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On Economics And Trust

An Analysis On The Implications Of Trust In Monetary Matters

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Pujo: *Is not commercial credit based upon money or property?*

J.P. Morgan: *No sir, **the first thing is character**.*

Pujo: *Before money or property?*

J.P. Morgan: *Before money or anything else. Money can not buy it.*

(J.P. Morgan's interrogatory, 1912)

Abstract

Social sciences have always been interested in understanding the underlying mechanisms of real-life situations of individuals and groups. Politics studies the relationship between people and governments, while the focus of economics is on the relationship between agents and value. In order for these relationships to exist, a certain degree of trust is needed. What determines the degree of trust necessary is the efficiency of the services carried out by the two Institutions, Governments and Money and Banks. When analyzing politics, depending on the type of Government established, the degree of trust may be varying. A higher degree of trust is needed for democracy because of the participation of citizens in decisions, while a lower one is needed for autocracies and aristocracies which rule out citizens. When studying economics instead, there are two different variables that influence the trust needed: the efficiency of the means of payment and the presence of banks acting as trust-ensuring intermediaries. To understand how the means of payment evolve, it is necessary to set the focus on the historic evolution of money through the findings and theories on early societies. Whereas to really comprehend the role of banking institutions it is necessary to hunt down the origins of trust-based exchange and of credit schemes. Introducing the two study cases, we found the common reasoning behind both the implementation and dismantle of a trust-backed medium of payment, which usually depends on the Authorities under-performing the services for which they stand in place.

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Chapter 1

Introduction

Any kind of social relationship between people requires some trust by the parties of the relationship. However, what about the one that connects citizens and authorities? Does it require trust? Value, its use, and perception have always been of great interest to several fields of study other than Economics and Politics. Psychologists, Anthropologists, Historians, and Sociologists have found the subject interesting, but almost none of them explored the subject on the *trust* needed for society to function well. There are two central authorities in country-sized societies of the 21st century: the economic one, represented by the banks, and the political one, to which we will refer as the Government. These two authorities have always been deeply linked in their executive powers since banks were first developed. Authorities affect citizens' lives through the policies they implement, and citizens, in turn, should affect authorities through elections, manifestations, and revolts. When economies and States were small, it was easier for citizens to form revolts, also considering the thrust of highly unequal living conditions of past societies. Nowadays, countries comprehend dozens of millions of people whose individual voting power was reduced because of the massive

demographic numbers. Since more than 50Nevertheless, presidents are still elected, and the system keeps running almost unbothered. Both authorities may assume full power over societal matters considering the developments in warfare and law enforcement agents and banks' hegemony of monetary matters. What historical events brought society to be organized in such a way?

When researching economics, different subjects need to be considered other than the financial and political aspects of the society taken in analysis. In the last century, economists started including researches by anthropologists, historians, philosophers, sociologists, and psychologists in their analyses, which led to the development of different branches of Economics, such as Behavioral Economics. However, all of these give little to no importance to the concept of "trust". Trust is one of the pillars societies and relationships are based upon. In fact, in most situations of our lives, we are required to trust someone else to care for our interests, e.g., the doctor when in bad health, the lawyer when in trouble, the chef when hungry, the policemen when in danger. Trust is also fundamental for the current economic system. The monetary system may often be perceived as a mathematical science, which is exact and not relative, while in reality it takes into account many relative concepts. The misperception of what money is and ought to be, without having included trust in such analysis, has influenced economic decisions and global economic stability since the first examples of monetary policy. The aim of monetary authorities has always been to improve the efficiency of the medium of payment. In contrast, they should have tried to set an economic system that was not infected by the possible lack of trust. Instead of trying to reach a sound monetary instrument, from which users do not want to run away, because of financial crises generated by the authorities' incompetence,

Governments established a hegemony on the standard means of payment available to the citizens, all of which are controlled by banks. There would be no problem in having a centralized, deeply controlled by the authorities, and infinitely manipulable currency as the only means of payment available; in fact, money has always possessed such characteristics.

The study cases, analyzed in Chapter 3 of this thesis, present two different examples of what can lead to monetary implementation, and what to its disruption. The first case study taken into account is the one of Chinese attempt at implementing paper representative money around the year 1000. The event in which state money loses the trust of its users is explained; big runs towards safe assets occur, and if too big, lead to the disruption of the imposed medium of payment set by the state. Whereas in the Italian Late Middle Ages, it was the State the one to have lost the faith of its citizens, and not its money. After having endured centuries of strict regulation under the Church and of subdue by various Kingdoms and empires, which led to social malcontent and the loss of trust of Italian economic agents, the latter organized their activities driven by a reputation-building motive which proved to be effective and led to societal progress.

Starting from the two main schools of thought in economics on the origin of money and the social motives for it to be developed, we will then undergo the concept of trust in economic exchange. At last, the two study cases regarding the first examples of representative money will be used as the explanation of how state money can acquire or lose its value or acceptance.

Chapter 2

Traits and Considerations of The Orthodox and Heterodox Theories on the Origin of Money

2.1 An Introduction to the two Theories

On the most renowned online encyclopedia, Economics is defined as the social science that studies how people interact with value; in particular, to the production, distribution, and consumption of goods and services" [Wikipedia contributors, 2021]. This science has been studied since the times of Ancient Greece, when the first philosophers Plato and Aristotle started inquiring the field of Practical Sciences, by analyzing the use of wealth in the Greek *Polis* (Microeconomics). From the definition, and the first studies conducted on the subject, it is evident that economic research should underpin the real mechanisms that move agents (people) and the decisions they

take on how to use the value they possess. Other than the use of wealth, with the evolution of money during centuries and ages, institutions acquired the hegemony of monetary distribution and administration, with economic studies following suit by the development of the Public Economics branch. Being a social science, Economics develops together with the other studies on social matters. Nowadays the broad field of Economics comprehends also the study of Behavioral Economics, Econometrics, Macroeconomics, and Financial Economics, following respectively the science of Psychology, the application of Statistics, and the phenomena of globalization and firms' operation financing. In this section, we analyze how the brief definition of Economics, already includes concepts of particular interest when studying the Origin of Money. The two main schools of thought of economic science have expressed themselves in the last centuries on what money is and where does it come from, but none has been able to establish a wholly accepted theory. The economists following the Orthodox view, also called Metallists, have been preaching and teaching their views on the matter since the earliest capitalist societies[1], whereas economists sustaining the alternative view, the Chartalists, have been mostly prolific in the last century, because of the findings and studies of other fields they considered to conduct their research. We will now analyze the etymology of the words Orthodox and Heterodox, and attempt to find what led to the acclamation of the Orthodox and the possible distorted perception of the Heterodox.

With reference to economics, the word 'Orthodox' depicts "an intellectual category referring to what historians of economic thought have classified as the most recent dominant school of thought" [Colander et al., 2004]. In other words it can be identified with mainstream economic theory: the most

[1]Capitalist society: societies in which production is aimed at future sale instead of self-sufficiency. They are characterized by the act of hoarding a good for later sale

approved and taught in the economical environment all around the globe. Important aspects determined the definition of this school of thought as the dominant one, first of all the assumptions on which it relies. Orthodox economists try to define a formalist view of what money ought to be. Following this line of thought, mainstream economists' assumptions include the ones of representative agents and rational choice theory. The representative agents assumption indicates that all the agents of the same kind in the analyzed economy will act in the same way, because of their common interests, while the rational choice theory, as theorized by Adam Smith in 1776, is the assumption for which people in the economy are represented by rational agents, which will try to maximize their individual utility every time a decision has to be taken [Smith, 1950]. Starting from these two assumptions, and from the aim of finding what money ought to be, we can understand what lies beneath the Orthodox theory and what makes it so easily accepted. The Orthodox theory relies mostly on the rationality of its agents, that is the ability of the private sector to foresee the happening of events, both positive and negative, and to take the decisions that maximize their own utility. But is this assumption applicable to reality? Living in a society in which most wealth is held by few, while most people strive to reach financial soundness every month, the rational choice theory is quite inadequate to represent real-world decision-making processes. In fact, if it were not such, most people would be taking the right decisions, leading to a more distributed wealth and less disparities. Furthermore, the world is full of individuals who deliberately choose to maximize their own utility in spite of the social one, as it is the case for corrupted public administration or criminal activities. A notable one was Bernard Madoff and his scam amounting to 20 billions dollars where he managed to get more than thirty thousand people involved in his Ponzi

scheme which lasted more than four decades before him being discovered and sentenced to 150 years in prison [Education and Student, 2020]. This example is just one of the many our society is filled with: people who are willing to drown others just to get on the profit-maximizing boat, and as technology advances scammers continue to innovate. Therefore it is quite controversial how a theory that should analyze real-life economic events, still firmly adheres to such an assumption. Real life societal agents are not rational, they cannot foresee situations and most of the time they are not willing to take action before an institution, or someone they trust, gives them a reason to do such. Yet, in order to formulate economical models, assumptions must be made, and the rational choice theory has probably been the most useful one. This strong relationship between the Orthodox economic theory and rational agents is what in the next section will prove to have misguided the neoclassical analysis on the origin of money.

When talking about the Heterodox theory, as rightfully noted by David Dequech in its publication for the Journal of Post-Keynesian Economics: "Among the terms considered here, Heterodox economics is possibly the most difficult to define. One possible approach would be to define heterodox economics negatively, that is, as it being different from something else, previously affirmed. Another approach would be to define heterodox economics positively, on the basis of features other than, or in addition to, a set of differences in relation to another category." [Dequech, 2007] This extract from Dequech's paper intends to highlight the duality of the perception a person can have regarding the contrasting views of Heterodox theory with the Orthodox one. Instead, the scope of Heterodox economists is the discovery of the patterns behind those questions Orthodox theorists were not always able to give an answer to. Thanks to the empirical approach employed by

the Heterodox theory, a light was shed on the origin of money. Instead of trying to analyze the advent of money through a capitalistic view, the heterodox research started from the disbelief that in primitive societies capitalism, and therefore utility-maximization mindset of agents, was the main driver of money development. By doing so, they constructed a model in which self-sufficient societies had other necessities before the needs of exchanging value and lubricating economic exchange. This was possible mostly because of the contributions by the other social sciences , including anthropology, history, sociology, and even law, which were deeply considered when formulating their theory. As Goodhart states: "Whereas the Metallist theory has been strong on formal theory, it has been constitutionally weak on institution detail and historical empiricism" [Goodhart, 1998]. Summarizing the whole academic production of the post-keynesian economists on the matter, through the mere comparison with the standard theory given by the words "Heterodox and alternative" is not correct, perhaps. But as fluency, comprehension, and preceding works dictate the choice of using such words, I will at least try -in the section dedicated to the alternative theory- my best to distinguish and give credit to some of the numerous theories Heterodox economists have developed on the origin of money during the years.

Introducing the two main theories on the origin of money, some parameters have to be set in order to conduct our analysis. As Ingham states in his book: "A theory of money should provide satisfactory answers to three closely related questions: What is money? Where does it come from, or how does it get into society? How does it get or lose its value?" [Ingham, 2013] As Ingham did, I will use the same three questions when exploring the different views on the matter, and pointing out incongruencies when necessary. We will start from the most known and affirmed theory - at least until recent

years - the Orthodox one.

2.2 The Orthodox Theory on the Origin of Money

According to conventional theory, money was implemented by the private sector in an economy in which exchange was already conducted through barter, in order to lubricate markets and reduce transaction costs. These first lines could already be enough to summarize the Orthodox view, in fact there is close to no attempt from this team of economists to undergo an analysis of what came before the barter economy they set as starting point. In the following section, we will try to find the reason for their choice of assuming barter exchange was implemented as the utility maximization of a self-sufficient economy, and starting from barter, and following the same reasoning, the one for which money was implemented.

When searching for the origin of money in a hypothetical primitive society in which both trade and money were probably unknown, considering the rational agent's assumption as true will lead the outcomes of such research to be negatively affected by the modern world mentality of the researcher. In fact, people nowadays are born with the concept of value and money already in their nature and it is constantly applying pressure on our unconscious minds. Whenever we see something, we are used to assign it a certain value, both when the price is already in our knowledge and when not. This applies to the most disparate things, starting from an indument and ending with a massive yacht harboured at a pier. We assign a fictitious price tag to everything we see because of the capitalist mindset of modern society. Some may do it to know if they could afford the object, others to compare them-

selves with the owner, someone else to understand the quality of the object comparing it with other kinds, and so on. This perennius hunt for value we are used to, put into action as a response to the capitalist society we have been living in since mercantilism, is why it was so easy (and so hard to get rid of) for Orthodox economists to think that our ancestors were constantly trying to maximize value as well, or in the case of self-sufficient societies- where value was not attributed to goods more than for sustenance- for the assignment of value. The search for value added for primitive people, who did not conduct any kind of trade, was reflected through the action of assigning value to commodities they held, and, when possible, trying to exchange them for closely valuable commodities others were holding, basing such exchange on their preferences and needs. This, in turn, gave birth to primitive forms of bilateral exchange: barter[2]. The exchange was conducted between two agents, and for it to be accomplished, double coincidence of wants had to be achieved. Double coincidence of wants is the phenomenon in which both agents, concurring in the barter exchange, actually desire the other's good, therefore allowing the transaction to take place. In order to find another agent willing to conduct the transaction and having the good the first agent desires, much effort, both in terms of time and of physical fatigue, is required; plus, there is no certainty that someone will be found. In order to reduce these transaction costs physical marketplaces were developed, where fairground barter took place. These markets collected various agents, willing to trade, in one place making it easier for them to form couples with coinciding wants. Let's consider the following example to better understand the hypothetical situation told by Orthodox economists. Since winter is coming, Agent A is willing to trade one of his cows for an axe in order to gather

[2]Barter: To better understand the mechanics of barter exchange I suggest the following article by Dalton: [Dalton, 1982]

timber to be burnt during cold nights. Without a fairground market he had to travel together with his cow to every other agent he knew of close to him, who could have possibly had an axe, asking whether they needed a cow. Unfortunately he could not find anyone willing to conduct such trade and had to return home with his cow. Thankfully, one of the neighbours he visited during the day told him about a market that was set up in a nearby field. The day after, agent A woke up, got his cow and started walking towards the market. Once he reached it he saw ten other agents, every one of them with their possession to be traded, that tried to conduct transactions. He started proposing its cow to the other agents, asking for the axe in return, but there was no one who had it. Thankfully one agent (B) said he had one he did not need at home which was willing to trade for the cow the next day. Once again agent A had to go back home with its cow and no axe, and in the morning of the next day, after having travelled to the market with its cow, he was able to conclude the transaction and finally had the axe he needed. If agents were really willing to maximize utility, why did this market have no authority regulating it, conducting trades, and keeping goods searching for a match in some kind of deposit while noting down who deposited them? This would have helped agent A much, by not needing to travel each time back and forth with the cow. Think of transporting something really heavy back and forth (let's keep in mind that the wheel was invented centuries later) from the market home until a match is found, and what if the good was deteriorable and within 3 days could have gone bad impeding the trade, and so on, with all the problems a single mind can think of. Barter trade was inefficient both in the case of isolated marketing (primitive Peer to Peer[3] and in the case of an established fairground market. Well, as we mentioned

[3]P2P: it is a new typology of electronic payment which relies on a network of nodes can contact each other and conduct transactions. [Guadamuz, 2004]

above, barter could have been more efficient if there was a central authority regulating it, but according to the Orthodox theory no central authority was necessarily involved in the development of money, which was all due to the private sector willing to maximize utility and reduce transaction costs. So who or what established the first market? No answer is given by the standard theory.

We will now focus our analysis on the Orthodox belief of a common medium of exchange developed by the private sector in order to reduce inefficiencies of barter exchange. It has yet to be shown why and how economic agents arrived at a spontaneous choice of one specific medium of exchange, such as wheat during the stone age, bronze for later societies and gold for wealthier ones. The private sector found the way to overcome such inefficiencies at first by using a commodity as medium of exchange. Each community, depending on the availability of certain commodities, decided altogether which good was to be used as money. Some examples of the commodities chosen - as deeply explained by Galbraith in his book [Galbraith, 2017] - are wheat, for agricultural societies, while hunting ones would use animal teeth, bones or skins. This innovation of having a commodity as the underlying good of an economy did resolve the exhausting problem of exchange rates. In fact if we imagine a barter economy in which there are 10 goods that can be exchanged, there had to be 45 different exchange rates dictating commercial activity. Now, if we think of an economy in which 30 goods were traded instead, the number of exchange rates rises up to 435 different exchange rates that had to be defined before trade was conducted in order to limitate inefficiencies. With the advent of commodity money, this problem was easily solved: if the market had to set exchange rates between 30 different goods, they would only have to determine 30 different exchange

rates using commodity money for transactions. Nonetheless, also the usage of commodity money has great disadvantages when compared to metal and later on to metallic coins. This was due mostly to the non-durability of the commodity used (wheat does go bad and may catch fire), the non efficient divisibility, the difficult transportability and the huge storage costs. Other than these problems, an unfruitful crop could lead to agents not having enough wheat to conduct the trades they needed to sustain themselves. Orthodox economists have not insisted too much on commodity money and usually run towards the efficiency of using precious metals as money, while as we will further explore later, the linkage between these two types of money is deeply rooted. Other than solving the durability, divisibility, and transportability problems of using other commodities as money, as Goodhart notes in his paper: "Precious metals in an unworked state have been used as a means of payment in exchanges only under very special circumstances — e.g., in the various gold rushes in California and Klondike — and even then the picture, immortalised, for example, in a film by Charlie Chaplin, of merchants and bartenders weighing and checking the gold dust before accepting it as payment, suggests that payment in unworked precious metals was more in common with barter than with a monetary payment." [Goodhart, 1998] This suggests a great problem of cost and timing involved in the verification of the metal. Another discrepancy lies when considering Orthodox economists stating that precious metals money was introduced in order to reduce such costs. While it would have been easier for ordinary agents to deduce an everyday good's value, with newly implemented metals they had to trust the agent using it as a medium of payment or the authority specialized in metals (goldsmiths), since they had no other means of verification. Therefore using metal as money implied a strong information problem. In the meantime,

technology advanced, and minting processes started to be used as a way of ensuring purity and composition of the metal bar or coin which were struck. Mints started impressing quality guarantees upon their "coins", in order to build trust in their products and broaden the acceptance of metals as means of payment. Finally a medium of payment which solved identification costs, and the problems of transportability, divisibility, and storage costs was set in place. Unfortunately because of the intrinsic value of metals and the rationality of agents operating mints, metal coins were often subject to debasement in order to reduce minting costs and maximize the phenomenon of seigniorage, which is the profit on the emission of money. As minting processes evolved, as stated by different historians and numismatics, the government has acquired the duty of minting and of keeping the value of money stable; making minting "a pillar of the sovereign state" [Goodhart, 1998]. Finally, we now sum up everything that has been stated so far, using the three questions Ingham set out as parameters for a satisfactory research on the origin of money. According to the Orthodox view money is any medium of exchange used to reduce transaction costs in economic exchange. It was developed and implemented by the private sector as a way to evade barter's inefficiency. Its value is determined by the intrinsic value of the commodity used as money, or in our modern FIAT monetary system by the value of the reserves backing it. Moreover, citing Goodhart, "under the Metallist view, once the private sector has established a monetary equilibrium, thereby reducing transaction costs, there is no conceivable mechanism within the model which would lead back to barter" [Goodhart, 1998]. Yet, history taught us that reverting to previous economic situations is possible, as it was the case for the Roman Empire disruption, and also during the early Middle Ages: in both cases the absence of a strong authority led to money losing its value.

Before moving our focus towards the alternative view proposed by Heterodox economists, it has to be noted that even when the state had the monopoly on the issuance of metal coins and on the fiscal life of the society, it was still the private sector who developed innovations to smooth the transaction processes. An example of a private sector innovation is paper money which developed in China.[Pickering, 1844] Another notable innovation completely separated from institutions or authorities was carried out by Satoshi Nakamoto in 2009, with the development of the Bitcoin payment system, which aimed at resolving the inefficiency of the modern electronic payment system which relies almost completely on financial institutions serving as trusted third parties [Nakamoto, 2009].

2.3 Heterodox Theories on the Origin of Money

The Heterodox theory was formulated by various economists of the last century. This theory bases its analysis on the comparative approach that in the 20th century started being used by various social sciences other than economics. The approach used by Heterodox economists when researching the origin of money differs from the Orthodox approach, which as Samuelson stated, creates an abstract, formal economy that is purported to represent the actual economy. An identical economy is then hypothesized that does not use money. These are then "compared" to discover why money was invented. In the comparative approach by alternative theorists, as Wray exposes in his paper: "an understanding of what money is and what it does in capitalist societies is essential to this approach. This can then be contrasted with the functioning of pre-capitalist societies in order to allow identification of which types of pre-capitalist societies would use money and what money would be

used for in these societies” [Wray, 2012].

Moreover, instead of considering the physical characteristics that money should possess to lubricate markets (medium of exchange function), the theory defines money with respect to its function of unit of value, just like meters are the unit of measure for length, numbers the unit of count, and the alphabet the unit of speech. This suggests that for Heterodox economists money is not just an instrument being used to conduct smoother transactions, but instead it is the social creature that gives economic value a measurement. This implies that being a social invention, different social factors were involved in its development other than the “utility-maximizing thrust” as affirmed by Orthodox economists. A few examples of the factors influencing economic development according to the Heterodox theory are (1) the establishment of private property, (2) the development of a penal system, (3) the concept of debt preceding the advent of physical money and markets, (4) the development of state law - wergild and blood relationships -, and (5) the presence of a social hierarchy which regulates social interactions.

2.3.1 Primitive Exchange: Gifts

Our analysis starts with primitive societies, in which self-sufficient economies were prevalent. In these economies, exchange was already present but mostly conducted as “public acts performed in regard to the status of persons” [Polanyi and Dalton, 1971] or as refer to them now, gifts. As Polanyi continues on the matter: “the identically same object is exchanged back and forth between the partners with the sole purpose of the exchange to draw relationships closer by strengthening the ties of reciprocity”[Polanyi and Dalton, 1971]. These gifts were conducted through different goods, and from now on we will refer to them as “primitive valuables” as suggested by Dalton. Other

than the gift function of creating and strengthening relationships, they had the purpose of "restoring peaceful social relationships between agents and groups disrupted by conflict" [Dalton, 1982]. There is no evidence that these valuables served as media of commercial exchange or as a measure of value, and this, following the empirical approach, indicates the absence of money or exchange of value in capitalist terms. In fact, through primitive valuables and exchange conducted in such societies, the primitive agents tried to regulate social interaction and redistribution of wealth and were not trying to use them as means of payment. Stanfield on the matter of exchange in primitive societies notes that the unwillingness of trading, through barter or other means, "does not mean that individuals in tribal society are completely lacking in self-interested behavior, but rather that such behavior would not normally be manifested in exchange for two main reasons: first, since the community takes care of all its members, gainful behavior in exchange is not necessary to provide a livelihood; second, reciprocity exerts continual pressure to eliminate self-interest from exchange since it cannot benefit the individual" [Stanfield, 1986]. This represented a net distinction with the Orthodox theory in which agents are always searching for profit maximization and from such research, markets are supposed to have evolved.

2.3.2 Private Property Theory

According to Heinsohn and Steiger, the establishment of private property was necessary for markets and money to develop. In fact, in primitive societies, the material needs of individuals were met correspondingly to the society's capacity of satisfying them. Private property is of crucial importance for the particular reason it destroys the social soundness of redistribution in communities, leading to individual agents being responsible for their own

economic well-being. When going from self-sustaining redistributing societies to private property ones, the greatest change happens in production activity. While before, production was necessary just to sustain the basic needs of the community, now with private property, production processes and the social activities - of redistribution and reciprocity - were severed. Therefore, having individuals no certain sustainment anymore, they ensured soundness by hoarding goods they produced. According to Heinsohn and Steiger [Heinsohn and Steiger, 1994], this change from minimum production to overproduction led to the first economical exchange, which took the form of a loan in which one agent allows others to consume the goods he produces, asking in exchange for labor activity when required. This, in turn, created debt bondages between the creditor (lender of good) and the debtor (workforce), which were strong social relationships as described in this extract: "the debtor initially rendered himself in the power of the creditor as a debt serf, and the creditor at any time during the credit term could call upon the debtor—even up to his extermination" [Heinsohn and Steiger, 1994]. In societies in which debt peonage was abolished, such as Athens [Johnston, 1934], both the creditor and the lender were in a condition of uncertainty: the former because of absent possible consumption which would sustain him, while the latter for lower production carried out and therefore not having an emergency surplus, both experiencing the risk of not being able to reach sustainment. From the abolishment of debt peonage, interest on loans had to be included. At first loans and interest repayments were carried out "in kind", therefore if two seeds were loaned today, after a growth cycle of the crop, the borrower had to give back four seeds. Wray states that: "as the types of loans expanded, and as the terms of repayment became standardized, repayment would take a standard form—denominated in a unit of account, or a "money

of account." The creditor and debtor required a neutral witness to, and enforcer of, private contracts and temples were the most suitable. In return for this service, the temple would receive a portion of the interest on loans" [Wray, 2012]. The fees temples required at each loan that was repaid started accumulating and temples had their storages full of different goods, such as crops and cattle. Temples, therefore, being unable to sustain the carrying costs of the goods hoarded in their storages, started encouraging the decision on a standardized unit of account, leading to the decision of using wheat as the economy's unit of account and medium of loan repayment. Even if temples now had just one good in their storage, the carrying costs of using such commodity as the medium of payment were not reduced, and having that much wealth all in one place could represent an opportunity for theft. Instead of having to find the good with which they could have repaid their debts in the temple's storage, they now had great reserves of the medium of payment under the same roof. This led temples to organize protection for storages, which in turn led to creditors wanting to store their wealth inside the temple's walls. This increased even more the quantity of goods stored in deposits, consequently increasing the carrying and storage costs, and a solution to such problem had to be found. When depositors of wheat wanted to redeem their wealth, instead of giving them back wheat, temple agents started distributing stamped metal instead and allowed the payment of loan or deposit fees with such commodity. This solution greatly reduced storage costs because the exchange rate between wheat and metal was favoring the latter, reducing also the quantity of metal necessary to reflect the already circulating wealth, other than reducing the size of the commodity needed to be stored. According to the Heterodox theory, and following Ingham's "three questions reasoning", we can conclude that: money is the unit of account in

which debts are written, it originated from the dismantling of the debt peonage system and was introduced in society by a central authority and its value is originated from its acceptance by the economy when in a form other than the commodity one.

To summarize, money began as a unit of account to record the newly formed debt relationships between agents. Private loans became possible with the creation of private property. The medium of payment function instead evolved when loans started being recorded in the standardized money of account, which progressively allowed producing agents to earn the means of debt repayment, resulting in the establishment of money as a medium of exchange. Wheat was the first standardized money of account, and it later took the form of wooden tally sticks, metal coins, and paper IOUs. With the implementation of private property, other than the creation of debt relationships between agents, society shifted from a self-sufficient production towards a profit-oriented based one. Finally, according to the Heterodox theory and for the above considerations, money was implemented to get a perception of wealth.

2.3.3 The State Theory

Another really compelling view on money's origin by Heterodox economists is the State theory of money. This theory has been sustained mostly by Goodhart and Innes, which together with Grierson [4] emphasized the possibility of money evolving from a penal system based on the practice of wergild. This practice, most common in early German societies, consisted of a pre-

[4] R. Grierson: In his 1977 article for the Athlone Press of the University of London expressed his argues to the opinion on the medium of exchange function being the thrust for coinage development, and theorized an early penal system on the and the practice of wergild [Grierson, 1977]

established amount of compensation paid by someone committing an offense to the injured party or, in case of death, to his family. The compensation had to be carried out in a unit of account, defined by the authority for such kind of obligation. The authority reigning over the society was in charge of choosing which kind of "primitive valuables" had to be used to settle the wrongdoing, as long as it announced a conversion rate through which payment could have been easily conducted. This theory highlights the great intromission by the state in monetary matters, that still persists in our current monetary system. In fact, when wergild existed, the state was in charge of deciding both the material and the nominal value of its money, similarly to what happens nowadays in the FIAT system. On this matter, Innes stated that when the state spends, it becomes a debtor. But its liabilities are of a special kind since they can be compensated through tax redemption. He continues on the matter by stating that the power of the state comes mostly from its ability to impose taxes on people, who are willing to exchange the value they possess for state money to pay their liability towards the state [Innes, 1913]. Assuming the perspective of the state, issuance of money is debt, while taxes are credit. From this theory, it is evident how money in the form of credit and debt predated the development of markets, setting perfect conditions for them to prosper. Taking the perspective of the State, issuance of money was the first form of debt while tax receivables represented credit. In fact, thanks to tax liabilities, those with no properties were forced to enter the labor market, which was the first market to be developed according to the private property theory, so that they could be paid in state money to then meet their obligations towards the state.

In the state theory of money, as in the private property one, money was first implemented as a unit of account, which regulated debt relationships

between people. For Institutionalists, it was brought into society by the state which is entitled to determine both its nature and value, while the only way for it to lose such value would be the dismantling of the state.

2.3.4 Considerations on both theories: which matters the most?

Having already pointed out most of the differences between the two views, it will now be a pleasure to analyze one of the few traits they have in common. The common trait between the two main sides of economic thought is the fact metal coins arose from commodity money. The undeniable aspect of this historical passage is the fact that a single coin was worth a specific weight of wheat. Innes, Keynes, and later Wray [5], all insisted on this by giving examples of monetary units, which got their name and value from the weight standard used in the community in which they circulated. The livre in France, the pound in Rome, the stater in Greece, and the shekel in Babylonia all were representing a fixed amount of wheat grains. Before passing their names and value to coins, these weight units of account were used with wheat commodity money to conduct economic activity directly. Therefore, metal coins were not valuable because of their intrinsic value, but because of their corresponding wealth in commodity money, which was redeemable by the holder of coins when using them to conduct transactions. It was the authority who stamped or coined such instruments that set their value, and in most cases, it corresponded to the monthly consumption of wheat grains [Hudson, 2004]. The unit of account function was therefore established by the social convention of monthly consumption. Should we

[5] Innes, Keynes, and Wray contributed to theories on the matter through their respective works: [Innes, 1913, Keynes et al., 1971, Wray et al., 1998].

consider the social convention of monthly consumption as carried out by the private or the public sector? Depending on the answer to such question, we would be able to affirm or postpone the denial of the Orthodox theory's reliability, since we have already exposed the low trustworthiness of most of its assumptions.

2.4 Trust and its Implications in Value Exchange

Despite the fact that trust is essential in all economic interactions, economists have rarely mentioned it when analyzing economic phenomena. In fact, trust was mostly seen as a background condition, a kind of ready-to-use lubricant that allows for voluntary engagement in production and exchange. Conventional knowledge on the matter usually refers to it as useless when compared with the rational choice theory in use. In fact, the rational choice theory allows agents to foresee future events, and is thought to drive out any necessity for trust, which instead relies on past actions. When rational agents are settling a transaction, they have no means of deceiving the other party, because if they tried, the other agent would have foreseen it, and the transaction would have not been carried out. In all of these theories, it is the perception of future that drives decisions made in the present. This works when considering individuals with a complete list of the future possible conditions of the world and can also correctly estimate the probabilities of their occurrence. However, as we already stated, the assumption of complete rationality is too big: rationality should be limited. In 1976 Simon has introduced the notion of 'bounded rationality', limiting human foresight and computational power, consequently precluding the ability to choose best actions in

complex decision-making problems [Simon, 1976]. According to Simon, individuals will try to enrich and augment the information they have as much as possible before taking a decision. Individuals carry out inductive learning processes through trial and error and insight given by experience, allowing them to shape their reasoning and refine their 'procedurally rational' behavior. In this alternative view the past is taken into consideration, allowing for the development of trust.

Trust is no simple kind of social relationship. In fact, it is the basis of every social interaction between people. In every single kind of relationship between two humans, which can be a sentimental one, friendship, work related or even just between a vendor and its client, trust is the main driver for relationships to be conducted. With no trust the relationship could not be carried out on the same terms as before. In fact as many aphorisms state, trust is the easiest thing to be lost, and it is the hardest thing to be built again. That is to say the party whose trustworthiness was lost, now must behave constantly well if it wants to establish trust back.

In economic activity, trust is as important as in social relationships. In fact as we have stated above, money was brought into society through the implementation of debt relationships between people. Debts required great trust between the lender and the borrower. Without such trust lenders had no reason for acquiring the risk of the borrower defaulting the loan. When intermediaries were brought into the lending system they were mere validators of the loan, and required a fee for such service. There was no state based penalty for who defaulted a risk, but creditors had their own ways to prevent debtors from running away with the loan. Other than penalties for defaults, in pre-capitalist societies the trustworthiness of an individual was based on its family ties, past actions and profit gaining situation (how will

they obtain money to repay their debts?). If we take a look at the current system of credit, we realize that the same precautions are put in place by banks. When entering a bank to ask for a loan, the first documents you have to provide are the last payrolls your employer gave you, your family's financial situation; and more recently a credit score system (through which the bank is able to know your past actions on any debt you have contracted) was set in place.

In Medieval times, according to the Orthodox theory, the problem of trustworthiness was resolved by participation in guilds. Guilds were associations of artisans and merchants who oversaw the practice of craft/trade in a particular area. For the guild to be profitable it had to be trusted by others, and in order to do so, a strong reputation had to be built. Having a good reputation was useful for the guild because of the many different interests they had in those years. First of all it permitted the guild to acquire funding for profitable activities ensuring low risk of defaulting to lenders. Secondly it was easier for them to conduct trade because of the affirmed reputation of its products. And third, when society started having an organization oriented towards mercantilism, for well renowned and trusted guilds it was easier to be elected in political matters.

Being money as we know it, coins and banknotes, the evolution of the debt system, we may insist on the fundamental role of trust for the monetary system implemented throughout history. Money depends on the trust in its general acceptability, ensured by the authority issuing it. When money was made of metal, its intrinsic value was thought to be the real driver of money's power and acceptability. Instead the true reason for money's value was the trust citizens put in earlier mints' agents and later, when minting was monopolized, in governments. Debasement activities could have wrecked the

trust necessary for metal coins to be used as the means of payment, which is why when weak governments were in power, debasement often occurred and the society started using ghost money to settle payment, which was mostly an unit of account unlinked to the official mean of payment set in that period. The only thing that is different with the current monetary system. As Philip Coggan stated in his work for the Organization for Economic Co-operation and Development: " More broadly, our entire monetary system is based on trust. Although British banknotes contain the phrase "I promise to pay the bearer on demand the sum of x pounds", this is a meaningless gesture. No gold or silver exists to back it up" [Coggan, 2014].

Summarizing, trusting someone means having the belief they are reliable, usually with an underlying reasoning based on past experiences and interactions with them and with others. However, being trusting judgements based on limited knowledge of others, these cannot be certain, but only tentative, and can change through time as information is acquired, events happen and situations change. In the absence of trust or moral driven conduct, rules regulating bad behaviors may become too rigid as no one wants to risk the consequences of breaking the contract.

Chapter 3

Representative Money and the Underlying Trust Mechanisms: Chinese and Medieval Italy Examples

3.1 First examples of Representative Money in China

Representative money is no simple kind of money. On one side it is the antecedent of the FIAT system implemented in 1971 by Nixon, while on the other it represents the evolution of metallic coins thanks to the implementation of primitive credit institutions. The term representative money is used by economists when referring to any kind of receipt on paper that links an economic value, safely stored in a bank or storage, to the numeric value written on the receipt itself. Examples of representative money nowadays can be

checks or any type of technological IOUs. First examples of representative money are found in Chinese monetary administration of the first millenium A.D., but the diffusion of this economic advancement was rapid and later better exploited in European countries during late Middle Ages. The economical innovation of paper money was the perfect evasion from problems arising from intrinsic value coins, such as coin shortages and necessarily high taxes to cover the low seigniorage. It reached its scope by paving the way for the understanding of credit expansion phenomenon, which gives the issuer of the note, the ability to generate purchasing power at its will. In this section, we will explore the origins of representative money, which date back to more than 1000 years ago in China, and the differences of the same instrument when under government control, as in China, or under scattered banks issuance as in Italy during late Middle Ages.

Chinese history with representative money starts around the year 700 A.D. when the Tang dynasty was ruling the recently unified land of China, after it had endured almost two hundred years of warfare and monetary disunity of different varieties of coins for each dynasty. During the late years of Tang ruling, a primitive banking system appeared and from that spark, the fire of representative currencies divamped. The Tang economy relied mostly on bronze coins, which mining and minting structures were monopolized by the state. But since the constantly growing demand for coins was not followed by the supply the state managed to offer, new forms of money had to be implemented. However, financial developments in the country were not necessarily linked to the ruling or to the laws carried out by the state, as Orthodox economists sustained. In fact, thanks to the recent unification, which gathered together the needs of various provinces, people started trusting others outside of their own region and intra-province commerce de-

veloped [Lin, 2015]. As commerce improved, merchants got richer, and the most trusted started acting as primitive banks, holding coins and giving out promissory notes, useful both as a certificate of value ownership and as an early form of IOU usable between merchants. In a few lines we will see how these new financial services were mostly based on trust and how they were abandoned when trust decreased or went missing.

3.1.1 *Guifangs* and Flying Cash

The first example of a representative currency was the appearance of the so-called *guifang* (which translates to counting stores), around 720 AD. For a small service fee, these stores allowed merchants to deposit their liquid funds, in order to keep them safe from theft, and to draft checks to third parties when necessary. These checks were used only inside the communities in which the store was present at first, while in the hinterlands or in cities with no such stores the checks were useless pieces of paper. In this way anyone, in the trusted society, receiving the check was able to reuse it as money or simply go to their *guifang* and collect the sum of coins they were entitled to. With time also commerce between different cities was supported by *guifangs*, which were starting to spread all around China following the example of the state-backed issued flying cash that in the meantime was developed. Moreover, it is believed that the owners of these stores had devised call loan schemes, which were very similar to early forms of credit, using their clients' deposits as collateral, to increase their turnover. What had given those checks, as any other form of representative money, the power to substitute coins was obviously the trust relationship between the store and its clients at first, and later on, the reputation of the store, the name of which appeared on the check which was perceived as an assurance when accepting the check. Therefore,

when two parties would have an economical exchange, such as one selling a good to the other, instead of having to trust each other, they would both trust a third party, which acted as a middleman, making trust between the two unnecessary. This was a great innovation: thanks to this safer way for merchants and wholesalers to do business, the economy prospered, and the owners of these stores became very influential, besides wealthy. Unfortunately, this system went into disuse around late ninth century A.D., when both the impositions of the state's currency and these stores being associated with speculation, because of some defaulted checks, led trust in *guifangs* to collapse making it impossible for their checks to be accepted, leading to their ultimate failure. Interestingly, most of the store owners changed their businesses into gambling dens. These facilities were based on the same concept of trust the *guifang* did by exchanging real money into virtual currency limited to the den itself.

In the meantime, a new form of paper money was implemented by the state. In fact during emperor Xianzong's reign, around 810 AD, flying cash (*feiqian*) was introduced. This was really similar to the *guifang* mechanism of depositing liquidity and receiving receipts for it, but instead of using it as a viable system of payment inside trusted communities, the innovation relied on the possibility of redeeming deposits in any tax establishment in the reign of China whenever needed. The similarity with today's system of bank deposits, bank money, and Automatic Teller Machines (ATMs) is evident. This is why flying cash can be thought of as the starting point of the centralized economy in which the credit system reigns over the value one [Du, 2020].

After the Tang Dynasty was ousted in 907, along with its representative money, the era of the Five Dynasties started. This was a period of intensive

internal warfare, which led to several problems, such as the inefficiency of copper mines in the north up until their stall. This led to a copper shortage for the whole reign of China, which used the metal mostly for its coins. Obviously since the 5 different dynasties were in conflict, each of them attempted to keep copper coins inside their reign by holding them in their reserves and retiring them from circulation. However, before doing such, the people of China needed an alternative currency. Therefore, all the reigns started casting new coins out of different materials to keep the domestic economy running, including taxes and soldier's salary. Lead, iron, and clay were the most commonly used and their intrinsic value was clearly lower than the precedent copper forms. This was the first step towards a currency not necessarily anchored to precious metal.

3.1.2 The Northern Song Dynasty, Sichuan's situation and the *Jiaozi* Notes

In 1105, these notes started depreciating again to the point of being declared void by the state, unless exchanged for *qianyin* (another type of promissory note, backed by government's treasury) at a discount, greatly profitable for the State. Unfortunately for the hopes of representative money's success, the inflation due to the overprinting needed to sustain a war, caused the *qianyin* to become close to be worthless. Two hundred years later, when China was reunited under the Northern Song Dynasty, even though the mandatory metal for coins and payments was bronze as before the five dynasties, much of the empire's economy was still filled with low intrinsic value coins from the five dynasties era. As Thomas Gresham [1] would have exclaimed by now,

[1]Gresham's Law: In its works, Gresham theorized the concept for which in an economy, bad money - low intrinsic value - substitutes good money - high intrinsic value - as the

the bad money drove good money out of circulation, and in some provinces not even the state intervention succeeded in convincing people to abandon low-value currencies for higher value ones. An example was the province of Sichuan with their cumbersome iron coins. The authorities tried to retire the old money and substitute it with the new bronze coins used in the rest of the reign. This led to a collapse in the relative value of iron in the province, leading to massive revolts in a province in which iron has been the standard for two hundred years, imposing administrators to allow a separate currency zone in Sichuan, calming the market participants for a while. Merchants who had to commerce with other provinces could exchange their iron coins for bronze ones in State tax depots, to be able to pay elsewhere other than in Sichuan. The instability of the exchange rate of iron coins against bronze coins in Sichuan led to a new revolt years later, which in turn disrupted the trust backing iron currency usage so much that merchants started using iron-coin denominated bills(*jiaozi*) , as an escape from iron's inflation, issued by wealthy houses of merchants, instead of the metal coins [von Glahn, 2018]. This solution held for more than ten years, up until 970 AD, the moment when the system started collapsing because of the depreciation of such notes. This happened because houses of merchants were overissuing bills in a search for profits, then not able to repay depositors, and subsequently forcibly shut down by the emperor Kou Jian to restrict an economic disaster. Fortunately, in 1023, Xue Tian, a prefect of the Sichuan province, decided to reinstate *jiaozis*. However, this time he set up provincial offices to carry out the conversion between bills and metallic currencies and required these offices to hold great reserves in metallic coins, to limit the issuance of notes, and to set a maximum value for the bill issued. This early form of representative money

medium of payment. More on Gresham's law can be found in Giffen's work [Giffen, 1891]

worked out perfectly for more than 80 years because of the appropriate state administration and requirements imposed on the institutions in charge of their issuance. This represented the only way for the empire to earn the trust of its Sichuan citizens back after the previous experience with *jiaozi* bills.

3.1.3 *Huizi* and *Jiaochao* notes

The last attempt at representative money by the Southern Song dynasty was the *huizi*. This kind of money had the regulation it deserved through the implementation of two state institutions, the Ministry of Revenue and the Paper Notes Office. Around 1170, the use of paper money was questioned by many, but due to the scarcity of copper cash coins of those years, it was determined that they were required to keep the economy running because the amount of coins in circulation didn't meet the markets' demands. The emperor ruling in that year periodically renewed the *huizi* in circulation once every nine years, but expiring *huizi*, were not destroyed and kept circulating at a lower value, raising the number of *huizi* notes in circulation causing inflation, which was worsened by the over-issuance set in place, to be able to sustain the invasions of northern people. This brought paper money to its umpteenth failure in Asian Middle Ages.

Even though the attempts to establish representative money as the main means of payment proved to be failing in those years, mostly due to instability and continuous warfare China endured in that period, they did set the starting point for the later forms of *Jiaochao* notes, backed by silk at first and silver in their more recent form. These, under the Yuan empire, became the predominant circulating medium of exchange in the Chinese economy because of laws prohibiting the conversion into metal, impeding "safe-runs"

towards the precious metal, resolving inflation effects on both bills and metals, keeping them stable. Almost two hundreds years after their implementation, a new issuance of a completely un-backed *Jiaochao* was badly rejected by citizens and convertibility was re-established [De-peng, 2011].

From these first examples and from the experience of their functioning mechanism, it is clear that a common trait lies behind each representative instrument's birth and dismantling. The common trait for the birth of representative money, when issued by the government, was to ease and speed up monetary policy implementation. As an example, consider the case of a coin shortage, in which the absence of coins slows the economy down, thus creating market inefficiencies: the advent of paper money made it easier and faster to satiate markets' demand for liquidity. For its dismantling instead, the most problematic aspect was the absence of adequate regulations and control on both the emission institutions and on the reserves to be kept. These two missing pieces, together with events such as wars and popular revolts, led various times to the loss of citizens' trust, which was the real motive behind the loss of value of representative money. In fact, when citizens did get scared of being left with nothing other than a mere piece of paper, and were therefore constantly trying to accumulate massive amounts of coins. Moreover, it is noticeable how during the Northern and Southern Song dynasties, not only metal backed forms of representative money were explored, as the one promissory note (*qiyue*) buyers could issue to wholesale vendors, which was made payable after the resale of goods. This meant that other forms of representative value were implemented other than paper money, mechanisms of payment were evolving and slowly getting privatized by state backed institutions. Other than new means of payment, in those years innovation was fast and enormous improvements were achieved in the fields of metallurgy, print,

monetary policy, weaponry, and navigation. Some of the innovations of those years include explosive powder, movable type-printing (wrongly attributed to Gutenberg in the west), the first compass ever made, and the concepts of bullion reserves for representative money and the - not applied - reserve ratio theory, which stated that having 2/3 of backed value was enough to sustain the economy, even if it were so much subject to "safe-runs". These innovations, especially the ones concerning representative money emission and its regulation, were centuries ahead of the ones developed in western countries during European Middle Ages, even though Europeans will experience credit and banking more freely than Chinese culture did around the year 1000.

3.2 Italian Monetary Developments during Middle Ages

3.2.1 Northern Italy's Social and Political Analysis from 1000 to 1300

A new form of political life was born during the Middle Ages: communes, or city-states. This phenomenon spread all over central and northern Italy during the 12th century. Prior to 1140, every episcopal city in the north of the country developed a municipal administration, with early beginnings in places like Pisa. Following the example of these first civil administered cities unbothered by imperial will, communes developed elsewhere [Jones, 1965]. Communes are well renowned because of the frequent revolts against clerical repression happening in Italian cities. These were not just insurrections against an oppressor: the motives of such violence were the opposing interests of ecclesiastical institutions against the ones of the commune, the bond of loyalty between men and institutions, and the recent instability in the allocation of power. The recent Investiture Controversy [2] diverged attention from cities' matters and centered the upper clergy's efforts on securing their rights against invasion not only by the lay nobility, but also by ecclesiastical competition. These objectives were reached through the formation of alliances between social classes. The bishops of Brescia, for example, were fighting the abbots of Leno for control of the Gambara church, and gained support from a faction of the *milites*, the landed aristocracy, as well as the *popolo*, which was made up of professionals, craftsmen, and merchants. Local conditions dictated various coalitions in other places. During the period when

[2] The Investiture Controversy: deeply explained in the book by Blumenthal [Blumenthal, 2010].

towns were pushing their power into the *contado* (the area surrounding the city), elements from both the city and the countryside fought for control of the commune. Much was determined by the commune's composition, which differed greatly not only from city to city but also from time of analysis. The relative power of urban merchants versus rural landowners was determined by the size of each group within a community. When one group became too tiny to stand alone, it formed alliances with others strengthening their position in the society. The pursuit of power resulted in a series of shifting and, at times, bizarre relationships. Even when the commune formed sworn associations to bring together disparate factions, it still had to deal with not just its foes in the city and countryside, but also the unstable character of the coalition on which it relied. Therefore, it was necessary for communes to devise intricate systems of power supervision to prevent a single coalition from gaining dominion on the political life, as term limits for members of the council. It was evident from the start that community administration aimed for more than just political independence: it also wanted control over the *contado*. As a result, the *contado* evolved a complicated relationship in which it sought markets for its products, provided investment opportunities for city people, and was oppressed by urban interests. The cities, in turn, provided possibilities for the people of the countryside while also assisting in the provision of security, as being part of a strong community might discourage raiders and invaders. This new political life in cities could not have developed if the investiture controversy did not take place during those years, limiting both imperial and ecclesiastical attention and oppression on population and merchants [Bouchard, 2006]. There was a complex network of local loyalties between church and secular culture, the debate regarding investiture resulted in a rupture between the two institutions so deep that, at times, new

local authority, other than imperial control, outstripped almost any religious power in the region, which we will later see how it affected the development of banks.

3.2.2 Charlemagne's Coinage Inheritance between 1100 and 1300 in Italy

Even though the aforementioned events led to the establishment of the new urban societies, aspects of the coinage and financial system in the Italian land of 12th century were outdated. In fact, it was still common use in Italy to use high intrinsic value coin as the main means of payment, while in Muslim territories, where usury on commerce activity was allowed through service fees, credit instruments developed, including *ruq'a* or *sakk* (promissory notes and checks), and began being used for everyday life instead of coins. The Italian coinage system used in the 12th century was implemented by the Carolingian empire, starting with Pippin the Short in the 8th century who, because of a serious shortage of gold in Europe, established silver as the new unit of exchange. He introduced the new silver denier, influencing the coinage systems of Northern Europe by imposing the first legends on coins. After the conquest of Italy, Charlemagne introduced the *obole*, or half denier, in the European economy. Mass communication during Middle Ages was mostly carried out through coins. Iconography on coins was present since the first coins ever struck, but during Carolingian ruling it was innovated through the usage of legends and monograms. The denier had three different versions circulating in the economy during Charlemagne's empire. The first type had his portrait struck on it, as old coinage culture suggested. The second had his latinized monogram "*Carolus R F*" (Charlemagne King of France) on it, so as to strengthen the power of the empire which people would feel by using

coins. The last type had a stylized temple with the inscription *XRISTIANA RELIGIO*, reminding everyone the divine nature of the empire after he was crowned as Roman emperor by the Pope. The coinage of Italy was divided into two classes towards the end of the Carolingian era. Silver deniers of Carolingian provenance, principally struck at Pavia, Milan, Lucca, and Verona, were found throughout all northern Italy, including Rome, whereas the influences of both the Byzantine and Arab empires were noticeable in Venice and much of the south. The coinage of Sicily minted by the Normans instead, reflected monetary trends, an example of such was Robert Guiscard who minted *taris*, tiny gold coins with an almost entirely Arabic look, as well as bronze coins in the Byzantine style [Woods, 2019]. Later on, when the Carolingian empire had been substituted by the Holy Roman Empire, northern Italian cities were issuing silver coins with different legends on them, mostly linked with Christianity. Some examples are portraits, emblems, or images of patron saints and others, along with explanatory inscriptions. Mantua honored Virgil, Florence displayed its lily with St. John the Baptist beginning around 1189, and Genoa opted for the inscription janua. After renouncing the imperial name in the early 12th century, Venice established a precedent with the issuance of the bigger silver *grosso* or *matapan* in 1192, employing the familiar figures of Christ on the reverse and St. Mark on the obverse.

3.2.3 First Banking Examples in Italy and Europe. Jews, Templars and Banking Houses

This disunited society, both in monetary policy and political life, would have been the perfect setting in which banks could have developed, by exploiting the necessity of unifying and easing the commerce between different regions or city-states. This would have been possible if the Christian Church did

not interfere as much as it did with lending services. In fact, the Church has depicted usury as immoral and as a form of theft since the first council of Nicaea in 325, following the scriptures of the Holy Bible. By doing so it did not try to regulate the lending activity imposing an rightful middle-ground between usury and non-profitable loans. Instead it just imposed a ban for any Christian in Europe from the practice of gaining interest for dispensing a loan. It did even go against the secular empire, by condemning both people accepting interest on loans and laws that allowed it, through the late council of Vienne in 1311. This prohibitionist approach to matters of lending did pave the way for other ethnicities to come to Europe and exercise lending services, mostly Jews who started conducting loans backed by the State. This exclusivity in the practice of moneylending will later be the condemn of Jews: many kings treated debts owed to Jews as debts owed towards the crown and often switched sides asking Jews to compensate, and when they refused they were tortured and massacred as in Norwich and in Blois [McCulloh, 1997] [Einbinder, 2018].

Other than Hebrews, in the 12th century, rural usury began its development in the northern part of Italy and in France. As Graeber states in his publication on debt: "The rise of rural usury was itself a sign of a growing free peasantry (there had been no point in making loans to serfs, since they had nothing to repossess). It accompanied the rise of commercial farming, urban craft guilds, and the "commercial revolution" of the High Middle Ages, all of which finally brought Western Europe to a level of economic activity comparable to that long since considered normal in other parts of the world." [Graeber, 2011]. This rural usury did not last long since the strict intervention of the church and wandering monks who propagandized it as one of the worst sins that could have been committed. After the first crusade

was concluded, the Catholic religion had to implement an army to sustain its newly conquered possessions, and the Military Order of Templar Knights was born. Other than protection to European citizens in the Holy Land - thanks to their numerous establishments both in Europe and in northern Africa and thanks to the numerous donations they received in their first years of business - they offered diverse services useful to finance the later Crusades avoiding risks of travel and theft. An example of such services was European nobleman taking out a mortgage on one of his tenements through the Templars and obtain a "draft", encrypted, and receivable for cash in the Solomon Temple in Jerusalem. Finally, early types of banking services were allowed by Christian society because of their need to safely conduct crusades without wasting their wealth. Unfortunately, Templars lasted until the 14th century when King Philip 4th turned on them, to evade the heavy debt towards the Order [Haag, 2010].

Even if they had a quick end, their example was useful for the soon to be banking houses to organize their services in Italy. These houses, before providing banking services, were strongly affirmed in the fields of commerce, politics and warfare [De Roover, 1999].

Great merchant orders in the cities of Venice, Florence and Genoa, had the need to protect their maritime trades from piracy, and therefore started investing great resources into naval fleets. These fleets were focal to deter both pirates and enemies from assaulting the commercial ships which had the city's vessel on them. A consequence of this social hegemony on matters of commerce and warfare gave them enough resources to be influential in the political life of their city. An example of which is the rise to power of the Medici family in Florence. The trust they built through time with their fellow citizens and with the other cities and states around Europe gave them

the possibility to be trusted as banking intermediaries other than in their cities also abroad. Initially, the services they offered were mostly focused on long distance money changing. A merchant could deposit a sum of coins in the bankers' store and receive a bill on which it was reported the equivalent sum in international money (mostly deniers). This bill had a due date, and when it came due, it was possible for the holder to cash it with the local currency. This organization needed branches all over the economic area of influence, and decided to institute them at Champagne Fairs [Munro, 1986]. These, which at first were just massive commercial emporia, had the duty to act also as financial clearing houses, in which merchants from all over Europe could reunite and, thanks to the bills dispensed by bankers, finally conduct commerce without problems arising from different currencies usage. As De Roover rightly affirms in his book regarding Italian banking: " In the field of banking, the Italians did not discover the banknote, but they mastered the art of making payments by book transfer on the strength of oral or written orders. Since medieval banks operated on a fractional reserve principle, they created fiduciary money to the extent that transferable deposits were not entirely covered by cash in till or in vault." [De Roover, 1999].

Finally after having endured strong repression by the Church, the mercantile class was not considered obnoxious usurers anymore and instead gained the role of leaders of their communities. Thanks to this redistribution of power, the market became a global phenomenon backed mostly by trust, since intrinsic value money was stored in banks and representative money circulated, that could operate independently of governments. In fact, a mere handshake and a piece of paper, backed by trust in common intermediaries, were enough for merchants to conduct trades. The political separation from the secular empire led by communes and city-states, and the evasion from

the always present control of the Church, is why representative money in Italy and Europe was considered as the true private sector innovation, when confronted with the various examples of Chinese paper money.

Unfortunately though, when the banking houses were gaining more power and influence, the great pestilence of Black Plague hit Europe killing up to a third of the continent's population. The disease led to the disruption of societies, before having the possibility of exploring new ventures of credit uncontested by outside events. Later, society had changed, the perspective on life lowered for poors, people were scared, and had to endure such pestilence until the first years of the 18th century. Around 1500 Mercantilism started and the lead society in what we now consider Capitalism. The only differences relied that at the time, Kings were the current Governments, and hierarchy society was perceived more vertically. Nowadays anyone can be part of the Government while once, political affairs were restricted to Nobility. During mercantilism, States started colonizing any other country in order to extract precious metals, and pay themselves in the home country for the supplies and goods manufactured, acquiring more wealth with the accumulation of gold. Monetary policy evolved mostly in the field of taxes and incentives, on manufacturing and trading activity, and in trade balances with other states.

Chapter 4

Conclusions

In this thesis we analyzed the two main theories on economic matters, their differences and their linkage with the trust problem which is arising in our society. By looking at past events and at predated analysis by economists, we were able to analyze if banks have been operating because of the necessity to lubricate transaction activity, or if they are the basis of our monetary system, corrupted and individualistic. We have deduced from such analysis that the productive economy we have experienced since Capitalism relies on people being hungry. Capitalists need citizens who strive for financial sufficiency to lower their production costs since the unemployed offer their workforce for less money than people who are already employed, increasing profits of the economy but lowering wages and labor retribution. No minimum wage is set in many countries, allowing for an illicit labor market in which wages are set non accordingly to profits obtained by capitalists, primarily because of rising inflation, sticky wages, and unemployment.

Can there be trust in such a system that finds profits where others are miserably left to die or strive? The answer to this question has always been "no", until there was no escape from such a system, when Governments im-

posed non-redeemable representative money, commonly called FIAT. When the Federal Reserve System was established in 1913, its implementation was due to the lack of trust towards bankers. In fact, the Panic of 1907 disrupted banks' social opinion and the banking system because of the deceptive investing actions few banks took. Although it was mainly because of the risky investments of two single banks that the recession started, it was only resolved because of an association of other bankers, first of all, J.P. Morgan, which decided to salvage the failing banks, even by getting around the Sherman Antitrust Act. After having disbursed millions of dollars to save the situation and not incur in a general safe-run that could have probably destroyed the U.S. economic system, J.P. Morgan was accused of having staged the crisis to acquire more power and weaken competition. Probably without the help of J.P. Morgan, nowadays, society would not be the same. After the Panic of 1907, the Federal Reserve Central Bank was established to supervise bank action, but instead, it seems to act as the provider of money each Government needs. A few years after the advent of the "Regulating Banking Authority", the so-called central bank, convertibility from notes into gold was first reduced, then retired, and later on the gold standard was cut out of the system. Since everything in the economy is now priced in FIAT money, regulating economic activity is way more challenging. Several crises have happened in the USA, until the 2008 subprime mortgage crisis, which led to the worst recession ever seen affecting the whole world's economy. European countries were negatively affected by the USA's poorly regulated banking sector, and Governments had to increase expenditure until the debt they issued was close to making them insolvent. Credit default swaps spread rose at the end of 2011, and as J.P. Morgan did in 1907 for the USA, Mario Draghi, president of the European Central Bank, did for Europe. "Whatever

it takes" is his famous quote, which put faith in the monetary sector, but left citizens with a crisis to overcome while having to repay the debt the Government had contracted with its bank.

When the economy was not a hegemony, citizens could exercise the power of their will on the Authorities, by protesting through revolts, strikes, and safe runs. Would citizens now be able to overturn this corrupted system by just lacking their trust? Events such as the Raid on Armando Diaz in 2001 and the sanitary emergency approach of Governments towards Covid-19, impeding social interaction, gatherings, revolts, and manifestations. Citizens' actions leading to Governments' overthrows are rare, if not impossible. The only thing left for citizens to demonstrate dissent towards the two Authorities is through lacking their trust. The first example of a citizen lacking its trust was following the 2008 banking scandal, when Satoshi Nakamoto built the Bitcoin ecosystem. Bitcoin is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party. Will it be the future of monetary matters? No one can certainly say so, but it appears that, since its' development in 2009, the safe-run towards its accumulation has begun.

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