomenon of the creation of endogenous money, which is comparable for humanity to that of language and writing, can only be explained using the concept of interpersonal trust. This relationship between people can be found in the early communities, made up of small groups, whose members, even if having passed the condition of hunters and gatherers, maintained moral behaviours, such as communion, respect for the hierarchy, friendship, love and reciprocity.

These communities were originally self-sufficient. Because of population growth, the preference to vary the diet, according to the principle of diminishing marginal utility, and specialization, which increases the productivity of labour and increases the need for further exchanges, as it was highlighted by Adam Smith,

¹⁰ A recent contribution on the trust appeared in a collective work of FEEM. It explained the value that trust plays in the society in general, but also in the present one, in which the global economy is facing a serious crisis. In this publication was studied other aspects and important issues concerning the essential role of interpersonal trust.

these communities were forced to undertake exchanges with other communities who had the same respect for their moral principles.

It is possible to imagine that the first exchanges should occur in the form of gifts, which were reciprocated, given the inclination to respect the principle of reciprocity. This trend was reinforced by the moral conduct in force of each community, where the granting of the gifts was the prevalent way of exchange of goods. In the case of gift the fundamental basis was constituted by trust and this was reinforced by the persistence of reciprocity.

In this form of exchange, a measure of value was not necessary, given that gifts were made and reciprocated with generosity and full knowledge of preferences of all participants in this type of exchange.

When the need arose to further intensify exchanges and to increase the communities among whom they were made, thanks to the persistence of interpersonal trust and moral principles in these communities, it was relatively easy to switch to barter and identify an object that would have allowed to fix the prices of all other goods exchanged, facilitating the development of trade.

The transition from this phase of exchange at the endogenous creation of money was possible. As soon proved the insurmountable problems of barter, which can be summarized by the necessary double coincidence of wants and the difficulty of transporting goods for the exchange with other goods, the basis for the further development of trade with the creation of an endogenous money was existing.

What is the key feature of the money to be able to remain in the market, therefore facilitating and enhancing exchanges? It is that all individuals accept money because they are sure that others will accept it. Such security, especially when it regards the fiat money without intrinsic value, certainly comes from the mutual trust in the behaviour of all participants in the exchange. The other necessary feature is that the prices of goods maintain a satisfactory stability, along with the value of money.

The first feature is based on trust. And such trust, especially in its interpersonal aspects, was present in these communities, at the beginning of economic development, given the moral principles they respected.

In relation to the other characteristic, the solution was found in adopting as money a good not only durable but also easily storable and divisible, for making payments and mainly having the indispensable condition of not being easily reproducible. It is significant the adoption as money of shells in places far away from the sea.

The creation of endogenous money, as well as these of language and writing, constituted one of the necessary conditions for economic development towards the rising of most advanced societies. In this regard, it is worthy of reflection as the phenomenon of the invention of cuneiform writing is linked to an intermediate stage of evolution that led to the creation of money. Then there was the use of some pieces of clay that become hard when baked, but not so hard like the stone. This clay material permitted to create a hole in the centre for better transport of them and on which was possible to fix signals with a cuneiform character to indicate the measure of value of exchanged goods. The Anthropology of the money () has advanced the hypothesis that these incisions give beginning with the birth of cuneiform writing.

The analysis presented in this work lead to the conclusion that only putting aside the principles of the traditional theory, as self-interested individual and the hypothesis of rational behaviour of single operators, it is possible identify important and essential factors that constitute the essential conditions for the start of sustainable economic development process. One of these conditions in the past was undoubtedly the creation of money. For the present, these values founded on trust and we-rationality still remain valid for new possibilities to ensure further progress in economic activity maintaining a sustainable development

5) Conclusion

In the study of the origin of money both the historical approach and the one based on traditional economic theory have been found inadequate because they did not take into consideration the factors in interpersonal relationship affecting sustainable development and public happiness, namely trust, reciprocity and the concept of we-rationality.

Recent contributions by orthodox economists were, after careful consideration, found ineffective in creating strategic model to trace the creation of “fiat money” with its underlying notion of sharing. This is so because they have not challenged the fundamental assumptions of established economic theory, which sees each agent as acting on the basis of self-interest.

In the article money creation has been described as a process occurring in several stages.

The latter were not in linear sequence but coexisted for a long time. Trade began in small human groups as a gift-giving activity that was made possible by trust and reciprocity. In time these transactions went beyond direct barter encompassing the intermediate step of indirect exchange via a commodity money which was used as a measure of value and medium of exchange. Finally, interpersonal relations reached the stage of we-rationality, which made it possible that all operators accepted the “fiat money” without intrinsic value.

In the light of the values and beliefs involved in the creation of money, it appears that, as well as being an economic phenomenon, it was also a social one with the same dignity and value as language and writing. These values and beliefs are also now essential for a sustainable development.

REFERENCES

- A.A.V.V. *Equilibri* 2013/1, Il Mulino, Bologna
- Ambrosoli S (1895) *Manuale di numismatica*, Ulrico Hoepli Editore, Milano
- Bacharach M (1993) Variable universe games, in: Binmore K, Kirman A, Tani P (ed) *Frontiers of game theory*. MIT Press, Cambridge and London: 255-75
- Bacharach M (1999) Interactive team reasoning: a contribution to the theory of co-operation. *Research in economics* vol. 53,2:117-147
- Bacharach M (2006) Beyond individual choice: teams and frames in game theory, in: Gold N, Sudgen R (ed). Princeton University Press, Princeton
- Bruni L, Sudgen R (2000) Moral canal: trust and social capital in the work of Hume, Smith and Genovesi. *Economics and Philosophy*, Spring 2000: 1-32
- Buiter W H (2007) Seigniorage. *Economics, open assessment*”, E- Journal, n. 10
- Einzig (1966) *Primitive Money*, 2nd ed. Pergamon. Oxford
- Friedman M (1992) *Money Mischief*. Harcouth Brace Jovanovich, New York
- Gilbert M (1989) *On social facts*. Routledge, London.
- Goldberg D (2005) The famous myth of “fiat money”. *Journal of Money, Credit and Banking* vol. 37, 5: 957-67
- Haushik B (2011) *Beyond the invisible hand. Groundwork for a new economics*. Princeton University Press, Princeton
- Hicks J R (1935) A suggestion for simplifying the theory of money. *Economica* vol.2: 1-19
- Hollis M (1998) *Trust within reason*. Cambridge University Press, Cambridge
- Howitt P (2005) Beyond search: fiat money in organized exchange. *International Economic Review* vol.46, 2:405-429
- Keynes J M (1930) *The Treatise on money*. Harcourt, Brace and Company. New York: 292
- Kiyotaki N, R. (1989) Wright On money as a medium of exchange. *Journal of Political Economy* vol.97. 4: 927-954
- Knapp G F (1924) *The State theory of money*. Macmillan. London
- Lucas R (1980) Equilibrium in a pure currency economy, in Kareken J H and Wallace N (ed) *Models of monetary economics*. Federal Reserve Bank of Minneapolis
- Mankiw N G (2003) *Macroeconomics* 5th ed. Worth Publisher, New York
- Menger K (1892) On the origins of money, *Economic Journal* vol. 2: 239-255
- Panini Rosati F (1984) Sul concetto di Numastica. *Quaderni Ticinesi di Numismatica e Antichità Classiche* 13: 15-20
- Patinkin D. (1956) *Money, interest and prices*. Row Peterson and Company. Evanston (Illinois)
- Polany K ([1944] 1957) *The great transformation: the political and economic origins of our time*, new edn. Beacon Press, Boston
- Polanyi K (1971) *Primitive, archaic, and modern economies: Essays of Karl Polanyi*. Beacon press, Boston
- Porta P L (2004) *Economia civile*. Working Papers 76, University of Milano-Bicocca, Department of Economics
- Samuelson P (1958) An exact consumption-loan model of interest with or without the social contrivance of money. *Journal of Political Economy*: 467-82

- Selgin G (2003) Adaptive learning and the transition to fiat money. *The Economic Journal* vol.113: 147-165
- Smith A (1759) *The theory of moral sentiments*. Oxford University Press, Oxford
- Smith A (1776) *An inquiry into the nature and causes of the wealth of nations*. Modern Library. New York
- Spinelli F (1997) Dai costi di informazione alla commerciabilità all'imporsi di una determinate merce-moneta. *Studi e note di economia*
- Sudgen (2003) The logic of team reasoning. *Philosophical explorations* vol. 6, 3:165-181
- Sudgen R (2000) Team preferences. *Phylosophy and Economics* 16 2: 82-183
- Sudgen R (1993) Thinking as a team: toward an explanation of nonselfish behaviour. *Social Philosophy and Policy* vol. 10, 1: 69-89
- Tobin J (1992) Money in: Newman P, Milgate M, Eatwell J (ed) in the *Palgrave Dictionary on Money and Finance* vol. 2. MacMillan, London
- Wallas N (1980) The overlapping generations model of fiat money, in Kareken J H and Wallace N (ed) *Models of monetary economics*. Federal Reserve Bank of Minneapolis
- Walras L (1954) *Eléments d'économie politique pure*, translated by W. Jaffe. George Allen and Unwin, London
- Zamagni S Bruni L (2004) *Economia civile, efficienza, equità e felicità pubblica*. Il Mulino, Bologna

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