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RETHINKING THE THEORY OF MONEY: a study of the origins, nature and function of money

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Tese de Doutorado apresentada ao Conselho, Programa de Pós-graduação em Economia da Faculdade de Ciências e Letras – Unesp/Araraquara, como requisito para obtenção do título de Doutor em Economia.

Linha de pesquisa: Economia Monetária

Orientador: Prof. Dr. Eduardo Strachman

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IMPACTO POTENCIAL DESTA PESQUISA

Este estudo busca ajudar a difundir e popularizar uma visão alternativa da teoria da moeda, fundamentada em uma abordagem interdisciplinar e condizente com as evidências empíricas disponíveis hoje acerca da origem e natureza da moeda. Com relação ao seu potencial científico e técnico, a pesquisa utilizou uma metodologia comparada que integrou áreas correlatas à Economia dentre do espectro das ciências sociais, o que permitiu um entendimento mais amplo e plural da moeda como tecnologia social. A metodologia proposta representa também um potencial inovador, visto que os estudos econômicos sobre o tema costumam não incorporar contribuições de outras áreas. Os resultados obtidos no estudo representam uma ruptura com o conhecimento estabelecido e popular sobre o assunto e, portanto, apresentam potenciais impactos econômicos, especialmente no que tange a formulação de políticas econômicas, que, por conseguinte, podem tem impactos sociais direitos. Além destes, a pesquisa pode ter um potencial impacto educacional de difundir uma abordagem que ainda é marginalizada nos cursos universitários de ciências econômicas e, dada a interdisciplinaridade do estudo e do potencial educacional da pesquisa para outras áreas do conhecimento, o potencial de difusão e impacto cultural da pesquisa se torna maior. Por fim, considerando que a moeda é um instrumento comum a todas as nações e este estudo foi redigido em língua inglesa, a pesquisa apresenta um grande potencial de internacionalização.

POTENCIAL IMPACT OF THIS RESEARCH

This study seeks to help disseminate and popularize an alternative view of the theory of money, based on an interdisciplinary approach and consistent with the empirical evidence available today concerning the origin and nature of money. Regarding its scientific and technical potential, this research used comparative methodology, integrating areas related to Economics within the spectrum of social sciences, which allowed for a broader and more plural understanding of money as a social technology. The proposed methodology also represents an innovative potential, since economic studies on the subject tend not to incorporate contributions from other areas. The results obtained in the study represent a rupture with the stablished and popular knowledge on the subject and, therefore, present potential economic impacts, especially with regards to the formulation of economic policies, which, consequently, can have direct social impacts. In addition, this research has potential educational impacts by disseminating an approach that is still marginalized in economic sciences majors and, given the interdisciplinarity of the study and the educational potential of the research for other areas of knowledge, the potential for dissemination and cultural impact of the research becomes greater. Lastly, considering that money is an instrument common to all nations and this study was written in English, the research has great potential for internationalization.

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Dedicated to my loving dad and to myself,
for I only know the road I've travelled to get here.

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[…] you a bad motherfucker.

– Snoop Dogg

ABSTRACT

Despite its millennial existence and the vast literature about it, money remains one of humanity's greatest enigmas and one device of great importance for socioeconomic organization. Economic literature has provided two different explanations to the phenomenon of money: on the one hand, money is a commodity; on the other hand, a credit. The general objective of this thesis is to determine the nature of money. In that attempt, this investigation followed specific objectives: (1) to revisit, synthesize, and present two different theories of money, namely, the Theory of Commodity Money and the Theory of Credit Money, considering their main arguments regarding the origin, nature and functions of money and credit; (2) to present points of divergence among scholars associated with each theory; (3) to introduce eventual points of convergence between such theories; and (4) to analyze money by using an interdisciplinary framework. The methodological procedures followed in this thesis consisted of a bibliographic survey in Economics and other social sciences, which helped delimit the theories candidates for the study of the nature of money. Afterwards, a method for collecting and grouping things according to shared and identifiable properties was selected, aiming to reveal implicit or hidden properties of the object. Besides the regular practice of analyzing money from its functions, other properties associated with it were considered as parameters to limit the scope of this research: money, credit and debt. The selected literature was summarized and presented as part of the literature review, providing the theoretical framework for the development of the analytical part of this research, which followed mostly an inductive approach. The quest to investigate the essence of money turned out being an investigation of both the nature of credit and money, for money is credit. This conclusion has been established by integrating procedures methods and resorting to interdisciplinary studies to support that money is credit. Anthropological studies helped define the best approach method, namely induction. Regarding the procedure methods, a comparative methodology which integrated economics, history, accounting, law, and anthropology studies was employed. This interdisciplinary approach has ratified most general conclusions presented by heterodox economic literature. Credit is, first and foremost, a social and moral relation. When exercised in an economic way, as purchasing power, it creates a set of obligations. One's credit is another's debt. A person's reputation became quantifiable with the establishment of a unit of account employed for registering credit/debt relations, namely, money of account. Initially, pure accounting activities are present. Currency emerged only afterwards, in connection to the emergence of organized markets, to transfer debts. When in material form, money represents a tokenized credit/debt. When in abstract form, credit represents a contractual relation between economic agents or as accounting registers. Following a circuitist approach, credit is created, circulated, and then destroyed when the debt is extinguished. Therefore, money's sole function is that of serving as a means of payment to release one from debt. Since only a credit can liquidate a debt, the credit essence of money is, again, reinforced.

Keywords: Money; Credit; Debt; Market; Banks.

RESUMO

Apesar de sua existência milenar e da vasta literatura sobre o assunto, a moeda continua a ser um dos maiores enigmas da humanidade e um importante instrumento para a organização socioeconômica. A literatura econômica oferece duas explicações para tal fenômeno: de um lado, a moeda é uma mercadoria; do outro, um crédito. O objetivo geral desta tese é determinar a natureza da moeda. Para tal, esta investigação seguiu os seguintes objetivos específicos: (1) revisitar, sintetizar e apresentar duas teorias da moeda diferentes, as Teorias da Moeda Mercadoria e da Moeda Creditícia, considerando seus principais argumentos no que tange a origem, natureza e função da moeda e do crédito; (2) apresentar pontos de divergência entre acadêmicos associados a cada teoria; (3) introduzir eventuais pontos de convergência entre tais teorias; e (4) analisar a moeda através de uma perspectiva interdisciplinar. Os procedimentos metodológicos adotados na tese consistiram de um levamento bibliográfico em Economia e outras ciências sociais, que ajudaram a delimitar as teorias candidatas ao estudo da natureza da moeda. Posteriormente, buscou-se coletar e agrupar características compartilhadas e identificáveis com o objeto para revelar propriedades implícitas ou ocultas do mesmo. Além da prática habitual de analisar a moeda por suas funções, outras características associadas a ela foram consideradas como parâmetros para delimitar o escopo da pesquisa: moeda, crédito e dívida. A literatura selecionada foi sintetizada e apresentada como parte da revisão literária, oferecendo o embasamento teórico para o desenvolvimento da parte analítica desta pesquisa, fundamentada principalmente no método indutivo. A busca para investigar a essência da moeda mostrou ser também uma investigação da natureza do crédito, afinal moeda é crédito. Esta conclusão foi estabelecida através da integração de métodos de procedimento e do auxílio de estudos interdisciplinares que reforçam que moeda é crédito. Estudos antropológicos auxiliaram a definir o método indutivo como o mais adequado método de abordagem. Quanto aos métodos de procedimento, o estudo utilizou de metodologia comparada, integrando estudos em economia, história, contabilidade, direito e antropologia. Esta abordagem interdisciplinar ratificou muitas das conclusões gerais apresentadas pela literatura econômica heterodoxa. O crédito é, antes de tudo, uma relação social e moral. Quando utilizado para fins econômicos, como poder de compra, ele cria uma série de obrigações. Crédito de um é dívida de outro. A reputação de uma pessoa se torna quantificável com o estabelecimento de uma unidade de conta utilizada para registrar relação de crédito/débito, i.e., moeda-de-conta. Inicialmente, atividades contábeis puras estão presentes. A moeda circulante só surgiu depois, no contexto do surgimento de mercados organizados, para transferir dívidas. Quando na forma material, a moeda representa um token de crédito/dívida. Na forma abstrata, representa uma relação contratual entre agentes econômicos ou apenas registros contábeis. Seguindo a abordagem circuitista, o crédito é criado, circula e é destruído quando a dívida é extinta. Portanto, a única função da moeda é servir como o meio de pagamento que libera as pessoas das dívidas. Como apenas um crédito pode liquidar uma dívida, a natureza creditícia da moeda é, novamente, reforçada.

Palavras-chave: Moeda; Crédito; Dívida; Mercado; Bancos.

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PART I: INTRODUCTION

1 INTRODUCTION

What is it about money that leads to many inquiries among scholars of different areas? Money is one of the greatest puzzles in human history. A lot of research has been done to clarify its mysteries, especially in social sciences. Yet, the question remains: why does this social technology called money remain so intriguing after thousands of years of use? Is it because of the command it exerts over commodities? Or because of some abstract feature? Or because it represents a social convention? Maybe all, some, or none of these features.

Concerns about the nature of money have been raised at least since the times of the classical Greek philosophers. Menger (2004[1871], p. 315–316) affirmed that modern scholars, just like the great thinkers of antiquity, are still concerned with explaining the fact that some specific commodities become generally accepted in exchange for others, even when they are not necessarily needed to meet any kind of immediate need. For him, the riddle lies in the fact that useful commodities are exchanged for small discs of metals which, for the ordinary man, are useless, and are directly useful only to few people. This contradiction gives rise to the mystery of money which, according to him, is related to human behavior and, for this reason, and led to the idea that money is the result of a social agreement in which the collective will of the people expresses itself in the form of law.

The mystery involving money has grown as new archeological artifacts were found, as new financial instruments were created, as new forms of organization of the international and domestic monetary system were instituted, and as financial crisis became more frequent, among others. The importance of understanding money and its subtleties have increased and taken a central place in economic research, at least within some schools of economic thought.

Despite its millennial existence and the vast literature about it, money remains one of humanity's greatest enigmas and one device of great importance for economic and social organization. For those reasons, researchers continue to inquire about its nature, emergence, history, functions, characteristics, types, attributes, and so on. As it will be shown, different interpretations have culminated in different theories of money.

Scientific literature presents several classifications of the theory of money. Ingham (2005) identifies six different traditions: (1) the orthodox economic concept of money; (2) the Marxist concept of money; (3) money as money of account; (4) money as credit; (5) money and the state; and (6) the social construction of money. Mises (2009[1912]) proposes five approaches: (1) the Catallactic and Acatallactic doctrine; (2) the State theory of money; (3) Schumpeter's Theory; (4) Metallism; and (5) The English Schools of Banking Theory. Lawson (2002) proposes two classifications: (1) one related to the organizing structure of human communities; and (2) another based on intrinsic properties of certain money items. Other frequent classification divides the theory of money in two approaches: (1) the Metallist Theory; and (2) the Chartalist Theory.

For the purposes of this thesis, the two main opposing theories have been considered: the Theory of Commodity Money and the Theory of Credit Money[1]. This is so because some of the approaches to money aforementioned represent, in fact, strands or variations of these general theories. The main aspects of each theory may be briefly summarized below.

The Theory of Commodity Money is unquestionably the dominant approach in economics, or, at least, the most popular one. It postulates that in early states of trade, exchanges were carried out through barter, a method of exchange which imposed various difficulties, as stated by Smith, 1979[1776], Thornton, 1965[1802] and Menger (2004), among others. One of them, as stressed by Jevons (1896[1875]), was related to a double coincidence of wants: finding two people whose disposable commodities could, mutually, fulfill the needs of one another was a major difficulty for exchanges. To overcome such inconveniences, money would have emerged as a means of exchange. Innumerable commodities are reported to have served as a medium of exchange, such as cattle, salt, shells, and tobacco. (Smith, 1979). The commodity chosen to serve as money would have been the one with general acceptance.

Although anything could serve as money, the metals enjoyed greater prestige among other commodities. The ease with which they could be transported and handled, followed by their stability of price, and durability, helped place them in a special

[1] It is important to clarify from the beginning of this research one point regarding the so-called Chartalist Theory of Money, or Theory of State Money, often associated with the Theory of Credit Money. Despite several points of convergence and similarities between these theories, Innes (1913) stated that the former is merely a special case of the latter. Schumpeter (2006[1954]) also stated that there are only two theories of Money: The Theory of Commodity Money and The Claim/Credit Theory of Money. I followed both Innes's (1913) and Schumpeter's (2006) statements, for both theories, namely, the State and the Credit

position. Iron and silver, in special, were extensively employed as money in ancient times, during the infancy of coinage.

The value of money would have been initially evaluated according to the weight and quality of the metals and, to overcome the inconvenience associated with weighing the metals and certifying their purity, the state started fixing stamps upon the coins, certifying the quantity and fineness of the metals, as stated by Thornton (1965[1802]) and Mill (1965[1848]).

Despite its advantages, due to the worldly diffusion and adoption of metallic monetary standards — not to mention the uses of metals in industry, jewelry, and adornments, for example —, what seemed at first to be a great advantage turned out being extremely inconvenient. For Walras (2019[1874]), the introduction of metals as part of the monetary system was seen as progress, but the use of metals for monetary ends should be abolished afterwards, for there are other forms of performing an exchange without the use of metallic money. The abandonment of metals was benefited from the diffusion of banks and the creation of money substitutes, namely, credit and credit instruments.

Marx (1990c[1894]) postulated that credit, in the form of paper money, reduced circulation costs, for it dispensed the use of metallic money, thus economizing means of circulation. The highest achievement in this developmental process would be reached with the emergence of clearing houses. For most theorists of the Commodity Money approach, credit first enters the picture only as a money substitute.

According to Schumpeter (2006, p. 286–288), this reasoning conforms what he called a *monetary theory of credit*: barter is supplanted by the adoption of money and, subsequently, credit emerges in substitution of money, backed by it, or as a complement to it. This strand of economic thought puts credit as the result of a somewhat evolutionary idea, placing it in an advanced stage in the history of money. Adherents to this theory are found within different schools of economic thought, but mainly — though not exclusively — in the orthodox spectrum, including most classical economists, the Austrians, neoclassical economists, and Marx and his followers.

The Theory of Credit Money departs from the idea that money emerged out of the inconveniences of direct exchange and focuses on the accounting, legal, economic, and sociological aspects of money. One of the main ruptures regards metallism.

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theories, take credit as the nature of money. Therefore, the Theory of State Money may be seen as a subsidiary theory which can be amalgamated with the Theory of Credit Money.

MacLeod (1891[1876]; 1893[1889]) affirmed that money is the highest form of credit. Innes (1913) called money a token of indebtedness. For Knapp (1924[1905]), it represents merely a token, ticket or claim. Therefore, money is something beyond the material it is made of.

Three fundamental elements support the Theory of Credit Money. First, credit is essentially one's personal characteristic, related a person's credibility, morals and reputation, as highlighted by MacLeod (1891; 1893), Innes (1913; 1914) and Graeber (2011), which can be used for economic purposes. As such, credit can be used as purchasing power in forward operations. Due to a person's credibility, he/she can engage in commercial transactions, buying and promising to pay for the purchase in the future; *i.e.*, one buys by issuing a debt. One's credit is part of one's wealth, as affirmed by MacLeod (1891; 1893), and, as soon as a person uses these personal characteristics for economic uses, credit becomes part of economic analysis. Second, following accounting and legal principles, credits and debts are identities, and since credit is essentially a multifaceted element, the concept of debt permeates several aspects of social life, some of which are not even economic-related. Graeber (2011) stated that the process by which social obligations are turned into economic debts is related to quantification. Therefore, obligations can only be transformed into economic debts with the aid of a unit of account, *i.e.*, money of account, which is the third element which conforms the foundations of the Theory of Credit Money.

Keynes (1930a, p. 3–5) postulated that the existence of a money of account allows debts and prices to be expressed and, for that reason, it is the root concept of a theory of money. He also affirmed that money of account and debts came into existence together, the latter being contracts for deferred payment. Tymoigne (2017) highlighted that a money of account is a fundamental condition for the development of a monetary system and, as such, it cannot be a function of money.

The establishment of a money of account and credit money is a precondition for the emergence of all circulating media. In lack of a centralized credit system, in which banks play a pivotal role, pure credit operations, as those arranged between acquaintances, limit the growth of organized markets, which are marked by impersonal transactions. A sort of transferrable medium became necessary, and that is how debts were transformed into circulating instruments, as coins and notes. The emergence of coins and circulating media is, therefore, associated with the development of markets. By essence, all forms of money are credit — although the same cannot be said the other

way around — and the latter predates all forms of circulating money. Money is credit and, in a commercial economy, the sole function of money is to serve as a means of payment. In other words, money is the ultimate means to release from debt. Following legal and accounting concepts, only a credit extinguishes a debt. Therefore, again, money is credit.

Schumpeter (2006), Innes (1913; 1914) and MacLeod (1891; 1893) placed credit as the origin of money, and not the other way around, as mainstream economists usually do. This change led Schumpeter (2006) to postulate a *credit theory of money*, which, according to him, is both analytically and practically preferable to a *monetary theory of credit*. Following this perspective, a study about money is, in fact, a study about credit.

This approach leads to some major disruptions with the Theory of Commodity Money. To briefly mention a few: credit theorists shift the epicenter of the theory of money, placing the money of account at its cornerstone. Through the separation of money and commodity, they also dissociate the theories of money and value, which are frequently overlapped in the Theory of Commodity Money, which postulated that money derived its value from the intrinsic value of the commodity backing it. With the aid of other social sciences, basic postulates of the dominant theory, as barter and primitive forms of money, are either fragilized or dismissed. The Credit approach has been associated chiefly to heterodox schools of economic thought, mainly Keynesians, Circuitists, and Institutionalists, and other social sciences, *e.g.*, Sociology, Anthropology and Law.

The problem of understanding the nature of money also touches a complex problem in economic theory: defining money. Several scholars diverge on this matter: some see money only as a physical thing, whereas others include credit and credit instruments under the term. The problem is further aggravated by the frequent indiscriminate use of words as money, cash, currency, specie, and others. It is important to state that even this study is not immune to an eventual indiscriminate use of words, despite the careful attempt to avoid so.

Marshall (1929[1923]) addressed the problem by stating that the concept of money is highly elastic. Chick (1992) affirmed that defining money is a perpetual problem in economics. Friedman and Schwartz (1969) stressed that various attempts have been made aiming to settle a proper theoretical definition of the term. An analysis of the forms of money and their practical uses might help elucidate the matter. If money is to be understood only as money issued by the state, *i.e.*, notes and coins, it leaves out

money liabilities issued by private companies, for example, which perform the same functions, as bank money, for example. For that reason, the theories of liquidity and hierarchy of money are helpful in limiting the concept of money.

Defining money according to its functions might seem helpful, but as Jevons (1896) affirmed, not all functions attributed to money are intrinsic functions of money. Economic literature usually attributes three classical functions to money: medium of exchange, unit of account, and store of value. Friedman and Schwartz (1969), compiling studies on the subject, points to five criteria of classification: (1) functions; (2) liquidity; (3) pyramid of liabilities; (4) monetary aggregates; and (5) portfolio. For Lawson (2002), money's only function is to serve as a general means of payment.

In summary, as it can be seen from what has been briefly introduced, the problem surrounding money regards its nature, origins, functions, and uses, among others. Various forms of money are necessary due to the diversity and complexity of economic transactions. Also, as economic organization becomes more complex, new forms of money are demanded to attend new social needs, whereas older forms of money are discontinued. Some forms resist the tests of time and innovation; others, do not. The plurality of types of money might contribute to the confusion and mystery surrounding money. Whether it is possible or not to untangle this and define with absolute precision what money is, as well as to determine its real function(s), might seem to be exercise of futility, for consensus is hardly achieved in social sciences. However, this research aims to help elucidate these differences, by using a different framework from what is normally employed in mainstream economics.

2 METODOLOGIAL PROCEDURES

The motivation for this research stemmed from a revival of the studies on money during the last decades, especially after the 2007 financial crisis. Despite the voluminous literature on the matter, the Theory of Commodity Money has been taken as a tautology in the studies of money. However, historical and anthropological records revealed some fragilities of this theory, and other approaches to money — by using different research methods and, eventually, interdisciplinarity — seemed to be more consistent in the attempt to explain the nature, emergence, and evolution of money. Despite their soundness, these contributions have remained nearly marginalized in economic literature.

Moreover, we have lived in a world with a complete fiduciary and credit system without any sort of backing for only nearly five decades. Also, the current association of finance and technology has led to misconceptions about money, *e.g.*, virtual money, which may be easily dissipated by taking an alternative theory as the framework of the analysis. Furthermore, the debate about the nature of money reflects and impacts several subjects in economic theory, such as the endogeneity or exogeneity of money, the demand and supply of money, hierarchy of money, liquidity of assets, monetary and fiscal policies, inflation theory, among others. These controversial questions revolving around money help justify why it is still necessary to revisit fundamental questions and analyze the core of the problem, namely, the nature of money, for a better understanding of what money is, and its relationship with credit, society, the state and the markets.

This investigation aims to contribute to the scientific debate on money in four ways: (1) by adopting an interdisciplinary framework of analysis, as it will be described ahead; (2) by systematizing the literature concerning both theories of money and synthesizing these different approaches to the matter; (3) by assessing the current state of knowledge on the subject; and (4) by helping disseminate an alternative approach to money.

2.1 Research problem, hypothesis, and research objectives

The research question which fundaments this study is: what is the nature of money? The same question could be rewritten in the following way: is money the representation of a commodity or of a credit? The starting hypothesis of this study is

that money is a type of credit, specifically an economic credit, for credit is an element of human life that transcends economic activity.

This thesis may be classified predominantly as explanatory research, and its general objective is to determine the nature of money. To do so, this investigation will have to fulfill the following specific objectives: (1) to revisit, systematize, synthesize and present the two theories of money considered here, namely, the Theory of Commodity Money and the Theory of Credit Money, considering their main arguments regarding the origin, nature and functions of money and credit; (2) to present points of divergence among scholars associated with each theory; (3) to introduce eventual points of convergence between the two theories considered; and (4) to analyze the research object, money, using an interdisciplinary framework.

2.2 Money and method

Although it is out of the scope of this research to delve into the discussion of the methods, a few considerations on the matter are helpful not only for methodological matters, but also because of the importance of deductive and inductive methods for the two theories of money in analysis.

Deductive reasoning supports the Theory of Commodity Money and its main axiom, barter, on which the whole theory of money is built over. As affirmed by Samuelson, "[i]f we were to *construct history along hypothetical, logical lines*, we should naturally follow the age of barter by the age of commodity money". (Samuelson, (1973[1948], p. 52, emphasis added). According to him, the age of commodity money is followed by the age of paper money, leading to the last and current age of bank money. This reasoning is supported by hypothetical, logical and linear thinking. Thus, the origin of money is based on a logical construction which places it as a mere transactions-cost-minimizing medium of exchange, as stated by Wray (2006, p. 1). But, if minimizing cost is the main reason for the emergence of money, would not credit, instead of metallic money, be a better resource, for it may be recorded on much cheaper forms, thus minimizing costs of transaction even more?

Inductive reasoning supports the Theory of Credit Money and has been employed mainly by heterodox schools of economic thought. Institutionalists have been pioneers in using an alternative method in economics among heterodox economists. Their use of substantivist methodology opposed the formalist approach of orthodox

economists. The latter deals mainly with rational economic agents who face scarce resources and unlimited wants, abstracting historical and institutional details from their analysis. In doing so, their postulates may be applied to all societies, representing, thus, a more universalist framework. Conversely, substantivist methodology analyzes how institutions help conform the economic process and considers the institutionalized interactions among people, and between people and nature. The clash around the formalist and substantivist approach is also found within anthropologists. Formalists believe that the same economic apparatus can be used to explain capitalist and small-scale economies. Substantivists believe that cultural diversity and particularity must be considered in such analysis. (Wray, 1993, 2006; Maurer, 2020).

By using a comparative methodology, a more powerful framework for the analysis of money both in pre-capitalist and capitalist societies is achieved and, therefore, the formalist approach should be rejected, since institutions influence social and economic behavior and, thus, cannot be abstracted from the analysis of money. According to Wray (1993, p. 4–6; 2006, p. 1–8), this methodology is based on a triad: (1) *comparative anthropology*, which deals with differences across societies and cultures; (2) *comparative history*, which addresses the evolution of institutional arrangements within and across societies through time; and, lastly, (3) *comparative economics*.

Schumpeter also highlighted the interdisciplinary aspect of money stating that, "like any other economic institution, [it] is an element of the overall social process and as such a matter for economic theory, for sociology, and finally for historical, ethnological, and statistical 'fact research'." (Schumpeter, 2014[1970], p. 13).

Hicks was among the defendants that monetary theory is in history, the former being intrinsically connected with real events. For him, monetary issues must be explained historically. (Fontana, 2004). According to Werner (2014b), historians are well aware that reality does not always conform logic and rationality, especially when it comes to "finance, where market and investor behaviour often does not conform to the precepts of theoretically posed 'rational agents'. By contrast, an inductive approach begins by establishing the empirical facts". (Werber, 2014b, p. 71).

Ingham (2000; 2005) affirmed that a method of inquiry which deals with the historical and logical — the latter meaning the general conditions of existence any institution, and not rational or deductive — provides a better understanding of the phenomenon of money, contrary to an analysis founded on pure theory or supported by

historical conjectures based purely on the earliest empirical evidence for the use of money which led to frequent examples of historical inaccuracy — such as the confusion between coinage and money, as stressed by Grierson (1977).

This approach, which uses historical and sociological elements to the study of money, follows the tradition of the German Historical School, and, during the *Methodenstreit* — the debate on the methodology of the social sciences —, was ruled out as the mainstream method in favor of the models of barter exchange economy, real analysis, methodological individualism and rational utility maximization. Any theory of money would have to fit in these postulates and, therefore, the Theory of Commodity Money became the mainstream theory on the matter, focusing on microfoundations and ruling out the complex social-economic structure related to money.

Ingham (2005) also stressed the subject of the nature of money became especially entangled during the *Methodenstreit*, due to the conflict between economic theorists, historians, and sociologists. Economic theorists distinguished money from credit: precious metal commodities were 'money proper' and served as the basis for bank credit expansion. Credit, on its turn, was a proxy for a real thing: metals. The opposing view held by the Historical School postulated that money is credit, a token claim, independent from its form. The most radical side of the Historical School even proposed that money is a complete abstract value, constructed socially and politically. With the settlement of *Methodenstreit* after World War I, the concept of money developed by economic theorists became the predominant view on the subject.

Wray (1993, 2006) highlighted that complex social-economic structures, characteristic of most societies, either pre-capitalist or capitalist, represents a major obstacle for the use of a comparative method, but that does not prevent us from using it. For him,

> economic phenomena are difficult to disentangle from other, more general, pre-capitalist social behavior. However, this does not mean that the comparative economist's task is impossible. In capitalist society, economic behavior achieves its highest degree of liberation from other social activities; the economy of the capitalist society is the least "embedded." If one can develop an understanding of economic phenomena of a capitalist economy, one may use the comparative method to develop an understanding of pre-capitalist economies and improve one's understanding of the capitalist economy. This is because, as Stanfield argues, the "facts" of the capitalist economy were already embedded in noneconomic social relations of pre-capitalist societies (Stanfield 1986, p. 54). These phenomena become more obvious in capitalist society; once we understand their functioning within a capitalist economy, we may contrast this with the role they play in pre-capitalist economies. (Wray, 2006, p. 7).

Thus, for Wray (1993, 2006), understanding modern money helps understand pre-capitalist money. Once economic phenomena are also found in ancient societies, the use and forms of modern money can be contrasted with its uses in pre-capitalist societies, and this exercise is essential “for informed speculation on the origins of money”. (Wray, 2006, p. 7–8).

This reasoning is in line with Schumpeter’s (2014, p. 14–19) propositions. He stated that his theory of money and credit transactions takes modern form, and is oriented to modern problems, instead of working from the most primitive state possible. He justified that by asserting that his scheme of analysis is applicable to all monetary system observed, with eventual adjustments, with the exclusion or inclusion of some features.

> This procedure, which thus objectively juxtaposes problems pertaining to different times and incommensurable cultural worlds, and in which the historic final shape of our subject matter becomes the basic theoretical form or the most proximate “actual” neighbor of the theoretical form, now raises two fundamental questions. (Schumpeter, 2014, p. 14)

The first question regards the different meanings of money in the minds and behavior of people of different cultures. For that reason, we should focus on the role of money in the economic life process. In other words, it seems more appropriate to take money into consideration in market exchange economies. Despite the differences in monetary relationships of different epochs, one should attain to the element common to them to conform a theory of money.

The second question regards the origin of money. Once our complex modern monetary and credit transactions have been developed from primitive and historically early conditions, the expected starting point of an analysis of money must be its prehistoric origins. For that reason, it is important to expand the analysis in time and space as much as possible, always bearing in mind that the social conditions of primitive people are neither simpler nor less complex than the current ones.

The opposing methods aforementioned not only lead to different theories of money, but also reinforces the complexity of the methods regarding economics and other social sciences.

Dow (1993, p. 7–15) stressed that methodology in economics has, traditionally, followed two paths: (1) formulation and testing of theories, just as in physical sciences;

and (2) followed normative lines, postulating specific practices as appropriate or recommendable to the discipline. Yet, due to the complexity of reality, economic theory, just as any other social sciences, has to abstract from certain elements of reality and makes use of different methods for formulating and testing theories: on one extreme of the spectrum, theories consisting of logical deductions from basic axioms are placed; on the other, theories which may be subject to empirical testing; in between them, there are several combinations of induction and deduction. Thus, economics has benefited from both methods, and preferences among economists have swayed between one and the other, despite deduction being traditionally the dominating method in Economics.

2.3 Methodology

The methodological procedure adopted in this thesis followed closely the proposition put forward by Lawson's (2022). According to him,

> Before it is possible to identify the nature of a kind of thing there must be a way of delimiting the field of candidate instances of the kind. We need a way to nominally identify a field of candidates before seeking to uncover their common natures. We may initially identify dogs, say, by their common rough shape and propensity to bark and wag tails, before locating their nature in their genetic code. Similarly, humans, throughout history, have identified water in numerous ways according to its properties everywhere found to be useful, before science uncovered the nature of the stuff so identified at the level of its molecular structure in the form of a collection of H2O molecules. (Lawson, 2022, p. 3–4).

The candidates for the study of the nature of money are, therefore, The Theory of Commodity Money and the Credit Theory of Money. Following Lawson's (2002) scheme, the next step consists in selecting a method for collecting and grouping things according to shared and identifiable properties, aiming to reveal implicit or hidden properties of the object. Applied to the analysis of money,

> the method is first to determine a set of properties that are reasonably associated with money, that serve to identify it, and then to focus on the items that bear these properties, setting about uncovering the additional properties in virtue of which the identifying properties are possessed. We need to identify money's nominal essence before we can hope to reveal its real essence or nature. (Lawson, 2022, p. 4)

Besides the regular practice of analyzing money exclusively from its classical functions, the set of properties associated with money considered here are three

parameters used to limit the scope of this research: money, credit and debt. It is important to highlight that, due to the intrinsic relationship between money, credit and banks, it is essential to briefly touch upon the subject of banking. However, since the object of this investigation is money and credit, it is out of the scope of this thesis to provide a profound analysis of banking theories or the banking system.

The methodological procedures to be followed in this thesis consisted, initially, of a bibliographic survey in the fields of Monetary Economics, Political Economy, History of Economic Thought, Macroeconomics, International Economy, Economic Anthropology, Economic Sociology, Accounting, Economic Law, and Research Methodology. For the selection of relevant literature, considering the vast material on the subject, the following limiting parameters were adopted: (1) the literature surveyed and analyzed consists exclusively of books and articles written from the 18th century until recent times; (2) renowned scholars of different schools of economic thought were reviewed, firstly, to encourage the plurality of ideas, and, secondly, because the debate among authors of different traditions serve as critical literature to their opponents; (3) cross-analysis of the most cited bibliographies is wielded.

The selected literature pertinent to the object of the thesis was summarized and presented as part of the literature review of this study, which provided the theoretical framework for the development of the analytical part of this research, which, following mostly an inductive approach, sought to answer the research question that triggered this investigation.

2.4 Structure of the thesis

This thesis will be organized in three parts: (1) Introduction; (2) The nature of money; and (3) Rethinking the theory of Money.

The first part, *Introduction*, consists of two chapters: (i) Introduction, providing an overview of the object of study; and (ii) Methodological procedures, which presents the research problem, objectives, methodology, structure of the thesis and a brief discussion on method and money.

The second part, *The nature of money*, comprehends the literature review, providing the theoretical framework of the research. This part divided in three chapters: (i) Introduction, which presents a general overview of the two theories to be presented; (ii) the Theory of Commodity Money; and (iii) the Credit Theory of Money.

The third and final part, *Rethinking the theory of money*, encompasses the analytical part of the study, including a discussion of literature, presentation of the results of the research and the final remarks of the thesis. This part will be divided into two chapters: (i) An interdisciplinary approach to money; and (ii) Conclusions.

PART II: THE NATURE OF MONEY

3 INTRODUCTION

Understanding money remains an unsolved mystery, despite the vast evidence in literature of the various kinds of monies employed in different parts of the world. As Keynes (1930a, p. 13) affirmed, "money, like certain other essential elements in civilization, is a far more ancient institution than we were taught to believe some few years ago".

Considering that money is likely to have evolved out of social needs, related to either commercial, legal, or political matters, and considering the plurality of social organizations and needs, one cannot discard the possibility that money emerged simultaneously in different areas of the world[2]. Shubik (2013) stated that from what it has been learned from Aristotle, the Greeks treated money as a tool used to facilitate individual exchange, whereas the early Chinese history points that money was a key tool of the state.

Friedman (1951) affirms that confusion regarding *currency arrangements* has been frequent. Also, the forms of money are immersed in a mass of confusion. The problems of the nature and forms of money became intrinsically tangled. Hahn (1987, p. 24–25) suggests that it is preferable "to take the institution of money as given and to ask why and how it survives". But that does not really help understand money. Another form of analyzing money has been taken by scholars like Lerner (1947) and Wray (1998), who deal mainly with modern money, which is seen as a creature of the state.

The economic literature, following Smith, have thoroughly diffused one approach to the matter and this interpretation of the emergence of money have been the dominant view on the subject. The deductive method which provides the basis of this theory, postulates that, among various statements, a valid conclusion among them can be deduced if evidence and facts provided are valid and true. Regarding money, historical evidence and artifacts available at the time of the writings of Smith, mostly commodity-related, served as the basis for the assumption that money is a device which

[2] According to Menger "with the progressive development of social economy, money came to exist in numerous centers of civilization independently. But precisely because money is a natural product of human economy, the specific forms in which it has appeared were everywhere and at all times the result of specific and changing economic situations. Among the same people at different times, and among

evolved from a certain kind of commodity. Credit would have emerged as a substitute to genuine (commodity) money in later times.

According to Innes (1913), the Smithian-approach, despite the backing of some passages in Homer and Aristotle, have been questioned for

> modern research in the domain of commercial history and numismatics, and especially recent discoveries in Babylonia, have brought to light a mass of evidence which was not available to the earlier economists, and in the light of which it may be positively stated that none of these theories rest on a solid basis of historical proof [...]. (Innes, 1913, p. 14).

This fragility is also acknowledged by Menger (2004, p. 264–265) who stated that "cattle were used as currency by the Hebrews, by the peoples of Asia Minor, and by the inhabitants of Mesopotamia, in prehistoric times may be supposed although we cannot find evidence of it".

In the pursuit for an alternative theory of money, and in the light of newfound evidence, Graeber (2011) affirmed that, among the most important economists, Keynes was the major name to commit himself to an alternative approach to money. In his attempt to ascertain the origins of money, Keynes spent years studying Mesopotamian cuneiform banking records, leading him to his so-called "Babylonian madness".

Innes (1913, p. 30–35) highlighted that, among recent discoveries, one is particularly interesting and helps understand ancient money: ancient Babylonian tablets used as commercial documents were used from 2,000 to 3,000 years BCE, registered various information regarding commercial transactions and contracts, and served as acknowledgments of indebtedness. These records were kept in temples, which aside their religious activities, served as "banks" in old times. Alongside them, the Babylonian code of law dealt with the law of debt. In an analogy to modern instruments of credit, Innes (1913) affirmed these tablets correspond to medieval wooden tallies and modern bills of exchange and, thus, credit is older than cash.

By taking this alternative approach, the order of "evolution" of money postulated is reversed, contrary to what is postulated by The Theory of Commodity Money. Money originated from credit, and not the other way around. Thus, money is credit, although credit is not always money. Credit does not necessarily imply economic credit, or purchasing power, for it exceeds the realm of economy and also has a moral

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different peoples at the same time, different goods have attained the special position in trade described above". (Menger, 2004, p. 262–263).

element attached to it. (MacLeod, 1891; 1893; Innes, 1913; 1914; Graeber, 2011). It is through the exercise of personal credibility and its employment as purchasing power that money enters economic analysis. Money represents the highest form of credit, as coined by MacLeod (1891). Its function is to release from debt and since the only way of cancelling a debt is with the use of a credit, money is credit. It is the ultimate means of payment.

Regarding the accounting aspects of credit, it is important to state that credit and debit are accounting identities[3], and so are assets and liabilities[4]. Some scholars, as MacLeod (1891), Innes (1913) and Graziani (1990) stated that money is credit; others, that money is a debt, as asserted by Keynes (1930a), Commons (2017[1934]) and Wray (2015). Although there is no difference in accounting terms, from the standpoint of the issuer, money is debt; from the standpoint of the holder, money is a credit. In other words, following the fundamental accounting equation, for every debt there is always an equivalent asset associated to it, which is which depending on the standpoint taken: for the issuer, it is a liability; for the holder, an asset.

The issuance of a debt brings about the dimension of futurity: in Minsky's terms (2008[1986]), it creates money today—money tomorrow contracts, or, in MacLeod's terms (1891; 1893), it creates a set of legal obligations, namely, rights and duties. (Minsky, 2008; Commons, 2017; MacLeod, 1891; 1893). Some of these debts created may circulate, some at par, some at discount. As such, they represent new means of payment, *i.e.*, money newly created. Although the issuance of debts has been one of the main activities of banks and other financial institutions, it is not an activity restricted to them. As Minsky (2008) affirmed, anyone can create money (debt); the problem is to get it accepted. Thus, issuance of debts and their subsequent acceptance by the public involve a subjective component crucial to any financial institution: credibility.

The notion that money is a debt is eventually applied to money issued by the state, giving rise to the idea that the national currency is a debt owed by the State to its citizens. The state issues money (as well as public bonds) as a way of financing its activities. Therefore, notes are credits that the public holds against the government, which can be settled through the payment of taxes.

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[3] Following the principle of double-entry bookkeeping: Credit ≡ Debit.

[4] The fundamental accounting equation or balance sheet equation is expressed by the expression: Assets = Liabilities + Equity.

Another explanation for the use of state money follows a hierarchy approach: payments between agents usually are made using the money issued by a third agent, preferably one with greater credibility and economic and political power. State money, therefore, places higher in the hierarchy than any other private money.

The understanding of money became even more “mysterious” with the use of credit transfers. The method dispensed altogether the use of classical monetary instruments in transactions, as coins and notes, although some sort of material thing is still needed for the *record* of such operations. Credit money, therefore, has been dissociated from its common physical forms.

What, then, is the nature of money? And what is the relationship between its nature and forms? Do their tangible characteristics represent the intangible ones? Or is there more to money than merely the forms it takes to operate in an economy?

The following two chapters of this study aim to explore the economic literature which fundaments the theories of commodity money and credit money. To do so, not only the nature of money, but also the influences of credit, banks, and the state are to be considered, for they have been and still are part of monetary systems, either in modern or more ancient forms.

4 THE THEORY OF COMMODITY MONEY

4.1 Introduction

The objective of this chapter is to present the general lines of the Theory of Commodity Money, as part of the literature review of this study. Therefore, the ideas and concepts summarized and presented here express the positions taken by scholars aligned with such theory. An analysis of this theory will be presented only in the third part of this study.

The Theory of Commodity Money postulates that money emerged as the means of facilitating commerce and overcoming the inconveniences of direct exchanges. Being a commodity by nature, the value of money is derived either from the value of the commodity in which it is made of, or from the commodity backing it. Therefore, fluctuations in the value of both the commodity and money lead to fluctuations in prices, for prices are taken as a monetary representation of value.

Although this is a highly synthetic summarization of the theory, these main assumptions help elucidate how the Theory of Commodity Money incorporates different economic theories, such as the theories of exchange, production, value, and prices, attempting to create a sound framework for economic analysis. This may possibly be one of the reasons why it has become the dominant theory of money, possibly benefiting from being built on deductive basis, the main method used by classical and orthodox economists. In its own way, the Theory of Commodity Money helps explain many economic matters.

This chapter aims to explore the Theory of Commodity Money, considering initially the origin of money, its nature, and the commodities employed as money in ancient and modern times. Following an evolutionary approach, this theory postulates that commodity monies are supplanted by metallic money and, afterwards, paper and token money. It is necessary, therefore, to describe the characteristics and distinctions between metallic, token and paper money. Due to the emergence of representative money — namely, token money and paper money —, credit is taken as a form of economizing metals, and the banks played an important role in this process. The influence of banks in the substitution of metallic money for representative money may then be briefly explored. Subsequently, the forms of credit will be analyzed. Last, the final remarks of this chapter attempt to highlight some implications of the adoption of

this theory for economic literature and, also, briefly touch on the position taken by current orthodox scholars regarding the theory of money.

4.2 The origins and nature of money

Although not many economists have devoted themselves to the study of the origins of money — some, as highlighted above, have taken it as a given institution —, those who engaged in such analysis often departed from the notion of a natural economy, or a non-monetary economy, in which money does not exist and exchanges are performed through barter. The mechanism of exchange, therefore, consisted of direct exchanges of goods.

The proposition of this idea may be attributed to Smith (1979), and many followed him, as Menger (1892) and Jevons (1896). Mill (1965), Marshall (1929)[5] and Jevons (1989)[6] affirmed that barter was supposedly employed both in domestic and international trade.

This is not a dominant assumption, though. Mises (1990) sides with the Theory of Commodity Money, when it comes to the nature of money, but questions the existence of a pure barter economy, calling it a "hypothetical concept which has no counterpart in reality" (1990, p. 69–70), but which helps support the reasoning of marginal utility economics. He goes even further saying that "from this assumption of a market without money, the fallacious idea of neutral money is derived" (Mises, 1990, p. 70). Menger also doubts that "all commodities, at a definite point of time and in a given market, may be assumed to stand to each other in a definite relation of exchange, in other words, may be mutually exchanged in definite quantities at will". (Menger, 1892, p. 243).

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[5] "[…] early origins of money were in a sort of international trade which made its appearance at the periodical meetings of neighbouring clans for trade. At such meetings, which were akin to fairs, barter dominated; there being no place as a rule for credit: but it was supplemented by the use of some things of trifling nature which were used as media of exchange". (Marshall, 1929, p. 266).

[6] "In early times foreign trade consisted in the direct exchange of commodities. A caravan set out with a variety of manufactured articles, across the deserts of Arabia or Sahara, and came back with the ivory, spices., and other valuable raw produce obtained by barter. In later times the merchant loaded his own ship and sent her forth on an adventure, trusting that his shipmaster would sell the cargo to advantage, and, with the proceeds, bring back another cargo to be sold to great profit at home. Trade was thus evidently reciprocal, and what was sent out paid for what was brought back, so that little or no money was kept idle in the mean time". (Jevons, 1896, p. 299).

Marshall (1929) affirmed that exchanges of goods were not exactly performed by barter, since in a communal society[7],

> Things were given and others received in return; and help was lent by one man to another, with the understanding that its equivalent would be rendered on occasion. But the notion of a definite measurement of give and take, whether in regard to exchanges that were completed in a single transaction, or to the return for past aid in the form of labour or goods (advanced "on credit," to use a modern phrase) emerged but slowly. (Marshall, 1929, p. 265).

Marx (1990a[1867], p. 195) differentiated three forms of motion of social production: natural economy, money economy, and credit economy. Money and credit economies are interwoven forms and represent different relations of production, altogether opposed to a natural economy.

For some economists, the transition from a natural economy to a market economy is seen as a product of the division of labor. Smith (1979) affirmed that in rude states of society, man provided for their own needs, as they occurred[8]. With a simpler system of production, where man is the owner of the means of production and with no division of labor, production is limited and directed mainly for self-consumption. Making exchanges is likely to have been a rare event. The introduction and deepening of the division of labor led to specialization; man produced only a small part of his wants, sold the surplus of his produce, and demanded in the market the produce of other men's labor.

According to Marx (1990a, p. 132), "the division of labour is a necessary condition for commodity production, although the converse does not hold". Hahn (1987) highlighted that specialization, not only in production, but also in commercialization, reduces transaction costs, and trade by barter is more costly than a monetary exchange, for the latter is the cheapest way in which a market may be organized.

Mises (2009) also affirmed that the existence of money presupposes an economic organization founded on the division of labor. Production is performed

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[7] One interesting fact in Marshall (1929) is that he seems to use the word "barter" in substitution for "trade", and not in the sense of a natural economy like other economists. The way he described a simpler form of economic and social organization is similar to what Graeber (2011) described as "baseline communism".

[8] "When he is hungry, he goes to the forest to hunt; when his coat is worn out, he cloathes himself with the skin of the first large animal he kills: and when his hut begins to go to ruin, he repairs it […] with the trees and the turf that are nearest it." (Smith, 1979, p. 276).

mainly to satisfy the needs of others, rather than the needs of the owners of the means of production, and the markets are responsible for balancing production and consumption. Money facilitates the operation of the markets, acting as a means of exchange.

For Smith (1979), as consequence of the division of labor, specialization, and a natural propensity to exchange which turns every man into a merchant, money comes into play in a commercial economy. According to him,

> when the division of labour first began to take place, this power of exchanging must frequently have been very much clogged […]. One man, we shall suppose, has more of a certain commodity than he himself has occasion for, while another has less. The former consequently would be glad to dispose of, and the latter to purchase, a part of this superfluity. But if this latter should chance to have nothing that the former stands in need of, no exchange can be made between them. The butcher has more meat in his shop than he himself can consume, and the brewer and the baker would each of them be willing to purchase a part of it. But they have nothing to offer in exchange, except the different productions of their respective trades, and the butcher is already provided with all the bread and beer which he has immediate occasion for. No exchange can, in this case, be made between them. […] In order to avoid the inconveniency of such situations, every prudent man in every period of society, after the first establishment of the division of labour, must naturally have endeavoured to manage his affairs in such a manner, as to have at all times by him, besides the peculiar produce of his own industry, a certain quantity of some one commodity or other, such as he imagined few people would be likely to refuse in exchange for the produce of their industry. (Smith, 1979, p. 37–38).

Conversely, Marshall (1929) and Menger (1892) saw the emergence of money as a social product, originated from societal needs and economic development. Marshall (1929, p. 267) affirmed that a general medium of exchange started being employed without conscious purpose. Menger affirmed that

> we can only come fully to understand the origin of money by learning to view the establishment of the social procedure, with which we are dealing, as the spontaneous outcome, the unpremeditated resultant, of particular, individual efforts of the members of a society, who have little by little worked their way to a discrimination of the different degrees of saleableness in commodities. (Menger, 1892, p. 249).

Commercial activity is performed by direct exchanges in a barter economy and the inconveniences associated with them would soon be overcome with the intervention of money. According to Mises (2009, p. 29), the distinction between direct and indirect exchanges is precisely related to the existence of money and, with the increase of division of labor and economic development, indirect exchange became the standard for market exchanges. Direct exchange, though possible, became exceptional and rare.

Friedman (1992) and Jevons (1896) proposed something similar regarding indirect exchanges. Jevons (1896) stated that the emergence of money splits a barter transaction into two operations, a sale and a purchase, which, according to Friedman (1992), is the fundamental productive function of money.

For Marx (1990a, p. 203–209), this two-sided operation implies that, for the commodity-owner, a sale implies a conversion of commodity into money (C—M), and, for the money holder, a purchase implies a conversion of money into commodity (M—C), forming thus the principle of circulation of commodities which represents the metamorphosis of commodities, *i.e.*, a transformation from commodity-form into money-form, and then into commodity-form again. Sales and purchases are, therefore, identities. The employment of money means that the seller does not need to employ his recent acquired money in a purchase, and "circulation bursts through all the temporal, spatial and personal barriers imposed by the direct exchange of products". (Marx, 1990a, p. 208).

As Jevons stated,

> The earliest form of exchange must have consisted in giving what was not wanted directly for that which was wanted. This simple traffic we call barter or truck, the French troc, and distinguish it from sale and purchase in which one of the articles exchanged is intended to be held only for a short time, until it is parted with in a second act of exchange. The object which thus temporarily intervenes in sale and purchase is money. At first sight it might seem that the use of money only doubles the trouble, by making two exchanges necessary where one was sufficient; but a slight analysis of the difficulties inherent in simple barter shows that the balance of trouble lies quite in the opposite direction. […] money performs not merely one service to us, but several different services, each indispensable. Modern society could not exist in its present complex form without the means which money constitutes of valuing, distributing, and contracting for commodities of various kinds. (Jevons, 1896, p. 3).

Jevons (1896, p. 3–7) described three inconveniences associated with barter. The first is related to the double coincidence of wants: it is highly improbable to find people whose disposable goods will mutually satisfy each other's wants, thus allowing a direct exchange to be performed. For that reason, sellers and buyers will accept an intermediary commodity, money, which will be used in another act of exchange, so people can obtain the commodities desired. Money, thus, serves as a mere means of exchange. The second inconvenience concerns the rate of exchange between commodities: if one is to determine a pricelist in which a rate of exchange is to be defined for every other commodity, commerce could not be performed due to the

complexity of the system[9]. Thus, commerce benefits from the existence of a single standard in which prices are measured. The third and final inconvenience of barter is related to the need of dividing, cutting and fragmenting goods; some articles are indivisible and if the value of a commodity exceeds the value of another, exchange is unlikely to take place — even if the double coincidence of wants is found.

Jevons considered the problem related to the double coincidence of wants a major inconvenience of barter. Marshall (1929, p. 269–271) dealt with the same problem offering a different explanation founded on the principle of marginal utility. In his explanation, he considered two individuals, *A* and *B*, engaged in bartering apples and nuts, respectively. The satisfaction each personal would get from barter would lead to different exchange rates: for example, *B* would exchange apples for nuts at a rate 1:12 and *A* would exchange nuts for apples at a rate 3:1.

> The exchange will be started somewhere between these two rates: but if it goes on gradually, every apple that A loses will increase the marginal utility of apples to him and make him more unwilling to part with any more: while every additional nut that he gets will lower the marginal utility of nuts to him and diminish his eagerness for more: and vice versa with B. At last A's eagerness for nuts relatively to apples will no longer exceed B's; and exchange will cease, because any terms that the one is willing to propose would be disadvantageous to the other. Up to this point exchange has increased the satisfaction on both sides, but it call do so no further. Equilibrium has been attained; but really it is not the equilibrium, it is an accidental equilibrium. (Marshall, 1929, p. 269–270).

A true equilibrium would only be achieved if some intermediate rate is attained. Barter, then, would not be compromised and both people were willing to trade, for example, the rate six nuts for an apple (6:1). Above it, both marginal satisfaction and trade would be compromised. Other problems related to trade regard the power of bargaining and consumer behavior, both which may difficult the finding of a true equilibrium, and, according to Marshall, equilibrium is unlikely to be reached in practice. Exchanges increase satisfaction of both agents up to a certain point; beyond that, no further exchange happens, otherwise it would diminish the satisfaction of one of them. Equilibrium, thus, is arbitrary. (Marshall, 1929, p. 270–272).

For Marshall, the uncertainty which surrounds this equilibrium position disregards whether a commodity is bartered for another, or a commodity is sold for money and, for that reason, "the real distinction then between the theory of buying and

[9] Marshall (1929) follows a similar argument, stating that "a price list for 200 commodities would need

selling and that of barter is that in the former it generally is, and in the latter it generally is not, right to assume that the marginal utility of one of the things dealt with is practically constant." (Marshall, 1929, p. 271–272).

The inconveniences proposed by Jevons (1896) followed closely Mill's propositions (1965), who attributed to money a pivotal role for the division of labor: without a common media of exchange, the difficulties of barter would limit the extent of the division of labor. "A tailor, who had nothing but coats, might starve before he could find any person having bread to sell who wanted a coat: besides, he would not want as much bread at a time as would be worth a coat, and the coat could not be divided." (Mill, 1965, p. 503).

Regarding the problem of calculation of prices, *i.e.*, the rate of exchange among commodities, Mill (1965) affirmed that the best way to understand the benefits of a circulating media is to analyze how the process of exchanges would be done without it, for ascertaining the rate at which one commodity would be exchanged for another would be a complex task. Even if a person found a rate to perform the exchange, in the case of a single operation, every other person would demand new calculations for exchanges with other goods. Money, then, makes it

> easier to compare different lengths by expressing them in a common language of feet and inches, so it is much easier to compare values by means of a common language of pounds, shillings, and pence. In no other way can values be arranged one above another in a scale; in no other can a person conveniently calculate the sum of his possessions; and it is easier to ascertain and remember the relations of many things to one thing, than their innumerable cross relations with one another. This advantage of having a common language in which values may be expressed, is, even by itself, so important, that some such mode of expressing and computing them would probably be used even if a pound or a shilling did not express any real thing, but a mere unit of calculation. It is said that there are African tribes in which this somewhat artificial contrivance actually prevails. They calculate the value of things in a sort of money of account, called *macutes*. They say, one thing is worth ten *macutes*, another fifteen, another twenty. There is no real thing called a *macute*: it is a conventional unit, for the more convenient comparison of things with one another. (Mill, 1965, p. 502–503).

With a common unit of measurement, prices may then be measured and compared. This, alongside the previous benefits derived from money, helped overcome the problems of direct exchange and represented the inflexion point from natural to monetary economies, putting an end to the system of barter, which, according to Mill (1965), was employed even in international trade.

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but 200 entries: a list of rates of barter would need 39,800 entries." (Marshall, 1929, p. 268–269).

> All interchange is, in substance and effect, barter: whoever sells commodities for money, and with that money buys other goods, really buys those goods with his own commodities. And so of nations: their trade is a mere exchange of exports for imports: and whether money is employed or not, things are only in their permanent state when the exports and imports exactly pay for each other. (Mill, 1965, p. 631).

As soon as money came into existence, both in international and domestic trade, it would have established itself as the instrument of commerce in which everything is readily exchanged, becoming, thus, "the great wheel of circulation". Its only purpose would have been to circulate goods (Smith, 1979, p. 291; 438–439), and, for that reason, "money is to commerce only what oil is to machinery, or railways to locomotion – a contrivance to diminish friction" (Mill, 1965, p. 633–634). In other words, money eliminated the inconveniences of barter. Again, the era of natural economy would have ceased, and the era of monetary economy would have started.

The role of money in commerce and its relation to goods is explained by Smith (1979, p. 438–439), who postulated that goods serve many purposes, including being money; money, conversely, serves one only purpose: buying goods[10]. That happens because one who buys goods generally does it for his/her own consumption, and not for selling it afterwards — *i.e.*, exchanging goods for money again. Conversely, one sells something to buy again. Thus, according to Smith, men do not desire money for itself, as an object, but for its purchasing power. Marshall (1929, p. 38) followed Smith when he stated that money "is not desired mainly for its own sake, but because its possession gives a ready command of general purchasing power, in a convenient form". By acting as a mere medium to facilitate exchange, the grounds for the development of the notion of neutral money have been laid.

4.3 The process through which a commodity becomes money

It is important to learn the process by which a commodity is elevated to the status of money. Monetary history records display an enormous number of examples of commodities which have been used as money.

[10] "Money, therefore, necessarily runs after goods, but goods do not always or necessarily run after money". (Smith, 1979, p. 438–439).

Menger (1892) described the phenomenon in which some commodities became universally accepted as a means of exchange based on the principle of utility[11]. The exchange of goods for apparently useless instruments as coins or documents, mere means of exchange, might seem contradictory, but it is not: man exchanges a commodity for another of higher utility.

According to Mises (2009), due to the different marketability of goods, the commodity with higher marketability would have risen into the category of money, becoming the means of exchange. The requirements of the market would have selected the media which would serve as money[12] in a world where direct exchanges ceased to be the pattern of commerce and became restricted to a different sphere of social life. For Jevons (1896), direct exchange or barter prevailed as the pattern of commerce only in uncivilized societies, whereas, in modern society, this became a sort of imaginary form of exchange, eventually used in advanced commercial countries only when its inconveniences are not present.

Marshall affirmed that the selection of a general medium of exchange fulfills two main conditions: (1) the medium satisfied human needs either as a commodity or as an ornament; and (2) its quantity could not be easily increased. He also stated that supporting these conditions, there is an important element: trust, or credit. Regarding money, people are expected to act in the same way in the future as they did in the past. In other words, some sort of medium will not be employed in exchange if people's expectations are frustrated, or if the medium lost prestige. (Marshall, 1929, p. 267).

According to Wicksell (2010[1935]), in lack of anything concrete about the origins of money, the supposition that a certain exchangeable commodity, according to its suitable properties, would be elevated into the category of money seems acceptable. Tribes would accept some commodity in trade with a caravan, then reserve it to trade with another. The most accepted commodity would then become the media of exchange in that tribe. As it became widely accepted, money became a universal instrument of commerce.

The advantages of a common medium of exchange is that, based on the principle of acceptability, everyone in the market is willing to accept a certain medium. Even

[11] "It is obvious even to the most ordinary intelligence, that a commodity should be given up by its owner in exchange for another more useful to him." (Menger, 1892, p. 239).
[12] "Thus there would be an inevitable tendency for the less marketable of the series of goods used as media of exchange to be one by one rejected until at last only a single commodity remained, which was universally employed as a medium of exchange; in a word, money." (Mises, 2009, p. 32–33).

though one does not really need it right away, one will accept it because everyone else will accept it too. (Marshall, 1929; Jevons, 1896; Menger, 2004).

Marshall (1929) affirmed that, despite the competition of several goods, a certain type of commodity would be selected through the principle of competition and then be established as money. It is at this stage that many examples of commodities were used as money. With the evolution of commerce, metals would become the universal media of exchange and metallic standards became the norm for monetary systems.

Marx (1990a) explained the emergence of a medium of exchange as the result of a social action which set aside a particular commodity among others. This commodity became a universal equivalent in which the value of all other commodities is expressed: money. Any commodity may become a universal equivalent, but once one has obtained that status, it obtains a social function and monopoly among all other commodities.

According to Friedman (1992), there is no satisfactory answer to how a certain kind of commodity became money, but he sided with the view that the custom of using a certain kind of commodity led to the social convention and use of a specific medium.

Records of commodities used as primitive money are immense: fish, beaver skins, furs, salt, shells, tobacco, sugar, metals and so on. (Wicksell, 2010; Marshall, 1929; Smith, 1979; Jevons, 1896). One instrument which deserves special attention for its peculiarity is livestock. According to Smith (1979), cattle had an important role as instrument of commerce, despite its inconvenience[13].

Marshall[14] (1929) and Jevons[15] (1896) disagreed with Smith regarding such inconvenience, stating that livestock not only transported themselves, but also yielded an income for farmers and pastoral peoples. These were important characteristics in nomadic times but, as soon as men settled and land became scarce — *i.e.*, with the

[13] "In the rude ages of society, cattle are said to have been the common instrument of commerce; and, though they must have been a most inconvenient one, yet in old times we find things were frequently valued according to the number of cattle which had been given in exchange for them." (Smith, 1979, p. 38).
In this passage, Smith mistakes two distinct aspects of money: the unit of account, in which prices are defined, and the money object itself, employed in exchanges.

[14] "Among pastoral and agricultural peoples with abundant territory the first place was taken by cattle (or in some places by reindeer, buffaloes and other live-stock); because they transported themselves; and, though the individual perished, the stock could be maintained permanently: it yielded an income and was a source of increase of capital – a term which is said to be derived from caput or head of live stock. And when land became scarce in a more settled civilization, symbolic representations of cattle, impressed upon strips of leather were used as currency: thus foreshadowing the credit value of the inconvertible paper currency of later days." (Marshall, 1929, p. 266).

[15] "In the next higher stage of civilization, the pastoral state, sheep and cattle naturally form the most valuable and negotiable kind of property. They are easily transferable, convey themselves about, and can

transition from nomadic and agriculture life to handcraft activity —, livestock ceased to be the medium of exchange, serving only as the monetary standard[16], according to custom and social convention (Marshall, 1929; Menger, 2004). Ancient German codes of law, for example, used livestock to determine fines and penalties. In countries where slavery took place, slaves also served as a medium of exchange (Jevons, 1896; Marx, 1990a).

Mill (1965) stressed that in the choosing of the medium of exchange, the conservation of commodities was an important element considered, otherwise deterioration would lead to the destruction of money. Thus, besides divisibility, durability was another key element, leading to the choosing of metals, though first in uncoined form.

Smith (1979) stressed that using raw metals had two inconveniences: weighing and assaying them. Small differences in quantity of precious metals implies great differences in the value. Weighing metals required accurate weights and scales and certifying their quality required skills and instruments to guarantee that the composition of the metal had not been adulterated. The difficulties involving the use of metals in a rude state might have led to frequent frauds.

Still according to Smith (1979), money started being coined for three reasons: (1) to prevent frauds; (2) to facilitate exchanges; and (3) to encourage industry and commerce. Afterwards, a state certification was given to coins in the form of stamps and signs impressed on the coins, guaranteeing the quality of the metals and giving origin to coined money and public mints. The latter was responsible for ascertaining quantity, uniformity and quality of the material by putting a public stamp on them. As soon as money have come into existence, one is able to understand its nature.

4.4 The nature of money

Adherents to the Theory of Commodity Money postulate that money is, by nature, a commodity. Eventually, money assumed the form of a *claim* to a commodity. According to Menger (1892), regarding the nature of money,

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be kept for many years, so that they readily perform some of the functions of money." (Jevons, 1896, p. 21).

[16] Friedman (1951), discussing about currency arrangements, stated that monetary systems might be organized under either a commodity standard or a fiat standard. The commodity standard may be strict or

> philosophers, jurists, and historians, as well as economists, and even naturalists and mathematicians, have dealt with this notable problem […]. What is the nature of those little disks or documents, which in themselves seem to serve no useful purpose, and […] pass from one hand to another in exchange for the most useful commodities […]? Is money an organic member in the world of commodities, or is it an economic anomaly? Are we to refer its commercial currency and its value in trade to the same causes conditioning those of other goods, or are they the distinct product of convention and authority? (Menger, 1892, p. 239–240).

Having supposedly emerged from the realm of commerce, Menger (1892; 2004) postulated that a theory of money implies a theory of the saleableness of goods and, for that reason, money is neither a product of social convention nor enforced by legislature[17], though custom is important to understand the process in which a certain commodity becomes money[18]. Money came into existence in a very organic way, in various areas in an independent way, and it was not invented by anyone, but a result of the awareness that different saleableness of commodities would single out one of them, the one with the highest attribute, and this would allow men to achieve whatever economic purpose they have. Therefore, "money is a natural product of human economy" (Menger, 2004, p. 263) which assumes different forms according to specific and changing situations, as result of economic dynamics.

By uniting the theories of money and exchange, and by stating that money is singled out among other commodities, Menger implies that money is nothing but a commodity, but a commodity with some special characteristic, for it had been singled out among others.

Marx (1990a) followed a similar path in understanding the nature of money and associating money with a theory of exchange. By being a commodity by nature, it is also liable to the commodity fetish. Marx (1990a) affirmed that

> In the last decades of the seventeenth century the first step in the analysis of money, the discovery that money is a commodity, had already been taken;

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partial. In the first case, the medium of exchange consists of one commodity or a group of commodities; in the second case, titles and/or warehouse certificates serve as claims to the monetary commodity.

[17] "Discussing the activity of coinage and the guarantee given by the State in acknowledgment of weight and fineness of the coins, Menger said the influence of the State lead to doubts "as to whether money is a commodity at all. Indeed, it was finally declared to be something entirely imaginary resting solely on human convenience. The fact that governments treated money as if it actually had been merely the product of the convenience of men in general and of their legislative whims in particular contributed therefore in no small degree to furthering errors about the nature of money." (Menger, 2004, p. 282-283).

[18] "[…] custom and practice contributed in no small degree to converting the commodities that were most saleable at a given time into commodities that came to be accepted […] by all economizing individuals in exchange for their own commodities." (Menger, 2004, p. 260–261).

> but this was merely the first step, and nothing more. The difficulty lies not in comprehending that money is a commodity, but in discovering how, why and by what means a commodity becomes money.' (Marx, 1990a, p. 186).

But before understanding how a commodity becomes money, according to him, it is important to understand how a commodity appears. Marx (1990a, p. 163–166) explained that, to begin with, a commodity is a trivial thing which possesses use-value. By the employment of human's labor, its nature is changed, attaching to the natural properties of the thing a certain element of mystery or fetish. In other words, besides physical characteristics, commodities have an element of abstraction attached to it and money, perhaps more than any other commodity, is more liable to this fetish. A commodity assumes a money-form, not because all other commodities express their values in it, but because "all other commodities universally express their values in a particular commodity because it is money." (Marx, 1990a, p. 187). In other words, money assumes a position of monopoly among the expression of value of other commodities for it has previously confronted all other commodities and has won over that position[19].

The transformation of a commodity into money — *i.e.*, the money-form of a commodity — brings about more simplified relations between all commodities and it is the process of exchange that gives final form to money. For the benefit of exchanges, money cannot circulate as a commodity itself: it has to become either a symbol or a claim to it.

Mill (1965) postulated that money is a commodity whose value is determined in part by demand and supply, just like other commodities, and in part by the cost of production. He also linked the theories of money and market exchange, stating that money and goods seek each other, *i.e.*, they are supply and demand to each other and, thus, demand and supply of goods is equivalent to demand and supply of money.

Therefore, taking the trade and market as a starting point, Mill affirmed that "the introduction of money is a mere addition of one more commodity, of which the value is regulated by the same laws as that of all other commodities." (Mill, 1965, p. 631).

According to Wicksell (1962[1898]),

> In origin and substance, money—I mean concrete money, specie, which is the only kind of money that we are at present discussing—is undoubtedly a

[19] "From the mere look of a piece of money, we cannot tell what breed of commodity has been transformed into it. In their money-form all commodities look alike." (Marx, 1990a, p. 203).

> commodity. But so long as it circulates from hand to hand, it obviously cannot play the part of a commodity. On the other hand, as soon as it assumes the role of a commodity its role as money is at an end, or has not yet begun. How far its use as money, or how far its use as a commodity, is the predominant determinant of the exchange value of the money commodity, and consequently of the level of commodity prices, really depends, as we have already seen, upon purely quantitative relations. (Wicksell, 1962, p. 34).

By stating that money is a commodity in origin and by substance, Wicksell (1962) combined the nature and form of money. However, due to the increasingly use of a commodity as money and monetary stocks, the commodity aspect of the material is reduced, thus making the monetary characteristic prevail.

Wicksell (2010) postulated that due to the transformation of a commodity into money, its characteristics as commodity languishes, and money emerged as an abstract symbol. At this stage, due to a more developed monetary system, money departed from its commodity backing, giving origin to money substitutes and credit instruments[20].

For Wicksell (2010, p. 20–21), despite being a commodity, money is a special kind of commodity. For that reason, three considerations are put forward by him: (1) the value of money is not determined as the value of all other commodities; (2) because money is not a commodity intended for consumption, it cannot have marginal utility; and (3) the expressions *demand* and *supply* have a different meaning when related to money, different from their meaning regarding any other commodity.

Jevons postulated that "money is a kind of commodity, which has utility and value like other commodities" (1878[1871], p. 98) and "may be called current commodity, because it is merchandise chosen to run about as a medium of exchange". (1878, p. 105). Despite its peculiar and useful employment, it would never cease to be a commodity. Focusing on the aspects of acceptance and divisibility for the selection of the commodity money, Jevons affirmed that, in lack of a better material, any commodity may serve as money, as it can be noticed by the variety of commodities throughout history. The precious metals, though, for their special characteristics, prevailed as the commodity best suitable to serve as money.

Among classical economists, one deserving special attention is Ricardo (2004e[1816]; 2004c[1817], for he dealt with the nature of money indirectly, in a rather

[20] "[...] the characteristics of money as a commodity (its concrete qualities) are forced more and more into the background when it is used as a medium of exchange. […] Money is thus converted into an abstract symbol, a mere quantity of value. […] It would perhaps be more correct to say that, economically speaking, money is a quantity in two dimensions, quantity of value on the one hand and velocity of turnover or circulation on the other". (Wicksell, 2010, p. 19).

unclear way, as background to his analysis of the variations in the value of money. He postulated that

> Money, from its being a commodity obtained from a foreign country, from its being the general medium of exchange between all civilized countries, and from its being also distributed among those countries in proportions which are ever changing with every improvement in commerce and machinery, and with every increasing difficulty of obtaining food and necessaries for an increasing population, is subject to incessant variations. In stating the principles which regulate exchangeable value and price, we should carefully distinguish between those variations which belong to the commodity itself, and those which are occasioned by a variation in the medium in which value is estimated, or price expressed. (Ricardo, 2004c, p. 48).

The position taken by Ricardo seems ambiguous as to the nature of money[21]. It is not quite clear whether he treated the essence of money as a commodity or not. He affirmed that money is a variable commodity (2004c, p. 48; 86), although he fully understood and differentiated *monetary standard* from *monetary instruments*. The latter are commodities, but not the former. This interpretation is supported by the following excerpt from his *Proposals for an Economical and Secure Currency*:

> Commodities generally, then, can never become a standard to regulate the quantity and value of money; and although some inconveniences attend the standard which we have adopted, namely, gold and silver, from the variations to which they are subject as commodities, these are trivial, indeed, compared to those which we should have to bear, if we adopted the plan recommended. (Ricardo, 2004e [1816], p. 61).

Mises (2009, p. 79–84) postulated that money is an economic good, but a sort of good which is different from consumption and production goods. For him, the term money excludes commercial tools as account books, credit, certificates, claims, stocks, among others, although some of these are treated as medium of payment according to the law.

Once a certain good became the medium of exchange, and started being used in indirect exchanges, sales and purchases became independent acts. But this is not the only service money renders. "It also performs services when it rests in the till, as the most marketable good, in anticipation of its future use in trade as a generally used

[21] Despite Ricardo' ambiguity, his supporting of the Theory of Commodity Money may be inferred by some passages, such as the following. "By the abstraction of money from one country, and the accumulation of it in another, all commodities are affected in price, and consequently encouragement is given to the *exportation of many more commodities besides money*, which will therefore prevent so great

means of exchange." (Mises, 1990, p. 61). Regarding domestic money, Mises postulated that just because it is legal tender, money can be used in most commercial exchanges and in loan transactions.

In summary, despite important theoretical differences and specificities of each scholar, the authors aforementioned agreed on the fact that money is, by nature, a commodity. The process by which this commodity is chosen to serve as a means of exchange is an important point of divergence among these scholars, though. Therefore, despite some divergence regarding the origins of money, the nature of money is widely accepted by scholars associated with the Theory of Commodity Money.

4.5 Metallic, token and paper money

Among all commodities which served as money throughout history, precious metals have enjoyed the highest prestige, not only due to their characteristics and suitability for monetary uses, but also for their supposed contribution to the stability of the value of money. Despite their prominent position, a few problems were associated with the use of metals as money: being a commodity, metals were used for both monetary and industrial purposes; they also have been thoroughly used as ornaments and jewelry; being a limited natural resource, both the exhaustion and discoveries of mines supposedly influenced prices. These various uses implied a competition for employment in different activities. Furthermore, in modern times, as the international monetary system was founded on a metallic standard, the competition among countries for precious metals lead to several ideas in monetary economics as the Gresham Law, the benefit of a constant positive balance of trade to ensure a constant flow of metal to the countries, and the monetization and demonetization of metals, for instance.

Choosing a metal to serve as monetary standard was a delicate matter, though. Despite countries being mainly monometallic, different metals were employed for lower and higher denominated money for various reasons. Silver, for example, was bulkier than gold and, for that reason, more suitable for smaller payments. Conversely, gold was eventually employed for larger payments, although credit was frequently employed in its place. Marshall (1929, p. 267–268) stated that the development of industry and

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an effect from taking place on the value of money in the two countries as might otherwise be expected". (Ricardo, 2004c[1817], p. 141, emphasis added).

commerce led to an urgent diversification of the media of exchange. Some media were suitable for large dealings, whereas others, for small dealings.

Any commodity, in principle, might be used as money, although not all commodities have the necessary qualities to be so. The degree in which commodities may become money varies considerably. According to Mill,

> Though the qualities necessary to fit any commodity for being used as money are rarely united in any considerable perfection, there are two commodities which possess them in an eminent, and nearly an equal degree; the two precious metals, […] gold and silver. Some nations have accordingly attempted to compose their circulating medium of these two metals indiscriminately. (Mill, 1965, p. 524).

For Jevons, the metals, especially gold and silver, are more suitable to this purpose for seven reasons: (1) utility and value, (2) portability, (3) indestructibility, (4) homogeneity, (5) divisibility, (6) stability of value and (7) cognizability. (Jevons, 1878, p. 106–107; 1896, p. 31–40).

Regarding utility and value[22], Jevons (1896, p. 32–34) postulated that the exchange of money for other goods implies that money itself must be valuable, otherwise the exchange will not take place, and utility is the basis of value — or at least it was in earlier stages of society when regulation was absent. The utility of a commodity was a prior condition to its use as money. Afterwards, the utility of money depended on the services it rendered for a community.

Portability would be a key element in the selection of metals for money and had a strict relationship with value, weight, and bulk of the metal. Money must be easily carried with little cost and risk. Following this, it is easy to exclude some metals from monetary use, as iron, for example, although iron has been employed as money in earlier times. The risk of loss involving the transportation of animals also contributed to the abandonment of their use as money, not to mention their bulk. Considering the expansion of international trade, these were very inconvenient media of payment, for its cost, risk, and bulk of transportation. (Jevons, 1896, p. 34–36).

For its constant circulation in trade, perishable or breakable commodities were inadequate to serve as money. Indestructibility became an important requisite of money,

[22] "Utility is not a quality intrinsic in a substance, for, if it were, additional quantities of the same substance would always be desired […]. We must not confuse the usefulness of a thing with the physical qualities upon which the usefulness depends. Utility and value are only accidents of a thing arising from the fact that some one wants it, and the degree of the utility and the amount of resulting value will depend upon the extent to which the desire for it has been previously gratified". (Jevons, 1896, p. 9–10).

alongside homogeneity, which led to the standardization of money in weight, shape and form, guaranteeing the same value to the pieces. To guarantee this, the divisibility of the metals was an important element. (Jevons, 1896, p. 36–38).

The last attribute associated with metallic money is cognizability, which refers to the capacity of being easily recognized and distinguished from other commodities or substances. This characteristic is benefited by coinage, through which money receives a seal, inscription, impression or specific design, thus, being singled out among other materials as part of the process of standardization of money. (Jevons, 1896, p. 40).

Menger (1892) highlighted three characteristics of the metals chosen to be money which allowed them to become the medium of exchange: (1) their saleableness is higher than the rest of commodities; (2) they are qualified as to combine the main and subsidiaries functions of money; and (3) they are geographically distributed around the globe, despite their scarcity, and, compared to other metals, their extraction and elaboration are easier. For those reasons, economies in a higher stage of development have adopted the precious metals as money. But guaranteeing the genuineness and fineness of precious metals, as well as the division of money into small pieces, were demanding tasks and, apparently, the primary concerns involving money. These reasons led to the involvement of public officials who provided a stamp on the metal, freeing the trader of the burden of assuring the fineness and weighing. Metals would still have to be weighed, because coining would come into existence only at later times. According to custom in commerce, money was initially divided into pieces of a certain weight. Due to constant debasing by the masters of the mints, metals started being coined. (Menger, 1892, p. 252–253; 282).

Mill (1965, p. 503–505) affirmed that, despite the use of less costly metals, as history records, gold and silver have been preferred by most nations because they were easily obtained by industry, commerce, or conquest. In a rude state of civilization, after basic human needs were satisfied, the metals found their way among the organization of society in the form of ornaments, as a way of distinguishing individuals. With the importance they obtained in social fabric, they served both as a store of value and medium of exchange. People were willing to accumulate metals and jewels because, besides being imperishable commodities, it was certain that people would be eager to accept metals in exchanges for other kinds of commodities. Among the characteristics that made them a superior media of exchange, Mill highlighted that the value of metals fluctuates less in comparison to other commodities, for their costs of production are

more constant. Wicksell (2010, p. 8) stressed that commodities which are liable to drastic fluctuations are unsuitable for use as media of exchange.

Due to their durability and relative consistent value,

> Gold and silver, therefore, are more fit than any other commodity to be the subject of engagements for receiving or paying a given quantity at some distant period. If the engagement were made in corn, a failure of crops might increase the burthen of the payment in one year to fourfold what was intended, or an exuberant harvest sink it in another to one-fourth. If stipulated in cloth, some manufacturing invention might permanently reduce the payment to a tenth of its original value. Such things have occurred even in the case of payments stipulated in gold and silver; but the great fall of their value after the discovery of America, is, as yet, the only authenticated instance; and in this case the change was extremely gradual, being spread over a period of many years. (Mill, 1965, p. 504–505).

The use of metals for monetary purposes introduces the topic of coinage into the theory of money. Wicksell (2010, p. 32) affirmed that despite the little-known origin of coined or minted money, early coins were impressed with the images of things which had previously been used as media of exchange or as stores of value. He inferred that minting money aimed at facilitating exchange through the fixation of weight and fineness of the metals, although the act of valuing the metals by their weight did not ceased, despite the use of coins, as exemplified by biblical writings.

Unlike Wicksell, Jevons (1896, p. 54–56) believed that due to the early discovery of melting metals and fashioning objects in various forms by hammering, it is possible to ascertain with reasonable certainty that coined money was invented at about 900 BCE, at some time between the Homeric and Lycurgus times. The custom of sealing the coins can be found in Egyptian paintings and stamped bricks of Nineveh, and these seals were employed either for representing possessions or for ratification of contracts. Only afterwards they were used as an indication of authority.

The adoption of coined metals as media of exchange increased economic activity thoroughly. Friedman (1992, p. 46) stressed that payment by counting, and not by weighing, facilitated commerce immensely. Smith (1979, p. 56) highlighted that coining money was very convenient for advanced commercial nations, and benefited the progress of industry. He also stressed the conveniences of portability, security, and divisibility, for a small bulk of metal in the form of coin is easily hidden and transported. Metals in raw state are easily divided and their quality and purity are also easily certifiable. This task has been taken by public authorities which stamped both sides and sometimes the edges of the coins to certify their fineness (Smith, 1979). This

was not necessarily valid for early forms of coin which had only one side stamped, like early coins struck in Lydia and Peloponnesus (Jevons, 1896, p. 56).

Jevons (1896, 59–60) listed four factors to be considered when choosing the form of coined money: (1) to prevent counterfeiting; (2) to avoid debasing; (3) to avoid the removal of pieces of metal from the coin; and (4) to use the coin as a representation of artistic and historical representation of the state and the people.

The use of gold, silver and, eventually, copper in making coined money, disregarding the metal that served as standard, was of great convenience, for silver was employed for smaller and gold for larger payments[23]. This was possible due to a proportion fixed between metals, established by the government. (Smith, 1979, p. 56; Mill, 1965, p. 503–505; 524).

Jevons (1896), Wicksell (2010) and Menger (2004) stressed the use of alloys for coining, dispensing altogether the use of pure metal in coining. In fact, under a gold standard, for example, coinage of small-denominated money in pure metal would be unsuitable, for the coin would be very small. Conversely, silver or alloys served that purpose adequately. Wicksell (2010, p. 31) affirmed that even in early times, a type of alloy named "electron" made of gold and silver was used for coining money.

Jevons (1896, p. 51–52; 122) also mentioned the act of mixing precious metals and alloys as a fractional currency, and affirmed that metals have seldomly been used in pure state for coining. In fact, the absolute weight of the coin is irrelevant, because in the ordinary course of business, people do not inquire about how much metal is contained in a coin. He then distinguished between two types of money: standard and token. The value of a standard coin depends solely upon the value of the material it is made of, and it is independent of legislation; the public stamp serves as an indication and guarantee of the quantity of the metal. The value of token coins, conversely, is defined by force, law or custom. These two types of money are exchanged following a fixed ratio. Token money would circulate only within a certain country and, for also

[23] "In the Saxon times English money was made of silver only, but this was inconvenient both for very large and for very small payments. The best way is to use gold, silver, and bronze money according as each is convenient. In the English system of money, gold is the standard money and the legal tender, because no one can be obliged to receive a large sum of money in any other metal. If a person owes a hundred pounds, he cannot get rid of the debt without tendering or offering a hundred pieces of coined gold to his creditor. Silver coin is a legal tender only to the amount of forty shillings – that is, no creditor can be obliged to receive more than forty shillings in a single payment. Similarly, bronze coin is a legal tender only up to the amount of one shilling in all". (Jevons, 1878, p. 107–108).

being made of metal, may be accepted in other countries for their metallic content and value for melting[24]. (Jevons, 1896, p. 74–75).

Menger (2004, p. 266; 285) stressed that gold, silver and copper were all employed for limited purposes during the passage from cattle to metallic money, and the three metals were all used in their finished forms. As a result of commercial development, the inexpensive metals gave room to the most expensive in commerce. Due to international trade, the velocity of turnover of commodities, and the emergence of more suitable forms of money, coins enjoyed a subsidiary position in trade and became items whose face value is higher than its content value. The additional value of subsidiary coins is attributable to the fact they may be used to liquidate obligations with the issuer of that money, *i.e.*, the State.

Friedman (1951, p. 208) stressed that technological changes led to the growth of total output and, in consequence, demanded more resources for monetary uses. The use of a strict commodity standard became inviable due to economic development. Metals could be economized with the introduction of fiat elements into the monetary systems, or by using fractional reserves. Most western countries with metallic standard also wield large elements of a fiat standard, introduced either by convention or law.

Following a similar tradition, Marx (1990a, p. 221–224) explained that money would have taken the form of coins due to its use as circulating medium and, through the mechanism of circulation, the metallic existence of the material was transformed into a mere symbol, a representation of this material content. Gold, thus, is demonetized and does not circulate any longer. Circulation splits the real and nominal contents of coins, and, for that reason, token money may be employed in substitution to metallic

[24] In fact, the law prevented the exportation of specie money, though it was easily evaded, as stated by Ricardo (2004b). Only bullion could be sold as merchandise in international commerce, not money. But within a certain country, the notion that devalued money could be melted and sent abroad if the price of bullion was higher than the price of money constitutes one of the most famous laws concerning the circulation of money in monetary economics of the 19th century: the Gresham's law. The term was coined by Henry Dunning MacLeod after Sir Thomas Gresham, and it states that "bad money drives out good money". The general idea behind the law is that due to the rise of prices as consequence of the debased money, coins would be recalled and coined again, and new and heavier coins would enter circulation, but despite it, people continued to circulate the lighter coins in economic activity. In other words, one could interpret that money circulated at its nominal value. The heavier coins would be kept by people willing to use the metal of the coins for other reasons, as put forward by Jevons (1896). Friedman (1992) and Hayek (1990[1976]) highlighted the law was only applicable to cases in which different kinds of money were acceptable by law and a fixed rate of exchange between them existed. Then the law would be possible, for, once two kinds of money became perfect substitutes, debtor will use lighter coins to pay their debts and, by enforcement of the law, creditor will have to accept them. The former, then, could use the heavier coins in a more profitable way. Again, the nominality of debts prevailed due to the enforcement of the law.

money. Henceforth, the metallic content in token coins is arbitrarily determined by law, independently of their weight and value.

As soon as metallic coins turned into tokens, as result of increasing commercial demands and economic development, another form of money started being thoroughly employed for its convenience: paper-money.

According to Menger (1892, p. 254), the material accepted as money in a nation is always the one which serves the best interest of the nation. Precious metals had been previously accumulated and were introduced into commerce following the interests of the nations. In an analogous way, a less costly material can also be used as money, so long as it is in the interest of the nation.

Marx affirmed that just as token money came into existence as a representation of gold, paper money, at least initially, represented a symbol of gold and, therefore, a symbol of money. This symbolic money must acquire social validity, and this is done by the enforcement of money by the State. Paper money, then, became fiat money. This validity, though, is restricted to the boundaries of a community or country. Paper money possesses “a purely functional mode of existence in which it is externally separated from its metallic substance”. (Marx, 1990a, 225–226).

Two important distinctions are to be highlighted regarding fiduciary money. First, fiduciary money is not to be confused with fiat money. The former may be issued either by the state or private institutions and, just as it may happen with token money, it may become fiat money by enforcement of the law. But this is not always so, especially regarding fiduciary money used in international trade, as by example of bills of exchange. Second, fiduciary money can be convertible or not into metallic money or state money. In the former case, it represents a mere promise to pay in gold, which may take the form of bank notes or deposits and may be called representative money. In fact, for payment of large amounts of money, representative money is a more convenient means, for it is as valuable as coins, more easily hidden and less likely to be stolen. During the 18th and 19th century, the use of fiduciary money grew considerably, and this represented an important step towards the complete abandonment of a partial commodity standard and implementation of a pure fiat standard, something which would only happen in the 20th century, despite a few episodes of inconvertibility

decreed by the state.[25] (Friedman & Schwartz, 1969, p. 4; Friedman, 1992, p. 48–49; Jevons, 1878, p. 109).

Jevons (1896, p. 191) affirmed that despite the benefits represented by metallic money for the acts of exchange, nations started using representative monies, which represented titles of ownership of coins. As soon as people became accustomed to such monies, the metallic backing might be removed with no risk to the value of money. That money, though, only circulated within the limits of the State which recognized it.

Ricardo (2004b, p. 263–269) stressed that precious metals were employed for international commerce prior to the establishment of banks and merchants would seek the cheapest way to liquidate debts with other merchants in other countries. Due to the risk and expense of sending specie money abroad, bank notes took on this role, and specie would only be sent abroad if they were superabundant, if ever. Thus,

> A currency is in its most perfect state when it consists wholly of paper money, but of paper money of an equal value with the gold which it professes to represent. The use of paper instead of gold, substitutes the cheapest in place of the most expensive medium, and enables the country, without loss to any individual, to exchange all the gold which it before used for this purpose, for raw materials, utensils, and food; by the use of which, both its wealth and its enjoyments are increased. (Ricardo, 2004c, p. 361).

Mill (1965, p. 565; 642–643) underlined that dispensing the use of metallic money implies a saving for the community and a gain for the issuer of substitute money, as long as the notes remain convertible. The issuer of notes may use them as real capital until it is time for their payment in specie. If there is an overissue, *i.e.*, if there is no gold or silver backing those notes, the value of the note would depreciate, which corresponds to a gain for the issuer, analogous to a tax levied on their benefit.[26]

In regards of fiduciary money or representative money, Mises postulated that

> Technically, and in some countries legally as well, the transfer of a bank-note scarcely differs from that of a coin. The similarity of outward appearance is such that those who are engaged in commercial dealings are usually unable to distinguish between those objects that actually perform the function of money

[25] An emblematic example of the suspension of payment of bank notes in metal happened in England, in 1797, with the Bank Restriction Act, during the Napoleonic Wars. This set out one of the most famous controversies in monetary theory: the debate between the Currency and Banking Schools. Another example is found in the United States, with the suspension of payments in specie during the Civil War, the convertibility being resorted only in 1879. Jevons (1878, p. 109) affirmed that even the payment of bank notes in specie was suspended and banks impeded to perform their promises, notes continued to circulate either because there was no other currency to be used or because people believed that other people would still accept those bank notes.

[26] Thus, this opinion is in opposition to that of Ricardo, mentioned just above

> and those that are merely employed as substitutes for them. The business-man does not worry about the economic problems involved in this; he is only concerned with the commercial and legal characteristics of coins, notes, cheques, and the like. To him, the facts that bank-notes are transferable without documentary evidence, that they circulate like coins in round denominations, that no right of recovery lies against their previous holders, that the law recognizes no difference between them and money as an instrument of debt-settlement, seem good enough reason for including them within the definition of the term 'money', and for drawing a fundamental distinction between them and cash deposits, which can be transferred only by a procedure that is much more complex technically and is also regarded in law as of a different kind. (Mises, 2009, p. 51)

Smith (1979, p. 292–296) also emphasized the benefits of substituting metals for paper[27], on the basis of cost and convenience, stating that circulation is carried out by a wheel less costly to erect and maintain, compared to the precious metals. He also highlighted that, among all types of paper money, banknotes are the commonest type and the most suitable one to serve as money substitute, for, depending on the confidence of the public that bankers will guarantee convertibility on demanded, their currencies have the same confidence as gold and silver. Besides that, the use of paper instead of precious metals may increase circulation and distribution.

In conclusion, one might see that there is an interesting movement in the form of money: it goes from less to more costly commodities as society evolves from a nomadic and agricultural state to a commercial status and, conversely, from costly to cheaper materials, as precious metals are substituted by fiduciary money, and even cheaper materials recently, after paper was supplanted by credit money and bank balance sheet entries. From shells to gold to paper and credit, this tradition in monetary thought stresses how the evolution in the forms of money reflects the needs of the industrial, productive, commercial and financial world.

4.6 Money substitutes and credit

Before analyzing credit as it is explained by economists aligned with the Theory of Commodity Money, it is important to continue briefly on the subject of *representative money*, *claims on money*, *paper money* or *money substitutes*, for orthodox economists explain credit mostly as an evolution of standard (metallic) money, and representative money — in its various forms — is an intermediary step towards a fully developed credit system and inconvertible paper money. Also, a brief analysis of the

institution and emergence of early and modern banks is necessary, for they are the main granters of credit in an organized system.

Friedman (1992, p. 25) stated there are two concepts related to money: one abstract; the other, empirical. The abstract element implies that money is not a consumable object, but a temporary abode of purchasing power employed in buying goods and services. Whatever object accepted in exchanges is money. The empirical aspect of money is more complex: during metallic standards, only coins were considered as money. Afterwards, banknotes redeemable in gold were included in the category. Later, bank deposits payable on demand and cheques became money. Currently, all monetary aggregates became the empirical counterpart of money.

As the forms of money changed, the definition of money became more elastic, leading to frequent confusion between money and its substitutes. Mises (1990, p. 63–65) affirmed this distinction corresponds to the most important and difficult problem of monetary theory, since the services of money can be obtained without the use of money, but by claims on it. For that reason, he classified the money substitutes in two types: *money certificates* and *fiduciary media*. Money certificates are backed by metallic money, whereas fiduciary media are not.

Mises (1990, p. 35; 50–67) affirmed that *claims on money* and *credit* are different things. He stated that, in indirect exchange, a perfectly secure claim can be used because money is perfectly adapted to constitute a generic obligation. Different from consumable goods, a claim on money may be transferred indefinitely and, due to commercial and legal aspects, money substitutes are especially suitable for facilitating indirect exchanges. Large payments within the country are settled by claims on the stock of precious metals deposited in the central bank. Credit transactions fulfill the function of money as a standard of deferred payments.

> Acts of exchange, whether direct or indirect, can be performed, either in such a way that both parties fulfil their parts of the contract at the same time, or in such a way that they fulfil them at different times. In the first case we speak of cash transactions; in the second, of credit transactions. A credit transaction is an exchange of present goods for future goods. (Mises, 2009, p. 263–264).

Jevons (1896, p. 190) dealt with the relation between money substitutes and credit from the perspective of economizing the use of metals. He asserted that, starting

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[27] Such defense had already been made by John Law, for example, decades before the publishing of Smith's work.

from the primitive method of barter, the process of perfecting and internationalizing the interchange of commodities included five phases: (1) the replacement of standard money by representative money; (2) the intervention of book credit; (3) the use and creation of cheques and clearing system; (4) the use of foreign bills of exchange; and (5) the international clearing system.

As affirmed by him regarding the nature and evolution of money,

> We commenced the study of money with the barter of ordinary commodities, and money appeared in the first place as some common commodity handed about as a medium of exchange. By degrees, however, the subject assumed a greater and greater degree of complexity. The metals took the place of other commodities as currency, and delicate considerations began to enter concerning token and standard coins. From metallic representative money, we passed to paper representative money, and finally discovered that, by the cheque and clearing system, metallic money was almost eliminated from the internal exchanges of the country. Pecuniary transactions now present themselves in the form of a room full of accountants, hastily adding up sums of money. But we must never forget that all the figures in the books of a bank represent gold, and every creditor can demand the payment of the metal. In the ordinary state of trade no one cares to embarrass himself with a quantity of precious metal, which is both safer and more available in the vaults of a bank. But in international trade, gold and silver are still the media by which balances of indebtedness must be paid, and serious consequences may arise from any disproportion between the amount of transactions carried on, and the basis of gold upon which they are settled. (Jevons, 1896, p. 309–310).

Ricardo (2004d[1824], p. 298) and Wicksell (2010, p. 123) stated that the use of representative paper money implied not only an important national saving, but also, by dissociating money from the precious metals, industry would be benefited for the metals could be employed in various other activities.

Regarding representative money, Jevons (1896, p. 195–198) affirmed that several ancient peoples were aware of the difference between standard and token money, citing as examples the iron money of the Lacedaemonians and Byzantines, which were standard legal money and representative token money respectively, and the leather currency of the Carthaginians[28]. Therefore, several ancient nations have employed pieces of money of the same nature of modern banknotes.

Reanalyzing commodity money — and contradicting himself sometimes —, Jevons (1896, p. 191–198) asserted that animal skins, one of the oldest mediums of exchange, represented the earliest form of *representative money*, for it consisted of

[28] "There is no doubt that the Carthaginians had a representative leather currency, for Aeschines the Socratic tells us that they used small pieces of leather wrapped round cores of unknown material, and then

small pieces of leather which, in many cases, even received an official seal. Since many commodities were too inconvenient to be employed as money, pieces were cut out and passed over as tokens of possession. In certain cases, the simple fact of fitting the token back to the place it had originally been cut off from would suffice to prove ownership of something. The practice resembles the use of tallies which recorded loans of money to the English Exchequer. Even tokens of low metallic value, or pieces of leather, or paper, circulated as mere signs of the ownership of metallic coins[29].

The use of representative documents as acknowledgments of possession are not only restricted to money, but such documents are used, for example, as dock or warehouse warrants. In the case of money, during the 18th century, goldsmith's notes served as representative money. These receipts started being transferred in place of money, becoming a general practice in commercial countries. They lost the element of being a special promise and became a general promise. Pecuniary promises were also subject to this transformation. (Jevons, 1896, p. 200–209; 215; 296). Marx (1990c, p. 529) stressed that loans were also made against certified titles of ownership, as bills of lading, dock warrants and overdrafts on deposits, among others.

When these receipts are presented, the money given to the bearer is not necessarily the same money deposited and this is proof of the transformation of a special promise into a generic one. A general promise dispenses the delivery of the very same money previously deposited. Even for ordinary commodities, like grains and flour, this may be valid in certain cases: a homogenous commodity is delivered instead of the one deposited for safekeeping[30]. With the use of representative money, the precious

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sealed up. Neighbouring nations refused to receive these curious pieces of currency, whence we may safely infer that their value was nominal". (Jevons, 1896, p. 197).

[29] "Token money […] is in some degree representative money, because it derives its value, not so much from the metal it contains as from the standard coins for which it can be exchanged. There is no need that a promise should be always expressed by ink and paper. It may be still more durably recorded by a die upon a piece of metal. Accordingly, while the monarchs of England down to the end of Elizabeth's reign refused to debase their currency […] by issuing such a poor metal as copper, the tradesmen supplied the want of pence by issuing tokens. These pieces were in the earlier centuries composed of lead, or latten, a kind of brass, or sometimes, it is believed, of leather. During the last century, again, they were issued in large quantities, chiefly in copper, and often bore an express statement that they served as promissory notes. Thus a well-executed piece, issued at Southampton in 1791, bears the inscription, "Halfpenny Promissory, payable at the Office of W. Taylor, R. V. Moody & Co." A token struck by the Flint lead works in 1813, states the promise in different terms, thus— "One Penny Token, One Pound Note for 240 Tokens." The variety of such promissory coins issued at one time or other is very great, and their study forms an important branch of numismatic science, as will be learnt by looking into such a work as Akerman's "London Tradesmen's Tokens." In quite recent years small money was found to be scarce in New South Wales, and some tradesmen issued copper or bronze tokens which circulated until the year 1870, when their further use was prohibited". (Jevons, 1896, p. 194–195).

[30] "He who issues a representative or promissory document, engaging to give a certain quantity of a defined commodity in return for the document when presented, may really make any one of three distinct

metals started being used only on demand. These certificates of ownership started circulating by endorsement, as required by law and custom, allowing the transfer of ownership of those goods which they represent. (Jevons, 1896, p. 200–215).

As goods may be claimed at any time by the holder of such certificates, in the case of a *special* promise, the issuer of the certificate is obliged to act as a safekeeper and cannot issue a paper without a corresponding good, otherwise he will commit a fraud. However, with general promises, the safekeeper — especially banking institutions — keeps only part of those goods to meet regular demands and employs its largest part in trade. So long as the confidence of the public regarding the fulfillment of the keeper's promises remained unchanged, no harm was meant, and the safekeeper could even engage in speculative operations. Based on the believes of the people and the confidence of the institution, it became possible to create a fictitious supply of a commodity, including money[31]. In fact, according to Jevons (1986), the whole credit system — balancing debts and credits and making payments to and from the Clearing House — is a kind of fictitious entity.

This fictitious character is also stressed by Thornton (1965, p. 84), who affirmed that the merchant's interest in keeping notes and bills led to the multiplication of them, as well as the creation of new instruments of credit. The term fictitious is frequently associated with all of them.

Marx (1990c, p. 597–601) used fictitious in reference to capital. He defined that capitalization means the formation of fictitious capital through loans. The development of the credit system allowed capital to be multiplied[32], because only a part of the banks' reserves is composed of metallic money and the greater part of the banks' capital is purely fictitious.

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engagements. 1. He may promise to keep a certain identical article in his possession until it is called for. 2. He may engage to have in his possession a certain amount of commodity ready to meet the promissory notes, without distinguishing between portion and portion of a similar substance. 3. The undertaking may be merely to the effect that the required commodity shall be forthcoming when the note is presented, no covenant being made as to the quantity to be held in stock for the purpose." (Jevons, 1896, p. 206).

[31] "Thus the whole fabric of our vast commerce is found to depend upon the improbability that the merchants and other customers of the banks will ever want, simultaneously and suddenly, so much as one-twentieth part of the gold money which they have a right to receive on demand at any moment during banking hours". (Jevons, 1896, p. 321).

[32] "With the development of interest-bearing capital and the credit system, all capital seems to be duplicated, and at some points triplicated, by the various ways in which the same capital, or even the same claim, appears in various hands in different guises. The greater part of this 'money capital' is purely fictitious. With the exception of the reserve fund, deposits are never more than credits with the banker, and never exist as real deposits. In so far as they are used in clearing-house transactions, they function as capital for the bankers, after these latter have lent them out. The banker's pay one another reciprocal

> The banks' reserve funds, in countries of developed capitalist production, always express the average amount of money existing as a hoard, and a part of this hoard itself consists of paper, mere drafts on gold, which have no value of their own. The greater part of banker's capital is therefore purely fictitious and consists of claims (bills of exchange) and shares (drafts on future revenues). It should not be forgotten here that this capital's money value, as represented by these papers in the banker's safe, is completely fictitious even in so far as they are drafts on certain assured revenues (as. with government securities) or ownership titles to real capital (as with shares), their money value being determined differently from the value of the actual capital that they at least partially represent; or, where they represent only a claim to revenue and not capital at all, the claim to the same revenue is expressed in a constantly changing fictitious money capital. Added to this is the fact that this fictitious capital of the banker represents to a large extent not his own capital but rather that of the public who deposit with him, whether with interest or without. (Marx, 1990c, p. 600).

The use of different claims on money as circulating media highlighted the importance of custom and confidence, which have an immense role in supporting representative money, as it does with everything related to monetary matters. It takes time for the public to be accustomed with instruments of credit and have credibility in them[33].

Jevons (1896, p. 196–197) affirmed that when people are accustomed to the circulation of representative money, they forget about their representative element and dissociate it from any kind of property.

Mises (2009, p. 268-271) stressed the role of confidence in the banking system, stating that depositing money in banks in exchange for a claim is based on the confidence of the bank's readiness to pay on demand. Also, banks are only able to issue circulating notes because of their trustworthiness[34]. Lastly, he stated that "confidence in the capacity of circulation of fiduciary media is not an individual phenomenon; either it is shared by everybody, or it does not exist at all". (Mises, 2009, p. 321).

Wicksell (2010, p. 72) affirmed that the documentation of credit transactions, the creation of credit instruments, their circulation and eventual conversion of those claims created a powerful organization which took thousands of years to be developed.

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drafts on these non-existent deposits by balancing these credits against each other". (Marx, 1990c, p. 601).

[33] "In short, any one who lends a thing gives credit, and he who borrows it receives credit. The word credit means belief". (Jevons, 1878, p. 110).

[34] "The immediately-convertible note of a solvent bank is employable everywhere as a fiduciary medium instead of money in commercial transactions, and nobody draws a distinction between the money and the notes which he holds as cash. The note is a present good just as much as the money". (Mises, 2009, p. 271–272).

Thornton (1965, p. 77–79) highlighted the roles of custom, precaution, and uncertainty in credit dealings. First, he stated that the habit of *buying on credit* implies a counterpart of *selling on credit*. The custom of granting long-term credit gives rise to uncertainty, arising out of from the possibility of increasing debts and apprehension of loss. Thus, collaterals are important elements related to long-term credit. He postulated the foundation of paper credit is *commercial credit*. Granting credit is a convenient form of interchange of commodities since "the infancy of society" when exchanges were smaller. Large scale production and exchanges in advanced societies are benefited by the convenience of using credit. Furthermore, economic dynamics regarding production, trade, and payment, which are different operations, is facilitated by credit due to temporal aspects: buying and paying are activities which do not necessarily take place in the same moment. If they coincide, a merchant needs to keep great cash balances with him, something which imposes charges on him. Instead, he pays for goods not with money, but with a promise to pay money on a future day. (Thornton, 1965, p. 75–76).

> Commercial credit may be defined to be that confidence which subsists among commercial men in respect to their mercantile affairs. This confidence operates in several ways. It disposes them to lend money to each other, to bring themselves under various pecuniary engagements by the acceptance and indorsement of bills, and also to sell and deliver goods in consideration of an equivalent promised to be given at a subsequent period. *Even in that early and rude state of society, in which neither bills nor money are as yet known, it may be assumed, that if there be commerce, a certain degree of commercial credit will also subsist*. In the interchange, for example, of commodities between the farmer and the manufacturer, the manufacturer, probably, will sometimes deliver goods to the farmer on the credit of the growing crop, in confidence that the farmer will come into possession of the fruits of his labour, and will be either compelled by the law of the land, or induced by a sense of justice, to fulfil his part of the contract when the harvest shall be over. In a variety of other cases it must happen, even in the infancy of society, that one man will deliver property to his neighbour without receiving, on the spot, the equivalent which is agreed to be given in return. It will occasionally be the interest of the one party thus to wait the other's convenience: for he that reposes the confidence will receive in the price an adequate compensation for the disadvantages incurred by the risk and the delay. *In a society in which law and the sense of moral duty are weak, and property is consequently insecure, there will, of course, be little confidence or credit, and there will also be little commerce*. (Thornton, 1965, p. 75–76, emphasis added).

Still according to Thornton (1965, p. 75–81), credit is tied to commercial activity and thus, so long as there is commerce, there is credit. As he explicitly highlighted, credit is an older institution than money. This gives rise to a contradiction on his part about credit and barter. He stated that since the rudest state of society, trade was carried

by barter. In advanced societies, metallic coins, bank notes and bills of exchanged are instruments which superseded the inconveniences of barter. Unless he took barter and trade as synonyms, this implies an important contradiction: if credit is older than money, early trade might have been carried on credit, and not by barter, as he further stated. Or, at least, that barter and credit operations coexisted in early stages of commerce.

Marshall (1929, p. 13–14; 268) stated that even inconvertible paper currency rests on the foundation of credit, be it solid or not, and described the evolution of money as followed: primitive money would have come into existence when a thing became the most exchangeable and acceptable product; afterwards, all values were expressed in terms of it and, with time, the actual transfer of commodities diminish, giving rise to the employment of claims or titles in their place[35].

Dispensing the use of commodities and employing credit in their place demanded a sort of organization for custody and transfer of money, purchasing power and credit. Marshall (1929) affirmed that rudimentary forms of banks and joint stock trading companies are found in the histories of the Chaldaeans, Egyptians, and Phoenicians. Religious temples, for example, as the Delphi, in Greece, were often used as storehouses, and, at later times, started lending money at interest. Private money changers were initially engaged in reducing different metallic monies into a common unit of value; later, they started taking deposits at interest which enabled them to lend out money at higher interest, without compromising drafts on those deposits. The same principles were adopted by Roman money dealers and, with the development of commerce and public finance, different bank and bill exchanging operations were developed. The emergence of *money lenders* and *money exchangers* were thoroughly benefited by crusaders and rich travelers who carried little resources with them, consumed a lot along the travel, and needed frequent exchange of money. (Marshall, 1929, p. 295–297).

Wicksell (2010, p. 73–80) stated that borrowing and lending, which are activities associated with banks, may have been performed in early times by rich people. In the Middle Ages, money changers and goldsmiths assumed important roles before the great banks of Venice, Genoa, Amsterdam and Hamburg arose in the early 17th century, each operating according to their own unit of account. They were, initially, deposit

[35] "The seller of a horse having a right, say, to fifty cubes of salt […] might transfer his rights to the cubes to various persons, from whom he desired to obtain other things. That is, cubes of salt would be on their

institutions. Lending operations were made by private capitalists or smaller companies at the time. It was only later that these banks combine the activities of *receiving deposits* and *granting loans*. The issuance of bank notes would be instituted in the sequence[36]. This system, called *giro bank,* aimed at preserving the value of money and led to (metallic) money remaining idle in the banks' reserves, as it drew metals out of circulation and into the reserves of the banks. Government frequently borrowed money from these banks and sent it back to circulation, either in the form of cash or deposit certificates. The result of this change was that

> contrary to the original plan, the banks became credit institutions, instruments for increasing the supplies of a medium of exchange, or for imparting to the total stock of money, an increased velocity of circulation, physical or virtual. Giro banking continued as before, though no actual stock of money existed to correspond with the total of deposit certificates. So long, however, as people continued to believe that the existence of money in the banks was a necessary condition of the convertibility of the deposit certificates, these loans had to remain a profound secret. If they were discovered the bank lost the confidence of the public and was ruined, especially if the discovery was made at a time when the Government was not in a position to repay the advances. (Wicksell, 2010, p. 74–75).

Different from a regular storehouse for commodities, in which goods come in and out of it in the process of commerce, in a "monetary storehouse", money comes in but does not come out necessarily in the same form. So long as the storehouse is supported by good opinion, it may issue paper money in substitution of metallic money which will be employed in exchanges. "[S]ince opinion is the offspring of opinion, they can lend this support after they have themselves ceased to exist, provided they are universally believed to exist." (Marshall, 1929, p. 299).

During the Middle Ages, merchants and millers were the main dealers in credit, the former dealing with credit in large scale and the latter, in small scale. Banking practice reached its peak with the Lombards in many countries only later. Propelled by private dealers, it would not be long until State banks were founded, especially in Italy.

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way to become primitive money. It seems certain that the use of money often came into vogue somewhat in this way". (Marshall, 1929, p. 268).

[36] "The discovery that money deposited on a guarantee to repay on demand could be partially loaned without endangering the liquidity of the institution in question constituted, however, an important advance in banking technique, which in its turn led to the discovery of the credit note. For just as simply as deposits of money were accepted against a certificate of deposit and were then lent out to others, whilst the certificate of deposit might continue to be used by the owner as a medium of payment and be transferred to others, so also such certificates of deposit might be issued against ample security to persons who had *not* deposited any money in the bank. The result remained the same, both to the public and to the

Besides the activities of money lending and money changing, early banks also served as stock exchanges and as agents for rulers, since it was hard for sovereigns to borrow from traders and the general public due to the suspicious of not receiving the money back. Acting as an intermediary, various privileges were obtained in return of the loans made to sovereigns. (Marshall, 1929, p. 71–72; 295–298; Wicksell, 2010, p. 73–75). As progress and economic development evolved, the activity of money dealers left completely the realm of trade and become exclusive to banks.

> When massive manufacture had been well set up, it ceased to be dependent on trade for its supply of capital. It borrowed from bankers; while the bankers supplemented their own resources by others obtained from the general public. In particular, they issued notes: and these passed into general circulation; thus constituting in effect quiet loans from the public to the banks, the loans being thus passed on to the public at large. The ultimate result was that the public lent, almost *gratis*, to banks the power of issuing notes; and the banks used these notes as a chief embodiment of the loans, which they made to particular members of the public in return for agreed interest (or discount) on the loans. (Marshall, 1929, p. 72)

The age of modern banking shifted the focal point from metallic money to credit instruments and focused on the relationship between the two. Jevons (1896 p. 192; 251–252), as seen above, stressed that the use of representative paper money implied a considerable economy of precious metals, but the use of cheque and the clearing system represented a more powerful source of economy, based on the practice of book credit. The use of credit not only avoids the actual employment of a medium of exchange, but also avoids the inconveniences of the barter system. It would be absurd for people trading with each other to pay money and then receive it back: only the balance would have to be liquidated in cash.

Wicksell (2010, p. 69–70) shared the same argument, stating that when buyer and seller are in different places, payment in specie takes time and involves many risks and troubles, for people would have to withdraw the money and transport it between places. Credit eliminates all these inconveniences by creating transferrable immaterial claims. This is valid also in international commerce, in which the majority of transactions are made on credit. Payments are made by cancelling out claims, and the remaining balance may be paid in three forms: (1) payment by acceptance, when the creditor draw a bill on the debtor; (2) remittance, when the buyer sends out money for

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bank, provided that the solvency of the borrower and his credit status were the same in both cases. And yet in reality the latter method constitutes a further advance". (Wicksell, 2010, p. 76).

payment; or (3) reimbursement, with the aid of bank or business house, for people who enjoy credit abroad.

With the custom of depositing metallic money with banks or goldsmiths, if two people held an account with the same institution, an order to pay sufficed to liquidate a transaction without the use of a single coin, by a mere transfer of credit. Firms also have reciprocal transactions, and, thus, it would also be absurd to immediately liquidate debts to each other as they arose. These transactions are registered as either debit or credit in their books, and balances may be carried over for a subsequent period or liquidated in cash. The banking system also operates in a similar way, using the Clearing System to settle their mutual accounts. All large internal transactions in a country are settled by the Cheque and Clearing System, as Jevons called it, through the settlement of accounts. (Jevons, 1896, p. 192; 251–252; Mill, 1965, p. 530–536).

Mill (1965, p. 530–535) described four ways to employ credit as a substitute for currency. In the first case, two dealers who transact with one another are, simultaneously, buyers and sellers. These dealers buy from each other on credit, and, at a certain date, their total debts are set against each other, and a balance is determined. This balance represents an amount much smaller than the total of transactions and it may be either paid in money or carried over to a subsequent period. Secondly, one of the dealers may settle the balance using an acknowledgement of debt issued by a third party, as a bill of exchange, for instance. When indorsed, these bills could circulate domestically and even internationally before they were presented for discount. Such bills generally bore interest, for their payment would take place after some lapse of time. Thirdly, another substitute form is a promissory note, a short-term credit form payable at sight, which, for that reason, is a non-interest-bearing title. The issuance of promissory notes even became a specific occupation.

> Dealers in money […] desire, like other dealers, to stretch their operations beyond what can be carried on by their own means: they wish to lend, not their capital merely, but their credit, and not only such portion of their credit as consists of funds actually deposited with them, but their power of obtaining credit from the public generally, so far as they think they can safely employ it. This is done in a very convenient manner by lending their own promissory notes payable to bearer on demand: the borrower being willing to accept these as so much money, because the credit of the lender makes other people willingly receive them on the same footing, in purchases or other payments. These notes, therefore, perform all the functions of currency, and render an equivalent amount of money which was previously in circulation, unnecessary. […] being payable on demand, they may be at any time returned on the issuer, and money demanded for them, he must, on pain of bankruptcy, keep by him as much money as will enable him to meet any claims of that

> sort which can be expected to occur within the time necessary for providing himself with more: and prudence also requires that he should not attempt to issue notes beyond the amount which experience shows can remain in circulation without being presented for payment. (Mill, 195, p. 535)

The issuance of promissory notes, or, in Mill's terms, the convenience of *coining credit*, was not restricted to money dealers. Governments started issuing their own promissory notes to pay for their expenses. According to Mill, by doing so, governments borrow from the public without paying any interest, and being payable on demand and esteemed by the holders, they are equivalent to hard money. (Mill, 1965, p. 535–536).

The fourth and last way of employing credit as a substitute for money according to Mill may lead to an almost complete substitution of one for the other: payments by cheques. People keep their cash balances at banks and payments are made by transferring amounts in the books of the banks, with no intervention of money. But since not everyone keeps their money at banks and, thus, makes use of cheques, a parcel of cash is still needed, especially in retail transactions, where dealers and consumers still use it for small amounts. Conversely, large dealers use cheques of different banks. The compensation of transactions among different banks occurs daily in the clearing house, where bankers send the cheques received from other banks to be exchanged for his own. The net balance is either paid in cash or, in the case of England, as Mill analyzed, in cheques on the Bank of England. (Mill, 1965, p. 536–537).

All these instruments of credit allowed economic activity to be carried on while the amount of precious metals for monetary matters became constantly smaller, compared to the value of commodities produced in the country. (Mill, 1965, p. 537).

For international settlements, the same premise is valid. Jevons (1896, p. 300–301) exemplified that commerce between England and America involved a great quantity of goods and that a double current of money crossing the ocean from one country to the other would be absurd, not to mention all the risk involved and the bulk of the metals, which were reasons good enough to justify the employment of representative documents instead of metallic money (1896, p. 191; 200–202). He also stressed that, during the interval of time it remained idle in transportation, this money could have been employed in more productive ways or in interest-bearing investments. For that reason, acknowledgments of debts in the forms of bills of exchange settled transactions between countries and were preferable. With the intervention of credit, the

use of metallic money became irrelevant and so long as no disturbances arise in the balance of trade, Jevons affirmed that “foreign trade is restored to a system of perfected barter”. (Jevons, 1896, p. 31; 191; 299–300).

Wicksell (1962) followed Jevons (1896) and stated that, during ordinary conditions, merchants buy claims to money to make payments in distance places, so that money does not have to be sent across the ocean in both directions. It is only during times of crisis that money is sent in opposite directions between the countries.

In advanced commercial nations, thus, both national and internationally, book credits, cheques, and bills of exchange dispensed the use of metallic money almost completely. The pinnacle in the economy of metals, according to Jevons (1896, p. 302–304) could be reached if all international traders kept accounts with bankers in the greatest commercial city of the world. “All that is needed to secure economy of money is centralization of transactions, so that there may be the wider scope for the balancing of claims”. (Jevons, 1896, p. 304).

According to Ricardo (2004c), settlements of debts do not even have to be made in gold. Despite the metal being the most fitted thing for carrying the circulation, it may not be the most adequate for settlements. It will only be used if it is in the interest of the debtor, because a system of higher utility — regulated paper currency — has already been created through improvements in commerce. The use of metallic money helped improve commerce, but due to advances of knowledge and science, and the emergence of a better system, it would be an important improvement to exclude them from use for monetary matters. (Ricardo, 2004c, p. 367; 2004e, p. 65).

Walras (2019, p. 240) follows the same reasoning, stressing something curious about money: its introduction first meant progress; after its introduction, eliminating it was considered the next step.

Smith (1979) stated that when banknotes were greatly employed in transactions between traders and consumers, the metals were banished from circulation — and nearly from the country — for most ordinary domestic commercial transactions were carried on by paper. So long as these banknotes were issued by institutions of sound credit and payable on demand without conditions, they were equivalents in value to metallic money. (Smith, 1979, p. 323–324).

If metals used for monetary matters become scarce, they can easily be substituted for a different system. First, barter could prevail in times of lack of money, though with a lot of inconvenience. Second, regulated paper money could supply the

money needed, with little inconvenience and some advantages. Third, a more convenient form to maintain circulation is through a credit system: dealers could buy and sell upon credit and periodically compensate their credits with each other. If, for whatever reason, their debts and credits do not compensate, one either becomes indebted to the other, or sends money out to compensate the balance. It is irrelevant whether we are dealing with national or international trade. (Smith, 1979, p. 437; 476).

But the conveniences of credit instruments revealed themselves not only due to the scarcity of metals, but also because they conformed a more useful and secure system of payments, especially regarding international trade, which played an important part in the institution of banks, according to this tradition of monetary thought.

Smith (1979) affirmed that the inconveniences to which merchants were exposed in dealing with different coins brought into the country through international trade were superseded by the banking activities. Foreign bills of exchange of certain values started being paid not in currency, “but by an order upon, or by a transfer in the books of a certain bank, established upon the credit, and under the protection of the state”. (Smith, 1979, p. 480).

The banks, thus, standardized different monies, reducing them to the same unit of account. Smith asserted that the bank received from its clients both domestic and foreign coins at their intrinsic value, defraying the expenses of coinage and management. The remaining value would be registered as a credit in the books of the bank. “This credit was called bank money, which, as it represented money exactly according to the standard of the mint, was always of the same real value, and intrinsically worth more than current money.” (Smith, 1979, p. 481). Starting first as a private enterprise, banking activity would soon be under State regulation or, as in the case of the Scottish system, as described by Smith, public banks would be founded.

Mises (2009, p. 65–66) explained the emergence of banks from a different standpoint, stating that, in modern era, the banking activity spread all over great commercial cities to “free the monetary system from the authorities’ abuse of the privilege of minting”. Having their own unit of account, bank money was the most perfect form of commodity money.

Large financial transactions would only be settled by bank-money, for it was superior to state money in many aspects regarding robbery, fire, or the like, but also had the advantages of security, easy and safe transferability, and also for payment of bills of

exchange. Payments could be performed just by transferring credits, eliminating the risk of transporting money and the trouble of counting it. (Smith, 1979, p. 480–481).

In summary, most economists who side with the Theory of Commodity Money see credit as resulting from the process of economizing metals, having arisen out of money in the form of a monetary innovation. As best postulated by Marx, "credit-money springs directly out of the function of money as a means of payment" (1990a, p. 238) and it played no significant part in the early stages of capitalist production. The economic evolution led to increasing labor productivity, production on large scale, and increased the turnover of commodities. This set monetary innovation, the creation of new means of payment[37], and the centralization of payments in one place. The greater the concentration, the less means of payment are needed, although money is not obviated altogether. Money still has an important role in liquidating net balances between manufacturers, for payment of wages, taxes, etc., and during monetary crisis. (1990a, p. 192, 235–237; 1990c, p. 611–612). Besides reducing circulation costs, "credit accelerates the velocity of the metamorphosis of commodities, and with this the velocity of monetary circulation". (Marx, 1990c, p. 566-567). The pinnacle of this economizing system is achieved with the institution of clearing houses which allowed monetary transactions to take different forms, *i.e.*, transactions were performed by different instruments of credit.

4.7 Centralization and types of credit

The use of credit in large scale resulted mainly from the process of centralization of money in banks and the emergence of clearing houses — although the latter is not a necessary precondition for the existence of credit, for bilateral or unorganized credit can be arranged directly between agents.

[37] "I have already shown (in Volume 1, Chapter 3, 3, b) how the function of money as means of payment develops out of simple commodity circulation, so that a relationship of creditor and debtor is formed. With the development of trade and the capitalist mode of production, which produces only for circulation, this spontaneous basis for the credit system is expanded, generalized and elaborated. By and large, money now functions only as means of payment, i.e. commodities are not sold for money, but for a written promise to pay at a certain date. For the sake of brevity, we can refer to all these promises to pay as bills of exchange. Until they expire and are due for payment, these bills themselves circulate as means of payment; and they form the actual commercial money. To the extent that they ultimately cancel each other out, by the balancing of debts and claims, they function absolutely as money, even though there is no final transformation into money proper. As these mutual advances by producers and merchants form the real basis of credit, so their instrument of circulation, the bill of exchange, forms the basis of credit money

Wicksell (1962) asserted that credit has been present at all stages of economic progress, either in the form of unorganized credit, which he called *simple credit*, or in the form of organized credit, as provided by banks. It is due to the development of banking techniques that credit has diminished the importance of hard money in circulation and had its use expanded. The ideal system of payment for him would be composed purely of credit, with all payments and loans made by cheque and/or in the books of banks. In such system, the supply of money is provided mainly by the banking system, answering the demand for money[38]. (Wicksell, 1962, p. 59; 110–116).

Jevons (1896, p. 280) stressed that the method of balancing claims is not exclusive to banks. Since traders have reciprocal claims, they may set up their own clearing house. In fact, he stated that the bankers' clearing houses may have evolved in such a manner, for they have "grown spontaneously, uninvented, unauthorized by the legislature, and only recognized by the judges when firmly established as a matter of business custom". (Jevons, 1896, p. 283).

Marx (1990a, p. 235) asserted that the limits to the velocity of money and economic development boosted new forms of money and payments, and that the concentration of payments in a single place led to the spontaneous development of new methods of liquidation and institutions specialized in performing this kind of business. As he pointed out,

> Book-keeping […] becomes ever more necessary the more the process takes place on a social scale and loses its purely individual character; it is thus more necessary in capitalist production than in the fragmented production of handicraftsmen and peasants, more necessary in communal production than in capitalist. The costs of book-keeping are however reduced with the concentration of production and in proportion to its increasing transformation into social book-keeping. (Marx, 1990b, p. 212).

Marx (1990a, p. 233) also stressed that the roles of the creditor and debtor have had different meanings throughout history. In the ancient world, class struggle and dispute between creditors and debtors led to slavery. In the Middle Ages, feudal debtors

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proper, banknotes, etc. These are not based on monetary circulation, that of metallic or government paper money, but rather on the circulation of bills of exchange." (Marx, 1990c, p. 525).

[38] "It is then no longer possible to refer to the supply of money as an independent magnitude, differing from the demand for money. No matter what amount of money may be demanded from the banks, that is the amount which they are in a position to lend (so long as the security of the borrower is adequate). The banks have merely to enter a figure in the borrower's account to represent a credit granted or a deposit created. When a cheque is then drawn and subsequently presented to the banks, they credit the account of the owner of the cheque with a deposit of the appropriate amount (or reduce his debit by that amount). The "supply of money" is thus furnished by the demand itself". (Wicksell, 1962, p. 110).

ended up losing political and economic power. In modern times, the roles of creditors and debtors result from the circulation of commodities.

Still according to Marx (1990c), banks have a double role in centralization of credit: they centralize money capital from lenders, and also centralize borrowers around those same institution. Due to centralization, banks can grant credit in various forms, such as bills, cheques, loans, drafts on current accounts, and, depending on authorization, banknotes. Short-term credit is of great importance for the layman, for it can be used in commercial circulation, functioning as money. This circulation is possible "because in most countries the major banks that issue notes are a peculiar mishmash between national banks and private banks and actually have the government's credit behind them, their notes being more or less legal tender" (Marx, 1990c, p. 529). Despite the importance of short-term credit, Marx affirmed that long-term commercial credit among traders formed the basis of the credit system. (Marx, 1990c, p. 610). Centralization confers an enormous power to these institutions.

> The credit system, which has its focal point in the allegedly national banks and the big money-lenders and usurers that surround them, is one enormous centralization and gives this class of parasites a fabulous power not only to decimate the industrial capitalists periodically but also to interfere in actual production in the most dangerous manner — and this crew know nothing of production and have nothing at all to do with it. (Marx, 1990c, p. 678–679).

Jevons (1896) stated that despite the mystery involving money and credit, the nature of credit is that of deferring a payment and, for that reason, time cannot be dissociated from credit. Despite other things related to credit, such as risk, interest, and solvency, for example, time is an important element because it leads to an important distinction between credit instruments: some bear interest; some, do not. Credit instruments at sight, or payable on demand, circulate as money, and, for that reason, do not bear interest. Interest-bearing documents are kept as part of the portfolio of banks and individual investors because the longer they are kept, the higher their return is. The main difference between interest and non-interest-bearing documents are: (1) they have long — sometimes interminable — maturity; (2) they may be sold and bought, but do not circulate for they are not money themselves. (Jevons, 1896, p. 238; 245–246).

As underscored before, Jevons contradicted himself when he explicitly stated that credit precedes money, somewhat refuting his own proposition of a barter economy. In other words, as in the passage below, he affirmed that commercial trade did not

consist in the exchange of one commodity for another, but rather that people lent and borrowed commodities on credit.

> In some countries, where coins are not yet used, people *lend and borrow* corn, oil, wine, rice, or any common commodity which all like to possess. In the parts of Africa where palm oil is produced in great quantities, people give and take credit in oil. But in all civilised countries it has become the practice to borrow and lend money. If a man needs an engine, and has nothing to buy it with, he goes and borrows money enough from the person who will lend it on the lowest terms, and then he buys the engine where he can get it most cheaply. Frequently, indeed, the man who sells the engine will give credit for its price, that is, will lend the sum of money to the buyer, just sufficient to enable him to buy it. (Jevons, 1878, p. 110, emphasis added).

Therefore, as affirmed by Wicksell (1962, 2010), Jevons (1878[1875]), and Thornton (1965), in disagreement with other economists aligned with the Theory of Commodity Money, credit would not have evolved from money; the two forms would have coexisted throughout history, and credit instruments only became the main media of payment due to centralization of the credit system.

Mill (1965) asserted that the functions of credit have been in a frequent state of misunderstanding due to its intrinsic relationship with the mercantile activity which diverges attention from *property* to the *forms* of credit. For Mill, “credit has a great, but not […] a magical power; it cannot make something out of nothing.” (Mill, 1965, p. 527). He took credit as a mere transfer of capital between agents, mostly from unproductive to productive hands. An initial input of capital is necessary and, associated with the confidence on which the credit system is built on, it allows the development of new credit instruments, supported by a small portion of capital. Thus, part of the credit system is associated with existing money, whereas another part is independent of it, conforming a distinct purchasing power. (Mill, 1965, p. 527-530).

Moreover, Mill (1965) distinguished between two categories of credit. The simplest form is money lent by one person to another, paid afterwards directly to the lender. In this instance, he meant bilateral credit granted without intermediation, or a mere transfer of existing money between different agents. Consequently, simple credit does not create purchasing power. The types of credit which create purchasing power involve no circulation of hard money most of the times: transactions are settled by credit transfers in accounts and, eventually, the balances paid in money. This second type of credit takes several forms as bank transfers, bills of exchange, promissory notes, cheques, and deposits.

Mises (1990, p. 264–268) differentiated between two types of credit transactions, both following his understanding of credit as the exchange of present for future goods. The first type corresponds to transfers of money or goods and, therefore, falls under the name *Commodity Credit*. The party granting commodity credit renounces the use of the good, which imposes a sacrifice and a reduction of satisfaction. The party receiving credit, conversely, will have their satisfaction increased. Both parties evaluate advantages and disadvantages that might arise at the time of fulfillment of the bargain. The second type of credit, called *Circulation Credit*, implies no sacrifice or loss of satisfaction for the granter of credit, because it does not correspond to a transfer of money or good, but, instead, to a transfer made through the issuance of a *claim* on money. The relevant aspect of these claims is that they do not need to be converted into money and can be used directly as a means of payment, as they are highly valued in commerce, fulfilling all the functions of money. In fact, as these money substitutes enjoy great confidence and acceptance, it is possible to overissue them above their backing, giving rise to fiduciary media whose origin is the deposit system.

Thus, the degree of development of the credit system and its relation to the circulation of money led to different interpretations of the phenomena. Marx (1990a, p. 195–196) proposed three forms of economic organization, as aforementioned: natural, money and credit economies. These forms diverge in two aspects: production processes and modes of commerce. A natural economy is a pre-capitalist form, *i.e.*, a barter economy. A credit economy is part of the money economy, for the latter would be the basis of the former, following Marx's view of credit as an evolution of money. For him money and credit economies would, therefore, correspond to different stages of capitalist production. In a credit economy, producers deal and trade with each other on credit.

Wicksell (1962; 2010) proposed three hypotheses of organization of the monetary system: (1) in a *pure cash economy*, credit and loans do not exist, and all transactions are settled only in cash; (2) in a *simple credit economy*, both short- and long-term credit between private individuals take place in bilateral forms. Wicksell called this *unorganized credit*, for it was restricted to a limited circle of people engaged in individual transactions of credit or lending. This somewhat personal type of credit involved precautionary measures for both debtors and creditors. This system reduced, but did not eliminate the need of cash balances. The last case is (3) the *pure credit economy*, which represents a fully developed credit economy, completely organized, in

which payments are performed by *transfers of claims* and *lending is centralized* in monetary institutions. The former has a double role: it diminishes monetary requirements and accelerate the circulation of money[39]; it is that part of credit inseparable from money and, thus, represents short term credit. The latter allows the transference of capital in the form of loans. Both activities are performed by banking institutions. Differences regarding these two forms of credit overlap and influence one another very often, since the money market and the capital market are the same. (Wicksell, 1962, p. 59–63; 2010, p. 3, 24–27).

One main difference between organized and unorganized credit regards the risk of the operation: centralization makes loans safer and more convenient, for it spreads the risk of the operation over a larger area. In a pure credit economy, cash may be eliminated completely, because,

> […] payment between two customers can be accomplished by simply transferring the appropriate sum of money *in the books of the bank*. It can be written off the account of the debtor (the buyer) and credited to the account of the creditor (the seller). Suppose now that this system, which is known by the name of the *Virement*, *Giro*, or cheque system, is developed up to the point where everybody possesses a banking account. Then all payments could be effected by such bookkeeping transfers, except possibly those for which small change suffices. It is true that a substantial amount of *capital* would be required to instil confidence and to meet unavoidable risks. But whether the banks are branches of one single monetary institution serving the whole country (like the Austrian Post Office Savings Bank) or independent establishments connected by a common clearing house (on the English or American pattern), they would require *no stock of cash*—not at any rate for purely domestic business. (Wicksell, 1962, p. 68).

Wicksell's *pure credit economy* is as hypothetical as his antithesis, the *pure cash economy*, and hence represents a purely imaginary case, as he affirmed himself (Wicksell, 1962, p. 70–71), for monetary systems are, generally, a combination of these two types. Also, although current accounts and bank notes provide similar services, they are not quite the same. A banknote was a kind of cheque or deposit-receipt which circulated from hand to hand, until it was presented for payment at the bank. When issued in small denominations, they were preferred to coins for its conveniences, and, thus, it carried domestic business smoothly. Convertibility was a matter of high importance because presentation of banknotes for redemption implied a discount and, for that reason, possibly, other instruments of credit coexisted with banknotes, serving

[39] Wicksell (2010, p. 67) differentiated the circulation of money in real and virtual terms. The former is related to the use of cash and the latter, to credit. Whereas real circulation implies a physical transfer of

as the basis for a more elastic credit system. The essential characteristic of banknotes is that they substituted cash reserves for individual agents and for non-issuing banks. Current accounts, or cheques, have some further advantages over banknotes: simplicity and the earning of interest. On the other hand, they affect a single payment and, therefore, cannot circulate. Also, banknotes are more convenient for small payments than current accounts or cheques, the latter being employed for large transactions.

The use of cash and credit, as put by Marshall (1929), also varies according to social classes, for middle and upper classes settle most of their obligations by cheques, which are rarely converted into cash, or simply by transferring credit from one person to another in the books of the banks. Both Wicksell (1962) and Marshall (1929) agree that only in primitive states of society or in the case of poor people, cash is the dominant medium of payment and resources are kept in such form. (Wicksell, 1962, p. 68–70; Marshall, 1929, p. 43–46).

The development of the credit system in progressive countries channeled money from private hoarding — turning such practice obsolete — into a better way of storing value. Through bank intermediation, money is used in more productive ways, transforming dead capital into interest-bearing capital, and thus contributing to the productivity of capital. Even if it bore no interest, keeping a credit balance would still be better than keeping a cash balance because the individual is spared of the trouble of keeping and securing his hoarding. (Wicksell, 2010, p. 5–10).

Friedman (1951) stated that, in advanced countries, banks could provide part of the circulating medium because of their primary function: financial intermediation. Since people are constantly demanding and supplying money, the opportunity of profit through intermediation led to the creation of an institution that borrowed on demand and lent on time. If banks can convince their clients of their capacity to meet their needs on demand, and, in face of weak or inexistent statutory prohibition, the claims that the banks offer to lenders will become more attractive as they are used as a medium of circulation. Thus, the issuance of different instruments of credit by banks is a byproduct of loans and, due to their relation to money, it would not be long until government started intervening into these banking activities. (Friedman, 1951, p. 211–212).

> The introduction of fiat elements into the monetary system, especially through the medium of private financial institutions, almost necessarily

money, virtual circulation implies an imaginary transfer, but with the same effectiveness.

> means the existence of different kinds of circulating media. This raises a problem of maintaining interconvertibility. The chief device that has been used for this purpose is the attempted provision of two-way convertibility of all other types of currency into the commodity that is ostensibly the currency standard. Thus, under the nineteenth- and early twentieth-century gold standard, the government or one of its agencies offered to buy or sell gold in unlimited amounts at a fixed price in terms of a particular category of currency (usually warehouse certificates or government fiat money), and financial institutions issuing circulating mediums were required to make them convertible into either gold itself or that category of currency. Under this system the potential volume of claims to the currency commodity so created was many times the physical volume available for meeting the claims. As Bagehot pointed out so well, maintenance of the system requires some agency that will not act in its immediate private interest but will maintain an emergency "reserve." This must be the government or an agent of the government, and it must inevitably exercise control over the institutions that create currency. (Friedman, 1951, p. 212)

Besides their regular book credit activities, the State presented the banks with the prerogative of issuing paper money, which not only helped economize the volume of cash in circulation but also helped solve the problem of bilateral credit. So long as the confidence between merchants remained strong, they were more inclined to deal with each other on credit and accept credit instruments in payments. If uncertainty arose, either metallic or paper money would be employed in their settlements, and, thus, the demand for money increased. Metallic money cannot respond easily to variations in the demand of money, but paper money, contrarywise, can. Therefore, a well-regulated paper money system can promptly answer the needs of commerce without causing variations in the value of money. (Ricardo, 2004e[1816], p. 58; 68–69).

Following this tradition of monetary thought, credit represents an extensive field in which its use as a substitute for money is only one of its two facets. The first fulfils the function of money as a means of payment. The other is related to long-term credit, represented by loans. This, in turn, fulfils the function of money as a deferred means of payment. As a consequence, time has an intrinsic relationship with credit, and it is exactly due to this temporal aspect that credit may or may not bear interest.

As Wicksell rightly put it, credit does not need the intervention of a financial institution to be created (2010, p. 81–82). Centralization of credit may have resulted from economic needs and has been extremely beneficial to society, for it transforms idle into productive money through intermediation. It also reduced circulation costs, for it drew money out of circulation, substituting it for mere transfers in the books of the banks, which served the same purpose as money.

Due to centralization, the reserves of the banks in the form of cash to meet daily needs and to fulfill regular requirements became smaller and smaller. On the other hand, it fomented bank leverage, as a small part of capital is kept as reserves, and a great part of purely fictitious capital was built upon it, contributing to the illusion of the monetary system.

And so long as the confidence in the issuers of money remains, it is a matter of no importance to the layman whether the system of credit is backed by some metal, commodity, or foreign currency. In fact, since the full abandonment of the gold standard, in 1971, confidence and custom allowed the removal of any sort of backing from the monetary system, which henceforth conformed, for the first time at least in recent history, a complete system of inconvertible money, just as Jevons (1896) affirmed.

4.8 Closing remarks

The Theory of Commodity Money, as it has already been pointed, still enjoys great acceptance among scholars of different areas and influences policy makers. Despite its popularity, little progress has been made by mainstream economics regarding the theory of money in recent years.

Following this approach, historically, money has been attached to some commodity, either in the form of a commodity itself, as in the case of metallic coins, or representing a commodity, as in the case of convertible paper money. It was only after 1971, when President Richard Nixon ended the convertibility of U.S. dollars to gold and put an end to any sort of commodity standard, that all monies ceased to have a direct association with a commodity. This relationship, however, had eventually been broken in times of crises, as the famous example of the Bank Restriction Act, in England, in 1797, which decreed the inconvertibility of banknotes in gold.

As soon as the people were accustomed to the circulation of representative money, their metallic backing could be slowly removed, giving rise to inconvertible paper money, a type of money which could only circulates within the limits of the state recognizing it. But before the transformation of representative into inconvertible paper money, and before the dissociation of money and metal — *i.e.*, the removal of its metallic backing —, money had often been associated with a commodity and, for that reason, the nature of money has been seen as that of a commodity for many. It may be

inferred that, being a commodity by nature, money is, at least originally, a physical thing.

The main function of money is, still according to this approach, that of a medium of exchange, and, as such, money has a somewhat secondary role in economic analysis. As Smith (1979) affirmed, it serves to circulate of goods, or, as stated by Mill (1965), it only diminishes frictions in commercial activity. As a result of this, money is taken as a neutral variable in economic analysis, and modern leading orthodox economists, as Lucas (1996), among others, have not devoted much attention to the theory of money. Conversely, Friedman, another leading economist among mainstream economics, contributed thoroughly to the theory of money and in face of the historical monetary transformations of the last decades, his last writings brought him nearer to an alternative theory of money.

The evolutionary notion that commodity money is replaced by representative money and, afterwards, by credit, is only accepted by some adherents of the Theory of Commodity Money. As it has been shown, Marshall (1929), Wicksell (1962; 2010) and Thornton (1965), for example, explicitly stated that credit was present even in the earliest times of society. Also, the postulate of barter is another critical point among the adherents of the Theory of Commodity Money, for Marshall (1929) and Mises (1990), for example, dismissed it altogether, whereas others economists followed the Smithian-approach that money emerged out of barter economies. Despite some disagreement and eventual contradictions among themselves, all economists considered in this chapter have one agreeing point: money is, by nature, a commodity and credit, a byproduct of money.

5 THE THEORY OF CREDIT MONEY

5.1 Introduction

It is not the objective of this chapter to make a comparative analysis of The Theory of Credit Money with the dominant theory presented in the preceding chapter. Rather, the theories will be presented independently, thus constructing their own separate and rather distinct approaches to the subject. A comparative analysis of both theories will be made in the last part of this study.

Alternative or heterodox approaches to money focus on the unit-of-account function, stating that the existence of a unit-of-account is, among other things[40], a prior condition to the existence of money and markets. It is, therefore, a fundamental condition for the existence of any monetary system. For Tymoigne (2017, p. 18), "a unit of account is not a function of money but rather a necessary ingredient of a monetary system". Ingham (2000, p. 24) shares this view, stating that money of account "enables the construction of price lists and accounting for credit-debt relations".

Regarding the connection between money and credit, the idea that money "incorporated" two dimensions — material and immaterial — already permeated economic thought from the 16th to the 18th century. According to Einaudi (2005), it is common to come across terms as *imaginary money*, *ideal money*, *political money* and *money of account* in the literature of the period. Innes (1914) affirmed that writers before Smith frequently used expressions as 'money of account' or 'ideal money' in older writings, conveying their familiarity with the ideas. Fox (2020) and Ernst (2016) stated that civil law analysis during Middle Ages distinguished between two types of money: *money in obligation* and *money in solution* in payments. The former referred to the unit of measurement of a debtor's obligation; the latter, to the instrument used for discharging the debt — at the time, mostly coins.

Keynes (1930a, p. 3–4) followed this reasoning, stating that money is the thing which, by delivery, discharges debt-contracts, and can only exist in terms of a money of

[40] "The orthodox explanation of the origins of money is based on the existence of an economy based on barter exchange in formal markets (the fairground barter) which predates the introduction of 'money.' But this is neither historically accurate, nor is it coherent. The institutional prerequisites to the development of market exchange include the existence of private, alienable property, recognition of individual responsibility, self-interested behavior, and forward-looking production. Yet, the historical examples of barter exchange used to justify the traditional approach rarely show any of these characteristics". (Wray, 2012, p. 9–10).

account. The latter is the fundamental concept of a theory of money for it serves as the denominator in which debts and prices are expressed.

Hudson (2020) stated that assyriological and anthropological research corroborate the view that archaic economies operated on credit. Physical forms of money, *i.e.*, credit instruments or circulating media, emerged only afterwards as the means of paying debts registered in a certain money of account. A theory of money, therefore, coincides with a theory of credit.

The practice of keeping accounts in monetary units date as back as early Uruk, circa 3,300 BCE, thoroughly employed in Mesopotamia and Egypt. According to Hudson (2004, p. 1), "[a]ccounting formats are our main source for understanding economic practices from the time the first written records appear". These accounting records allow us to understand economic organization in earlier times and provides a wider picture of how commerce, labor and public administration was provisioned in temples and palaces of that time[41]. Also, prices, leases, debts, and monetary relations grew out of these accounting practices. In ancient societies, standardization and simplification were essential to shape economic activities. (Hudson, 2004, p. 1–4). As Minsky affirmed (1985, p. 13), "once a debt structure denominated in money exists, the absolute level of prices, wages, and profit matters".

It becomes clear that a money of account is a prior condition to the development of a monetary system. Therefore, the Theory of Credit Money starts from this concept. But to analyze the process by which money emerged as a powerful force in social life, one has to consider economics from a broader picture, as a component of societies. As such, it must consider social and institutionalized interactions among people, between people and nature, and between peoples of different parts and nationalities. Institutional processes help to form a society, and, among these processes, one finds the institution of money. Economics, therefore, must *not* abstract from institutional analysis. (Wray, 2012).

As affirmed by Minsky (2008[1986], p. 7), "[e]conomic systems are not natural systems. An economy is a social organization created either through legislation or by an evolutionary process of invention and innovation." According to him, monetary theory,

[41] It is important to highlight that current knowledge on ancient economic practices are much broader in current times, due to recent archeological discoveries, unavailable at the times of Smith, Menger and others. Still, Wray (2012, p. 41) is altogether right when he stated that money was certainly "invented" before writing and, for that reason, no historical records is sufficient to prove its origins. It is very likely

in special, probably more than any other field of economics, must incorporate abstractions about how institutions behave.

Institutions result from either legislation or evolutionary processes. They are made by men, a product of conscious decision, and institutional arrangements and dynamics must be considered. (Minsky, 2008). Money is an institution itself and intricately related to other institutions and organizations, such as banks, the state, contracts, laws, and taxes, among others. The convention of acceptability[42] of money is based on state enforcement, informal social norms or arrangements and public confidence. (Dequech, 2013; Chick, 1992). All these forces work simultaneously to ensure enduring institutions.

As a component of this social organization, money is a social technology that allows economic activity to happen, *i.e.*, it allows production and distribution in monetary economics. It does not occur naturally. It is an institution and an intricate element of human life. For Ingham (1996, p. 510), money does not only mediate and symbolize social relations: "money itself is a social relation", constituted by social relations.

Money is one among several institutions that regulate human life and, as such, it is important that any analysis on the subject broadens its scope, going beyond economic literature. To understand what money really is, its origins and uses, one must look outside the scope of economics and benefit from the help of other social sciences.

This brief introduction helps introduce the objective of this chapter, which is to summarize the main ideas regarding the Theory of Credit Money. With the aid of comparative history, anthropology, accounting, and economics, one may attempt to restate the origins of money and its sole function: money is the ultimate means of payment. It releases people from debt. Economics, with insights from the Accounting and Law, explain the nature of money and credit, as well as and the process by which credits/debts are created, circulated and extinguished — the credit circuit. Credit creation is fundamentally based on moral, legal and economic aspects. Credit destruction, in its turn, may happen in different ways, including monetary payment, among others.

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that men's cognitive abilities to calculate may precede writing. Still, using comparative economics allow us to speculate at the origins of money.

[42] "There is a mutuality of state and social support of money in the modem Western economy: the dichotomy erected by philosophers of money, between state money and socially accepted money, needs to

Money represents the highest form of credit, as affirmed by MacLeod (1891). And credit is, first and foremost, an accounting variable. The physical or circulating forms of money emerged due to some specific circumstances, which will be seen next, as a necessary requisite for the growth and developments of markets, with the aid of the law, overcoming the limits imposed by bilateral credit before the centralization of the credit system.

5.2 The origins of money

The origin of money is a complex subject in economic research and, as such, it seems more appropriate to deal with its *origins*. It is important to highlight that, in the attempt to determine the origins of money, one is also describing how money of account came into existence. Although it is hardly possible to know with certainty how money first appeared, for its historical origins were lost in time and are spread among many societies and regions, it is believed that money predates writing, for "the earliest examples of writing appear to be records of monetary debts and transactions". (Wray, 2004, p. 230–231).

Chick (1992) stated that despite the mystery and controversy involving money's origin, the dispute is polarized in two groups: the *social custom approach* and the *state approach*. The latter, according to Dequech (2013), may be subdivided into two variants: one centered on the role of taxes; the other, on contracts. Ingham (1996) asserted that historians and some sociologists sided with a non-market theory and "sought the origins of money as *measure of value/money of account* and (unilateral) *means of payment* of fines, tithes, taxes, compensations – that is, debts between the political community and its members […]". (Ingham, 1996, p. 516).

In fact, it is possible to identify at least five possible explanations to the origin of money within heterodox literature, which are somewhat variations of Chick's (1992) two groups: (1) a sort of *evolutionary approach*, which does not refute barter, may be found in Keynes (1930a) and MacLeod (1891; 1893), and, thus, does not completely depart from some of the ideas of classical economists; (2) the *palatial credit approach*, as proposed by Hudson (2004; 2020); (3) the *wergeld approach* — or the *penal system compensation approach* —, found in Grierson (1977), Innes (1913; 1914), Graeber

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be replaced by an appreciation of the interactive support of the two forces in a modem economy". (Chick, 1992, p. 142).

(2011), Goodhart (1998) and Wray (1993; 2012); (4) a *contract approach*, as described by Hicks (1969, 1989), Heinsohn and Steiger (1989), Dequech (2013), and partially found in Keynes (1930a) and Wray (1993; 2012); and (5) a *market approach*, as described by Hicks (1969; 1989) and Innes (1913; 1914).

Two alternative explanations to the origins of money found mostly in heterodox literature will be presented next: the penal system compensation and the market approaches. Despite their different roots, these approaches have one thing in common: money of account is a necessary precondition for the establishment of a monetary system. Since monetary transactions can dispense altogether the use of material money, money of account and credit/debt relations come into existence simultaneously, as accounting tools, before any sort of circulating media come into existence.

5.2.1 Preliminary considerations and precautions regarding primitive money

Before delving into the subject of the origins of money, it is important to bring into account a few elements regarding the study of primitive forms of money. Schumpeter (2014) and Dalton (1965) provide an interesting framework for theorizing, analyzing and understanding the origins of money, highlighting some precautions to be taken when dealing with the subject of primitive monies.

Schumpeter (2014, p. 14) started his analysis by touching a sensitive matter: “is there *one* theory of money for all historical periods or *economic styles*, or must a particular theory be constructed for each and every one?”. This is an important point because money has different meanings in the minds and behaviors of people among different cultures, and these meanings may also change with time. As an instance, if an object fulfills one or more functions of money and, simultaneously, is a sacred object for a society, in which its disposal is associated with ritual requirements, a monetary transaction of this sort has cultural and economic meanings different from the typical market transaction. Thus, at first, it might seem impossible to reduce all these different types of money to a common denominator.

However, subjective cultural meanings are not to be brought into account in the science of money, for one must find a common element among these money-forms and analyze their function in the process of economic life. In other words, one must find a common element between a modern bank-transfer payment and Homer’s ancient cattle

accounting. It is important, nonetheless, to expand the analysis as much as possible in space and time.

Schumpeter stressed that those who wish to investigate the historical and pre-historical "beginnings" of the monetary system ought to be aware that the nature of the case will not be presented automatically, in pure and simple forms. One must be aware of the risk of anachronism and be careful to not complement prehistoric material with ethnological material. Primitive societies are not necessarily simpler and less complicated just because they are ancient. (Schumpeter, 2014, p. 15–20).

After this initial disclaimer, Schumpeter asserted that one must determine which phenomena in the economic lives of primitive societies will serve as parameters for later monetary economies. For him, the framework of the classical functions of money — medium of exchange, measure of value, standard of deferred payments and store of value — may suitably serve this purpose.

Conversely, Dalton (1965) affirmed that there is not a proper set of analytical categories, *i.e.*, a framework, which can properly deal with systems so strikingly different. This leads to further complication in the study of primitive money which is often aggravated by the contact and influence of foreign monetary systems with primitive systems. The term primitive itself may be misleading and

> if one asks what is "primitive" about a particular money, one may come away with two answers: the money-stuff — woodpecker scalps, sea shells, goats, dog teeth — is primitive (i.e., different from our own); and the uses to which the money-stuff is sometimes put — mortuary payments, bloodwealth, bridewealth — are primitive (i.e., different from our own). (Dalton, 1965, p. 44)

As affirmed by Schumpeter (2014), Dalton (1965) also stressed that primitive money may perform one or more functions of modern money, but very rarely all of them. This is so because, contrarily to impersonal and commercial modern money, "primitive money frequently has pedigree and personality, sacred uses, or moral and emotional connotations". (Dalton, 1965, p. 44). In other words, primitive money has very specific uses which are embedded in the social fabric of those societies.

This has often led to two different positions in economic literature regarding primitive money: (1) a tendency to treat it as "equivalent" to modern money; or (2) a tendency to ignore primitive money and focus exclusively on modern money.

In some way, the treatment given to primitive money in monetary theory resembles the methodological debate in social sciences: on the one hand, *formalists* hold that the general concepts and tools of economics are adequate for both small-scale societies and capitalist states, and, on the other hand, *substantivists* advocated in favor of considering cultural particularities, diversity, and institutions into the analysis. (Maurer, 2020).

For Dalton (1965), in a commercially organized economy, money has a well-defined set of properties or functions, but in economies with different organizations, where monetary objects have no commercial use, money assumes different characteristics. Therefore, one should inquire whether the supposed primitive forms are money or not. One should examine the differences and similarities between these forms of money and the socioeconomic structure in which they were used. This turns out to be a rather difficult task because we are so accustomed to think of a world dominated by market exchange that our understanding of primitive economies — in which exchange transactions are absent or rare — is blurred or biased (1965, p. 45–46).

For that reason, it is important to distinguish between *three types of transactions* — market exchange, redistribution and reciprocity —, *two types of money* — general purpose money and limited or special purpose monies —, and *three different forms of socio-economic organizations in primitive societies* — marketless, peripheral markets and market-dominated economies. These distinctions are important, according to Dalton (1965), because economists often do not distinguish among these transactional modes and overlook that money is used in all of them.

Our dominant transactional mode is *market exchange*. In an integrated economy, goods and resources of production are transacted through purchases and sales and the markets — mainly, but not exclusively — provide people with the monetary resources for livelihood — wages, profits, interest, and rents. All resources, goods and services become purchasable and saleable on the market, including those which are ceremonial, religious, or prestige indicators. This is so because, in a market-integrated economy, even different items and services become comparable because they are all stated in the same money of account, which allows the organization of a credit and accounting structure created to facilitate market operations. (Dalton, 1965, p. 45–50).

The second transactional mode, *redistributive*, regards obligatory payments to political authorities, as taxes and fines, for example. Payments to authorities are made using the same money and money of account as all market exchange. These monetary

receipts help public authorities to provide social services, such as defense and justice, and to acquire the necessary resources for their own maintenance in the market. This transactional mode, therefore, emphasizes the relationship between the state, markets and the public. (Dalton, 1965, p. 47).

The last transactional mode is *reciprocity* or gift-giving. This transaction takes place between kin and friends and, just like the two previous transactional modes, it uses the same money, although this type of transaction is embedded in a deeper social relationship. For Dalton, after a gift is bought,

> […] giving the gift is part of a reciprocal transaction (a material or service transfer induced by social obligation between the gift partners). If cash is given as a gift, it is means of (reciprocal) payment of the social obligation discharged by the gift-giving. (Dalton, 1965, p. 47).

The distinctions about these types of transactions are blurred because, in Western economies, tax and gift transactions are seen as special cases, as mere variations from the dominant form of market exchange, because they all use *general-purpose money*, which consists of a single monetary instrument used for all three modes of transactions. "It is our market integration which makes it necessary to institutionalize all uses of money in the same money instrument". (Dalton, 1965, p. 48–49).

Conversely, in small-scale or primitive economies not integrated by market principles, different monetary objects may be institutionalized to perform reciprocal and redistributive transactions. Thus, this non-commercial type of money may be classified as *special-purpose money* or *limited-purpose money*, which does not enter the realm of market exchange and, having special uses and characteristics, it cannot be general-purpose money, which is full-time money. In these societies, there is lack or complete absence of political authority over money objects, in contrast to the modern experience. But the lack of a political involvement in monetary matters is not what really distinguishes primitive and modern monetary systems. Their whole economic systems are different from ours. (Dalton, 1965, p. 48–49).

This leads us to the last distinction made by Dalton, regarding the types of socio-economic structure of primitive societies. In each of these structures, money and its uses differ sharply, and, for that reason, modern scholars ought to be cautious to not take general-purpose money as a synonym for true money. This precaution is especially

relevant when dealing with non-commercial transactions within economies not integrated by a market mechanism.

Marketless communities are subsistence economies. Goods and production resources are allocated according to kinship right or tribal affiliation and livelihood does not rely on production for further sale. As such, no formal marketplace sites are found in these communities. Transactional modes found in this type of structure are reciprocity and redistribution, *i.e.*, non-commercial operations, which take the forms of obligatory duties — gifts or payments — to kin, friends, chiefs, and priests; bridewealth; bloodwealth; mortuary payments, among others. Only special-purpose money is used in such communities. (Dalton, 1965, p. 51–52). Moreover, marketless economies also tend to be stateless. (Dalton, 1965; Graeber, 2011).

Peripheral markets economies in ancient societies have the same characteristics of a marketless economy, with one exception: the existence of marketplaces. Neither people's livelihoods nor land and labor are obtained in the market, and, therefore, market exchanges are only peripheral. In these marketplaces, only a small part of the produce is purchased and sold, either with the employment of some money-stuff or by bartering. (Dalton, 1965, p. 52).

Small-scale market-dominated communities — or peasant economies — and *nationally integrated market economies* share differences and similarities. Among the common features are: (i) land, labor, goods, and services are purchased and sold in the markets; (ii) most people sell their labor and/or products for livelihood; and (iii) market prices integrate production. General-purpose money prevails in such economies, for market exchange transaction is the dominant mode. Two main differences between peasant and modern economies must be highlighted: (i) modern machine technology is largely absent; and (ii) traditional social organization and cultural practices are mostly preserved. (Dalton, 1965, p. 52).

In summary, for Dalton (1965), certain characteristics of primitive economies and primitive money can only be understood through the lenses of a specific socioeconomic framework. Economists often err when they treat primitive monies as equivalent to commercial money. They do not perform the same functions. This may also lead to unsound statements regarding historical examples of commodities used as full-time money. Because economics deal with a world in which the market mechanism prevails, it tends to ignore types of transaction different from the market exchange mode. Thus, he concludes that "money has no definable essence apart from the uses

money objects serve, and these depend upon the transactional modes that characterize each economy" (Dalton, 1965, p. 62).

Graber (2011) follows a somewhat similar path, but contrary to Dalton's (1965), he identifies one common element among primitive and modern money: debt. By the time people start asking "who owes what to whom", society adopts the language of creditors and debtors and, afterwards, social, religious, moral, juridical, and all other kinds of relationships may be reduced to a monetary transaction which, as any debt, may be discharged. For him,

> Arguments about debt have been going on for at least five thousand years. For most of human history […] most human beings have been told that they are debtors. […] For thousands of years, the struggle between rich and poor has largely taken the form of conflicts between creditors and debtors—of arguments about the rights and wrongs of interest payments, debt peonage, amnesty, repossession, restitution, the sequestering of sheep, the seizing of vineyards, and the selling of debtors' children into slavery. By the same token, for the last five thousand years, with remarkable regularity, popular insurrections have begun the same way: with the ritual destruction of the debt records—tablets, papyri, ledgers, whatever form they might have taken in any particular time and place. (After that, rebels usually go after the records of landholding and tax assessments.) (Graeber, 2011, p. 8).

Money transforms morality into impersonal arithmetic. It transforms mere obligations into redeemable debts. Obligations can only be quantified and transformed into debts with the aid of money (of account). Money makes debts possible, and, for that reason, they come into existence simultaneously. Thus, for Graeber, a history of money is a history of debt, and, as a result, one can understand the role of debt in human society by analyzing the forms money has taken throughout history. (Graeber, 2011, p. 13–44).

For Graeber (2011), primitive monies were used mainly to create, maintain, rearrange, and restore social relations between people. They were rarely used in commercial terms, namely purchases and sales. Among these social relations are marital arrangements; dispute settlements, such as forgiveness or compensation in cases of crimes and death; negotiation of treaties; among others. The importance of this primitive monies was so great that social life revolved around getting and disposing of them and, for that reason, Graeber called them *social currencies*. Economies which employed social currencies are named *human economies,* which are economic systems focused on the human beings and not on the accumulation of wealth. (Graeber, p. 60–86; 130). Graber's classifications are analogous to Dalton's (1965) concepts of limited-

purpose money, marketless and peripheral markets economies. They also agree that these are the kinds of transactions that economists hardly ever consider.

Market economies are, historically, recent socioeconomic structures. Human economies, as described by Graeber, have been the predominant form. An important chapter in the history of debt comprehends the moment in which market principles assume a central point in human life, supplanting the earlier moral foundations of social relations. The whole process by which market principles pervade all aspects of human life is out of the scope of this study,[43] but it is important to refrain that primitive money regulated obligations and social relationships in human economies and, through the interaction and overlap of market economies, social obligations are transformed into debt relations. This process distanced itself from the principles of social reciprocity and communism — the latter is, for Graber, the foundation of all human sociability — and entered the realm of economic exchanges. After all, all kinds of human interaction are a sort of exchange, although not all human interaction is an act of exchange. (Graeber, p. 145–86; 130).

Exchange implies an equivalence, in the sense that two parties have both rights and duties to perform. It involves responsibilities and expectations regarding the performance of the agents, and the relationship between parties may be canceled out at any time, at the wish of one of the agents involved. It implicates equality — formal or potential — between parties and separation. Commercial exchange, in specific, has one very important characteristic: its impersonality. Moreover, it is often irrelevant who the agents are in an act of exchange. (Graeber, 2011, p. 102–104).

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[43] Graeber's (2011) argument regarding this process may be briefly summarized for the sake of complementarity. Starting from the concept of *human economies*, each person is unique in their relationships with other members of a community and, as such, a person cannot be considered as equivalent to anyone or anything else. In such economies, primitive money does not represent a thing used in purchases and trades of people, but it expresses the exact opposite: people cannot be bought or traded, *i.e.*, money represents the acknowledgment of a debt that can never be paid. But this notion of uniqueness becomes flexible as the foundations of contemporary civilization change. People may become objects of exchange because of acts of violence, as it happened in slavery or when women is given in marriage, for example. Violence removes people from their social context, thus, transforming them into tradeable commodities. This process does not imply the establishing of a market for general tradeable goods, though. The ability to remove someone from a net of human relationships removes the individuality of the person, *i.e.*, their reputation, social existence, honor, etc., and eventually, even their names. This implies a deep rupture from the concept of *human economies*. The glorification of violence to strip a person of their dignity, a practice legitimized by political power, originated what Graeber calls *heroic societies*. Several acts of violence are justified by honor, including another person's degradation. It also and give rise to honor debts which ought to be paid. Violence also played an important role for wars were an important way for establishing markets, conquering lands, slaving people, and levying taxes, which not only expresses the intricate relationship between markets and states, but also contributes to the further establishment of *market economies*.

It is possible to go further and associate Graber's proposition to the subject of this study. The impersonality of market exchanges demands some sort of monetary instrument, *i.e.*, a circulating medium, for bilateral credit among acquaintances would be a limiting factor for the development of markets. In principle, credit implies a relationship between parties, based on trust and other factors. Therefore, an *informal* or bilateral system of credit would be viable mainly in human economies, where people know each other. In market economies, credit operates in large scale through a centralized system — banking — and cash must be employed. By the time cash changes hands, the obligation between agents is extinguished and new economic relationships can be set out: new rights and duties can be created through the market process and are canceled out using the same monetary instrument.

For Graeber (2011), exchange allows the extinction of debts, the ending of relationships and the restoration of equality. The objects and the people involved in the exchange are taken as equivalents *before* and *after* the exchange. By the time the objects — money and goods usually — change hands, the parties have no further claim against each other: they are released from debt. But after the act of exchange has commenced and before the release of debt, those engaged in the act have become unequal and this is the essence of debt. A debt, therefore, is an exchange which has not been completed. (Graeber, 2011, p. 104–109; 120–121). Payment ends the exchange and leads to the release of debt.

Nevertheless, by framing all human relations and interactions in terms of exchanges implies that all human relations may be shaped in terms of debts. And such logic has not only permeated economic thought, but it also has been a cornerstone for the shaping of laws and institutions, especially from Medieval times on[44]. (Graeber, 2011; MacLeod, 1891; 1893). According to Commons (2017[1934]),

> Primitive societies have often the institution of "gift" which is their method of creating a debt, and they even are known to have set up a money of account. It needs only Knapp's distinction between unreleasable and releasable debts, and a consideration of such notable juristic inventions as assumpsit, negotiability, and legal tender, to bring about an economic theory which not only unifies production with credit but also unifies history with logic. (Commons, 2017, p. 474).

[44] An analysis of the relation between law and economics regarding debts is provided by MacLeod (1891; 1893) and summarized in topic 4.5.

Maurer (2020) affirmed that the history of primitive and nonmetallic money helps elucidate several puzzles in the study of money for it shifts the core of discussion from exchange to social relationships and payments — such as marriage gifts, taxes, tithes, and others —, and it introduces political and institutional elements into monetary analysis.

Wray (2004) stated that the study of the origins of money and its primitive forms leads to an attempt to investigate the complex social behavior of ancient societies and to find a common element among those and our modern society regarding money. It is important to focus on social practices associated with money in ancient societies, and to not take them as simply smaller or less complex than those of current societies.

For Parguez and Seccareccia (2000), Graeber (2011) and Innes (1913), the common denominator is debt. Sometimes in the form of monetary debt, sometimes in the form of moral debt, honor debt, primordial debts, or others. Thus, the notion of debt goes beyond the field of economics. Even in ancient "societies in which communal property was the norm, forms of credit/debt relations existed as long as individuals held *informal* personal possessions rather than titles based on codified private property rights". (Parguez & Seccareccia, 2000, p. 102–103, emphasis added).

Finally, these remarks about ancient socioeconomic organization and the distinction between social and commercial forms of money serve as precautionary measures for the study of the origins of money. It is possible now to advance the analysis of the origins of money by accessing the oldest empirical evidence available, regarding the emergence of accounting tools and money of account in the Ancient Near East.

5.2.2 The emergence of money of account in Ancient Near East

The best description of how money of account may have emerged in Neolithic and Bronze Age economies is provided by Hudson (2004; 2020), Ingham (2000), Graeber (2011) and Innes (1913; 1914).

Graber (2011) highlighted that historic economy has benefited from the translation of Egyptian hieroglyphics and Mesopotamian cuneiform documents which expanded knowledge on written history for nearly three millennia before Homer's time (circa 800 BCE), showing that credit systems preceded coinage by thousands of years. Innes (1913) stressed the contribution of modern archaeologists and the discovery of

extreme old artefacts which may have been used as medieval tallies and seem to be of the same nature: credit instruments.

Among ancient civilizations, the Mesopotamian system is the best documented, and most cuneiform documents were financial related. Babylon and Summer are important sources of written information for monetary analysis. The Egyptian system is relatively well documented. Little is known about China during the Shang dynasty and no evidence of the Indus Valley civilization has survived. (Graeber, 2011).

According to Hudson (2004), accounting practices from the early times when written records started being kept represent our main source of information. Accounting deals with counting and numeracy. The practice of bookkeeping economic activities demands literacy, and writing and numeracy are part of it. The essence of accounting is accountability which, in legal terms, may be seen either as a right or as a duty; in economic terms, it represents a credit or debt, which implies ranking and subordination, which are important elements for the creation of some sort of social hierarchy. Accounting practices were developed by public institutions as a component of a broader system of administration and these records allow us to understand how temples and palaces provisioned labor, organized trade, and public infrastructure investment. Pricing, debts relations, leasing for lands and workshops, among other economic activities, evolved out of accounting practices. For him, administering prices, in fact, is the essence of early accounting systems. (Hudson, 2004, p. 1–6).

Hudson (2004; 2020) analyzed accounting practices from Uruk, circa 3,300 BCE, the Neo-Babylonian period, and Egyptian practices. He attributes to Sumerian temples and palaces the role of innovators in accounting practices. Due to the time gap between planting and harvesting in agricultural economies, few payments were made at sight. Operations on credit demanded a system of accounting for registering transactions, and since agricultural economies were the predominant form, the accounting techniques of Mesopotamia’s palaces and temples spread, reaching the Iranian plateau, Syria, Crete and Mycenaean Greece, etc. With the diffusion of such practices, weights and measures were standardized in these areas and, among them, the key measure became the monetary weight which served as the basic unit of account. Standardization and simplification — of time, weights, lengths, volumes, areas, and values, for example — helped to shape economic order and were a precondition for account-keeping. (Hudson, 2004, p. 2–3).

> A precondition for their account-keeping was standardization, starting with ration levels. To enable large quantities and their values to be readily calculated, the commodities being measured and weighed were assigned prices set in conveniently round numbers. […] Major commodities such as gold and copper, wool and sesame oil were assigned values in an overall price grid that also could be used to calculate labor time and land rent. Any element in this grid could be used to measure others, so that accounting prices could be set for barley and silver, copper or gold relative to each other and to other key commodities. (To be sure, these coefficients differed from city to city and from period to period.) (Hudson, 2004, p. 4).

A similar argument is found in Graeber (2011), when he presented more details on the Sumerian economy. According to him, ancient Sumer was dominated by vast complexes of temples and palaces and, despite being divided into many independent city-states, at around 3,500 BCE, temple administrators had already developed a single and uniform system of accountancy for time: a 12-month year, a 60-minute hour, and a 24-hour day.

The basic monetary unit used both in Sumer and Babylon, the *shekel*, originally served as a unit of weight and money of account. Initially fixed at 1 *gur* or a bushel of barley (1,2 hectolitres of barley), the *shekel* was subdivided into 60 minas, which represented one portion of barley. Temple workers received two rations of barley a day. "It's easy to see that 'money' in this sense is in no way the product of commercial transactions. It was actually created by bureaucrats in order to keep track of resources and move things back and forth between departments". (Graeber, 2011, p. 39). The standard would be changed afterwards, with the equivalence being set against to 8.3 grams of silver. Later, the *shekel*, originally a unit of measure, would become a coin, thus proving that coinage came at a later stage. (Graeber, 2011; Ingham, 2000; Dalton, 2004).

Prices of the major products were administered and, as such, market forces played no role in determining them "domestically". For Ingham (2000), ancient Near Eastern empires were, essentially, non-monetized command economies with small trade sectors and most payments took the forms of rents and taxes to religious and secular authorities, *i.e.*, temples and palaces. Graeber (2011) and Innes (1913; 1914) rebutted this view by emphasizing the role of outside trade beside temple and palatial activity.

Graeber (2011) stated that the vast temples which dominated Mesopotamian city-states were enormous and complex industrial institutions which employed thousands of people, including shepherds, spinners, weavers, clerical administrators,

and even dancing girls[45]. Among their productive activities, they also financed caravan trades. Credit was also supplied by merchants and tradespeople who developed their own credit arrangements, mostly in the form of clay tablets, the so-called *shubati*[46], financial documents in which the obligation of future payment was inscribed. With payment, these *shubati* were destroyed. These documents, eventually, even became negotiable. Trading was an important factor for the area because, despite the fertility of soil and large surpluses of grains, foodstuffs, and livestock — the latter also supported the wool and leather industry—, the area lacked in stone, wood, metal, etc., which had to be imported. (Graeber, 2011, p. 64–65; 214–215; Hudson, 2020).

> From quite early times, then, Temple administrators developed the habit of advancing goods to local merchants—some of them private, others themselves Temple functionaries—who would then go off and sell it overseas. Interest was just a way for the Temples to take their share of the resulting profits. However, once established, the principle seems to have quickly spread. Before long, we find not only commercial loans, but also consumer loans—usury in the classical sense of the term. By c. 2400 BC it already appears to have been common practice on the part of local officials, or wealthy merchants, to advance loans to peasants who were in financial trouble on collateral and begin to appropriate their possessions if they were unable to pay. (Graeber, 2011, p. 64–65).

Regarding the prices of products bought outside the temples and palaces, they varied considerably in the marketplaces established in the Mesopotamian cities, fluctuating according to demand and supply, and changing drastically during grain failure or the imminence of a collapse by a central authority. In such marketplaces, prices were calculated in silver, but transactions were made on credit[47]. (Hudson, 2004; Ingham, 2000; Graeber, 2011).

Out of the initial grid of mutual equivalences used for products, rental, and labor, barley and silver were the basic references for prices.

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[45] "These large institutions employed staffs of weavers and other craft personnel, who were fed by crops grown either on palace or temple land or that of sharecroppers paying grain-rent or fees to these institutions and supplied with wool from temple and palace herds managed by entrepreneurs or owned outside of these institutions". (Hudson, 2020, p. 46).

[46] Innes (1913) explained that these *shubati* tablets were common commercial documents of ancient Babylonia, used from 2,000 to 3,000 BCE, which represented acknowledgments of indebtedness given by a buyer to a seller. The word *shubati* meant 'received'. Made of clay, they kept records of commercial transactions in terms of a unit of account, *she*, which is believed by archeologists to have been a type of grain. These tablets were kept in the temples until they fell due: with payment, they would be broken. The information inscribed in it included the quantity of grain received, the debtor, the creditor, the date, and the seal of the receiver, which could have been a private person or the king.

[47] "Merchants […] were among the few people who did, often, use silver in transactions; but even they mostly did much of their dealings on credit, and ordinary people buying beer from […] local innkeepers,

> The monetary breakthrough came when a common denominator was selected out of the overall price grid to measure diverse activities. Money was the ultimate abstraction, the most important price coefficient, providing the large institutions with a standard to value the output of their lands and herds, the products of their work force, the handicrafts they consigned to merchants, and to calculate interest on such advances. (Hudson, 2004, p. 5).

For Ingham (1996; 2000), centralized bureaucratic social structures in Mesopotamia led to the creation of accounting practices and the institution of money of account, as bookkeeping activities were standardized and simplified. Authorities fixed the standard and, as aforementioned, eventually changed it. They also fixed the prices of taxes, rents, and others, thus reveling that monetary practice originated with a money of account and had its historical foundations in the practice of early bureaucratic empires. The creation of money has always been reserved to legitimately sanctioned agencies: in the Mesopotamian case, palaces and temples; in latter times, states, mints, banks, and others. Those reasons are good indicators that money may have emerged outside the market. (Ingham, 1996; 2000, p. 22-27).

In a more general way, Ingham (2000) provided a helpful description of the four stages of the development of monetary practice, based on historical and empirical evidence: (1) *the emergence of a money of account, i.e.*, a concept of money as a measure of value used for representing and accounting for the worth of social positions and roles; (2) *authoritatively-fixed standard of value*, which defined quantitative relations between commodities expressed in a money of account, as the barley standard in Mesopotamia and the cattle standard in Egypt; (3) *authoritatively-standardized means of payment* denominated in money of account for payment of taxes and tithes, as, for example, the silver *shekel* based on the barley standard in Mesopotamia, in which payment in silver was made by weight[48]; (4) *coinage* of uniform units of (base) metal

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once again, did so by running up a tab, to be settled at harvest time in barley or anything they might have had at hand". (Graeber, 2011, p. 39–40).

[48] "Temple bureaucrats used the system to calculate debts (rents, fees, loans, etc.) in silver. Silver was, effectively, money. And it did indeed circulate in the form of unworked chunks, "rude bars" as Smith had put it. In this he was right. But it was almost the only part of his account that was right. For one thing, silver did not circulate very much. Most of it just sat around in Temple and Palace treasuries, some of which remained, carefully guarded, in the same place for literally thousands of years. It would have been easy enough to standardize the ingots, stamp them, create some authoritative system to guarantee their purity. The technology existed. Yet no one saw any particular need to do so. One reason was that while debts were calculated in silver, they did not have to be paid in silver—in fact, they could be paid in more or less anything one had around. Peasants who owed money to the Temple or Palace, or to some Temple or Palace official, seem to have settled their debts mostly in barley, which is why fixing the ratio of silver to barley was so important. But it was perfectly acceptable to show up with goats, or furniture, or lapis lazuli. Temples and Palaces were huge industrial operations—they could find a use for almost anything." (Graeber, 2011, p. 39).

following specific fineness and weight used for payment of taxes and debts, in the form of tokens of exchange. (Ingham, 2000, p. 27).

Despite the confusion between money and coins, before the practice of coining precious metal, the existence of a money of account allowed the emergence of credit systems, complex market forms, the emergence of interest — for temples and palaces also operated as depositors and lenders at interest[49] —, not to mention sophisticated financial arrangements, for the major merchants or banking firms also participated in state finance and tax collection. (Graeber, 2011; Wray, 2004; Innes, 1913; Hudson, 2020).

The complexity and scale of economic activity during the period is impressive: building public infrastructure demanded feeding workers and supplying them with tools, calculating budgets for periods of surpluses or shortfalls, measuring and accounting production of herds, brews, bread, among others, and it also dealt with the needs of long-distance trade. Hudson (2020) provided a 2-phase-scheme of the process in which money emerged, motivated by the needs of forward planning of those large institutions: (1) the first need was to standardize the value of key commodities, which was fulfilled by the creation of the grid of administered prices and *the definition of a unit of account* — initially, a grain; (2) the second need was *the organization of a means of payment* employed for collecting taxes, fees, and financing trade ventures.

A "bimonetary" system coexisted[50], with silver and grain serving both as money of account, used to evaluate production and distribution. The rural economy operated on a grain standard, whereas entrepreneurial trade and management activities, on a silver standard. The important fact which lies here is that economic production and distribution depended especially on a money of account. The latter was monetized afterwards, giving rise to a means of payment. (Hudson, 2020, p. 46–47; 56–57).

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[49] "The relation between religion and finance is significant. It is in the temples of Babylonia that most if not all of the commercial documents have been found. The temple of Jerusalem was in part a financial or banking institution, so also was the temple of Apollo at Delphi. The fairs of Europe were held in front of the churches, and were called by the names of the Saints, on or around whose festival they were held." (Innes, 1913, p. 36).

[50] "Despite variation in market prices for transactions outside of the large institutions, Babylonia's bimonetary standard had no Gresham's Law of "cheap" or "bad" money driving out good money. Grain did not drive out silver. When entrepreneurs in the agricultural sector sought to pay official debts in grain at harvest time, this was part of a structured stable relationship. There was no creation of fiat money by Bronze Age temples and palaces to spend into the economy, and no monetary inflation. Early "money" was simply the official price schedule for paying debts to the large institutions, along lines much like the American "parity pricing" policy to support farm prices after the 1930s. The fact that wool prices, for instance, varied in response to market conditions but nominally remained fixed by royal fiat for 150 years

A brief analysis and summary of the economic organization of Mesopotamia is also helpful for the sake of conclusion. Barley was the main commodity used to feed the labor force. Copper, alloyed with some other substance, was the most important productive metal — thus, justifying the term Bronze Age (3,500–1,200 BCE), employed by archaeologists to refer to this period. Silver became the predominant means of payment for settling balances to temples and, also, in international trade. It enjoyed a special position among metals for two social reasons: first, due to the great commercial activity of the period; and second, because of the vast stocks within temples and palaces, the administrative centers of the society. Hudson indicated at the possibility that silver had been the major form of religious donation and that temples supplied it back to the economy afterwards. (Hudson, 2004, p. 5–6).

Graeber (2011) underscored many similarities between the Mesopotamian and Egyptian monetary histories during Bronze Age. Egypt was also extremely rich and a self-contained society, extremely centralized, for the pharaoh represented a god. The state institutions collected several taxes and distributed allotments, wages, and payments. Money arose as an accounting tool. The unit was the *deben*, which originally referred to grains and, afterwards, to metals — copper or silver. Merchants were mostly itinerant and represented either foreigners or commercial representative agents of people with large estates. The Egyptian case lacks evidence of commercial credit, but from what is documented, Egyptian society avoided interest-bearing debt, and loans are likely to have been on the nature of mutual aid between acquaintances. Legally enforceable loans, despite documented, seem to have been rare. Still according to Graeber, regarding the Chinese monetary history in that same period, it remains a mystery, for its writing remains indecipherable. From what is known, it appears that Chinese states were less bureaucratic, with no centralized temple or palace administrative system and no uniform unit of account. There is constant reference to the cowrie money of early China, but it is unclear whether people used it firstly as social currency and, later, as commercial currency. Several other forms of money and credit instruments have been used in pre-imperial China. (Graeber, 2011, p. 217–220).

From this summary based on accounting practices of Mesopotamia, a few insights may be drawn regarding money. First, commercial activity cannot take place without a system of measurement for the establishment of prices and debts. Therefore, a

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shows that this standardized price referred to debt payments owed to the palace and its collectors." (Hudson, 2020, p. 50).

money of account is a precondition for all commercial activity. Second, credit operations dominated the period. Despite payment being made in kind, the commodity served only to liquidate a debt. This leads us to a following chapter in the history of debt: the emergence of coinage and other circulating media.

5.2.3 Coinage

The history of coinage is not to be confused with the history of money. It cannot be known with certainty why monetary debts/credits started being coined, but a lot can be learned about money from numismatics. Hudson (2020) stated the root of the word itself is an indicative of that: *nomos* means law or custom. Knapp (1924) stressed the risk of trying to understand money exclusively from numismatics, for it deals only with the dead body of currency.

According to Wray (2004, p. 235), if coined money was "designed to reduce transactions costs, one must wonder why the invisible hand of Darwinian evolution was so slow to develop coinage while it had been quick to develop alternative — and apparently more complex — financial instruments". In fact, Neolithic and Bronze Age economies — or, what Graeber (2011) called the Age of the First Agrarian Empires (3,500–800 BCE) — operated largely on credit. (Graeber, 2011; Hudson, 2020). The era of coined money coincides with what Graeber (2011) called the Axial Age (800 BCE–600 CE), following the term coined by German philosopher Karl Jaspers.

Maurer (2020) affirmed the notion of money which has been perpetuated by Western thinking regarding the nature of money is that of a standardized, flat and round piece of metal — *i.e.*, a coin — used for transferring claims to value. In fact, the use of coins corresponds to a mere historical fragment of a broader picture.

> Coinage appears to have arisen independently in three different places, almost simultaneously: on the Great Plain of northern China, in the Ganges river valley of northeast India, and in the lands surrounding the Aegean Sea, in each case, between roughly 600 and 500 BC. This wasn't due to some sudden technological innovation: the technologies used in making the first coins were, in each case, entirely different. It was a social transformation. Why this happened in exactly this way is an historical mystery. But this much we know: for some reason, in Lydia, India, and China, local rulers decided that whatever longstanding credit systems had existed in their kingdoms were no longer adequate, and they began to issue tiny pieces of precious metals—metals that had previously been used largely in international commerce, in ingot form—and to encourage their subjects to use them in day-to-day transactions. (Graeber, 2011, p. 212).

Scholars normally credit the kingdom of Lydia (now Turkey), under king Croesus (561–546 BCE), as the first place where coined money appeared. Grierson (1977) stated that coins were used in western Asia Minor before that, although it cannot be known with certainty how long before that, since historians and numismatics diverge on the point.

From the very beginning, coins were token money, made of electrum, an alloy of gold and silver. Only one of their sides was stamped with a few letters and these coins were apparently manufactured by jewelers. It was only later that a royal mint was stablished and, sometime around 600 BCE, gold and silver began to replace electrum. Afterwards, stamping on both sides of the coins started, and the use of coined money spread to Greece, Persia, the Aegean islands, reaching the Romans, Celts, India, among others. (Graeber, 2011; Grierson, 1977; Hicks, 1969).

In the cases of India and China, Graeber stated that the same pattern can be observed: “invented by private citizens, coinage was quickly monopolized by the state”. (Graeber, 2011, p. 225). This premise is also held by Hicks (1969, 1989) and partially by Grierson (1977).

In India, the first experience with coined money consisted of small silver bars of uniform weight which was punch-marked with symbols and, eventually, additional counterpunches were added, showing that these bars were endorsed before transferred, and circulated just like modern instruments of credit[51], which suggest that people were used to dealing with credit instruments prior to the emergence of coined money. Coinage in northwestern India, independent in its origins, was a short-lived experience and it would soon be replaced by coins of Greek tradition, not in a circular form, but, initially, in a square form. (Graeber, 2011; Grierson, 1977).

The Chinese experience in coinage indicates that, different from the Western tradition, they were cast, not struck, using low value metals as bronze or brass. They seem to have evolved from social currencies and took different forms: some were disks with a square hole in the center and had four characters around it; some had the shape of cowries; others, of small knives or spades. It was only under the Ch’in and Western Han dynasties that these monies gradually become the national money of China, thus signalizing that they were privately issued and, only afterwards, became liable to local government intervention. It was only in 1912 — when the Chinese Empire ended —

[51] According to Innes (1913), the same practice and evidence is found in early Roman coinage, and in German and Greek hoards.

that the minting of traditional cash in China was finally discontinued. (Graeber, 2011; Grierson, 1977).

The reasons aforementioned help to elucidate two common misconceptions regarding money: first, that coins are the definite representation of money; second, that coinage is a creation of the State[52].

> Money, for the greater part of recorded history, has meant coinage; pieces of metal with the 'image and superscription' of some ruler stamped upon them. Money has thus appeared to be a creation of the State; and it is unquestionably a fact that throughout all those ages the relation between the State system and the Money system has been very close. It is nevertheless quite clear that money did not begin as a State creation. There was money before there was coinage. In its origin, money was a creation of the Mercantile Economy; though it was the first of the creations of the Mercantile Economy which governments (even quite non-mercantile governments) learned to take over. (Hicks, 1969, p. 63).

It is important to investigate why the State has monopolized such activity after its advent. The first explanation that might be given regards the function of the State as a stabilizer: due to the profusion of concurrent monetary systems and the influence of international coins, uniformization and standardization was a necessary condition for economic stability.

Kings and emperors were naturally concerned with the establishment of uniform measurement systems within their kingdoms, and since money is a unit of measure, it would not be different regarding it. Their main goal was to establish a uniform monetary unit which would have been defined historically, as a result of historical institutions which developed from custom and/or law and, as such, was independent of any metal or commodity.

A second explanation is provided by Grierson (1977) and Graeber (2011) and stressed the role of military or public expenditure. Grierson (1977) stated that government coins were issued for administrative purposes which included the payment of mercenaries or militaries, state salaries, public works, and, also, the receipts of tributes, fines, taxes, and others. Soon after, merchants would accept the same government issued coins. Primitive money systems would have been discarded and a legal tender money system would have emerge.

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[52] The sovereign power over the monetary system was originally identified with the right to strike coin (*ius cudendae monetae*). The rule consistently recognized across the Western legal systems was that the minting of coin was an exclusive prerogative of the sovereign. The rule is traceable to a rescript of the

Graeber (2011) highlighted the role of military expenditure, especially in times of war. In periods of generalized violence, credit arrangements cannot be employed, for credit implies trust. Hence, people resort to material things and, thus, the use bullion predominated. Under such conditions, physical money enjoys another property: it can be stolen and/or appropriated by victorious Empires. During the Axial Age, trained soldiers and mercenaries were under (in)direct control of the governments and were paid in coins[53].

Regarding their material content, money has no intrinsic relationship with whatever material, despite several conundrums in monetary theory and monetary history: real *versus* nominalist value, or metallism *versus* cartalism[54], or intrinsic *versus* extrinsic value.

Roman Emperor Constantine dated 326 and was reproduced in the Codex of Justinian […]". (Fox, 2020, p. 161).

[53] "In fact, the entire Roman empire, at its height, could be understood as a vast machine for the extraction of precious metals and their coining and distribution to the military—combined with taxation policies designed to encourage conquered populations to adopt coins in their everyday transactions. Even so, for most of its history, use of coins was heavily concentrated in two zones within the empire: Italy and a few big cities, and along the frontiers, where the legions were actually stationed. In areas where there were neither mines nor military operations, older credit systems would appear to have continued largely as before". (Graeber, 2011, p. 230–231).

[54] Two approaches to the value of money are commonly known as *metallism* or *chartalism*. The former postulates that money is covered by some commodity — mostly, precious metals — and, therefore, the value of money is derived from the commodity by which it is covered, independently of its monetary role. In terms of monetary policy, the monetary unit must be tied to the commodity and freely interchangeable with a certain quantity of it. (Schumpeter, 2006; Knapp, 1924). The latter is the antithesis of metallism and basis for the State Theory of Money, whose modern origins may be traced to German Austrian economist Adam Müller's *Attempt at a New Theory of Money* (1816). It explains the value of money as the result of collective trust and national will. (Ingham, 2004). This explanation helps dissipate the notion that money has its value derived *exclusively* from legal-tender laws, or, as neochartalists tend to overemphasize, from the need to pay taxes, thus, leading to the concepts that money is a creature of law or the state. As Wray (2006) himself, one of the main advocates of neochartlism, stated: "[t]he state might also pass legal tender laws, or bank reserve requirements, but these are neither necessary nor sufficient to ensure that the state's money will be accepted". (Wray, 2006, p. 12). It is collective belief, or communal confidence, or general confidence, that explains the value of money. That can be historically ratified by the Charlemagne case or, in cases of hyperinflation, when the people use foreign or social money instead of state money. As Commons asserted about the legal significance of money, it "arises from custom, and then is taken over by law which makes it universal within the jurisdiction of the State". (2017, p. 460). Knapp (1924) himself recognized this. Schumpeter (1956) also helps to best elucidate the matter by stating that "[i]n the first place, money is as little and in no other sense a creature of the law than is any other social institution such as marriage or private property. This comparison is instructive. Marriage and property, too, are regulated by law and to that extent their concrete forms are of course creatures of the prevailing legal system. But no-one can explain marriage or property by this legal system. Rather, the relevant legal provisions themselves are comprehensible only on the basis of the social nature and the social functions of the relations and modes of behavior which these legal provisions regulate and which, to be sure, never exist without them, but also never exist only through them […]. Similarly, money transactions are regulated or shaped by the legal system, but as an object of regulation they retain a separate existence apart from the legal system itself and can be explained only by their own nature or by the inner necessities of the market economy. Nor do money transactions become creatures of the law in any deeper sense when legal intervention completely changes their concrete form". (Schumpeter, 1956, p. 160–161).

For Commons, whether money is made of metal or paper is purely accidental. Its main attribute is to serve as a means of payment, meaning to emancipate one from debt. “Means of payment originate as customary tender and may or may not afterwards become legal tender”. (Commons, 2017, p. 462).

Knapp (1924) affirmed that money is not bound to any material, although most means of payment are not apart from matter, thus representing movable objects, normally in the form of coins made of precious or base metal, or paper. They are all movable and shaped objects bearing signs. Independent of their forms and shapes, they represent mere tokens, tickets, or disks. The signs inscribed on these tickets represent a legal significance, be it a token of claim to a coat in the cloakroom of a theater, or a post office stamp which gives a right to have a letter sent out, for example. This right to claim something, materialized as a token or ticket, is independent of the material the object is made of. It may be made either of worthless or of expensive material. What is of great importance are the signs these objects bear, for they describe a legal ordinance of their use. (Knapp, 1924, p. 25–33).

Schumpeter (1956[1917-18]) stated that the purchasing power of the monetary unit might be higher than the market price of the material it is made of, and the difference between them is irrelevant. Although this is clearer when referring to paper money, the same is valid for metallic money. Keynes (1913, p. 26) made a similar statement regarding the Indian rupee, asserting that the rupee was a note printed on silver, thus, a token coin, whose use is justified by custom and its convenience for small payments. Both Keynes (1913) and Knapp (1924) emphasized that token money is primarily used for small payments, whereas other means of payment are best suited for large payments.

Innes (1913) investigated cases of early coinage to establish that, even during classical times, coins were tokens. Ancient Greek coins from the 6th or 7th centuries BCE, for instance, were made of gold, silver, bronze, or alloys. The oldest of them, of electrum. They all varied in size and weight and bore no indication of value. Coins made of an alloy of copper and iron, called *aes rude*, dating between 1,000–2,000 years BCE, were found in treasure hoards in Italy and took the forms of shapeless ingots, circular disks, and rectangular cakes or tablets. Later pieces were cast into tablets, bore several devices, and were called *aes signatum*. One important characteristic of these “coins”, also found in early Roman coinage, and, more recently, in the medieval wooden tallies, is that the pieces were broken during manufacture. For Innes, the *aes*

signatum represented an ancient form of tally, for each half of the coin was held by the people involved in the transaction: one, the debtor; the other, the creditor. Each half of the coin — one called the *stock*; the other, the *stub* or *counter-stock* — represented a record of the transaction which prevented fraud or tampering with the credit instrument. (Innes, 1913, p. 394–399).

Coins, thus, represent mere tokens of indebtedness and, "[t]here can be no doubt that all the coins were tokens and that the weight or composition was not regarded as a matter of importance. What was important was the name or distinguishing mark of the issuer, which is never absent". (Innes, 1913, p. 382). Even the infamous examples of debasement of money in orthodox literature, or the substitution of gold for silver, or vice versa, is thus preposterous, as the monetary unit explanation help elucidate the token character of coins and the nominality of debts. (Innes, 1913; Knapp, 1924).

Regarding the use of coins, Innes (1913) affirmed that at the time of the Frankish kings (circa 3rd to 9th century CE), there was total liberty of issuing coins. With no official supervision, merchants, bankers, castles, king administrators, town administrators, ecclesiastical institutions, among others, issued their own coins, thus increasing their use. The diffusion of coins meant that several monetary systems coexisted.

Technical change has played an important role in the evolution of coinage. First, by casting, *i.e.*, melting the metal into a mold; second, by striking numbers and symbols into it. But still, due to the technological limitations of the time,

> coins were not all physically homogeneous even though the legal rules of monetary valuation presumed that they had to be. […] Even coins of the same denomination could not all be minted to a consistent standard of fineness. The process of cutting coin blanks from sheets of assayed metal meant that some coins were unavoidably heavier than others. The problem grew worse once the coins were put into circulation. Coins lost weight by natural abrasion as they passed in circulation. They came to weigh less than they did when they were first issued. When enough heavy or light coins were sorted and gathered, the accumulated differences in their weights created possibilities for arbitrage between their extrinsic and their intrinsic values. Criminals added to the problem by coin clipping. They would pare silver from the circumference of coins before putting them back into circulation at their extrinsic value. The accumulated quantities of silver removed from the coins could then be sold as bullion. (Fox, 2020, p. 170).

The intervention of the state to (1) standardize the technical specifications of the coin and (2) to end the old free minting system brought more stability to economic activity. Fox (2020) stressed legal regulation aimed at protecting the ideal homogeneity

of the coins, despite their physical variances. But alongside stability, state intervention also helped diffuse the confusion between the relationship of the state with money, especially when money is interpreted as a synonym of coin.

As Innes (1913, 1914) affirmed, the issue of coins is one of the government's functions, but it does not hold an exclusive privilege to do so, for banks, merchants, and others can also issue them. The notion that governments monopolized such activity is misleading, just as the notion that government tokens are different from other tokens or acknowledgements of debt. The state acquired this function for it is a great buyer of commodities and services in the private sector. What makes government coins different from private coins is, according to Innes, its form of redemption by taxation[55].

> We are so accustomed to our present system of a government monopoly of coinage, that we have come to regard it as one of the prime functions of government, and we firmly hold the doctrine that some catastrophe would occur if this monopoly were not maintained. […] the reasons which led the medieval governments to make repeated attempts to establish their monopoly was […] because they hoped by suppressing private tokens which were convenient and seemed generally (though not always) to have enjoyed the full confidence of the public, that the people would be forced by the necessity of having some instrument for retail commerce to make more general use of the government coins which from frequent "mutations" were not always popular, and partly because it was believed that the circulation of a large quantity of base tokens somehow tended to raise the price of the precious metals, or rather, perhaps, to lower the value of the coinage; just as economists to-day teach that the value of our token coinage is only maintained by strictly limiting its output. (Innes, 1913, p. 389–390).

One final point regarding coinage is that handing coins with certain inscriptions demand literacy. People ought to be capable of counting and reading numbers and words. Graeber (2011, p. 237–239) affirmed that during the Axial Age, the period in which coinage seems to have appeared, literacy was no longer exclusive to priests, administrators, and merchants, and it became a prerequisite for participation in civic life. Mass literacy, thus, stimulated the growth of impersonal markets and the use of coins, leading to a profound modification in social relations.

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[55] In current times, due to the increase of the public sector as producer of public goods and services, this does not hold altogether right. Payments from the public to the government do not correspond solely to taxes anymore, and neither state money is employed in payments to the state. "Today, tax payments cannot be made in legal tender […], but only in bank credit money, which is private company credit, created by banks' re-classification of their accounts payable liabilities as imaginary customer deposits. By forcing all tax payers to acquire bank money in this way, the state effectively transfers sovereignty over money creation to the banks. The importance of the denomination of taxes has long been recognized". (Werner, 2014b, p. 76).

As it can be seen, with the help of comparative anthropology, comparative history, and comparative economics, as explored in the previous topics, one can move to a more general framework to explain the origins of money. In fact, two different routes may be followed to explain those origins: one aligned with a market approach; another, with the penal system. Therefore, after this initial empirical analysis, two general theoretical approaches to the origin of money will be presented in the following sections.

5.2.4 The penal system approach

The first general model to explain the origin of money is based on an ancient social institution used for the settlement of disputes, named by the Anglo-Saxons *wergeld* (worth payment or man payment), which was used for payment of damage and compensation in cases of insult, injury, or death, following a fixed scale of tariffs.

According to Ingham (1998; 2000), there are solid theoretical grounds supporting the idea that money did not originate within the market, with money serving as an initial means of payment for interpersonal, social, and governmental reasons, before it become the predominant means of payment in market transactions. However, these arguments proposed by the German Historical School were left aside after the *Methodenstreit*, in favor of the theory of exchange postulated by economic theorists.

The origins of money, therefore, may be found in an early stage of communal development, or in pre-market societies, as an evolution of punitive and compensatory tariffs, *i.e.*, as part of a “penal system”. (Ingham, 2000; Grierson, 1977; Graeber, 2011, Wray, 2004).

Goodhart (1998) stressed that money initially served as a means of payment not only for *wergeld*, but for other ancient institutions as the bride price, slavery, or religious occasions, among others. Since it is more difficult for social organization to prevail with violent behavior, for an act of violence may lead to revenge and continuous feuds, society stumbles on such obstacles. Therefore, to avoid blood baths, the system of *wergeld* was created for the payment of fines directly to the victims or their families.

According to Grierson (1977), the practice of paying for compensation — initially for killing, later for several injuries or damages — is found in the laws of the Germanic peoples during the 5th and 6th centuries CE, in the Celtic codes of Ireland and Wales, in the codes of law from Norway, and in Russian law codes from the 11th and

12th centuries CE. Each of these codes of law set a form of compensation. In Germanic codes, the precious metals were the main form of compensation; Welsh laws evaluated them primarily in cattle; Irish laws, in cattle or bondmaids (*cumhal*); Russian law, in silver and furs. (Grierson, 1977, p. 19–20).

Since it aimed compensation for both insult and injury, the kinds of infractions listed under these codes were vast and even include some peculiar acts. Infractions were categorized according to the functional worth of a citizen in society — for example, a young warrior was worth more than an old woman —, and reflected a hierarchical society — a Russian nobleman's moustache cost four times more than losing a finger. Compensations were obtained for death, losses of parts of the body — including nails and hair —, theft of animals, among others, and included even some peculiar injuries as "a blow on the head which leaves the brain exposed". (Ingham, 2000, p. 36–37; Grierson, 1977, p. 19–20).

Compensation covered the value of object and included an additional value. The former was evaluated by a court, which aimed to avoid retaliation by force and blood bath. Thus, the establishment of such early penal system demanded a governance structure. (Goodhart, 1998; Grierson, 1977).

Early compensation were usually established in terms of a useful good to the victim, easily obtained by the transgressor, and levied by public assemblies. This would lead to the creation of a criminal justice system and the subsequent corruption of the system: *wergeld* fines of tribal societies were converted into a revenue-generating system to authorities or ruling class — possibly a religious class which demanded tithes and tributes to gods. (Wray, 2004; Innes, 1932). Afterwards, taxes would replace most fees, fines and tribute as the revenue source." (Wray, 2004, p. 227).

The emergence of money, according to Wray (2004), followed the subsequent events: (1) a transgressor's 'debt' to a victim would become a universal 'debt' in the form of a tax obligation; (2) those obligations would be standardized, *i.e.*, a social unit of account would come into existence for measuring these obligations. According to him, this not only predated the existence of markets, but it created the preconditions for their development. Wray (2004) followed Grierson (1977) closely, who stated that

> [t]he conditions under which these laws were put together would appear to satisfy, much better than any market mechanism, the prerequisites for the establishment of a monetary system. The tariffs for damages were established in public assemblies, and the common standards were based on objects of some value which a householder might be expected to possess or which he

> could obtain from his kinsfolk. Since what is laid down consists of evaluations of injuries, not evaluations of commodities, the conceptual difficulty of devising a common measure for appraising unrelated objects is avoided. (Grierson, 1977, p. 20)

Both Grierson (1977) and Wray (2004) support this approach to the origin of money with the aid of language. Grierson (1977) highlighted the influence of Latin in modern languages and stated that the word *pay* is derived from Latin word *pācāre*, which means to pacify[56], "and that behind the idea of appeasing your creditor lies the more revealing *păcere*, to come to terms with the injured party". (Grierson, 1977, p. 21) He also stressed the role of slavery and its influence on language by stating that the element *-monger*, reminiscent in modern English words as fishmonger, ironmonger, costermonger, is derived from the root *mong-* or *mang-*, which means to traffic, to barter, merchant, negotiator and, in ancient English, *mangere*. (Grierson, 1977, p. 24–25).

In fact, all that is implicit here is the notion of debt, whether in a moral sense related to the sin or guilt for injuring or killing a person, or in an economic sense of making peace with a creditor. This approach suggested by Grierson (1977), and followed by Goodhart (1998) and Wray (1998)[57] is normally associated with scholars aligned to the State Theory of Money.

5.2.5 The market approach

Regarding the origins of money based on a market approach, Hicks (1969) provided the most complete model on the subject, founded on economic, anthropological, historical, and legal aspects. For this reason, this section will be mostly dedicated to summarizing his model. Similarities among his and other works already cited are worth mentioning, as well as complimentary notes from other scholars.

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[56] "The root meaning of the verb 'to pay' is that of 'to appease,' 'to pacify,' 'to satisfy,' and while a debtor must be in a position to satisfy his creditor, the really important characteristic of a credit is not the right which it gives to 'payment' of a debt, but the right that it confers on the holder to liberate himself from debt by its means – a right recognized by all societies. By buying we become debtors and by selling we become creditors, and being all both buyers and sellers we are all debtors and creditors. As debtor we can compel our creditor to cancel our obligation to him by handing to him his own acknowledgment of a debt to an equivalent amount which he, in his turn, has incurred." (Innes, 1913, p. 31).

[57] According to Wray (2004), the same approach is found in Innes's *Martyrdom in our Times* (1932), where he briefly examined the evolution of both the practice and notion of justice in the Western world since the time of tribal societies.

Hicks (1969) distinguished between three main types of economic organizations: *customary, command,* and *market economies.* The first two are non-market economies[58]. The transformation of the first two into the third results from the rise of markets. This distinction follows closely Graeber's (2011) *human* and *market economies*, and Dalton's (1965) *marketless*, *peripheral markets*, and *market-dominated economies*. Nonetheless, different from the latter, Hicks described the process by which a non-market economy is transformed into a mercantile economy, as did Graeber (2011).

Customary economies are well known by historians and anthropologists, but economists usually cling to mercantile economies and disregard other forms of socioeconomic organization. In such economies, standards were set by custom and tradition, and society was organized hierarchically by a command element.

Under undisturbed conditions, every citizen in a customary economy is aware of their duties and performs them without intervention of hierarchic superiors. When this social "equilibrium" is attained, this socioeconomic system may continue for long periods of time without reorganization. Ordinary emergencies or disturbances do not demand readjustments, for the traditional ways of dealing with them are part of the rules. In other words, by custom, all socioeconomic activities in such community may function smoothly, with no need of an ultimate authority. Individual functions were prescribed and continued to be prescribed by tradition, not by rulers. The head of the community him/herself is part of the structure and performs prescribed functions. These customary organizations have been developed slowly and may endure for long periods. However, disturbances and emergences of large proportions, *e.g.*, external pressure, may lead to severe ruptures and demand reorganizations. When a customary economy is highly disturbed, a military central figure emerges as a result of the disturbance and a new type of socioeconomic organization may be formed: a *command economy*. It may be a transitory state or a full transformation from customary to command economy. When temporary, as soon as the emergence is over or the order reestablished, customs prevail again. (Hicks, 1969, p. 13–15).

If a command economy endures, a new problem arises: supplying for the armies. During an army attack, the easiest solution is to resort to plundering. If the problem is related to the defense of conquests, regular support of the military apparatus is needed. Two solutions may be normally found: slavery or/and taxation. Regarding slavery, not

[58] Hicks (1969) admitted intermediate types between these two. Feudalism is, according to him, one of these mixed types, highlighting that custom had been the dominant element of the period.

only the material possessions of the conquered peoples are plundered, but also their own human productive power. Taxation, on the other hand, seems to be more beneficial: if seen as a contribution, it eliminates any element of force and may be even found in customary economies. Priests and elders were partially supported by customary offerings. For that reason, both customary and command economies may be seen as *revenue economies*: the surpluses of foods and other needs from the people provide for the subsistence of public servants. (Hicks, 1969, p. 16–18; 23).

> These forms of society differ, but there is one thing—one strictly economic thing—which all of them (save perhaps the purest customary type) have in common. Their central economic nexus is revenue: the tax, or tribute, or land rent (for in the absence of a market, these are not distinguished) which is paid by peasant or cultivator, the producer of food, to some recognized authority. Perhaps one should hardly admit the exception, for even if political authority is absent, there are likely to be some religious contributions which work the same way. The nearer the approach to centralization and command, the more important the revenue will potentially become. (Hicks, 1969, p. 22).

It is important to highlight an important element of such socioeconomic systems: the specialization of functions, which leads to a division of labor. The simplest form of specialization is that between sexes and age groups. Specialization of functions is a precondition for efficient bureaucracy as well. After the emergence or disturbance has passed, the ruler may employ the revenue received for other ends — some regarding the perpetuation of his authority, while others, purely frivolous. A form of differentiation for the king is to surround himself with skilled servants, specialized in certain tasks. Therefore, specialization and division of labor are independent of the existence of markets. (Hicks, 1969, p. 22–25).

Regarding economic activities, customary and command economies practiced agriculture and their industry consisted, at least, of handicraft. They had government, either in a simple or sophisticated form. Labor was divided mainly in farmers, soldiers, administrators, and craftsmen. Traders were either absent or no one was specialized upon it. This does not mean that trade was absent in these economies[59]. In fact, casual trading certainly might have occurred from the earliest times, but it might have had minimal effects on the lives of those involved in trading. Hicks (1969) described two possible ways by which trade may have converted customary and command economies into market economies.

[59] Hicks's theoretical description seems to fit the picture of Mesopotamian's palaces and temples, as described by Hudson (2004; 2020).

Regarding the transformation of customary economies, Hicks (1969) stated that, first, trading must not be confused with the common practice of gift-exchanges, which may roughly be seen as near-trading. During certain social events or occasions, when gifts are given, a sense of obligation to return the gift emerges on the other person as a form to preserve dignity. Although the gifts do not need to be equivalent, they must be suitable. Graber (2011) affirmed that this sense of suitability or equivalence is important, otherwise the gift-exchange custom may lead to an uncomfortable position caused by competition in gift-exchanging, grounded on hierarchical status. What Hicks (1969) called a form to preserve dignity coincides with Graeber's (2011) and Innes (1913; 1914) notion of a debt. Not a monetary debt, but a social or moral debt. Debts, in fact, are a central element for any type of economy. For Commons, "the bulk of mankind lived in a state of unreleasable debts, and that liberty came by gradually substituting releasable debts". (2017, p. 390).

Trade is elevated to a higher position in customary economies by the time commercial specialization began. People might have become specialized traders in two ways: first, as pirates or brigands, by stealing and selling goods; second, by regular trading among people. (Hicks, 1969, p. 25–27). This second way is particularly elucidating.

Social gatherings represented important opportunities for trading. It may have started casually and, afterwards, become habitual. People might have brought to such events articles for personal consumption or as tributes to gods. If they had more of these articles, they could sell them, and trade started to increase. It is important to highlight that, for Hicks, trading means buying and selling, and not the orthodox notion of barter.

> The goods which are offered to them will not always be goods which they themselves desire to acquire (simple barter presupposes a willingness to acquire on each side); but since their trade is more active, they will sometimes be willing to take such goods, because they have superior opportunities for passing them on to someone else. They are then beginning to act as middlemen, through whom exchanges can be arranged that are in effect multilateral. They may still be peasants as well as traders; but they are beginning to develop some partial specialization. (Hicks, 1969, p. 27–28).

Different from the orthodox notion of barter, Hicks (1969) saw barter as the act of middlemen. Also, contrary to the mainstream view which starts from exchange (barter) between individual agents, probably a consumer-consumer relationship in the early stages of the markets, Hicks stressed that one of the agents involved in the act of

exchange may be a trader, thus, describing a relationship between trader-consumer, thus highlighting a characteristic of market exchange from the beginning.

As a middleman, a trader who acquired goods to be sold at a later occasion also became a stockholder and, as such, one of his new responsibilities was to preserve his stock. Since moving the stock around is costly and dangerous, the trader sought for a safer option, namely to keep his stock at the marketplace, allowing him to have ready disposal of his merchandise for sales. “When he has reached that point he has indeed become a specialized trader. He has changed his base of operations to the market-place; he has opened a shop.” (Hicks, 1969, p. 28).

If eventual markets are turned into continuous markets, business becomes frequent, not restricted to market days. Commerce thus increases substantially, although not sufficiently to become the predominant form of socioeconomic organization. It is necessary to understand the process by which a command economy is transformed into a mercantile economy, for the “combination” of these two help us understand how commerce and money have become central in economic organization. (Hicks, 1969, p. 27–29).

In a command economy, access to large-scale trade is benefited from a more developed state of specialization and centralization of power. Starting with a customary practice, Hicks (1969) asserted that a common custom was the exchange of gifts between kings and embassies of neighboring kingdoms. The tribute received imposed a sort of moral obligation to retribute. For Innes (1913), this creates a general sense of sanctity regarding all sorts of obligation, which is grounded on the ancient law of debt[60]. It is for this reason, namely, the moral element involved in any sort of human exchange, that Graeber (2011) stated that money’s root is in debt: a social or moral obligation which is transformed into an economic, monetary, or legal debt, alongside the institution of a money of account, as early forms of socioeconomic organization are transformed into commercial economies. According to Innes (1913), both in primitive and

[60] “We are here fortunately on solid historical ground. From the earliest days of which we have historical records, we are in the presence of a law of debt, and when we shall find […] records of ages still earlier than that of the great king Hamurabi, who compiled his code of the laws of Babylonia 2000 years B.C., we shall, I doubt not, still find traces of the same law. The sanctity of an obligation is, indeed, the foundation of all societies not only in all times, but at all stages of civilization; and the idea that to those whom, we are accustomed to call savages, credit is unknown and only barter is used, is without foundation. From the merchant of China to the Redskin of America; from the Arab of the desert to the Hottentot of South Africa or the Maori of New Zealand, debts and credits are equally familiar to all, and the breaking of the pledged word, or the refusal to carry put an obligation is held equally disgraceful.” (Innes, 1913, p. 30).

commercial world, credit and debt are correlatives terms. With the transformation of ancient economies into commercial economies, benefited from the intervention of the law, obligations are turned into quantifiable and releasable debts, in which money represents the main means of settlement.

A king might want more of the gifts he received and the easiest way to obtain them is to send a caravan with gifts to that other kingdom. In doing so, he used a custom of a customary economy for a rather different motive. The person in charge of the caravan performed some of the functions of a merchant — for what the servant does, in a way, is trading in favor of a king. Performing the same task continuously led to specialization and, although the servant was not an independent merchant, he needed to take decisions to make the best deal in those trading expeditions. He was also awarded for his services: he might have been commissioned by keeping a part of goods traded and employing them in his own private trading. Although still a servant, he had then become also a part-time independent trader. Later, trading might have become his main profession. (Hicks, 1969, p. 29–31).

It is important to highlight that a command economy is a hierarchical society, and lower rulers also engaged in external trade. In spite of the example focusing on external trade, the development of domestic trade followed a similar reasoning. Regarding internal trade, a similar process followed: revenue is paid in kind, normally in places different from where the ruler is. Part of this revenue is diverted for the subsistence of the king's servants, but not all his servants work in the palace — miners, for example. The supplies, which initially consisted only of food, had to be organized and distributed in a more efficient way by purchasing them from suppliers established nearer the servants' workplace. The person in charge of organizing these purchases had the same functions and opportunities of the servant who operated in international trade. (Hicks, 1969, p. 29–33).

Trading on behalf of a ruler would be facilitated if city markets were already present. Furthermore, specialization may have led to the emergence of independent traders, and this is a crucial factor in the transformation of customary and command economies into mercantile economies.

> The mercantile economy is not at all a command economy; it is not 'planned'. By comparison with those we have been examining, it is highly individualistic; but that does not mean that it is anarchic. Even in their new capacity the merchants have organizational needs, and must find a way of meeting them. The economy which they are creating cannot develop far until

> they have grown some elements of a political, or quasi-political, structure that will fit it. (Hicks, 1969, p. 33).

The enlargement of markets demanded more order, though. Like any social gatherings, a market is as a kind of assembly and, as such, may be potentially dangerous in political terms. For that reason, government have intervened in different ways, *e.g.*, by demanding and issuing licenses to operate in a market — although commercial transactions do not need to take place within marketplaces. But among these possible interventions, Hicks (1969) stressed two needs inherent of a mercantile economy that justified political intervention: (1) protection of property, and (2) protection of contracts — meaning protection against violence and protection of rights.

A merchant must have property of his tradable goods and the identifiable right over them. This is of great importance, because every exchange, even the simplest one, is a kind of contract: in a purchase and sale operation, the merchant cedes his right over the product when he sells it, and the buyer acquires a right over it when he buys it. In the simplest case, rights are exchanged at sight, but there are situations in which the goods being traded are not physically present. In general, the typical market transaction, namely, sale or purchase, is divisible in three acts: (1) a contract between parties; (2) a delivery from one party, and (3) a counter-delivery from the other party. The contract implies a promise to pay. It may be either a spot or forward transaction. In the former case, the three parts of the transaction are simultaneous. In the latter case, due to possible failure to keep a promise, misunderstandings between merchants or between merchants and non-merchants, speculative action, or frustrated expectations, among others, the need of protection of contracts arises. Eventualities may be avoided by drawing a legal contract, but if a contract had to be drawn for every single operation, commerce would be paralyzed, since most part of it consists of a relationship between merchant and non-merchants. (Hicks, 1969, p. 33–35; 1989, p. 42).

> In dealings between merchants, […] it is in principle much easier. If the parties to an agreement are doing the same kind of business, there is reason to expect that it will be interpreted by both in the same sense and with the same overtones; they ‘speak the same language’. But even in dealings between merchants there can be misunderstandings and there may be deceptions; and there will be contingencies for which no provision has been made. Disputes will therefore arise, and there must be means of settling them, in order that contracts should be reliable. Legal (or at least quasi-legal) institutions are therefore required. (Hicks, 1969, p. 35).

Commons (2017) affirmed that the business classes, having control of economic activity, became paymasters to other classes. Businessmen, in their turn, often depended upon the willingness of rulers to grant them special privileges for operating. This created among the class of merchants a desire for self-government, absent from any arbitrary power of the rulers. This self-organized system, based on collective immunity among merchants, allowed them to set their own courts and rules for settling disputes, leading to the creation of the Merchant Guilds and the Law Merchant. Thus, "contracts and customs suitable to merchandising, manufacturing, and foreign trade were developed and enforced by their own courts, quite similar to those which we find nowadays in commercial arbitration and labor arbitration". (Commons, 2017, p. 391). In a way, they could provide themselves with protection against aggression, but not with the enforcement of customs and contracts. Only the sovereign's courts could provide them that. Commercial arbitration, therefore, sought legislation to enforce the awards made in their own courts.

> But this was not enough for the merchants. They needed also the legal power to buy and sell debts. It required the entire Seventeenth Century for lawyers to complete the invention of the negotiability of debts. What the merchants wanted was to convert their debts into money. In early history money had been a mere money of account, like the ox in Greece; then it became a metallic commodity. Then kings stamped the metal and made it the lawful means of paying taxes and paying private debts. Coined money then […] became an institution, namely, Legal Tender, the collective means of paying public and private debts. (Commons, 2017, p. 392).

For Commons (2017), negotiability and release from debt are the two attributes given to money through the intervention of law. The differentiation made by Hicks between transactions among merchants, and between merchants and the public are insightful in explaining how markets are formed and also corroborated with the view that transactions on credit precede the institution of a circulating medium. It is, in fact, with the intervention of law regarding the institution of property, contracts, and settlement systems, that debts started being employed as circulating media.

Disputes of various types are found in every type of socioeconomic organization. Customary and command economies have their own legal systems for the settlement of disputes — among them, the *wergeld* system. Although features of these systems are found in a mercantile economy, settling commercial disputes demanded a rather different system with very specific features. "It is the nature of the rights arising out of contract which now needs to be settled." (Hicks, 1969, p. 36). Those who enter a

contractual relationship must be aware of the terms of the contract and what may or not be enforced according to its terms.

The establishment of protection of property and contract is a necessary condition for the blossoming of a mercantile economy[61]. These services may be provided by the merchants themselves, to a considerable extent, so long as they have attained a certain level of articulation. By custom, mutual agreement or some sort of private arrangement, merchants may set their own commercial laws, regarding the verification of property rights, contract enforcement, arbitration, etc. Relying on private initiative limits the grows of markets and commerce, though. And this is where the law contributed the most.

Moreover, the union of merchants and rulers is mutually beneficial: merchants may expand their activities with the support of legal institutions; rulers find it convenient to have the merchants as subjects, not as servants, for they made trade on their behalf. After all, rulers themselves are also involved with commerce and the growth of a mercantile economy increases the wealth and power of both the merchant and the ruler. At this stage, the ruler will take all trading centers under his protection. (Hicks, 1969, p. 36–39; 60–63).

For Heinsohn and Steiger (1983), after a unit of account has been chosen for all economic activities, and a method for enforcing and legitimizing private contracts has been created, credit money started circulating among third parties. These debts are part of the merchant's property and wealth.

MacLeod (1893; 1891) affirmed that property is not a thing, but an abstract right which cannot be lost, mislaid, stolen, or employed in commerce. Even if one loses something, one does not lose the property in it, for one is still the lawful owner. But there is one exception to this: a kind of property in which the property passes by delivery: currency[62]. For MacLeod, credit operations imply a relationship between two people: it is a right and a duty to the parties involved. By the time a credit was recorded on some material and the law allowed for its negotiability — owing to the pressure put by merchants into the jurists —, the transferring of property by delivery originated the

[61] "The development of private, alienable property is of crucial importance to the development of markets and money precisely because it destroys the collective security of tribal or command society which allows for ceremonial exchange and redistribution. The introduction of private property generates "existential uncertainty" in which each member of society becomes responsible for his/her (including family members) own social and economic well-being." (Wray, 2012, p. 12).

[62] "That this is the true meaning of the term Currency is well known to every Mercantile Lawyer; and is established by a series of decisions in the Courts of Law." (MacLeod, 1891, p. 25).

term *currency* and various forms of "circulating debts/credits" started being employed in commerce, as bills of exchange, bank notes, cheques, and others. (MacLeod, 1891, p. 23–26; 1893, p. 102–107)[63]. Thus, "[t]his principle of Currency is also called NEGOTIABILITY; a Negotiable Instrument means a document of which the Property passes by delivery." (MacLeod, 1891, p. 25).

Mercantile economies must have used currency perhaps from their very beginning. The possibility of transferring property by delivery seems to have fomented commerce profoundly. If all transactions were settled in credit, commerce would be limited to personal interactions and, since one of the market's main characteristics is impersonality, this sort of impersonal organization may only be attained in the presence of some form of circulating money[64]. Money, in these terms, must consist of a third-party debt, otherwise, the transaction would fall back into a bilateral credit arrangement. Moreover, different instruments of credit have always been present. When a merchant passes a bill by endorsement, his signature gives a guarantee to that instrument, broadening its acceptability. When a king issues coins, he is also giving a guarantee to that instrument[65]. The reason why a king's money prevailed over other forms of money must certainly have been its wider acceptability, since the government's financial operations are so extensive and varied that its money enjoys greater acceptability and guarantee. (Hicks, 1989; 1969, p. 66–69; Innes, 2014).

> Though the use of the King's money had come about through market forces, it was so clearly an advantage to him that it should be used that he would not abandon it. He had a direct profit from minting (a profit which became more considerable whenever token coinage was acceptable); but the indirect advantage that accrued was surely more important. If he could get his revenue in the form of money (and he would soon be seeking to do that, so far as he could), he would be able to spend it, through the channels of trade, so as to get a flow of real goods, that had greater variety, and therefore greater 'utility', than he could get directly from taxation paid in kind. He would then become dependent upon trading, upon trading with those who

[63] "When legal systems recognized innovations in constitutional and monetary practice, they extended their theory of money to accommodate them." (Fox, 2020, p. 161).

[64] "Clearly, money was not invented to overcome the inconveniences of barter between neighbors […]. Still, a system of pure credit money would have serious inconveniences as well. Credit money is based on trust, and in competitive markets, trust itself becomes a scarce commodity. This is particularly true of dealings between strangers." (Graeber, 2011, p. 73).

[65] Hicks (1969, p. 69) stated that one of the guarantees given by the state is that his coinage would be received back in payment of taxes. However, there is no reason to suppose that everyone who receives a coin, a child, for example, has future tax-obligations to pay. Therefore, acceptability by the State is simply one of the elements in the guarantee. Limitation to the circulation of money may be partly explained due to the power of enforcement of contracts: a *recognized money* circulates within a certain area and, due to the need of protection of contracts, this may have led to the principle of *legal tender* money.

> were his political subjects. He could not abandon the Mercantile Economy altogether. (Hicks, 1969, p. 68).

As it can be seen, money, markets and the state are important variables in a mercantile economy. For Hicks, money and (mercantile) law are the greatest economic legacies of ancient world and, during the Roman Republic, the mercantile law found a place within general law, for Roman law is primarily concerned with the determination of rights. Furthermore, an intrinsic relation between legal and monetary development is revealed: disputes and compensations were settled in money. Money was, therefore, the final means of payment. Hence, from the ancient world, through the rise and fall of the Roman Empire, until current times, the institutions of money and law have endured. (Hicks, 1969, p. 68–73).

Hicks also stated that "[e]ven before the invention of money, goods that were owned by one person must often have been entrusted to another, for him to trade with them on behalf of the owner" (1969, p. 73). Several types of loans led to a standardization of the terms for repayment, denominated in the same unit of account, and, as seen above, ancient temples played an important role in this process, not only by standardizing the unit, but also as a neutral witness and enforcer of private contracts between creditors and debtor. (Wray, 2012; Heinsohn and Steiger, 1983). "After the invention of money, it will often be more convenient to replace such physical entrustings by a money loan". (Hicks, 1969, p. 73).

A loan contract is like any ordinary bargain: a simple exchange which represents some kind of gain for the parties involved and which may or may not involve some sort of security. Lending without security is essential in a mercantile community, and it is a common practice among merchants, based upon the reputation — or the credit — of the borrower. When his reputation is good, and thus his credit is good, no security is necessary, and the interest rates charged for their loan are lower. "For the development of the mercantile economy, it is the 'inside' market — the market for (more or less) credit-worthy borrowers — which particularly matters". (Hicks, 1969, p. 77).

Hicks highlighted the unsynchronized relation between economics and law, stating that in times of economic expansion, just as it happened during the mediaeval expansion, the courts of law may not have provided sufficient help for the mercantile matters, leading merchants to resort to pure mercantile law and develop new financial instruments. With time,

> the legal system caught up with them and enveloped them; so that now it is through legal forms that they are operated, and in legally established institutions that they are embodied. Now, like money itself, they have in a sense become part of the State system; but, like money, they did not begin in that way. They began as an autonomous market development, outside the law. We might even say that they were a substitute for law. (Hicks, 1969, p. 77)

For Hicks, the demand for credit led to financial development. Coined money increased regular business between merchants and consumers. Bilateral credit among merchants, on the other hand, limited economic growth, despite being the main transactional mode between merchants. Direct knowledge on the parties involved needed to be transformed into indirect knowledge, so the circle of creditworthy merchants could be broadened. This widening might have happened in two ways: (1) by guarantee, as in the case of endorsement; or (2) by the banking system. (Hicks, 1969, p. 77–79).

In summary, Hicks's (1969) offered a different theoretical model for the origins of money which integrated mostly comparative anthropology and economics, and highlighted the role of the law, helping to explain, for example, how ancient economies were transformed into market economies and how debts became currency with the aid of the law. Hicks also highlighted the relationship between markets, rulers, custom, law, and money in his model.

Comparative history provided by Hudson (2004; 2020) and Graeber (2011), regarding the Ancient Near East civilizations seems to conform to Hicks's model: among different units of measurement, simplification and standardization was a necessary condition for social accounting and, therefore, the rulers took on the responsibility to standardize measurement systems, including the money of account. Credit operations were dominant in those times.

Therefore, the steady increase in commerce is connected to the uniformization of a money of account, which had been supplied whether by the merchants and their (in)formal institutions and organizations, or by the State, taking on or helping determine this standard, according to this approach which leans more on the market actions.

Credit is based on trust, among other things. It is also a bilateral relationship which expresses as a right and a duty between parties. When a centralized system of credit is absent, or in times of violence and war, physical money prevails as the main force supporting a market economy. Property transferable by delivery is then needed: that is when cash came into play, as a force which allowed the further development of

financial and commercial activities, even in times of social, political and/or economic disruption.

Since credit and accounting are in the origin of money, to understand the nature of money, one must begin by studying the nature of credit. And it is important to clarify that once money is the offspring of credit, the latter cannot have emerged as a (temporary) substitute for money. In the same direction, money is a form of credit/debt. Or, as MacLeod (1891) stated, money is the highest form of credit.

5.3 The nature of credit

5.3.1 Legal aspects of the Theory of Credit

Support for the Theory of Credit Money has been provided mainly by English and German works from the late 19th and early 20th centuries. Among leading proponents of the theory, one finds MacLeod, Schumpeter, Hicks, Minsky, and Innes. Each of these economists contributed with different elements to the Theory of Credit Money: MacLeod postulated what may be called a juridical and mathematical Theory of Credit. Innes emphasized the historical element of theory[66]. Schumpeter focused on the sociological and developmental aspects of credit. Hicks stressed both theoretical and operational aspects of the theory. Minsky dealt with those same issues using a pure capitalist framework. Werner (2014a) rightly suggested that a review of the Theory of Credit Money must start with MacLeod, a pioneer of such approach in modern times.

The scholars mentioned above followed a circuitist approach[67], focusing on the creation, circulation, and destruction of credit. Each of them, as well as later

[66] In 1914, Keynes reviewed favorably Innes's article, stating that "[i]n his theory of money the author of this pamphlet is a follower of H. D. McLeod. […] The distinctive value of the pamphlet arises from […] the writer's strength […] on the historical, not on the theoretical side". (Keynes, 1914, p. 419).

[67] "The starting proposition of […] the monetary circuit (TMC) is that, in a monetary economy in which buyers and sellers engage in economic transactions, 'money' is the by-product of a balance sheet operation of a third agent who, in modern parlance, can be dubbed a 'bank'. In particular, money always emerges as a debt (or liability) issued by this third agent on itself, which has as counterpart a credit simultaneously granted to buyers of goods and services within an economy. In this three-way balance sheet relation, every transaction entails the simultaneous creation or destruction of debt, and every seller of goods and services accepts payment of this bank liability on the basis of its general purchasing power or value. The value of this bank liability (or money), however, is not the consequence of some intrinsic characteristic, be it utility or liquidity. It stems, rather, from the certainty that accepting bank debt as payment is to acquire a right on the existing as well as future output that will be created by the agents who have been granted bank credit. Furthermore, these debts would not be legal titles to acquiring present and future real wealth were it not for the direct or indirect role played by the state in endorsing them." (Parguez & Seccareccia, 2000, p. 101)

contributors to the theory, analyzed the phases of circuit and the hierarchical structure in which these credit/debts are arranged. None postulated a pure theory of credit, in which physical money is completely absent. In fact, they rejected such approach because physical money has an important role in everyday life as the means of payment of small transactions.

For MacLeod (1891), by the early 6th century CE, the Theory of Credit had already been perfected by lawyers. Modern credit and banking systems are examples of the principles formulated by the Roman lawyers. It is important to mention that by the time MacLeod formulated his theory, part of the historical knowledge on ancient civilization was still unavailable. Therefore, his legal analysis is based mainly on the Roman law of the Middle Ages and the English law system.

For the sake of a complete understanding of his theory of credit, it is important to briefly reconstruct MacLeod's reasoning regarding economic activity through the lenses of a legal framework, for bringing the legal apparatus into the center of the debate may help dissipate enduring misconceptions about credit and money.

For MacLeod, economics is the science of exchange or commerce, and it deals with all forms of exchanges and the laws governing them. He started his investigation with Aristotle's concept of wealth, which postulates that wealth is anything that can be valued in terms of money and, as such, purchased or sold. Therefore, the essence of wealth is exchangeability.

Economists, however, understood that only material products could be included under the term wealth[68]. For MacLeod, wealth may take three different forms: *material*, *labor*, and *abstract rights*. They all fit in Aristotle's definition of wealth and may be symbolized as: *money*, *labor*, and *credit*. Money represents material things[69]; labor represents services; and credit represents abstract rights of all sorts. Commerce consists of the exchange of one type of wealth against another[70]. Since all these forms of wealth

[68] According to Commons (2017), the fact that economists overlooked that a commodity was property allowed them to devote themselves to other economic phenomena as production, distribution, consumption, regardless of the property rights associated to economic activity. By taking a legal approach, MacLeod dealt exclusively with the transferring of ownership of debts and commodities, eliminating materiality from economic analysis. MacLeod (1893) himself stated that his concern was not with the material substances, but with the rights to them, and how these rights are created, exchanged, and annihilated.

[69] It is important to state here that MacLeod's notion of money includes all physical forms of money which, despite their materiality, represent credits.

[70] MacLeod classified six different types of exchanges: (1) the exchange of a material thing for another material thing; (2) the exchange of a material thing for a service/labor; (3) the exchange of a material thing for a right; (4) the exchange of a service/labor for another service/labor; (5) the exchange of

may be measured and exchanged, MacLeod named them *Economic* or *Exchangeable Quantities*. (MacLeod (1891, p. 1–7; 1893, p. 4–8).

It is regarding the third type of Economic Quantities, abstract rights, that MacLeod's legal analysis is especially elucidating and opposite to most economists' idea of wealth representing only material things. Abstract rights may take several forms, "including **Rights of action**, which in Law, Commerce and Economics are termed **Credits**, or **Debts**, [and] are expressly included under the terms **Pecunia** (*Wealth*): **Res** (*Property*): **Bona** (*Goods or Chattels*): and **Merx** (*Merchandise*) in Roman Law". (MacLeod, 1893, p. 23).

Roman law defined wealth as immovable and movable things, *i.e.*, corporeal and rights, both meaning different forms of properties[71]. Property, in its original meaning, regards a right, not any material thing, interest, or ownership over a thing. Property means ownership or absolute right to that thing. As a result, in economics, one does not exchange material things: one exchanges rights. (Macleod, 1891, p. 7–10).

Exemplifying MacLeod's argument: if one damages another's person book, one does not pay for the damage caused to the book itself, but to the damage caused to the book's owner. The damage does not represent, for example, a page torn off the book, but the infringement of the owner's legal right to use it. Had it been a book found somewhere, with no evident owner, the damage would not have imposed a burden to anyone. The damage, therefore, is not to the material thing itself, but to the right of the proprietor. The same is valid in economics: in the act of exchange, what counts is not really the commodity, but the rights exchanged in a transaction.

All three kinds of Economic Quantities — money, labor, and credit — may be included under a general term: *property*. MacLeod (1893) distinguished three types of properties: corporeal, immaterial and incorporeal property. The first includes the rights

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service/labor for a right (credit); and (6) the exchange of one right for another right. Exchanges of types 3, 5 and 6 are worth detailing. Exchange type 3 comprehends the commonest transaction in market economies: the exchange of a merchandise *or* money for a bank deposit or cheque. A typical exchange type 5 is when labor is paid in cheques or bank deposits. Lastly, exchange type 6 comprehends, for example, the purchase of a financial instrument by a banker, for example, a bill of exchange, and payment for this right is performed with a credit in his books, which consists of another right. Banking, as a part of Economics, or the science of commerce, deals only with two types of exchange: the exchange of money for a right (type 3) or the exchange of a right for another right (type 6), *i.e.*, it deals with the exchange of money for credit, and the exchange of a credit for another credit. (MacLeod, 1891, p. 1–7; 1893, p. 32–33).

[71] "Thus when we speak of landed Property, house Property, real Property, personal Property, literary Property, funded Property, we mean Rights to land, Rights to houses, Rights to realty, Rights to personalty, Rights to payments from the nation, Rights to the profits of literary works, and so on." (Macleod, 1891, p. 9).

to assets in complete state of existence, *i.e.*, material things, which may or may not include future produce, as in the case of agriculture or a house rent, for example. The second refers to rights to labor and services. The third is altogether absent from matter and represents mere abstract rights. Money is a kind of corporeal property for him. A right to demand a sum of money from another person, namely a Credit or Debt, is one of the several kinds of incorporeal property[72]. Abstract rights cannot be handled, seen, or touched, but they may be exchanged or transferred and, as such, they are Economic Quantities. (MacLeod, 1891, p. 7–11; 1893, p. 21–38).

Exchange and transference of property is an important subject regarding credit and money. MacLeod (1893) stated that, although all property is a right, not all rights are property. This leads to the distinction between *right of property* and *right of use* (or *right of possession*). When one lends someone else a thing, a book, for example, one only allows the other person to use it. No transference of property is made. The person has the right of use, but not the right of property. This may be seen as a mere act of kindness or fellowship. The same thing cannot be said when a person lends money to another. Both "loans" have very different natures: in the case of money, its delivery corresponds to a transference of property. Money has a specific legal characteristic: it transfers property by delivery. This gives rise to a creditor-debtor relationship. In the case of a book, there was no exchange, no new property was created, and the owner may claim his right to have the book back at any time. Conversely, in the case of a money loan, as a person grants the property of money to another person, the former acquires a right to demand an *equivalent* sum of money, but not the *same* pieces of money lent. This is an act of exchange and new property — credit — is created. For consumer goods, the same applies: if one lends a bottle of wine and the other person drinks it, the wine is destroyed. The person who lent it acquired a right to demand an equivalent bottle, but not the same one. The same also applies to the sales of goods on credit: the owner of the goods transfers his/her the property over them to the buyer and receives a promise to pay, or a right to demand future payment. The value of that promise depends on the debtor's capacity to fulfill it, *i.e.*, it depends on the debtor's liquidity and solvency when the debt becomes due. It depends ultimately on a positive cash flow for the debtor. (MacLeod, 1891, p. 69–70; 1893, p. 20–22; Innes, 1913, p. 393; Minsky, 2008, p. 336).

[72] Among other kinds of incorporeal property, MacLeod (1893) included the goodwill of a business, copyrights, patents, tithes, tolls, among others.

> Hence it must be observed that the Economic Quantity called Credit or Debt, is the Right which is created on a LOAN of money, wine, bread, oil and things of that nature, to demand back an equal quantity to the things lent: or the Right which is created on a SALE of goods on Credit to demand their Price in money at a future time. (MacLeod, 1891, p. 71).

Another important feature of property regards the parties involved in a transaction. Properties may be of two types: (1) *jus in re*, when the owner has the sole and exclusive right to a thing and may dispose of it anytime; or (2) *jus in personam*, when a person has a right connected to someone else held in contract. Money falls into the first type; credit, the second. Property held in contract has two subtypes: (i) bilateral contract, when each party has rights to receive and duties to perform; or (ii) unilateral contract, when there is a right to receive on one party and a duty to perform on the other. This second type is typified in the forms of creditor-debtor or landlord-tenant relationships, for example. (MacLeod, 1891, p. 99–101; 1893, p. 272–282).

Initially, contracts could not be transferred to a third party without the agreement of the parties involved. But in the case of unilateral contracts, or in creditor-debtor relationships, the party who holds the right to demand the future fulfillment of the contract may have incentives to transfer that (future) right and realize the payment in the present. A debtor cannot be substituted for another debtor, but, for the debtor, it is irrelevant whether he pays his debt to his original creditor or to a different one. All it takes is the possibility to transfer debts without the consent of the debtor and, for the new creditor, the means to evaluate the debtor's capacity to pay[73].

According to Minsky (1990), the negotiability of these instruments emerged as a necessity out of financing relations, and such instruments enjoy high acceptance among transacting groups. As such, they may be used in making payments. Commons (2017) highlighted that negotiability and the release from debt are inventions of lawyers and resulted from the pressure from merchants. As MacLeod asserted,

> Thus, at last, after centuries of conflict, Credits or Debts have come to be as freely transferable as Money itself: and in fact they are for all practical purposes in all respects equivalent to an equal increase of Money. And thus they come to be both *Jura in personam* and *Jura in re*. And it is this absolute freedom of the sale of Debts which has been the principal cause of the stupendous progress and magnitude of modern commerce. (MacLeod, 1893, p. 276).

[73] "But in the year 224 A.D. the necessity for this formality was abolished and by a Constitution of the Emperor Alexander Severus, the absolute freedom of the sale of Debts without the knowledge and consent of the Debtor was recognised and allowed. And since that time a Debt was as freely saleable as any other chattel by the general Mercantile Law of all Europe." (MacLeod, 1891, p. 101–102).

Regarding the subtitles involving properties, a brief analyzes of the banking activity is elucidating. When a person deposits any type of currency in a bank, that currency becomes the property of his banker. In exchange for the client's currency, the banker gives him a credit in the book, and the client acquires the right to demand an equivalent sum of money, either in the form of cash or credit itself. "Bankers are committed to exchanging currency for demand deposits." (Minsky, 1959, p. 5). This represents an exchange of currency for credit: the banker "bought" currency from the public by issuing a credit, *i.e.*, a right of action. That credit may be transferred through the cheque system or by bank notes — or, currently, through credit transfers —, passing through several hands and affecting multiple exchanges. If that credit is demanded, *i.e.*, if currency is demanded against that credit, the latter is extinguished, and so is the right of action. A cheque presented for discount also represents an exchange: the holder of a cheque exchanges a right for currency, whereas the banker buys a new right, paying money for it. The transaction is, therefore, a sale[74] or an exchange. (MacLeod, 1893, p. 19–20).

What if this credit in the books of a banker is written down on paper? In fact, what if any sort of credit is written down on paper?[75] This credit, then, becomes an instrument, which is simply a right recorded on paper. There are two types of instruments: of *exchange* and of *credit*. Instruments of exchange are those means by which the exchange is performed[76]. Instruments of credit are legal written evidence of debt. There are Commercial and Banking instruments of credit. In the former case, there are four types: (1) orders to pay money; (2) promises to pay money; (3) deposits; and (4) IOUs, which are simply an acknowledgment of a Debt. (MacLeod, 1891, p. 103–104).

Some documents of debt are often mistaken by negotiable paper. MacLeod (1891) clarified this misconception by distinguishing two completely different types of paper documents employed in commerce, which have different natures according to the

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[74] "Hence the whole series of these transactions are Sales or Exchanges. When the customer pays in money to his account it is an Exchange: when he pays away his Cheque in commerce it is an Exchange: every time the Cheque is transferred it is an Exchange and finally when payment is demanded from the banker it is an Exchange. All these transactions are acts of commerce." (MacLeod, 1893, p. 20).

[75] "[T]he reader must observe that writing a Right of action down on paper in no way alters its nature. Doing so is merely a convenient form of rendering it capable of being transferred in commerce. But it is exactly of the same nature and effects whether written down on paper or not." (Macleod, 1893, p. 27)

[76] Although this is implicit in MacLeod, it may be inferred that instruments of exchange represent coins and notes, *i.e.*, means of payment at sight.

legal concepts of *Mutuum* and *Depositum*: (1) credit instruments, and (2) titles to goods. In operations of the nature of a *Mutuum*, property is transferred to the borrower or buyer in exchange for a right to demand an equivalent thing. This right may be recorded on paper and bought or sold. A typical example is a bank deposit: the banker becomes the owner of the money deposited. Therefore, it is a sale or exchange. The client acquires a right to demand; the banker becomes a debtor to the client. The kind of operation is also expressed in banknotes and bills of exchange transactions. Operations of the nature of *Depositum* are different: there is no transference of property, but the holder becomes only a trustee or bailee to goods. By the time a depositor claims the goods, the trustee must deliver the very same thing deposited. The commonest examples include bills of lading and dock warrants. As such, paper documents of the type of *Depositum* cannot exceed the quantity of goods they represent. On the other hand, paper documents of the type of *Mutuum, i.e.*, credit paper, can easily exceed the amount of money existing. (MacLeod, 1891, p. 72–77).

The fundamental concept of credit, as an abstract right, is that

> Credit is anything which is of no direct use, but which is taken in exchange for something else, in the belief or confidence that we have the RIGHT to exchange it away again.
> Credit is therefore the right or property of demanding something else when we require it. It is the RIGHT to a future payment and it must be particularly observed that Credit is not the TRANSFER of something, but it is the NAME of a certain species of RIGHT or PROPERTY. (MacLeod, 1891, p. 19)

One of MacLeod's three Economic Quantities, *labor*, may be seen from a broader perspective as Personal Qualities. And "Personal Qualities may be used as Purchasing Power in another method besides that of Labor". (MacLeod, 1893, p. 14). What MacLeod means by Personal Qualities refers to the "moral" side of credit, or to a person's economic credibility or reputation.

Human abilities as skills, energy, and personal character, when used for the purpose of profit, become wealth. Instead of buying goods and paying for them at sight, traders of high moral qualities may use their reputation as purchasing power: they buy things by promising to pay for them in future time. In doing so, he created a right of action against himself. The goods become his property, despite his not paying for them yet. This is popularly called credit and it is one of a most valuable types of property. By the time he sells his goods and realizes the profit, he performs the payment. This kind of credit, despite its high importance, has an important characteristic: it does not enter

economic analysis until a real exchange has been made. (MacLeod, 1893, p. 14–18; 1891, p. 32–33; 64; Innes, 1913).

> Hence a merchant's **Credit** is Purchasing Power, exactly as Money. The merchant's **Purchasing Power** is his **Money** and his **Credit**. They are both therefore equally Wealth […]. When a merchant purchases goods with his Credit, instead of with money, his Credit is **valued in money**: because the seller of the goods accepts his Credit as equal in value to Money: his Credit is valued in money exactly as his Labor may be. Hence by Aristotle's definition of Wealth, which is now universally accepted, the merchant's **Personal Credit** is Wealth. (MacLeod, 1893, p. 15)

Personal Credit of bankers, traders and the state represent most of the National Wealth. Credit, therefore, stems from the confidence or credibility that economic agents enjoy within a community or financial institution, which allows them to purchase by issuing promises to pay in the future. Therefore, for a merchant, his/her whole purchasing power consists of his money and his personal credit. When he purchases something by using his credit, he becomes indebted, and his personal qualities become part of the economy. No effectual payment is made in the act. "The Function of Credit is to bring into Commerce the Present Values of Future Payments." (MacLeod, 1893, p. 164).

In doing so, a contractual relationship is firmed between creditor and debtor, and, again, the support of law becomes of high importance, because both a duty to pay and a right to receive emerge out of credit transactions. A credit represents the right of action that the seller received, *i.e.*, a right to demand future payment or a right to compel someone to *pay* or *do* something. On part of the debtor, it represents a debt or service due.

A sale on credit means a contract which gives rise to obligations to both buyer and seller. This obligation consists of two parts: the seller has a *right to demand payment* and the buyer has a *duty to pay*. In other words, a credit and a debt are created and a legal bond between these people is formed. Credit and debt are, in Law, synonymous. They "come into existence together: can only exist together: and vanish together: they are analogous to Polar Forces". (Macleod, 1893, p. 238).

The obligation *per se* is not the duty to pay. "The Obligation is the bond between the two parties: it includes the Right as well as the Duty: it is in fact synonymous with Contract". (Macleod, 1891, p. 63–64). The debt is not money *per se* owned by one of the parties: it is the *personal duty to pay*. Usually, money is the means of liquidating the

transaction and releasing from debt. But MacLeod (1891, p. 65) stated explicitly that debt is not money owed by a debtor. Payment does not need to be a monetary one. A debt exists independent of the debtor having money to liquidate it or not[77]. Debts may be released by other means. They may even be bought or sold, despite being in abstract state. In payment, anything may be accepted. It is not payment *per se* which ends a debt, but the satisfaction obtained with anything accepted — money or other thing — as the final closing of a transaction. (Macleod, 1893, p. 164–165).

For Minsky (1977), when a debt has been incurred, "the debtor is under obligation to acquire that in which the debt is denominate along the time schedule as stated in the loan contract." (1977, p. 8). Debts are denominated in money of account, but the contract may stipulate that it must be fulfilled by other means rather than money. Minsky (1959) even highlighted the elasticity of the term money, by calling it the asset accepted in payments within a class of economic units or between classes. Since several types of money exist within our national economy, an exchange rate between them must be defined. Thus, the sort of money which will fulfill a contract must be defined in it.

Lastly, MacLeod's legal analysis regarding the Theory of Credit highlights some important aspects regarding credit and physical forms of money, as those related to the transference of property and the types of credit instruments. It also stresses another facet of credit, related to a person's credibility or morality. Another important contribution regards the notion of payment, which, in law, does not always mean a monetary one.

5.3.2 Economic aspects of the Theory of Credit

Having presented MacLeod's legal aspects of the Theory of Credit, it is possible to enter the economic realm of the theory. As a follower of MacLeod, Innes (1913) stated that the true meaning of the word credit is that of a correlative to debt. Both words represent a legal — and opposing — relationship between two parties. The use of one word or the other depends solely on the standpoint taken: the creditor's or the debtor's position. In law, a credit is defined as a right to demand and sue for payment of a debt. By payment, one does not necessarily mean a monetary payment. For Innes, the Theory of Credit Money states that

[77] "Credit and the Debt are nothing but a legal Bond between the two parties, and are nothing more than a PERSONAL RIGHT to demand and a PERSONAL DUTY to pay: a man may have no Money and yet be in Debt £100." (Macleod, 1891, p. 94–95).

> a sale and purchase is the exchange of a commodity for credit. From this main theory springs the sub-theory that the value of credit or money […] depends […] on the right which the creditor acquires to 'payment,' that is to say, to satisfaction for the credit, and on the obligation of the debtor to 'pay' his debt and conversely on the right of the debtor to release himself from his debt by the tender of an equivalent debt owed by the creditor, and the obligation of the creditor to accept this tender in satisfaction of his credit. (Innes, 1914, p. 51–52).

For Innes (1913, 1914), the creation of credits and debts, their circulation and extinction represent the complete mechanism of commerce. A purchase or sale is an operation in which a commodity is exchanged for a credit. By the time a sale takes place, a credit is acquired by the seller, whereas the buyer engages in a debt or debit operation. A debt can only be cancelled with a credit, and this corresponds to what Innes called the *primitive law of commerce* and, according to him, "[t]he object of commerce is the acquisition of credits". (Innes, 1914, p. 76). The only form of redeeming a debt is by using a credit. It is irrelevant whether it is an old or new credit, or whether the nature of the transaction is that of a commercial or financial type. Only credits cancel debts.

MacLeod (1891) stated that only few people have ready money to start trading and, if commerce was limited by the existing amount of money, traders would not be able to pay for materials they buy for production, and the circulation of goods would diminish drastically. The two ways by which a merchant may operate are: (1) by using the resources of his past industry, or (2) by buying in exchange for a right over the fruits of his future industry, *i.e.*, on credit. Minsky affirmed that "a fundamental attribute of our economy is that the ownership of assets is typically financed by debts, and debts imply payment commitments." (Minsky, 2008, p. 47–48).

For Hicks (1989), the typical transaction in a market economy is not a spot payment, which is preferrable only in small transactions. The representative transaction in sales or purchases is a credit transaction. This transaction represents a contract and may be divided in three parts. The first part consists of the contract: one party promises to deliver and the other, to pay. These promises precede deliveries from both parties. The second part consist of the delivery of goods or money, as in the case of a loan. The third part is the payment. After the contract is made, and before payment, a debt remains in between. Payment may be made in money or other forms, as, for example, by setting off a debt against another debt. In the former case, money plays an important role in

firming and paying of the contract. The latter case is especially interesting: debt is paid with debt. If two debts equally match, they can be set off against each other and the net result would be a sort of “barter deal”. But since an exact match is unlikely to happen, payment could be made by exchanging debts of a third party. In other words, the remaining balance between *A* and *B* will be paid with a debt from *C*. (Hicks, 1989, p. 41–47). “A monetary payment, as distinguished by credit, can only be made by using the promise to pay of a third party”. (Graziani, 1990, p. 18).

Such practice is only possible due to the exchangeability of debts, as explained by MacLeod (1891; 1893). But this is not the only possible solution to the problem of unequal balances: the net balance could be paid off in cash or remained due to the next period.

The use of a third-party debt in payments raises the problem of confidence. If trust in the issuer is fragile, some debts may only be accepted with a discount. If confidence is sound, debts may be accepted at par. Hicks stated that

> if payments are made by offsetting of debts, and the debts are owing from different people, it cannot be taken for granted that all will be paid, or will be paid exactly when promised; so the debts may well be of different *quality*. That need not prevent the establishment of a market in debts, a debt of low quality becoming exchangeable for one of higher quality at a discount. It follows that a trader, whose promises are judged by the market to be of poor quality, cannot get as much for his promises as he could if his promises were better regarded. So he has an incentive to improve the quality of his promises. (Hicks, 1989, p. 47–48).

This not only leads to a hierarchical organization of debts, but also to the need of an institution specialized in centralizing debts. These institutions function as any other merchant activity: they exchange currency for credit, whereas regular merchant activity exchanges goods for credits. Therefore, it is important to briefly analyze these activities separately.

> Most exchange involved sales credit: that was how one merchant sold to another whom he knew and trusted. But it was also how one villager sold to another and how shopkeepers, craftsmen, or innkeepers sold to their regular customers. Selling on credit in this way meant, essentially, accepting an IOU in payment: in exchange for the actual delivery of goods or services, the seller accepted from the buyer a personal promise to pay at a later time. (Kohn, 2020, p. 225).

Tooke (1844) stated that the simplest expression of credit is the confidence which leads one party to entrust another with some amount of capital, either in the form

of money or goods, to be paid on a future date. Both forms take into consideration the risk involved and have specific conditions for expiration and payment.

Kohn (2020) explained in detail the role of confidence in the functioning of a credit system. In commercial activity, merchants often engage in reciprocal transactions and, instead of performing individual payments for every transaction, they purchase and sell on credit. These operations demand periodic settlement, which limits the exposure to default and tests the solvency of the debtor. Reciprocal trading allows bilateral netting. Remaining balances may be liquidated in cash or carried over to the next period. But in larger communities, commerce is too much complex for bilateral netting, so some sort of multilateral netting becomes necessary. "The simplest form of multilateral netting is the assignment of third-party debt." (Kohn, 2020, p. 225). Since we are all buyers and sellers at the same time, "it is not necessary for a debtor to acquire credits on the same persons to whom he is debtor". (Innes, 1914 p. 52).

The assignment of a third-party IOU increased the complexity of the payment system and highlighted the importance of confidence and trust in another person's credit. Therefore, such system could initially only work within a community in which people know each other, and have confidence on a person's credit and his capacity to pay his debts. In a system supported by trust, one failure may lead to subsequent failures, endangering the whole system. (Kohn, 2020, p. 225–227).

Although some sort of palliative solution could relieve the danger, as some flexibility or an extension for payment, a pure credit system has explicit limits — at least in the absence of some centralized institution. But the credit system mentioned above, based on trust, might only work within a community of people who know and trust each other. In market economies, transactions are mostly made between strangers. Such system, therefore, could not work for "[t]he credit of strangers is unknown, the incentive of a continuing relationship is usually absent, and social constraints on behavior are weak. The obvious alternative in these circumstances is payment in cash." (Kohn, 2020, p. 226).

Cash, transferable debts and instruments of credit are requisites for the growth of impersonal market transactions. Due to the element of impersonality inherent of markets, among other factors, a pure credit economy is unlikely to be found[78]. Both currency and credit, thus, have their places in market economies.

[78] "[C]ommerce is almost exclusively carried on by means of Rights of action, Credits, or Debts. Money is only used to such an infinitesimal degree that it may almost be neglected. The principal use of Money

Cash is the means of payment for small market transactions. Credit is the means of payment among merchants — including dealers, producers, and importers —, either in the form of bilateral netting, or by assignment of an IOU from a third-party, mostly a bank's IOU. "In major commercial centers where trade with strangers predominated, deposit banks played the role of such a third party – universally known and trusted." (Kohn, 2020, p. 227). It is due to the banking sector and its importance for the general public that MacLeod (1891; 1893) divided the credit system into two branches: commercial credit and banking credit.

Bank deposits have enjoyed great credibility and trust, since they are reinforced by public regulation. Banking activity also enjoyed a greater advantage: it deals with transactions between dealers and dealers, as well as transactions between dealers and consumers, since most economic agents hold accounts at such institutions. Credit transfers and netting became easier under a centralized credit system. Commerce could then be carried mostly on credit operations. The trust of the public on the banking system, ratified by public regulation, supplanted the problem of personal trust, allowed for the growth of impersonal market transactions, diminished the need for cash, fomented financial innovation and the emergence of credit instruments. Credit between dealers, on the other hand, remained free from any legislative regulation. (Kohn, 2020, p. 226–238; Tooke, 1844, p. 35–36; 87–88).

According to Minsky, "[t]he legitimacy of a credit based monetary and financial structure rests upon the assumption that 'bankers' are qualified to select financing deals whose validating cash flows are likely to be forthcoming." (1990, p. 214). For Schumpeter (1956; 2014), banks emerge as the bookkeeping center for all economic activities, serving as social accountants. Innes (1914) called banks the clearing houses of commerce, the place where all debts of mankind are centered and set-off against credits, representing a "wonderfully efficient machinery" (1914, p. 52).

Regarding the activity banking, Hicks (1989, p. 56) stated that a bank is a firm engaged in four operations: (1) accepting deposits; (2) making advances to customers; (3) discounting bills; and (4) providing means of payment. For him, the development of a market economy is somewhat conditioned by the expansion of the market for creditworthy borrowers. Commercial bilateral credit is very limited in this sense, and,

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in commerce now is to keep such a stock of it as may be necessary to maintain the convertibility, or value of the circulating Credits. (MacLeod, 1893, p. 30)

for that reason, specialized institutions are needed to broaden this market. Banking credit supplanted the limits imposed by commercial credit. (Hicks, 1969, p. 78–79).

MacLeod (1891) and Minsky (2008) stated that bankers are merchants of debts. Similar to what Hicks (1989) described as the first operation associated with banks, as described above, MacLeod stated that the "essential nature of "banking" is […] to buy Money and Commercial Debts by creating Credit, or Debt payable on demand." (MacLeod, 1891, p. 109). In other words, banks exchange currency for deposits, which represent a credit to the client, and a debt to the bank. In fact, as affirmed by MacLeod (1891), a banker buys money with his credit. For Schumpeter (1949[1911]), the bank creates claims against itself.

Regarding Hicks's second operation, Minsky stated that credit is created as an exchange between a borrower and a lender, in the form of money today–money tomorrow contracts, namely, debts, which may take several forms, *e.g.*, overdraft banking, loans, or credit cards. Minsky highlighted the importance of money loans for the financing of ownership of capital and financial assets, for in capitalist economies, capital is financed by debts. The form by which a bank loan takes place is worth describing: a bank credits the borrower with a demand deposit — money today — which creates a debt — money tomorrow. A loan, thus, represents a contractual commitment between a borrower and a bank. (Minsky, 1959; 1960; 1977; 1990; 2008).

Another important aspect of the banking system is also highlighted by Minsky (1985): each bank has its own money, convertible into other monies. Following Hicks's first operation associated with banks — namely, accepting deposits —, banks exchange different types of money for credit. It may exchange outside money — state-issued money or another bank's money — for their own money, namely, inside money.

For MacLeod, banking transformed credit into a merchandise of high importance in commerce and the essence of the banking business is exactly to create credit. A bank, therefore, can be seen as a shop for the sale of credit. (Macleod, 1891, p. 77; 147–148).

> Banking is not money lending; to lend, a money lender must have money. The fundamental banking activity is accepting, that is, guaranteeing that some party is creditworthy. A bank, by accepting a debt instrument, agrees to make specified payments if the debtor will not or cannot. Such an accepted or endorsed note can then be sold in the open market. A bank loan is equivalent to a bank's buying a note that it has accepted. (Minsky, 2008, p. 256).

A bank, therefore, can create credit merely out of the creditworthiness and risk of a client. For MacLeod, there is nothing dangerous, fictitious, or fraudulent regarding the use of credit for financing future operations, although its use may be abused. “Credits have been one of the most powerful weapons ever devised by the ingenuity of man to promote the prosperity of the country.” (MacLeod, 1891, p. 165).

Schumpeter (1949) highlighted the role of credit for economic development, stating that, in principle, only entrepreneurs need credit for the purpose of industrial development. For him, the other forms of credit, namely, consumptive-productive credit and consumptive credit, are not essential for economic development. Credit extensions finance innovation and, after the entrepreneur has finished and sold production, the debt incurred in the first phase of the flow is normally paid — thus finishing the “circle of the credit phenomenon”. The entrepreneur also retains part of this profit in the form of a credit balance in the last phase of the circuit. He also distinguished between *current credit*, namely, those credits already in existence in the books of the banks in the forms of deposits, which allow the circular flow, and the *new credit* created for financing innovation.

Regarding the fourth activity of the banking system, namely, the provision of means of payment, Schumpeter (1949, 1956) affirmed that all forms of current credit issued by banks, namely, banknotes, cheques, book-credits, etc., are all in essence the same thing: “[t]he external form of the credit instruments is quite irrelevant.” (Schumpeter, 1949, p. 109).

It is clear from what has been exposed so far that credit plays a vital role in economic activity and, as affirmed by Innes (1913, p. 35), “credit is far older than cash. Hudson (2020) reinforces this by using comparative history and stating that in

> [n]eolithic and Bronze Age economies operated mainly on credit. Because of the time gap between planting and harvesting, few payments were made at the time of purchase. When Babylonians went to the local alehouse, they did not pay by carrying grain around in their pockets. They ran up a tab to be settled at harvest time on the threshing floor. The ale women who ran these “pubs” would then pay most of this grain to the palace for consignments advanced to them during the crop year. These payments were financial in character, not on-the-spot barter-type exchange. (Hudson, 2020, p. 46).

Keynes stated that forward contracts “must have existed as long as money has been lent and borrowed” (1923, p. 5), highlighting the importance of credit to satisfy seasonal requirements of economic activity and international trade. After a trader has

purchased something and before the settlement of the contract, he runs the risk of failure, loss, and, as such, credit is tied with uncertainty and futurity. The latter is one of the fundamental components of credit, as highlighted by MacLeod (1891; 1893) and Commons (2017).

Although it is not in the scope of this investigation to delve into the relationship between credit, money and uncertainty, it is important to highlight that, as Minsky (2008) affirmed, in economic life, assets are financed by debt. The negotiability of debts allows bringing future payments to present time, which helps diminish uncertainty.

In summary, credit has many facets that permeate different spheres of social life. In a broader sense, it incorporates social, moral, economic, legal, accounting, and psychological elements, for credit is also related to the notions of credibility, trust, morality, etc. Some of these elements are too subjective, and, therefore, are out of the scope of this investigation. Economic-wise, credit means available means of payment, or available purchasing power, or, simply, available currency — meaning coins, notes, and credit registers in the books.

When one makes use of his/her personal credit (or reputation) for purchasing goods, by promising to pay in the future, the transaction creates a forward contract, namely, a debt. In the case of money loans, as Minsky (1982; 2008) stated, it represents a money today–money tomorrow contract, and this newly created credit becomes available means of payment in the present, although a debt is created against it and future payment will be demanded. Credit, therefore, allows bringing future value into present time.

Credit also resolves the problem of intertemporal and seasonal requirements of economic activity. It is a correlative to a debt and, as such, it is a right to demand, but also a duty to pay. But it is always available means of payment in the present time, for a debt can only be canceled with a present credit, as it will be seen in the next section. Credit relations are based on creditworthiness or credibility and a simple linguistic analyzes can reveal this, since such words have the same root.

Although credit arrangements may be set bilaterally — and usually are within the class of merchants —, the impersonality of the markets demand other means of payment. As seen above, one early way found to enlarge markets was the assignment of a third-party debt. Pressure from merchants on the courts for allowing such assignments is an important example of the intrinsic relationship between market, law, and the state.

The banking system and the development of a money market, as also mentioned beforehand, allowed the clearing of transactions between consumers and traders, and traders and traders. Nevertheless, the full completion of the credit system would only be achieved with the creation of a clearing house for the banks themselves: the central banks. As it can be seen,

> [g]etting a payment system with smoothly working monetary instruments took millennia to develop and involved political (e.g., sovereignty), legal (e.g., nominalism versus valorism), and socioeconomic (e.g., monetization of economy) transformations and debates that became even more pressing as economies became monetized. (Tymoigne, 2017, p. 19–20).

Debts, or credits, have played a pivotal role in socioeconomic life of all kinds of economies and, as Graeber (2011) and Hicks (1969, 1989) affirmed, the process by which a social obligation becomes an economic debt is of high importance, because it exemplifies how a pre-mercantile economy may be "transformed" into a market economy and, due to the adoption of a money of account, these obligations become quantifiable and measurable in monetary terms. In other words, debts became redeemable. Therefore, one last characteristic of the credit cycle must be analyzed: its redemption or destruction. Only then one can fully understand both the efflux and reflux phases of credit, following the terms coined by Tooke (1844), or, following a circuitist approach, the creation, circulation, and destruction of credit/debt.

5.3.3 The monetary circuit: creation, circulation, and redemption of credit

The organization of the credit system consists of three phases: creation, circulation, and extinction of credits/debts. MacLeod (1893) asserted that the first phase consists of the creation of obligations, the second phase involves the transfer of credits/debts and the third and final phase consists of the extinction of obligations. Tooke (1844) called the first the efflux phase and the third, reflux phase. In other words, the credit cycle starts with the creation and ends with the destruction of credit. Recent scholars who adopt this approach are mainly those associated with the Circuit Theory of Money in France and Italy.

Credit creation and production of goods are two activities intimately connected. Credit creation is based on a forward contract, *i.e.*, a debt. Firms mostly need credit for

financing investments, production, etc. In the simplest case[79], the banking system is the main source of credit, and the granting of loans depends solely on their decision. Credit creation is not restrained by existing idle funds: loans make deposits[80]. After the bank has granted the loan, firms employ that credit in productive ways, such as starting production, or covering the costs of production, among others. In the circulation sphere, both goods and credit money are exchanged in the mechanism of commerce, allowing firms to recover their initial outlays which will be employed in the payment of the bank loan granted in the first phase of the circuit. With the payment of the initial loan, credit is destroyed and the circuit is closed. (Graziani, 1990; 1996; 2003; Parguez & Seccareccia, 2000; Minsky, 1967; 2008; Schumpeter, 1949).

Tymoigne (2017) provided an important analysis of how credit is created, highlighting the importance of the credibility and trust in the issuer of a credit instrument. He stated that monetary instruments are promissory notes. The latter may or may not be of financial nature. Following Minsky (2008), Tymoigne stressed that anyone can issue a promissory note, but its acceptability depends on the issuer's reputation.

As affirmed by Schumpeter (1949, 1956), all credit instruments are of the same nature, independent of their form. Thus, the issue of a promissory note is not altogether different from the process of granting a bank loan, for example. Moreover, contrary to informal arrangements, these promissory notes are a formal contract endorsed by the law, which helps make these instruments more reliable and acceptable. Therefore, societal trust combined with the financial credibility of the issuer, and the legal apparatus regulating their use, help these credit instruments to circulate. (Tymoigne, 2017, p. 2–10).

The creation of a credit instrument, *i.e.*, a promissory note or an IOU, must broadly consider the following elements: (1) the *identification of the issuer* supporting the note; (2) a *unit of account*, otherwise credits/debts cannot be measured and balanced; (3) the *maturity* of the note; (4) the *face value of the note*; (5) the *form and conditions of redemption of the note*; (6) *indication of (non)transferability and negotiability*; (7) *security* against the note; and (8) eventual *benefits included*.

[79] This simplest case, for the sake of simplicity, disregarding the possibility that firms may issue securities on the financial market.

[80] "Circuit theorists […] consider that the money stock is increased or decreased by means of debt and credit operations taking place between the Central Bank and commercial banks. The ideal model of the

Depending on the number of items involved, the name of a promissory note issued changes. Due to diverging aspects of each note, as negotiability, uses, reputation of the issuer, etc., they are organized hierarchically, as highlighted before, following their degree of acceptability, among other factors. One additional feature which helps a promissory note to get accepted is *convertibility*, although this is not a compulsory clause in the contract. (Tymoigne, 2017, p. 4–5).

It is important to stress that convertibility is not to be confused with redeemability. Convertibility is not an essential property of a credit instrument. It is a voluntary act from the issuer which permits to convert these instruments on demand. It is a means of enhancing acceptability, allowing some instruments to be put into circulation. Furthermore, convertibility does not have to be in state money: following the debt liability pyramid, convertibility may use any credit/debt placed in a higher tier of the hierarchy. Redemption, on the other hand, is an essential property of all credit instrument: it must be returnable to the issuer. (Knapp, 1924; Wray, 2010; Minsky, 1985; Tymoigne, 2017).

Regarding the second phase of the circuit, namely circulation, in spite of its importance, a deeper analysis of this stage is out of the scope of the present study due to its complexity, for it includes a multitude of economic transactions. Moreover, the first and last phases of the circuit are more helpful in determining the nature of money. Nevertheless, two points are worth mentioning regarding the circulation phase: (1) the monetary flows of income and expenditure represent the process by which agents acquire and spend money in the process of exchange — for example, capitalists obtain money by producing and selling merchandise, or through bank loans; workers receive their money income by selling their labor force to capitalists and spend money on goods and merchandise, among others. Money is received, spent, and, eventually, flows back to its issuer, thus, extinguishing debts; (2) the credit instruments employed in these flows allow the whole process of circulation of money and goods. Among their forms, it may be cited that cash, notes, credit/debit cards, credit transferences, bills of exchange, among others, all allow the process of circulation of money and goods in economic activity.

The process by which credits/debts are extinguished is a pivotal topic for the theory of credit. “All Contracts or Obligations created by the mutual consent of the

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theory of the circuit therefore resembles the so-called Wicksellian model of a pure credit economy, with the addition of a Central Bank”. (Graziani, 1990, p. 10)

parties may be extinguished, cancelled, dissolved, or annihilated by the same mutual consent of the parties by which they were created". (Macleod, 1893, p. 319). Thus, again, MacLeod (1891; 1893) provided us with the most consistent analysis of the extinction of credits and debts. Credits or debts, namely, obligations, are extinct either by payment *or* performance. There are four methods of extinguishing obligations: (1) by release; (2) by payment in money; (3) by renewal or transfer; and (4) by compensation. (MacLeod, 1891, p. 112).

A *release of debt*, or the cancellation of a debt, may occur when the creditor gives his right to the debtor as a gift or donation; or when the obligation is cancelled and extinguished by mutual consent among the parties. A *payment in money* works as a regular exchange: the creditor exchanges his right to demand for money and the obligation is extinct. A debt may be *renewed*, when an old obligation is extinct and substituted for a new one, or *transferred*, when the debtor transfers to the creditor an obligation due to him from a third party. So long as the creditor accepts the third-party obligation, the debt is extinguished. *Compensation* can only be employed when two people are mutually indebted and for it, they may use any kind of currency for setting off the remaining balances. One important condition for compensation is that debts due must be set off against credits available at the same time. This problem can easily be worked around with the introduction of a system for centralizing and clearing debts, namely, banks. (Macleod, 1891, p. 115–120; 1893, p. 318–331; Innes, 1993).

The whole essence of the credit system consists that credit is created to be destroyed in the circulatory process of economic activity. It brings future value into present time by creating debts. It is money today–money tomorrow contracts, as emphasized by Minsky (1982; 2008). A money loan represents a contract between parties and only payment releases the debtor from his duty and closes the transaction, so long as satisfaction is achieved. And here lies the difference between a debt and other sorts of obligations: a debt may be quantified, paid, and finish commercial operations. (Parguez & Seccareccia, 2000; Schumpeter, 1949; Minsky, 2008; Commons, 2017; Knapp, 1924; MacLeod, 1891).

Having thoroughly investigated the nature of credit and its characteristics, we can know get to the core of this chapter: what is the nature of money according to this alternative and multidisciplinary approach adopted by part of economic heterodoxy? For now, it suffices to use MacLeod's (1893, p. 90) words: "Money and Credit are essentially of the same nature.".

5.4 The nature of money

Several definitions of money may be found in heterodox literature. Some of them highlight the association between credit and cash, others emphasize the time element involving money, some weigh on the relationship between money and money of account, others stress the political aspect associated with it, among others. These several definitions corroborate the notion that defining money is a perpetual problem in economics. Furthermore, the elasticity of the term hinders its understanding. Some scholars take either a broader or narrower approach, some include instruments of credit under the term "money", others tie money with currency, and so on.

For Ingham (1996), both money and credit are promises to pay. Moreover, "credit money is a social relation to be extended to all money, including its archaic 'commodity' forms." (1996, p. 525). For him, thus, money is credit, a social relation between parties. Money represents claims or obligations that cannot be abstracted from social relations of monetary production. It is only by peeling off money's material forms that its nature becomes evident, revealing a structural framework grounded on a social system which accounts for value, and provides a means of payment and a store of abstract value. Money is socially produced, constituted by social relations, and it mediates and symbolizes social relations. Among several social relationships, of different natures, one of them, *a promise to pay*, became money. (Ingham, 1996, p. 23; p. 510–514; 2000, p. 23–24).

For Knapp (1924), the central attribute of money is to serve as means of payment, for it allows the release of debts. Independent of the form[81] — metallic money, paper money, credit transfers, etc. — the cornerstone of Knapp's theory is the emancipation of debts. These means of payment may be originated as customary tender, or come from foreign States and, afterwards, may be incorporated as legal tender. Moreover, their uses vary according to the pay-groups employing them, which may be public or private pay-communities. All that matters is the release of the obligation within that pay-community. (Knapp, 1924; Commons, 2017).

> Payment then in its more comprehensive definition does not require the actual delivery of pieces, but a legal transfer of claims and counter-claims in units of value directed to a Central (Clearing) Office. Such transfer may or may not be made by means of actual delivery of Chartal pieces, that is, of

[81] "Money is a means of payment, but not necessarily a material one." (Knapp, 1924, p. 19).

> money; Giro payment is not made by the actual delivery of pieces but by means of book entries. (Knapp, 1924, p. 152–153).

Two things are implicit in Knapp (1924), as it can be seen from the previous excerpt: (1) both credit money and physical money release one from debt; and (2) money is *not* a physical thing and the notion of money goes much beyond that. Physical monies represent nothing but a token, a ticket, or a *chartal* means of payment. Innes (1913; 1914) rightly called them *tokens of indebtedness*[82].

According to Graziani (1990, 1996), three conditions must be met so that money can emerge: (1) money must be a token currency; (2) money must be the means of final settlement of a transaction; and (3) money must not grant seignorage to the party performing a payment. These conditions can only be fulfilled with the use of third-party promises. “A monetary payment, as distinguished by credit, can only be made by using the promise to pay of a third party”. (Graziani, 1990, p. 18). Therefore, in any monetary economy, the typical transaction is a triangular debt-credit transaction.

Schumpeter (1956, p. 155) defined money as a technical device which allows economic transactions and takes the form of a “claim ticket and receipt voucher”. For him, the dividing line between money and claims to money is blurred, so the term should include several forms of monetary instruments such as current accounts, clearings accounts, commodity money, banknotes, compensation payments, among others. In general, money does what all other credit instruments do: “it reduces someone’s economic credit and increases someone else’s by the same amount, in the settlement of an economic transaction.” (Schumpeter, 2014, p. 218). Moreover, he also highlighted the difference between the economic and legal meanings of payment: in economic terms, payment represents a credit transfer which settles a debt; in legal terms, payment closes the transaction: it settles the debt, putting an end to the contract. (Schumpeter, 2014, p. 219–220).

Minsky (1990) did not clearly distinguish between money and credit and, in several excerpts, what he called money, in fact, seems to refer to credit. But he defined money as “that asset which is generally accepted for payments within a class of economic units.” (1959, p. 3). Since there are several types of money, and people may use one or another type, there must be an exchange rate system for different monies within a national economy. He distinguished three main categories of money: public’s

money, banker's money, and international money. Within a nation, other classification found in Minsky (1959; 1967) and Lerner (1974) included outside and inside money.

Hicks (1989) and Keynes (1923; 1930a) highlighted the relation between money and money of account, the former representing the means for discharging a debt. For Hicks, money has a double role in transactions: first, in firming a contract; second, for the discharging of a debt, *i.e.*, in the payment of the contract. For Keynes, money also has a double role: it is the thing delivered in the dischargement of debt-contracts and price-contracts, and it is the shape in which purchasing power is held.

Chick (1992, p. 146) also followed this reasoning, stating that "[w]hat is expected in final discharge of debt is largely determined at any point in history by social convention.". She also stressed that the impersonality of money contributed thoroughly to the growth of multilateral trade and highlighted the difficulty involved in convincing people to use debt money, and maintaining that confidence in such instruments once they are accepted. For her, despite the powers enjoyed by the issuers of money, money works so long as general trust and acceptability prevails, highlighting, thus, that the whole financial system is based on an "illusion", or, in other words, on credibility, trust and confidence.

For Commons (2017), money is a debt-paying institution. It is a social means which releases one from debts which conform the foundation of capitalism. "Political economy becomes, not a science of individual liberty, but a science of the creation, negotiability, release, and scarcity of debt." (Commons, 2017, p. 390). He also underscored an important aspect which may go unnoticed in social interactions: the "[m]ere acceptance of commodities creates a lawful debt, even though, psychologically, there may have been no intention to pay." (Commons, 2017, p. 392).

One interesting element in Commons is that, for him, every transaction creates two debts and two credits— which are the economic equivalent terms to the legal concepts of rights and duties —, for there are two parties involved. In a typical transaction, for example, on the buyer's side, it creates a right to a good and a duty to pay; on the seller's side, it creates a duty of performance, *i.e.*, a duty to deliver the goods, and a right to payment. (Commons, 2017, p. 411–412). This follows the legal distinction made by MacLeod (1891; 1893) regarding bilateral and unilateral contracts.

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[82] "A coin is an instrument of credit or token of indebtedness; identical in its nature with a tally or with any other form of money, by whomsoever issued." (Innes, 1913, p. 168).

Lawson (2022, p. 5) described money as “the only community system feature that is able in this way to discharge all or any existing community debts (not covered by specific predesigned contracts).”. For that reason, he believed that the sole function of money is that of a general means of payment, which serves to regulate rights and obligations within a community. (Lawson, 2022, p. 5–10).

MacLeod (1893) and Innes (1913) stated that credit and money have the same nature, but are not the same thing: money is credit, but credit is not money. “Money, then, is credit and nothing but credit. A’s money is B’s debt to him, and when B pays his debt, A’s money disappears. This is the whole theory of money”. (Innes, 1913, p. 42).

Credit, disregarding its materialization as instruments, includes a moral element associated with one’s reputation, as aforementioned. This cannot be considered economically until someone has “transformed” that moral credit into economic credit. It is only when someone has converted personal qualities into purchasing power, by incurring a debt, that creditor/debtor relationship is brought into the analysis. Credit is created and destroyed in a constant flow. Money is not. Money represents a much broader institution that goes beyond the monetary instruments.

For MacLeod, money is “the highest and most general form of Credit”. (Macleod, 1893, p. 90). Money also represents a right to demand some product or service in future. “Money is anything whatever which a Debtor can compel a Creditor to accept in payment of a Debt”. (Macleod, 1893, p. 164). For that reason, some things may be money in certain situations, but not in others. Money, therefore, is credit, for only a credit extinguishes a debt. Also, money is credit for it confers purchasing power, allowing sales and purchases to take place, which represent mere exchanges of credit and goods.

Although, as Innes (1913, p. 379) affirmed, “the use of money does not necessarily imply the physical presence of a metallic currency”, it is important to stress the role of physical money in our economic organization. First, as it has been mentioned, a pure credit system could be a constraint for economic activity, for it would demand a complete centralization and the adherence of all members of society to the banking system. For that reason, among others, cash is needed.

For MacLeod, “[m]oney is only used now to pay and discharge unequal balances of Debts.” (1893, p. 333). For him, money even originated from unequal results in

exchanges, in other words, from debts[83]. Both the most barbarian and most civilized nations use money. It is due to a nation's low state of civilization that credit money must take physical forms as coins and notes. These instruments became exchangeable and represented simply amounts of debt. Therefore, money's "especial and particular purpose is to represent the Debts that arise from unequal exchanges among men, and to enable persons to obtain the equivalent of the service they have done to one person from some one else." (Macleod, 1891, p. 15).

For MacLeod (1893), the material used for making money is a simple matter of convenience, just as affirmed by Knapp (1929) and others. Following that credit and money are homogeneous quantities, the latter representing the highest and most general form of the former, even precious metal money as gold and silver money are nothing but metallic credit. (Macleod, 1893, p. 80–85).

> We have seen that writers of all classes are agreed as to the fundamental nature of Money. It represents Debts which are due to persons who have done services to others, and have received no equivalent services in return. It merely represents the Right to demand these equivalent services when they please: and its special function is to measure, record, and preserve these Rights for future use; and to transfer them to any one else. (Macleod, 1893, p. 89).

As a final remark, money represents a broad superstructure which allows the creation and destruction of debts, due to the institution of a money of account. All forms of money — physical or not— are, by nature, credit/debt. The transferability of credit instruments is an important element which, due to the influence of law, allowed their circulation and the emergence of currency. Therefore, the institution of money has benefited thoroughly from institutional and legal support.

Money is the highest form of credit, as affirmed by MacLeod, and the ultimate means of payment, as affirmed by Knapp. Credit, however, has many facets but the economic one. Credit is grounded on trust which, in its turn, is built on social relations. In a world of uncertainty, impersonal markets, complex multilateral economic

[83] "The necessity for Money arises from a somewhat different cause. So long as the things exchanged were equal in value there would be no need for Money. If it happened that the exchanges of products or services among persons were equal, there would be an end of the matter. But it would often happen that when one person required some product or service from his neighbour, that neighbour would not require an equal amount of product or service at the same time, or, perhaps, even none at all. If then a transaction took place with such an *unequal* result, there would remain a certain amount or difference of product due from the one to the other, and this would constitute a DEBT— that is to say, a Right or Property would be created in the person of the creditor to demand this balance of product at some future time, and at the

relationships, and social disparities, pure credit operations might be a limiting and exclusionary resource. Therefore, different forms of (credit) money are needed in face of the complexity of socioeconomic relations. Despite their forms, they are all credit.

5.5 Concluding remarks

The Theory of Credit Money provides an integrated approach to the subject of money, in which the starting point to explain and understand such social phenomenon is the emergence of a unit of account. Relying on induction, an alternative theory of money may be built upon such method.

The origins of money may be traced back to the Bronze Age, or, what Graeber (2011) called, the age of the First Agrarian Empires. Accounting, History, Sociology, and Anthropology are very helpful in explaining how, in these agricultural societies, money of account emerged as an accounting tool to register credit/debt transactions, and how primitive monies regulated social relations other than economic-like. As such, they cannot be taken as general-purpose money, following Dalton's (1965) classification, employed in market economies. Among leading economists, Hicks (1969) and Schumpeter (2014) highlighted the importance of introducing sociological and historical elements into the study of about the origins of money.

The process by which and individual moral credit, or reputation, is transformed into economic credit, and, afterwards, becomes transferable instruments is related to the growth of markets and the influence of law in commercial activity. Economist and lawyer MacLeod (1891; 1893) provided a solid examination of the matter among most economists. People may use personal characteristics as purchasing power and, in doing so, they buy by issuing a promise to pay in the future, *i.e.*, by entering into debt. This forward transaction creates a set of obligations: a right to receive and a duty to pay. These may not necessarily be legal obligations, or, at least, not initially. The introduction of law into the matter allowed the transference of debts, due to the merchants' pressure, allowing creditors to realize payment of the debt in the present time by selling it.

Credibility, solvency, and liquidity of the debtor are important elements associated with accepting a third-party debt. The selling and buying of debts have been

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same time a Duty is created in the person of the debtor to pay the product, or perform the service, when required." (Macleod, 1891, p. 14)

benefited not only by law, but also by centralization of these operations. Banks can efficiently orchestrate the creation, circulation and destruction of credits/debts — which correspond to the phases of the credit circuit. In this sense, they operate as social accountings, as stated by Schumpeter (1956).

In summary, the Theory of Credit Money provides a rich framework which includes several non-economic elements, as the personal or moral side of credit, the sociological origins of money, the role of accounting in creating the cornerstone for the development of the monetary and financial system, the influence of law for the creation of currency and circulation of debts, among others. Coins and notes enter the picture only after these elements have all been laid, as representations of credit and, as such, all forms of money are credit.

PART III: RETHINKING THE THEORY OF MONEY

6 AN INTERDISCIPLINARY APPROACH TO MONEY

It is important to start this chapter by stating that if one wants to understand money, resorting solely to economic literature may not be enough. A general theory must at least try to be consistent with reality and, as such, it must be based on empirical evidence provided by anthropologic, legal, economic, historical, accounting, and sociological analysis.

Economic literature offers a helpful and vast contribution to the studies of money, especially modern money, but has less to offer regarding the historical and social origins of money. Two general reasons may explain this: one regards methodological procedure; the other, the distancing of economics from other social sciences.

Even the proponents of the alternative theory of money — mainly heterodox economics —, who are more inclined to deal with monetary matters from a relatively more interdisciplinary approach, have touched the issue only partially. Economists are trained to deal with the realm of exchanges and capitalist production, but regarding money, one must go further to fully understand such social phenomenon. Money is a social technology and, as such, it cannot be understood apart from social relations and institutions.

The proposition of a strong theory of money demands interdisciplinary studies and most economists are either unwilling or unequipped to do so. For that reason, other social sciences have taken the lead in this regard. Although economics has eventually flirted with historical, sociological, and anthropological contributions, very little progress has been made in incorporating Accounting and Law into the studies of money. And this may be the key to a more complete understanding of money. Much can be learned from analyzing the emergence and evolution of accounting systems and from legal decisions and laws of older times. Even the Theory of State Money, which supposedly focus on political and legal aspects of money, has very little to offer in this sense, for it incorporates very little from Law or Political Sciences, offering a pure economic analysis. Its contribution lies elsewhere, as the antithesis of metallism, and by opposing nominalism and realism. Even the newest form of the State Theory,

neochartalism, does not incorporate much of legal and political analysis into the theory of money.

The starting point of any investigation on money must be its nature or essence. This is fundamental, so one can understand what money is and the social relations it regulates. Two main theories have aimed to explain money's nature: the Theory of Commodity Money and the Theory of Credit Money. The nature of money is a commodity for the former theory and a credit for the latter. Regarding the Theory of Credit Money, the study of the nature of money is, at the same time, the study of the nature of credit itself.

Both theories are founded over different methodological approaches and the acceptance of one or the other theory leads to dichotomous applications, especially regarding monetary policies. Most supporters of the Theory of Commodity Money, for example, take money as an exogenous variable, generally supposing that its supply can be controlled by central banks. They also see money as neutral, mainly as a lubricant for economic activity, and the element that gives origin to credit. On the other hand, supporters of the Theory of Credit Money take money as a form of credit — *i.e.*, as economic credit, for credit has other facets —, a predominantly endogenous variable created mostly by commercial or banking activities through purchases/sales or loan operations. These credits/debts became circulating media with the influence of law and, according to the credibility of the issuer, are organized hierarchically. Credit money and money of account are at the epicenter of monetary (and economic) theory.

Once money is stripped from its material content, thus revealing its real nature, it becomes clear that all monetary instruments, independent of their forms, have the same nature: credit. Although instruments may change over time, they only represent the most adaptable and adequate devices for a certain time. Therefore, in the commercial world, money's nature does not change despite the changes in the forms of monies. Some forms have been discontinued, as banknotes, others have enjoyed impressive longevity, as coins, and others have emerged, as plastic cards.

For diverse situations, different forms of money must be used. For Chick (1992, p. 12), "no single monetary asset is acceptable in all transactions" and general acceptability is influenced by monetary evolution, economic conditions, the recipient's preference, among others. Acceptability, therefore, is based on social consensus, credibility of the issuer, the willingness of the party accepting a certain type of money,

political matters, and so on. All this corroborates to the idea that different sciences combined can lead to a better understanding of money.

This study followed Schumpeter's (2014) recommendation to expand the time horizon as far as possible to find a common element that connects modern and ancient money. In doing so, just as Schumpeter (2014) and Hicks (1969) did, it was necessary to appeal to other sciences to analyze money from the "start", resorting to the oldest records of written history. This common element is the *debt,* as rightly stated by Graeber (2011). Just as affirmed by Innes (1913; 1914), a debt is a common notion among all peoples of the world, for it is a social relation present in all types of socioeconomic organizations. However, since this is an economic study, the main concern here regards market economies. Market operations are, by nature, a purchase and sale operation, independent of the historic time. Thus, both in modern and ancient markets, the nature of a typical market transaction is invariable: it is simultaneously a purchase or sale.

But a common element is found between market and non-market economies. Anthropologists differentiate monies according to the types of transactions performed in these socioeconomic organizations, highlighting, thus, the difference between *general purpose money* and *special purpose money*. Although their uses and functions differ, an important and common element between them gravitates towards debts, either in the form of economic debt or moral debt, which ratifies, therefore, that money is a social instrument which regulate all human relations, not only the economic ones.

The Theory of Commodity Money ignores most types of transaction. Curiously, it even ignores the typical market transaction — a purchase and sale —, for this theory starts with a barter operation, which is not a commercial transaction at all. People attributing individual ratios between commodities is a procedure incompatible with the notion of organized and large-scale markets. Money would have appeared only afterwards, when markets magically supplanted barter operations. Consequently, the process by which ancient economies are transformed into commercial economies does not seem to have interested these theorists. Also, by stating that money is a commodity, they focused on the form, not on the essence of money, nor on the structure necessary for the emergence of money. As Knapp (1924) rightly stated, they only deal with the dead body of currency. Also, following a circuitist approach, the economists aligned with this approach focus exclusively on the third phase of the circuit, namely, payment, and ignore the previous phases of the circuit. In other words, it is possible to state that

these scholars have an incomplete transactional scheme, for money comes into play only in the last part of a transaction.

The Theory of Credit Money, on the other hand, considers the superstructure that allowed for the existence of money and the whole financial system. It considers several elements associated with money — such as economic, social, legal, moral and accounting elements — and, most importantly, the precondition necessary for the emergence of a general-purpose money: the prior establishment of a unit of account. It reconciles the role of the markets and (ancient and modern) sovereign powers — *i.e.*, palaces, temples, states, etc. — highlighting the intricate relationship between money and political institutions, and how currency and markets emerged in a somewhat synchrony with the aid of these sovereign powers. It explained the process by which ancient economies possibly have been transformed into mercantile economies and, most importantly, it places credit money as a precondition for the existence of currency. Also, following the circuitist approach, this theory presents a complete transactional scheme in which the whole process of creation, circulation and destruction (payment) of credits/debts is explained.

This last chapter of this study aims to contribute to the theory of money by deepening some points and, hopefully, introducing some new elements. This chapter is divided into four sections, besides these initial considerations. The first aims to propose a model for analyzing money, built over the proposition made by Wray (1993). The second section deals with the origin and history of money, drawing some considerations and reflecting on the integrated model proposed in the first section. The third part focuses on the object of this study: determining the nature of money and credit. Finally, the last section briefly explores the difficulty of defining money and its functions.

6.1 An integrated comparative methodology for money

As mentioned before, both theories of money considered in this study are supported by different approach methods: the Theory of Commodity Money employs a deductive approach, whereas the Theory of Credit Money follows the inductive approach. The former method deduces conclusions from some evidence and facts that are rather true and valid. Some of these conclusions, as shown beforehand, present many problems when compared to the current interdisciplinary history of money.

The basic assumption of the Theory of Commodity Money, namely barter, has been refuted by anthropologists. (Humphrey, 1985; Graeber, 2011; Hudson, 2020). This fact alone would suffice for a complete discard of such theory. Therefore, the lack of anthropological support is a main issue for the Theory of Commodity Money. It is likely that many things these theorists described as money were, in fact, special-purpose money, as is the case of Chinese shells, which are known today to have been special-purpose money. In some other cases, the theory has mistaken standard — that is to say, the measure — for monetary instrument.

It could be said in defense of such theory that their misconceptions are due to the lack of archeological knowledge. In fact, many archeological discoveries were unavailable at the times of Smith and earlier writers. Their analysis described the functioning of the monetary system of their times. It may be added that during the formation of economics as a science, metallism dominated monetary thought of that period, and emphasis on the substance of money prevailed. This, however, would only be a lame defense. Early supporters of the Theory of Credit Money did not have the benefit of archeological findings available today either, and they had no difficulty in seeing money as credit. The debate, therefore, focused chiefly on the material aspect of money, not on the abstract part of money, although the origin of money is not to be found in a real economic variable, but, instead, in accounting. All this ratifies how materialism prevailed over abstraction during the *Methodenstreit,* and how the material notions have dominated mainstream monetary economics ever since. Nonetheless, in spite of the invalidity of the main postulate of the Theory of Commodity Money, it still remains as the dominant view on money until present time.

Doing justice to some theorists of such approach, we cannot say they all ignored history and anthropology. Some contributions, especially Jevons's and Marshall's are especially rich. In fact, they used historical and anthropological analysis associated with economic analysis in a fair way, eventually contradicting themselves in their monetary analysis. However, following the method to be proposed here, history, anthropology and economics are not enough for fully understanding money.

Conversely, the inductive method, which supports the Theory of Credit Money, proposes general conclusions from individual observations. Despite its critics, it is still the most suitable method for analyzing money, for one should not formulate a theory on an empirical science (or, at least, concerning empirical knowledge) based mainly based on pure logic, apart from reality. Thus, once the foundation of the Theory of

Commodity Money has been refuted by available ethnography, it is safer to resort to the inductive method.

Although the oldest evidence available pointing to the origin of money, namely, financial artifacts from Mesopotamia as the *shubati* tablets and accounting registers from Ancient Near East, may not represent the exact origin of money, it is still the most valuable and accurate source available. It is important to stress that the real origin money is very unlikely to be known, since money may have emerged in different parts of the world simultaneously, for different reasons, and perhaps even before writing, as stated by Wray (2012). A general theory of money must, therefore, abstract from specificities and, following the best documented evidence available, induce from the specific to a general case.

Once the most suitable *approach method* to the subject, namely, induction, has been selected, it is important to discuss the *procedure methods*. An integrated procedure method is fundamental in the study of money. Wray (1993, 2006) rightly advocated for the use of comparative methodology as the most suitable framework for the study of money. He proposed a methodological approach which included comparative history, comparative anthropology, and comparative economics. This triad is only partially sufficient. To fully understand money, we propose that one should resort at least to five analytical frameworks: (1) comparative history; (2) comparative anthropology; (3) comparative economics; (4) comparative accounting; and (5) comparative law.

We stress that to use comparative history/anthropology/economics is not enough to model money. We need comparative law and accounting too. In fact, the theory of money starts in accounting. For instance, Hudson (2004, 2020) provided us with useful information regarding the formation of the accounting system in Mesopotamia, drawing thoroughly from accounting literature and history. He described the role of palaces and temples in standardizing and unifying different units of measurements — among them, money of account — to facilitate economic activity and the provisioning of resources. Double entry accounting practice is fundamentally an accounting principle which ratifies the need to incorporate accounting principles and history into the theory of money.

Regarding the legal aspect of money, MacLeod (1891, 1893) is the only economist who truly provided a complete legal analysis of money, for he was both a lawyer and economist. Legal analysis is fundamental for understanding the emergence of currency and the whole circulation of credit/debts, in the context of organized and

large-scale markets. This may be the reason why his analysis is among the richest. His contribution has been summarized mostly in chapter 5, drawing elements from Roman and English laws. Graeber (2011) and Fox (2020) also offered useful legal contributions to the subject of money. Fox (2020), for instance, analyzed some legal actions within the jurisdiction of Great Britain which corroborate with the nominality of money and debts, pointing that in both civil and common law traditions of Western Europe, nominalism is the mainstream view regarding money[84].

Conversely, adherents to the State Theory of Money, as Knapp (1924) and Lerner (1947), who see money from a legal and political perspective, incorporate very little from Politics and Law into their analysis.

Comparative law can be extremely helpful in several ways: (1) it elucidates the role of the state in the formation and stability of monetary systems; (2) it explains how and why different credit instruments are incorporated into the financial system; (3) it reinforces the nominal aspect of money, among other things. This can only be done by using a commonsian approach[85], namely by analyzing legal decisions and their relation to economic activity. It is important, thus, to highlight that much can still be learned about money from legal analysis of surviving ancient codes of law, as the Code of Hamurabi.

Therefore, a full methodological procedure to conform a "complete" theory of money, capable of finally refuting the dominant theory should be built with the help of other sciences, mostly Anthropology, Sociology, Law, and Accounting. An interdisciplinary approach to money is preferable, for it offers a more solid framework for an alternative theory of money.

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[84] "Whatever its more general merits, the state theory represents the mainstream view of money accepted in the civil law and common law traditions of Western Europe. (The civil law systems are those of continental Europe and Scotland which are descended from classical Roman law. The common law system is identified with the rules and processes developed by the courts of England.) On this view, the phenomenon of money cannot be explained solely by social recognition and use. The view is traceable to classical Roman law. The Roman emperors minted coins and legislated for criminal offenses to protect the exclusivity of their right. Lawyers since then have rarely attempted any comprehensive definition of money. But the institutions of the law – legislatures, courts, practitioners, and learned commentators – have generally identified money with the payment media issued by a sovereign body, acting to implement its exclusive powers over the monetary system. Money emerges from networks of reciprocal obligations owed between a sovereign body and the public at large. It embodies a promise of value redeemable against legal debts, including debts owed to the state (Desan 2014). Its value in units is given to it by legal enactments issued under the authority of a sovereign body. The capacity of money to discharge debts is recognized by the private law of the jurisdictions where it is issued. The courts that determine disputes over the performance of monetary debts recognize and enforce its value." (Fox, p. 2020, p. 160–161).

[85] By this, I refer to the approach adopted by Commons in his *Legal Foundations of Capitalism* (2017[1924]), in which he analyzed the relation between legal decisions and economic activity

6.2 Rethinking the origins and history of money

In an attempt to rewrite the history of money, one must tell the popular story backwards: credit/debt is far older than cash. Even the classical functions of money need to be revisited: money of account is a *precondition* for the existence of all monies and, as such, it precedes the medium of exchange function. This position is supported by MacLeod (1891; 1893), Schumpeter (2014), Innes (1913; 1914), Hudson (2004; 2020), Keynes (1930a) and Graeber (2011), among others.

There are five main important subjects to be revisited regarding the history of money: (i) the parable of barter; (ii) the process by which a money of account is chosen; (iii) primitive money; (iv) the role of precious metals; and (v) the oscillation between periods of credit and cash dominance as means of payment. These topics will be analyzed separately below.

6.2.1 The parable of barter

The Theory of Commodity Money follows a sort of evolutionary approach which may be summarized in three stages: (1) barter led to the creation of physical money; (2) credit emerged as a substitute for money, as a way of economizing metals; and (3) credit became independent — first, partly, and last, completely — of money afterwards. Schumpeter (2006) referred to this approach as a *monetary theory of credit.* The real history of money, considering method and methodology adopted in this study, followed a rather different and single step path: (1) credit money led to the creation of physical money — following Schumpeter's (2006) *credit theory of money*. Money, therefore, has always been credit.

The difficulty in accepting that money is credit is somehow understandable. Just as affirmed by MacLeod (1891; 1893), Innes (1913; 1914) and Graeber (2011), among others, credit is first and foremost an abstract concept which has many facets, including an economic one. It is only by using one's moral or reputation for economic purposes that credit enters economic analysis. A further problem contributed to the distinction and separation between money and credit: credit arrangements usually cannot be preserved, whereas physical money, especially coins, has become an important source of archeological record, as rightly asserted by Graeber (2011). Another issue may be added to the list: credit arrangements are often bilateral contracts, especially in a world

with a non-centralized credit system. Before acknowledgements of debts became legally transferable, only the two parts involved in the contract may have been aware of it. Also, many ancient artefacts remain indecipherable. These may be some of the reasons why the history of money is often mistaken by the history of coinage.

The credit theorists have also something in their favor. They have been able to "synchronize" economic activity with their respective historical periods. The commodity theorists, on the other hand, are unable to describe the historical period in which barter supposedly took place. They frame it in the times of agricultural societies but, again, that might be a logical construction for, according to historical records, the Mesopotamian civilization, the oldest that we have surviving records of, was both an agricultural and industrial civilization, and credit instruments have been present and thoroughly used at those time.

Furthermore, as described by Hudson (2020), it is consistent that agrarian economies operated on credit, otherwise, due to the time gap between planting, harvesting and selling, and the seasonal character of agriculture activity, exchange would be extremely restricted, occasional, or would demand a complex system of administration in which the farmer would have to organize its provisions and sales along the agricultural cycle, also considering the perishability of the harvest. Economic activity was performed on credit, with people buying on credit and paying at harvest time. Even if payment was made in kind, which was often, and made in grains, these grains were used to liquidate debts. In other words, they were a means of payment, not a medium of exchange. Despite being made in kind, these payments were of financial nature.

What mainstream economists often see as the emergence of money, *i.e.*, the exchange of different kinds of commodities, is, in fact, the last step of a transaction, namely, the payment of a debt. Therefore, they completely ignore the credit arrangement that preceded the conclusion of the transaction. Innes (1913), Hicks (1989) and Graeber (2011) help elucidate this important aspect of market transactions. As MacLeod (1891; 1893) affirmed, payment does not even have to be a monetary payment to release from debt.

It is important to stress again that barter may not be altogether absent from economic activity. It still may be found in current times, although in very little scale and in very specific situations. But barter simply is not the typical transaction of a market economy. Barter is, in fact, incompatible with a market activity in which the typical

market transaction is an indirect transaction, *i.e.*, a purchase or sale. A barter transaction is a direct exchange and, due to limited knowledge of the parties transacting, would actually limit and prevent the development of markets.

Instead of concerning ourselves with Jevons's (1896) double coincidence of wants and the emergence of money as the device which allowed indirect transaction, one can analyze "barter" from MacLeod's (1891; 1893) perspective: since it is quite unlikely that a barter operation will lead to equal results among parties — *i.e.*, the fulfillment of Jevons's double coincidence — a barter operation will lead to the creation of a debt and a credit for each party involved. Consequently, even if money had really originated out of barter, it would not have originated out of the exchange itself, but rather, from a debt, *i.e.*, the remaining balance of the unequal exchange.

The "invention" of money, therefore, does not merely "facilitate" trade and markets, as many orthodox economists affirm. Money, as a matter of fact, makes markets viable. But what allows the development and growth of markets is, in fact, cash and debt centralizing institutions. Without them, there hardly would be buying and selling in *impersonal large scale*, since bilateral credit has a limiting reach. It is important to state that urbanization played an important role for the development of markets and money: the growth of cities and population created more difficulties to bilateral credit arrangements. Therefore, either cash had to be employed or some sort of social clearing system, following Schumpeter's (1956) term, in the form of banks.

Another problem derived from the bilaterality of barter regards the standard. Direct exchange implies that every party engaged in a transaction will evaluate commodities according to their own standards, following a complete subjective form of valuation or ratio determination. Such practice is completely incompatible with a market economy. Therefore, a prior condition for the development of money and organized markets is the existence of a money of account. In fact, for the development of markets, a whole system of measurement for weights, length, money, and so on, is necessary. But, regarding money in specifics, some sort of common measuring unit is necessary for calculating prices and keeping records of transactions.

6.2.2 Defining a money of account

Money of account is first and foremost a unit of measurement. Just as a kilo is used for measuring weights, a liter for volume, an hour for time, a meter for distances,

and so on, money of account is used for measuring prices, values, debts, and everything economic-related. As a unit of measurement is a pre-condition for the existence of the whole monetary system, money of account cannot be a *function* of money, as rightly affirmed by Lawson (2022). In fact, the existence of a money of account is altogether independent of the existence of monetary instruments, as notes and coins. Money of account is an accounting device, used to register credit/debts in monetary units. Therefore, credit money precedes all popular forms of circulating media. As rightly stated by Keynes, "money-of-account is the *description* or *title* and the money is the *thing* which answers to the description". (1930a, p. 3–4).

The definition of the money of account is of high importance and two different situations may be very elucidating regarding such case: one, related to the origins of money and the emergence of money of account in Ancient Near East; the other, a more recent episode of monetary history, regarding customary tender and the profusion of monies of account in mediaeval Europe. Both examples demonstrate the influence of sovereign powers over the monetary system.

As described in the section 5.2.2 of this study, Hudson (2004; 2020) stated that ancient Sumerian temples and palaces were innovators in accounting practices. Public institutions, therefore, played an important role in developing such practices, which were part of the administrative system and allowed the provision of labor, trade and infrastructure investment. Accounting techniques then spread over neighboring areas. Money of account and credit/debt registers are part of such practices.

Considering the literature examined in this study regarding this point, it remains inconclusive which of these public institutions — namely, temples or palaces — effectively created such unit, or if the unit was created by such institutions together. However, it suffices to say that a sovereign power, whether political or religious, led the process of creating such practices and units, although it may be inferred, from what is described by Hudson (2004; 2020), that the process was led by political forces.

A second example, more recent, and different from the first, is also worth analyzing. After the institution and diffusion of several monies of account in different provinces or kingdoms, and before the institution of modern states, several different monies coexisted in the same areas due to external trade. Their uses, alongside the unit created by the sovereign power, might have been conditioned by custom, convention, convenience, or other reasons. Therefore, *customary tender* played a significant role in the credit circuit.

It is important to stress that even supporters of the State Theory of Money, as Keynes (1930a) and Knapp (1924), acknowledge the importance of customary tender[86], which may or may not be incorporated into a country's monetary system. Commons (2017), among all, might have emphasized more emphatically the importance of customary tender. Customs have not been ignored in the process, although the ultimate decision is likely to have been taken by a sovereign power.

One interesting example of how customary and legal tender seem to have coexisted in relatively recent times, and how the state intervened in the sense of unifying monetary systems is provided by Einaudi (2005, p. 250–260), who presented a clear picture of the confusion involving monetary arrangements prior to the institution of modern states in Europe. If, in Modern Age, each country has its own monetary unit, during Middle Age Europe and earlier, dozens of coins coming from several provinces and reigns circulated within the same area. The disorder imposed by the different monies in circulation was aggravated by the facts they were all independent monetary units and made of different metals. In modern terms, one can say there was no exchange rate — or, at least, no official exchange rate — regulating the use of all these different monies. Therefore, customs must have played an important role in selecting and converting these monies.

In such state, confusion and uncertainty might have prevailed, and due to the obstacles imposed to the economic development and the smooth operation of markets, it is also comprehensible that sovereigns intervened to standardize and simplify monetary transactions. Thus, besides being issuers of coined money, these sovereigns had the responsibility to "organize" monetary systems because of the variety of monies in circulation and the difficulty imposed by it.

Resorting to a single monetary unit, referred to as "imaginary money" by Einaudi, was the remedy to such a maze. Not only it would conform a coherent monetary system, but it would also serve an efficient tool for public policy during the infancy of the European nations. Thus, the functions of this imaginary money were: (1) to serve as standard of deferred payments, *i.e.*, promises to pay; (2) to keep accounts; and (3) making contracts. Actual payment would be performed by delivery of "real" money, *i.e.*, coins. (Einaudi, 2005, p. 251; 276–277).

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[86] "[I]t is a peculiar characteristic of money contracts that it is the *State or Community* not only which enforces delivery, but also which decides what it is that must be delivered as a *lawful or customary*

It is important to clarify here that Einaudi's account of the imaginary money overlooks legal aspects related to the transaction. A standard of deferred payments necessarily implies a contract of some sort — even a verbal contract — and thus creates both a *right to receive and a duty to pay*, as developed by MacLeod (1891; 1893). Thus, a contract of deferred payment is not exactly a promise to pay, but rather, a legal or moral obligation to pay.

This example provides an interesting analysis of the influence of sovereign or political powers as stabilizers, in the sense of simplifying monetary systems and economic activities, and the importance of resorting to a single money of account.

As a final note, it may be possible to speculate why early modern theorists had difficulty in interpreting the abstract form of money: their concept of money was deeply rooted in materialism. But, as Innes (1914, p. 56–57) stated, there is nothing extraordinary in a theory of an abstract monetary standard. In fact, all measures — time, length, weight, value, etc. — are abstract. They are divisible in arbitrary parts and used for measuring corporeal things. It is not different with credit and debt. But it is important not to confuse the monetary unit — the money of account — with the monetary instrument, *e.g.*, coins or banknotes[87].

6.2.3 Primitive money

Regarding primitive money, economists have either avoided the subject or treated it in an inadequate manner. When dealing with ancient socioeconomic organizations, economists tend to consider them as small-scale market economies, although they are not so.

Graeber (2011), Hicks (1969) and Dalton (1965) stressed the complexity of ancient societies in which social order was maintained by customs, hierarchies, religious and military powers. A study of the process by which a non-market economy turns into a market economy demands anthropological knowledge and economists are cautious when it comes to venturing into other sciences. By not doing so, some err in analyzing

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discharge of a contract which has been concluded in terms of the money-of-account." (Keynes, 1930a, p. 4, emphasis added).

[87] "The difficulty in finding a satisfactory definition for 'money of account' results from its history. Money of account was not created by decree but grew almost spontaneously out of men's habit of keeping accounts in monetary units, some of which corresponded in the time of Charlemagne to real coins. Later on it happened from time to time that the money of account was pegged to a real coin which was

ancient societies using the same expedients with which they analyze modern capitalist economies. Moreover, by ignoring the complexities of these societies, they often mistake gift-exchanged merchandise for money, or social currencies for commercial currencies.

It is very likely that many of the vast list of what economies have called "ancient" money — mostly objects used as ornaments — were not money at all, but mere merchandise exchanged in social practices which have no connection to markets or finance. In this sense, it is very appropriate to separate these "monies" in general-purpose money, on the one hand, and special-purpose money, on the other, following Dalton's (1965) terminology. Is it possible to find a common element among both types?

Following Graeber (2011), all these monies are indeed founded on a fundamental concept: *debt*. Modern money and primitive money both stem from the same root. The differences regard *uses* and *transferability*. General-purpose money is transferable; primitive money is not. The latter was used fundamentally to create, maintain, reorganize, and restore social relations. In this sense, it is safe to state that general purpose money is a product of commercial economies.

Lastly, it is important to briefly remind and resume Innes's (1913; 1914) account of the ancient law of debt, which is not a law *per se*, but a moral concept, either socially constructed or imposed. A debt may be moral or/and economic. Therefore, credits and debts preceded markets and, as such, the moral aspect of credits/debts highlights their uses for other social activities rather than (or besides) the market ones. It was only later that, as MacLeod (1891; 1893) stated, debts became quantifiable, transferable, and saleable commodities.

6.2.4 Precious metals and coinage

Another important matter to be reanalyzed regards the role of precious metals and coinage. There can be no doubt that coins have always been mere tokens used in small value payments. Even supporters of the Theory of Commodity Money, as Jevons (1896) and Mill (1965), have indirectly acknowledged that. The fact that coins were made of alloys, and not of pure metal, suffices to ratify that coined money circulated for

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equivalent to a pound, shilling or penny. Such a correspondence was accidental or, if deliberate, did not last long". (Einaudi, 2005, p. 249–250).

their nominal value. Also, in earlier times, there was no association between the metallic content of a coin and a metallic standard. Ancient metallic coins circulated according to different commodity standards, *e.g.*, cattle standard.

Jevons (1878; 1896) provided the most interesting and elucidating analysis of the coinage process in modern era. Despite the metallic standard, due to natural characteristics of the metals, coins could not be made of pure metal. Coins of pure gold would be so small that they could not be employed in commerce. Therefore, technical specifications are important regarding the design and size of the coins. To be manageable, coins must have a considerable size and, to do so, they need to be made of alloys. Therefore, the debate regarding the value of money — real *versus* nominal, metal *versus* chartal, or intrinsic *versus* extrinsic value — must lie elsewhere, but not in the properties or value of the metals. For coins circulate at their nominal value, they are chartal pieces, and their value is extrinsic, socially constructed according to the credibility of the issuer, political influence, among other factors.

Regarding the metallic standard, each country had the right of choosing a metal to serve as standard. Countries were also sovereign in the sense of changing the metallic standard. During the gold standard era, for example, China and India used silver, whereas England and mostly the rest of the world used gold. Before that, England had operated under a silver standard for a long time. It was only in the early 19th century that the gold standard became the normative of the International Monetary System.

It is worth mentioning that, despite the standard, coins of various metals circulated. Mill (1965) described the English system and stated that costly metals were used only for large payments and cheaper metals, for smaller payments. A fixed proportion between the two coins was established: a sovereign was equivalent to twenty silver shillings. Both were denominated in the country's money of account, the pound.

The essential characteristic of coined money, therefore, relies on the concept of money of account, not on precious metals or any other material. This reliance is associated with the so called "nominalist" approach — which prevails in Economics and Law nowadays —, as opposed to the commodity approach based on a "realism" and "materialism[88].

[88] "Economic thought is marked by a long continuity of interrelated disputes which involve surprisingly divergent conceptions of the nature of money. The major difference have been between "metalists" and anti-metalists during the sixteenth and seventeen centuries […]; the "Currency" and "Banking" schools and more generally between "materialists" and "nominalists" in the first half of the nineteenth century;

Had not theorists been so attained to the materialist side of money they would have understood that monetary instruments, as coins, are only a part of a bigger superstructure that sustains the whole monetary system. In fact, despite the awareness of some earlier scholars during early Modern Age regarding the abstract part of money — namely its origins as credit money and money of account —, possibly due to lack of evidence of ancient times, materialism dominated the period, and metalism became the dominant view on money. This view was also deeply influenced by Mercantilist practice and their normative of a favorable balance of trade and, afterwards, after the *Methodenstreit*, it became the mainstream view on money. However, resorting once again to Keynes (1930a), one can understand that money is the *thing* which responds to *description*, namely, a money of account. Thus, money of account is the cornerstone of all financial systems, which is a complete abstract element.

6.2.5 The ages of credit or cash dominance

Lastly, one final point to be stressed concerns the history of money, or the history of debt/credit. Graeber (2011) provided the most interesting periodization of the history of money/debt. He identified five distinct ages in which either cash or credit was the dominant means of payment, as described in table 1.

Table 1: Historical ages and the predominant means of payment.

Age	Time	Dominant Means of Payment
First Agrarian Empires (Bronze Age)	3500–800 BCE	Credit
Axial Age	800BCE–600 CE	Cash
Middle Ages	600–1450 CE	Credit
Capitalist Empires	1450–1971 CE	Cash
Current Era	1971 CE–present	Credit

Note: Adapted from Graeber (2011).

and the seesaw battle between "monetarists" and various forms of Keynesian economics in the middle of the twentieth." (Ingham, 1996, p. 511).

Some correlations may be drawn from Graeber's (2011) eras and the evolution of monetary thought described thoroughly in this study.

During the Bronze Age, as it was discussed thoroughly in chapter 5, credit was the dominant means of payment in Ancient Near East, due to the advent of accounting practices. Credit transactions were recorded following the double entry principle, using a certain money of account. Just as Keynes (1930a) affirmed, money of account and debt/credit come into existence together and, as stressed by MacLeod (1891; 1893) and Innes (1913; 1914), credit money precedes all forms of circulating media.

Regarding the Axial Age, the era in which coined money seems to have appeared and literacy was more democratized and diffused, ancient writings on money by Plato and Aristotle already focused on the debate around the material content and value of money. Once the dominant means of payment was physical, the debate focused on the intrinsic/extrinsic value of money, derived from the metallic/token form of money.

Considering the instability of the period — mostly due to wars —, money had to be mainly physical. Credit arrangements cannot prevail as the dominant means of payment, for they imply a trusting and long-term relationship. Under times of uncertainty, the risks associated with a credit transaction increase. Money takes a physical form, for when materialized — *e.g.*, in the form of precious metal —, it is a powerful way of preserving and transporting purchasing power.

Another important characteristic of the period, as underscored by Graeber (2011), was the emergence of organized markets. Although credit arrangements may be employed among acquaintances, impersonal market transactions demand a different type of means of payment. Therefore, coined money and markets are intricately related. During the development of markets, money had to be easily transferrable. Credit money is a bilateral relationship, initially, purely accounting. The growth of markets, therefore, demands an easily transferable circulating medium.

The Middle Ages is commonly referred to as a period in which Europe reverted to barter. Nonetheless, once the precious metals had been stored in temples and palaces, people resorted to credit arrangements. MacLeod (1893), Innes (1913) and Kohn (2020) provided us with interesting analysis of the role of medieval fairs as places for settlement of debts and credits. Economic activity was continuous, but the settlement of transactions was seasonal, and these fairs served as "clearing fairs". The commerce of merchandise was introduced only afterwards. According to Graber (2011), credit money was the predominant form of settling debts in the Middle Ages.

The era of the Capitalist Empires is particularly important for it coincides with the formation of economics, as a science. Influenced by mercantilist ideas, such as favorable balance of trade, due to the discovery of new mines in the new world, precious metals became abundant again and metallism dominated monetary thought. Metallic money was elevated to the status of real money, and credit assumed a sort of subsidiary place. Physical money, both metallic and paper money, became the dominant means of payment and gold served as a monometallic standard of the International Monetary System. As a consequence, for nearly five centuries, money had been associated with precious metals. For Friedman (1990), the link between money and gold started loosening after World War I, it weakened after Bretton Woods, and it was finally cut in 1971 when Nixon "closed the gold window" (1990, p. 86–87).

The current era has been dominated by credit transactions, but the legacy of five centuries of economic thought in which money and metals have been taken as synonyms still permeates academic and popular thought. Moreover, technological innovations have originated some misleading notions, as those of virtual money, for example. Money, as it has been shows, is, by nature, credit, and credit is not a material thing. To really understand money, one must go beyond the dead body of coins, using Knapp's (1924) words, and understand the essence of money.

It is baffling that one still finds so many puzzles and myths involving the nature of such a commonplace element of human society. Money is such an intricate part of everyday life. Everyone thinks they know what money is. Everyone knows what they can do with money — *i.e.*, save it or spend it. Everyone is willing to accept it. For Chick (1992), this is because money's defining feature is its general acceptability.

It is time to rescue and reveal the true nature of money. In spite of important contributions which have been marginalized in economic literature, with the aid of archaeological discoveries, by using an interdisciplinary approach to the matter and, perhaps, by using technological innovations that might help us decipher ancient writings, the history of money may be finally rewritten.

6.3 The nature of money and credit

From the thorough investigation of the two theories of money presented in chapters 4 and 5, it may be concluded that the nature of money is credit. And, although credit is not always money, for credit is an element of social life that transcends

economic activity and has many faces, money is always credit, as affirmed by MacLeod (1891; 1893) and Innes (1913), among others. The best description which supports this conclusion is provided by MacLeod (1893, p. 90), who stated that "[m]oney and credit are essentially the same nature: Money being only the highest and most general form of Credit. They are each a Right, or Title, to demand some product or service in the future.".

Money cannot be a commodity and even some supporters of the Theory of Commodity Theory have hinted that. Mill (1965) stated explicitly that money is a commodity, but contradicted himself by acknowledging money as a ticket[89]. Thornton (1965)[90] acknowledged that credit precedes money. Wicksell (1962)[91] emphasized that credit has always existed alongside, and not always as substitute, to money. Smith and Jevons eventually contradicted themselves, for they affirmed that money is a commodity, but suggested otherwise in several passages of their works.

As stated by Thornton (1965) and Ricardo (2004b), for example, the price of gold bullion is rated in gold coins, which means that gold would be paid with gold, which is preposterous. Following the same reasoning, it is possible to rethink one of Marx's (1990a) most popular passages regarding the process of exchange, namely C – M – C.

Marx understood money as a commodity and, as such, his process of exchange could be seen as pure barter, an exchange of commodity for another commodity. Although he classified money as a special kind of commodity, it is still a commodity. His process of exchange, therefore, seems to represent nothing but C – C – C. If so, and

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[89] "The pounds or shillings which a person receives weekly or yearly, are not what constitutes his income; they are a sort of tickets or orders which he can present for payment at any shop he pleases, and which entitle him to receive a certain value of any commodity that he makes choice of." (Mill, 1965, p. 506).

[90] "Even in that early and rude state of society, in which neither bills nor money are as yet known, it may be assumed, that if there be commerce, a certain degree of commercial credit will also subsist. In the interchange, for example, of commodities between the farmer and the manufacturer, the manufacturer, probably, will sometimes deliver goods to the farmer on the credit of the growing crop, in confidence that the farmer will come into possession of the fruits of his labour, and will be either compelled by the law of the land, or induced by a sense of justice, to fulfil his part of the contract when the harvest shall be over. In a variety of other cases it must happen, even in the infancy of society, that one man will deliver property to his neighbour without receiving, on the spot, the equivalent which is agreed to be given in return. It will occasionally be the interest of the one party thus to wait the other's convenience: for he that reposes the confidence will receive in the price an adequate compensation for the disadvantages incurred by the risk and the delay. In a society in which law and the sense of moral duty are weak, and property is consequently insecure, there will, of course, be little confidence or credit, and there will also be little commerce." (Thornton, 1965, p. 75–76)

[91] "[A]t no stage of economic progress can the phenomenon of credit have been entirely absent." (Wicksell, 1962, p. 59).

if money were really a commodity, despite being a special commodity, the exchange process seems to resemble a pure barter operation.

This reasoning may also be exemplified by the critique made by Innes (1913) towards one of Smith's (1979) most popular examples of "barter": the case of the fishermen in Newfoundland. Innes (1913) stated that, despite no metal being employed in transactions between local traders and the fishermen who went to Newfoundland during fishing season, transactions were made *on credit*. Fish was sold to local merchants and the fishermen bought their daily supplies from those traders. These were purchase and sale operations, not barter. The fishermen sold their catch at market price according to the monetary system — pounds, shillings, and pence — against a credit on the books of the traders. They paid for their supplies with that credit, not with fish. "Thus if the fishers paid for their supplies in cods, the traders would equally have to pay for their cod in cod, an obvious absurdity." (Innes, 1913, p. 15–16).

Just as one cannot pay gold with gold, one cannot pay fish with fish. But one can pay debt with debt, namely, a third-party debt. Even if we took a "barter" transaction following MacLeod's (1891) terms, due to Jevon's (1896) problem of the double coincidence of wants, the result of such operation would be unequal, leading, thus, to the creation of a remaining balance which would simply be a debt or credit for the transacting parties. The net resulting, therefore, is a debt/credit. Money is not a means to facilitate the transaction, but, rather, it would be the "result" of an unequal transaction. It is a debt. One cannot pay gold with gold, or fish with fish, but one can pay debt with debt.

Money, therefore, cannot have been created to facilitate the inconveniences of barter. Even if we took barter as a synonym of sale/purchase, which does not seem to be correct, unequal results would lead to the creation of debts, which is a correlative to credit. This would be purely a credit transaction, which can only take place in the presence of a money of account. Since only a credit cancels a debt, money is, in essence, credit. Physical money, or currency, emerged only afterwards, when third-party-debts started being employed as a means of final settlement.

Furthermore, Schumpeter (1956) and Wicksell (1962) rightly stated that money cannot be a commodity, for when the latter is used as money, it ceases to be an economic good. Gold shaped as a coin, for example, is money, but gold in the form of jewelry is not. If a piece of jewelry is melted, molded, and coined, it ceases to be a

commodity and becomes money. The same applies to paper: it has several uses, but money printed on paper cannot have any other use rather than being money.

Money, thus, is something beyond the material which it may be made of. In fact, money does not need to be material at all. Once again, just as pointed by Schumpeter (1945; 2014), Knapp (1924) and others, the material content of physical money is altogether irrelevant.

One may rightly argue that the stamps and symbols that monetary instruments bear is what "transforms" metals and paper into money. Inscriptions are important for they indicate basic information regarding the instrument and the issuer. They make a monetary instrument easily recognizable. Acceptance and use of such instruments, as rightly described by Tymoigne (2017), depend on a combination of societal trust, financial credibility of the issuer, and the legal ordinances of their uses. Tender laws alone cannot guarantee the acceptance and use of money.

The acceptance of money, consequently, is tied up with the credibility of the issuer. Even though the State might try to compel the use of a certain type of money, due to adverse conditions such as a bankrupt State or high inflation, parallel monies may emerge, or foreign monies may be preferred. Therefore, the State seal alone does not guarantee either the acceptance or the value of the currency, although it is a seal of great importance and prestige. Societal trust and economic stability play crucial roles in the maintaining and acceptance of money.

Something that is often overlooked and may seem even trivial, but it is worth reinforcing, is that stamps and inscriptions are not exclusive features of state money. The literature examined in this study emphasized the role of symbols and stamps, associating them with state money, especially coinage, but these are not exclusive features of this kind of money. Identification is a fundamental feature of any money, otherwise it will not be accepted. It is a necessary condition for all credit instruments, privately or publicly issued. Just as state money follows specific technical characteristics for their issuing, every kind of money has certain specifications. This is what makes monies identifiable and distinguishable according to the issuer.

Moreover, it is important to dismiss the notion that there is a single kind of money in a domestic economy. Just as affirmed by Minsky (1985), every bank has its own money, despite it being at par with state money. Parity may give the impression that there is a single money in a country. Moreover, private monies may be issued by nonbanking financial institutions and even private companies. Several monies are found

within a domestic monetary system and their uses vary according to the pay communities — following Knapp's (1924) term — in which they are employed. They are also organized in a hierarchical way.

To understand hierarchy of debts or money, it is useful to start with Minsky's (2008) statement that anyone can create money (debt), but having it accepted is a complex problem. One can go further: even if we get it accepted, it may not be possible to pass it over in commerce. In other words, this money might not *circulate*. MacLeod (1891; 1893) provided us an important analysis of the process by which debts became transferable with the aid of law. Hicks (1989), Graziani (1990) and Macleod stated that after credit/debt has superseded the barriers of bilaterality and was made transferable, creditors would try to realize the payment of future debt in the present time by transferring other people's debt owed to them to other parties. This involved a major hurdle, for a person may only accept a third-party debt from acquaintances or with endorsement. The only "acquaintance" of all members of a society is the State, which is also an economic agent that buys things from the private sector by issuing debts, just like anyone else. Therefore, it is understandable that, under stable conditions, state money enjoys greater confidence from the public and, therefore, ranks higher in the hierarchy.

Regarding state money, it is important to take an intermission from the subject of hierarchy of debts to revisit two points as a friendly critique to the neochartlist approach: (1) the nexus between taxes; and (2) payments to the state.

For neochartalists, especially Wray (1998; 2015), money is tax driven. They even frame the origins of money and the *wergeld* system, as explained earlier, into this tax principle. According to Wray (2015, p. 5), "[t]axes and other obligations create a demand for the currency used to make obligatory payments." This seems to be only partially true.

Nevertheless, it is important to counter this supposition through some important issues regarding money. Money is in high demand for every citizen in a country, not only for taxpayers. Also, payment of taxes absorbs only part of a person's income and corresponds to only a part of a product's price. At least in the modern world, most of one's income is spent in the private sector. Payments to the state do not necessarily imply taxes, since the public sector may be engaged in productive activities. Buying products or services from public enterprises is a purchase or sale operation, not tax payment. Payment for public services as transportation, for example, is not a tax paying

operation. Last, payments to the state do not necessarily mean that state money is being employed. Again, especially in modern era, payment is performed by delivering a third-party debt, namely, bank money, which, despite being at par with the national unit of account, each bank has its own money, as affirmed by Minsky (1985). Although it is possible to make payments to the state by using state money — thus, following the reflux principle — this is not the only way payment can be performed. Therefore, payments to the state may follow two options: the use of third-party debts, *i.e.*, bank money, or following the reflux law.

It is out of the scope of this study a deeper investigation of the nexus between taxes and money, but if suffices to say that, following Innes (1913), the Theory of State Money is only a special case — perhaps, an appendix — of the Theory of Credit Money. This, in fact, is a very significant and explicit statement made by Innes which neochartalists seem to overlook. As such, it is possible to affirm that the State Theory should be subordinated to the Theory of Credit Money. This, however, does not invalidate at all the important contribution of the State approach, especially considering that the state is responsible for orchestrating the whole monetary system.

A last example regarding the relation of money and taxes is worth mentioning. Wray (2015, p. 5) rightly affirmed that "the true purpose of taxes is not to provide 'money revenue' that government can spend." Government spending precedes the payment of taxes. Government spends by issuing debts and/or money and, afterwards, it "covers" these debts by collecting taxes. This is pure credit operation: one spends by creating a debt which is payable at a future time. This is totally integrated with the Theory of Credit Money.

State money certainly ranks higher in the hierarchy of debts, as an outcome of the credibility and power of the issuer. No other institution is more influential or powerful than the State. Also, the state is a powerful consumer of the private sector production. Below it, enjoying great prestige and credibility, bank money occupies a tier below state money. To understand this, it is important to briefly touch upon the subject of banking.

Banks, by the nature of their operations, which is to buy currency and debts and exchange them for credit in their books, enjoy great credibility with the public for two main reasons: (1) for their role in the centralization of credits/debts; and (2) due to the state regulation. Regarding the former aspect, as emphasized previously, Schumpeter (1956) rightly described banking as a social clearing system.

State regulation acts as a sort of guarantee, or collateral, in the public's eyes: it imposes limits on the banking system, guaranteeing its solvency and liquidity. Although, in practice, this may not necessarily be true, so long as the public confidence in the banking system remains unbalanced, public regulation helps support the public's credibility in the system, bank money will enjoy great public trust and will be accepted at a par with state money.

Furthermore, the banking system centralizes debts as part of its activities. It buys debts from the public and issues claims against itself (Werner, 2014a; 2014b). It eliminates the problem of bilateral credit by buying, centralizing, offsetting, and liquidating transactions under the same institution. For that reason, they function as true social accountings. Due to their important role for economic activities as a buyer of money/debts, loan operations, social balancing services, and also because their monies are at par with state money, the credibility of bank money among the public follows that of state money.

If we take the hierarchy of money, or the pyramid of debts, as a three-tier pyramid, state money ranks the top of the pyramid, bank money occupies the middle tier, and other liabilities — households or businesses — occupy the bottom. Two important conclusions regarding money may be drawn from this hierarchy of debts: (1) all money is, in essence, credit/debt; (2) credibility plays a deciding role in the organization of the hierarchy[92]. Wicksell (1962)[93] best described it by stating that,

> Strictly speaking, we can assert that *all* money—including metallic money—is *credit money*. For the force which is directly responsible for the generation of value always lies in the *belief* of the receiver of an instrument of exchange that he will be able to obtain for it a certain quantity of commodities. However, notes and paper usually enjoy a purely local credit, while the precious metals […] are accepted on a more or less international scale. (Wicksell, 1962, p. 49).

Once it is understood that money is, by nature, credit, two important aspects of the Theory of Credit demand further elucidation for they are eventually overlooked by economic literature, despite their being commonplace in accounting literature.

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[92] Again, following MacLeod (1891; 1893) credit is, after all, primarily confidence.

[93] As mentioned before, some supporters of the Theory of Commodity Money have some contradictory passages in their works. Wicksell, particularly, is one author which could easily be sided with the Theory of Credit Money, although he openly sided with the former theory. But the same could be said about supporters of the theories of Credit Money or State Money. Keynes himself, in a passage from the article *Index Numbers*, stated that "the general purchasing power of *commodities other than money* is much more stable than the general purchasing power of money." (Keynes, 1909, p. 108).

Following accounting principles, credit and debit are accounting identities, and so are assets and debts. For every credit, there is a corresponding debit. If *A* and *B* engage in a purchase and sale transaction, and *A* pays *B* the amount of $ 10, that amount is debited from *A*'s balance and transferred to *B*'s balance. For *A*, it is a debit and for *B*, a credit. Note that we are dealing with *existing* credit money. It is a mere transfer of present available purchasing power. In a balance sheet, this sort of operation falls under the current assets group, in the cash account, diminishing *A*'s balance and increasing *B*'s.

There is a slight difference, nevertheless, when we are dealing with newly *created* credit, as in the case of a bank loan, for example: it creates present means of payment, or money, or credit, against a future debt. In Minsky's (2008) term, it is money today for money tomorrow. Since loans create deposits, a certain sum of money is credited in the cash account, under the current assets part of the balance sheet, whereas a liability is registered under the current and/or non-current liabilities of the same person. The temporal aspect of credit is highlighted in this example: it is a device for bringing future value into the present time. Therefore, credit can be both *existing* credit in the books or *newly created* credit. However, credit is always a means of payment existing in present time.

It is also important to bear in mind that one's purchasing power, or credit, is an asset. Its counterpart is a debt. Therefore, stating that money is a credit or debt varies according to the standpoint of the issuer or the holder. The public, in general, holds of money and, from this standpoint, it seems more appropriate to state that money is credit, or, in the case of cash, a credit token rather than a token of indebtedness, as affirmed by Innes (1913). The latter term seems more suitable from the standpoint of the issuer of that token money, to whom money is, in fact, a debt. Once there are few issuers of money, whereas the whole society uses of money, it is preferable to state that money is credit, also to avoid any mental confusion from people unaware of accounting principles.

The transfer of "pure credit money" or "token credit money" works the same way: it closes the transaction and ends the contract. If that credit had been newly created, as it has been mentioned before, the loan operation will demand future settlement. Therefore, means of payment will be necessary in the future. But, in the meantime, this new credit is mixed with existing credit, circulates, and affects several economic transactions. Following the circuit, credit will eventually flow back to the

debtor and will be used to pay the debt (loan), destroying, therefore, both the credit created in the first phase of the circuit and the legal obligation embedded in the operation. As rightly explained by MacLeod (1891; 1893), debts must meet available credits so payment can be performed and the obligation extinct.

Credit money is an abstract form, a mere register of accounting in a bank, which could only be employed in large scale with the aid of institutional regulation and financial institutions. The limits of bilateral credit were acknowledged by supporters of both theories, but the process by which a bilateral debt becomes saleable, and the influence of the legal apparatus is an extremely important contribution of MacLeod (1891; 1893). In Wicksell's (1962) terms, *organized credit* can only be arranged by a financial institution, but *simple credit* has probably always existed.

Before closing this section, one last aspect regarding money is worth a brief reexamination: the notion that money is a promise to pay. Although scholars from both theories adopt such view (Jevons, 1878; Thornton, 1965; Graziani, 1990; Ingham, 1996), the term does not seem altogether appropriate. A promise, although it may be a solemn oath, founded on good moral principles, is different from an obligation contractually expressed. If one lends money to an acquaintance, in a sort of bilateral informal agreement, possibly only verbal, based on mutual confidence, the only guarantee of repayment the creditor has is indeed the debtor's promise to pay him. But in organized systems, credit is granted in operations which have legal support. A bank loan, for example, is a contract between the bank and its client. It is a contractual relationship and, as such, repayment is not a promise, but an obligation, enforceable by law.

In summary, this investigation concluded that the nature of money is credit. The latter is an abstract concept which has many facets, some of which are not economic-related. Money is an institution that emerged initially as accounting took, in the form of credit/debt registers. Due to economic development, these credit/debts have assumed different forms, as currency. Another facet of credit regards the use of a person's reputation and credibility as purchasing power. Moral credit, then, may be transformed into economic credit, thus leading to the creation of money.

One's credit is another's debit. In other words, one's credit is an asset, and one's debt is a liability. A credit instrument, for example, is an asset for the creditor and a liability for the debtor. From the debtor's standpoint, it is irrelevant to him whether he pays his debt to the original creditor or to someone else. From the creditor's standpoint,

he seeks to realize the payment as soon as possible, or in the due time. The only way he can anticipate payment is by transferring the debt to another person. That is when currency has entered the picture in the history of money. Money, therefore, represents the ultimate means of payment, the means of releasing from debt and, since only credits can cancel debts, money is, in essence, credit.

6.4 The definition of money and its functions

Once the main research question of this investigation has been answered, a further contribution this study may give regards the definition and functions of money. What money is and what it does is intricately related to its nature. Regarding the functions of money, economic theory solely is very helpful. Regarding its definition, due to interdisciplinary approaches to money, the quest becomes more complex, but economic theory is still of great use. It may be helpful, in this last section, to start by reexamining the functions of money before trying to define it.

Economic literature attributes three functions to money: medium of exchange, unit of account and store of value. A fourth function is eventually included: means of deferred payment. The functions of medium of exchange and deferred payment are eventually treated as medium of payment.

Jevons (1896, p. 16) rightly stated that "[w]e are so accustomed to use the one same substance in all the four different ways, that they tend to become confused together in thought." For our pure convenience, we input in a single object more than its original function and it usually keeps all these functions together.

The reexamination of the functions of money must start with one which was not a function of money at all: unit of account, or money of account. The establishment of a unit of account is, as it has been thoroughly explained earlier, a precondition for the existence of money. As such, it cannot be a function of money, as rightly stated by Lawson (2022). It is a unit of measurement which allows debts and prices to be measured and fractioned. As affirmed also by Keynes (1930a), money responds to a money of account. Just as any other metric system, the name of this unit and subunits varies from country to country.

Second, although money may serve as a store of value, this is not a fundamental function of money. In fact, several other assets are better suited to serve as stores of

value. Among these assets, it is interesting to revisit the role played by commodities in earlier times. As stressed by Schumpeter (1956),

> The historical origin of money certainly lies in the value of the money commodity, but its essential nature lies elsewhere. It is, of course, clear that in primitive conditions only money made of an intrinsically valuable material can obtain its definite market valuation and continue to circulate. Money made of valueless material presupposes so high a standard of legal security, that in international trade even today only money based upon "valuable" material functions smoothly. This led, quite understandably, to the conclusion that the essential nature of money was to be found in the commodity character of the money material, and the reason for its value in the value of his material. (Schumpeter, 1956, p. 157–158).

Value may be preserved in several forms of corporeal and incorporeal capital which often enjoy higher stability than money. The precious metals, for instance, especially in older times, are highly valued by people and represent a possible form of storing value. Although it is not incorrect to state that money serves as a store of value, it is more appropriate to affirm that money is a partial, or imperfect, store of value, for, after all, money is still an intertemporal form of purchasing credit.

Third, another troubled function of money regards deferred payments. Money is either that thing employed for liquidating balances or the result of loan, *i.e.*, newly created money. In other words, money is always the means of payment available in the present time, considering, of course, money as the most liquid of all assets. Being what *closes* the transaction, money cannot be a means of deferred payment at all. Only credit can defer payment, in the sense described by MacLeod (1891; 1893), through the use of person credibility as purchasing power. The postponement of payment, in fact, *creates* money, for it creates a debt, which is a correlative of credit, and both credit/debt mean money. Postponement of payment, whether it is due a money loan or a purchase of goods on credit, falls under the first phase of the credit circuit. This debt will have to be liquidated at some time in the future, during the final phase of the circuit. Liquidation, or extinction, of debts, as thoroughly described in topic 5.3.3, can only happen with credits available at that same time. Therefore, following what has been stated regarding money of account function, deferring payment not a function of money, despite being an important element of credit. Money is, therefore, available credit at present time.

Lastly, regarding the medium of exchange function, one must consider that an exchange is an act which involves two parties: one selling, another purchasing. An exchange, as postulated by MacLeod (1891; 1893) and other economists, is a sale or

purchase in which a merchandise is exchanged for money. However, one must consider the existence of unilateral transactions, as payments of taxes, for example, in which money is also employed, but are transactions of different types compared to a commercial transaction. Therefore, it does not seem altogether correct to state that money is a medium of exchange, and this function seems to be part of the legacy of the Theory of Commodity Money.

This leads us to our final point: the sole function of money and the definition of money. These two elements coincidently meet under the same term: money is a means of payment. This definition is also found in MacLeod (1893), Schumpeter (2014), Lawson (2022), Keynes (1930a), Knapp (1924). Still, it is a rather broad definition, for, as MacLeod (1893) affirmed, "Money is anything whatever which a Debtor can compel a Creditor to accept in payment of a Debt" (1983, p. 164).

Money is, therefore, the means to discharge someone from an obligation and it may take various economic forms: coins, bills, credit transfers, bills of exchange, promissory notes, and so on. As before mentioned, the only means of extinguishing a debt is with a credit. Money, therefore, is credit, the highest form of credit, as postulated by MacLeod (1891; 1893).

Means of payment, as rightly described by Knapp (1929), include metallic money, paper money and credit transfers, and should not be taken as a synonym to currency. As modern plastic card shows, payment is dissociated from the circulating media. Therefore, at least in the modern word, only bills and coins would fit properly under the term currency.

A more appropriate or complete definition for money could be "means of payment or purchasing power". Both represent credits. As a means of payment, it discharges from debt, and, as purchasing power, it allows the exchange of a credit for a product or service. Money may or may not take physical forms, and if it does so, these forms are irrelevant. As Wicksell (1962, p. 75–76) stated, "[m]eans of payment, or purchasing power, can be provided in accordance with the dictates of choice and necessity.". Depending on different periods, as monetary history shows, different forms of money have existed, disappeared, and new forms were created.

This definition of money is highly elastic, as rightly stated by Marshall (1929), exactly because people will choose the most convenient or the means available to extinguish a debt. Also, economic-wise, the meaning of means of payment in narrower than its meaning in law.

Lastly, it is important to remember that payment itself does extinguish a debt, as MacLeod (1891; 1893) rightly stated. It is not liquidation *per se*, but satisfaction which closes the transaction or the contract. Otherwise, the lack of satisfaction may lead to conflicts between parties, which may demand commercial arbitration or legal intervention for the settlement of the dispute and enforcement of the contract. So long as money serves as a means of payment and payment provides satisfaction for the parties involved, the transaction may be closed. Following the circuits approach, credit is then destroyed.

7 CONCLUSIONS

A brief a summary of definitions and concepts may help to elucidate the conclusions before mentioned and presented in more details in chapter 6.

Credit is first and foremost a social relation which creates rights and duties between parties. Credit is multifaceted element that, when exercised in an economic way, as purchasing power, it creates a set of obligations between the transacting parties: on one side, a right to receive; on the other, a duty to pay. One's credit is another's debt. The process by which a person's personal or moral credit becomes quantifiable, or, using MacLeod's terms, an Economic Quantity, is related to the establishment of a unit of account in which economic transactions are recorded.

As far as recorded history shows, accounting principles have emerged in palaces and temples of Ancient Near East civilizations as a tool for administering prices and provisioning labor, trade and infrastructure investments. Trade, whatever its extent was, played its role in the provisioning of resources for public workers established far from palaces, and also in international commerce.

The need for registering credit and debt relations led to the creation of a unit of measurement, namely, a money of account, and for the sake of the economic activities, different types of measurement systems were created and standardized.

At first, pure accounting activities had been developed. Credit money, therefore, preceded the emergence of all circulating media — coins and notes —, which emerged only afterwards, in connection to the emergence of organized markets and the need of transferring debts. Transferability is an element of the theory of credit and money of high importance, as aforementioned. For the debtor, it is irrelevant whether he pays his debt to his original creditor or to another party. For the creditor, selling a debt owed to him allows the realization of future payment in the present time. In this sense, pressure from traders on the judicial system contributed thoroughly to allowing the transferability of debts, and to the development of currency.

Acceptance of a third-party debt in payments, however, still limited economic activity for it depended on the credibility and the perceived notion of solvency and liquidity of the issuer. Endorsement of a third-party debt became a customary practice and allowed the diffusion of credit instruments in circulation, as well as the use of the sovereign's currency.

The prestige of the sovereign's money is due to several factor. The sovereign is a common agent for all members of any society. It is also an economic agent that demands products from private markets and, just as any agent, spends by issuing debts. Therefore, the sovereign money — which in modern world corresponds to state money — enjoys greater acceptability and credibility than any other debt. Moreover, since the costs of production of physical money are high, the sovereign may have become responsible for the provision of small value token money, providing, therefore, an important social service.

Transferability of debts was also benefited from the institution of banks, the merchants of debts. Their activity consists of buying currency and debts and exchanging them for credits on their books. In doing so, they centralize most debts in a single institution which operates as the clearing house of households, firms, and the state. Despite the advantages of this system for high value operations, for ordinary small value transactions, a tokenized credit is often preferred.

When in material form, money represents a tokenized credit/debt. Depending on the standpoint taken, for the holder, it is a tokenized credit, and for the issuer, a tokenized debt. It may be a private or public issued token.

When in abstract form, money is created in a contractual form, in which an agent becomes indebted to finance production, consumption, investment, etc. Newly created credit implies a money today–money tomorrow relation, as described by Minsky (2008). It is merely an anticipation of purchasing power, or credit, which has as a counterpart, a debt. Following a circuitist approach, this new credit is mixed with the existing credits and they circulate between households and firms, paying for production factors, goods, and services. When firms pay for the loans, credit is destroyed.

The circuitist approach, therefore, is divided into three phases: creation, circulation, and destruction. A debt is only extinguished with a credit. Due to the transferability of debts, a debt may be extinguished with a third-party debt. In this sense, debts pay debts. But a debt can also be extinguished when credit and debts fall under the same agent. This is what is called the reflux law: one must accept his own debt in payments to himself.

If economics, as MacLeod affirmed, is an exchange of rights for rights, and not that of commodities for commodities, money cannot be a commodity at all. In fact, when a commodity becomes money, it ceases to be a commodity. Therefore, money's essential characteristics lie beyond its phenotype. Despite its form, money's sole

function is that of serving as a means of payment to release one from debt. This definition fits the economic, legal, and social meanings of money. Payment liquidates a transaction. Payment, so long as it coincides with satisfaction, as postulated by MacLeod, extinguishes the obligation.

Obligations, despite their various forms, may be quantified and represented under the term debt, as stated by Graeber (2011). For Commons (2011, p. 458–459), "historical development of releasable debts out of non-releasable debts […] is the whole history of civilization.". Economics deals only with releasable debts and since only a credit cancels a debt, money, being the final means of payment, is, by nature, credit. This conclusion, therefore, ratifies the position taken by the Theory of Credit Money and was even hinted by some adherents of the mainstream dominant view.

The quest to investigate the essence of money turned out being an investigation on the nature of credit and money. Amid this study, several conundrums appeared, as, for example, revisiting the origins of money and some conflicting ideas from supporters of both theories of money. It is important to stress that this study itself is not immune to contradictions, for money, as a social technology, represents several complexes social relations. But the results of this investigation seem to have answered the research question: what is the nature of money? Money is credit. To be precise, money is economic credit, or the highest form of credit, following MacLeod (1891; 1893). Credit, on the other hand, is not money, and is a multifaceted element of social life. It may or may not be transformed into money.

The process by which this conclusion has been established followed integrated procedures methods, resorting to interdisciplinary studies to support that assertion, that is, that money is, by nature, credit. Anthropological studies helped define the best approach method, namely induction. Afterwards, regarding the procedure methods, a comparative methodology which integrated distinct sciences was adopted, including economics, history, accounting, law, and anthropology studies. This interdisciplinary approach has corroborated most general conclusions presented by heterodox economic literature, but also pointed at some fragilities of alternative approaches, *e.g.*, the penal system approach to the origin of money.

Regarding the distinction between the Theory of Commodity Money and the Theory of Credit Money, one can state that the former deals with the phenotype of money, whereas the latter deals with the genotype of money. The former has an incomplete transactional scheme which focus on the payment, whereas the latter has a

complete transactional scheme: the credit circuit. The supporters of the Commodity approach only see the dead body of money, as coined by Knapp (1924), and take a presumable evolutionary approach to explain the emergence of credit.

Credit, however, is one of the oldest social relations. The notions of credit and debt permeate all human relations, including the economic ones. Credit is, by essence, an accounting tool, but also connected to moral and personal characteristics, as one's reputation. When exercised as purchasing power, it becomes *economic credit*. It is only then that credit becomes a part of economics, although credit, as a moral or subjective element, still permeates economic theory in the forms of potential purchasing power or in the sense of credibility of financial institutions.

This dissertation tried to follow Schumpeter's recommendation to expand our time horizon as far as possible. It was a conscious choice, because I believe that modern money does not differ in nature from ancient money. Except in those cases in which anthropologists differentiate between different types of transactions in non-commercial economies, in which special-purpose money is employed, market transactions are of the same nature, *i.e.*, a purchase of sale, independent of their being modern or ancient market transactions, and so is general-purpose money, independent of its forms.

The fact that several monetary instruments have existed over time — some enjoying impressive longevity, as coins; others being short-lived as banknotes — points that money represents the most adaptable and adequate instrument for a certain time or situation. Independent of the form, they are all of the same nature: credit. Thus, money changes its forms, but not its essence. And this specificity of money has been clearly understood by both supporters of the Credit and State Theories of Money.

It is important here to briefly dwell over a point regarding the Theory of State Money, namely, the Chartalist Theory of Money. Despite some similarities with the Credit Theory, I follow Schumpeter (2006) who stated that there are only two theories of Money: The Theory of Commodity Money and The Claim/Credit Theory. I also follow Innes (1913) who dealt with the State Theory as a sub theory of the Credit Theory. This can easily be seen since (neo)chartalists affirm the nature of money is credit. As a friendly critique, supporters of the State Theory would gain a lot to gain from reading MacLeod and incorporating law and political literature into their analysis. Their relying solely on Innes (1913; 1914) as the main proponent of the Credit Theory is biased. Innes himself is a follower of MacLeod, as rightly acknowledged by Keynes (1914). Economic thinking must acknowledge MacLeod's pioneering in the studies of

money and credit and, also, his analysis as one among the most complete studies of money.

To conclude, rethinking the theory of money is important to correct historical and anthropological inconsistences and, due to the association between money and technology in current times, to straighten some modern misconceptions as virtual money. Comparative history shows that credit and cash have been intertwined, one or the other being the main means of payment according to different times, as described by Graeber (2011). There is nothing new about credit money. And, thus, there is no such thing as virtual money: credit money is, by nature, something abstract, which may or may not take a physical form.

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