

# From Antiquity to Modern Times; Monetary Development Over 5000 Years. What History Explains and Comparison within New Contexts

*“We are used to setting a company either for our entire assets or for a specified business purpose: such as the buying and selling of slaves. There was a dispute over whether a company could be set in order to have one of the participants granted a bigger part of the profit and less of the losses; Quintus Mucius considered this to be against the mere nature of a partnership while Servius Sulpicius, whose decision prevailed, considered that a partnership could be set in order to have one of the partners not participate in the losses while sharing in the profits subject to the fact that his personal contribution was precious enough to make such provision equitable”<sup>1</sup>*

— Gaius, *Institutes*, III, pp. 148–154

## **THE ORIGIN OF MONEY; FROM ANTIQUITY TO MODERN TIMES**

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Money is a central component of civilization’s evolution from subsistence and barter economies into finance and trade societies. The initial step in economic development usually involves the bartered exchange of goods and then physical-value equivalents, in a manner that validates simultaneous transactions between two or more parties. Heralding further transition into a financial economy, the potential issuance of currency-based tender subsequently enables legal contractual consideration and a range of transactions via a monetary standard that favourably supports economic development and labour specialization.

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<sup>1</sup> This refers to the first century BC (author’s own translation).

## A Metallic System Allowing Intrinsic Measurement Stamping: Ingots to Coinage

Consistent with prevailing knowledge, it is generally accepted that money appeared in Mesopotamia concurrent with the emergence of an alphabet and a written system of Cuneiform language, around 2900 BC.<sup>2</sup> Excavations have uncovered numerous terracotta tablets stamped with cuneiform signs, and detailing inventories, entries and exits of valuables.<sup>3</sup> Examples of valuation in metal weight appear much later, around the time of the “Hammurabi Code”, or 1650 BC. Within the “Hammurabi Code” itself there are several references to the prices of goods and services.<sup>4</sup>

Through archaeologically recovered remains of palaces and both inscribed stones and Cuneiform terracotta tablets, a detailed description of organized Sumerian society and ruling structures has been compiled by experts. This includes the characterization of a general system of laws required for qualifying and distinguishing monetary tender from other value standards such as goods.

Precious metals such as gold and silver (or their electrolytic mix) were recognizable by anyone, regardless of language or regional culture. The rapidly appearing utilization of weight standards for value measurements provided a form of monetary unification that facilitated trans-Mediterranean trade, as well as trade between “capital kingdom” cities and states such as Egypt throughout the greater Middle East, prior to the introduction of coinage and before the Hellenistic period (8th to 2nd century BC). Further west, from Mesopotamia towards the Mediterranean, it is believed that the Greek Attic *Talent* of around 26 kg in metal ingots was one of the usual units of trade between palaces, temples and then cities.<sup>5</sup> It was the equivalent of modern central bank money; only usable to clear what would be today’s international trade but not money that a citizen could carry to satisfy their day-to-day needs and pay for them. It was probably not the first monetary unit to be used. Without coinage artefacts dating back to the period of the Hammurabi Code, one does not know exactly when and where coinage appeared first.<sup>6</sup> Nevertheless, it is hard to understand how monetary references such as prices could have existed without a tangible supporting means of payment, which a coinage system would

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<sup>2</sup> Kremer, S.N., *History begins at Sumer*; Bottero, J., *Mesopotamius, Writing, Reasoning and the Gods*; Roux, G., *Ancient Iraq*. See References.

<sup>3</sup> Such tablets can be seen at the Metropolitan Museum of New York.

<sup>4</sup> Numerous copies of the Hammurabi Code exist and can be seen in Western museums such as Le Louvre in Paris. Without certitude about date, the Talmud (Exodus XXX 11–15) was written much later in time, in the 1st century AD at a time when the Mediterranean civilization became Roman after being under Greek domination. The Talmud refers back to Abraham concerning several money prices. The census was based on one-and-a-half shekel coinage per adult male of 20 and over. Abraham is deemed to have lived in a similar period to the Hammurabi’s time, that is the 17th century before Christ.

<sup>5</sup> The Athenian currencies can be described as the “mina” equivalent to 434 grams, they were 60 mina for a Drachma. The “obole” was 1/6th of a Drachma or 72 grams. The mina itself was supposed to refer to the weight of water required to fill an amphora, but amphoras were different depending on the city. An Attic Talent could pay a month’s wages of a trireme crew of 20 men. Hellenistic mercenaries were commonly paid one Drachma per day of military service. The Athenian Drachma was recognizable; struck with the owl of goodness, the olive branch and the crescent moon. It is the one we refer to here.

<sup>6</sup> An article on the website of a coin broker (*your online guide to coin trading*) dates a coin found in Ephesus (Coast of Asia Minor, today’s Turkey) back to 2700 BC but the attached image, said to be of a starter struck with a lion on one face visible at the British Museum in London (Department of Money and Medals), is similar in shape and appearance to one we refer to here dating from the 6th century BC (see footnote 8). However the Hammurabi Code, dating back to 1650 BC, already set prices for goods and services or sanctions.

provide when paper did not exist. We can already note the distinction between the means of payment though, the coin or metal ingot, and the accounting records found on terracotta tablets.

Claimed by Herodotus<sup>7</sup> to have been introduced later (after the Hammurabi Code) as an invention of the Lydians established alongside the Pactole River (in today's Turkey), coinage was subsequently struck to be used as monetary tender. The oldest existing examples of such coins from the ancient Greeks date back to between the 8th and 9th centuries BC.<sup>8</sup> Controversy over the chronological appearance of coinage guarantees and units did not abate until the 19th century. Sovereign guarantees attached to coinage and units became historical with the Athenian civilization<sup>9</sup> of the 5th century and much later, under the Roman Empire, as we will see later. Historical analysis of the interaction between political power and currency then reveals deepening thought on the historical evolution of a role for monetary currency in society.

### **Grounding the Guarantees of Stamping: From an All-Metallic System to Paper Bills**

The split between the management of sovereign assets versus those belonging to the people, and the complexity of currency flows in the Roman Empire, are topics that have inspired many authors since the 18th century.<sup>10</sup> After the disappearance of collectivist economies where property belongs to no one, including the sovereign (for example, ancient Egypt),<sup>11</sup> this topic became important to the understanding of the guarantees and trust that an issuer of coinage or scriptural money may grant, or merely inspire. Analytical emphasis is frequently centred on the sovereign power to strike coinage (money species) versus the state allowing or disallowing a sovereign to issue money notes and bills-of-credit. The power to print notes with bargaining power (commercial notes and then note bills) gives those deemed to be in possession of coinage or paper counter value the capability to exchange goods in a manner that others would lack. The debate about whether the issuance of money should be a privilege of the sovereign, of the people collectively or be left to private initiative will go on subject to the limitation of the single or small number of stamping recognitions over a territory that efficient trade requires. We will see later that measurement stamping and its guarantee require authority. Specific topics include where such authority may derive from, and through which mechanisms.

<sup>7</sup> Herodotus (423–348 BC), *Histoire*, I, p. 94, Les Belles Lettres, Paris, 1970: “to our knowledge the Lydians were the first to mint and use gold and silver coinage”.

<sup>8</sup> A “creséide” Lydian coin is to be found in the collections of the Monnaie de Paris, the Central Minting Institution of France. It dates back to the 5th century BC (ref. Catalogue of Monetary Treasuries Exhibition, Sept–Nov 1996, p. 12). The attribution to the Lydian King and the naming of the coin is based on the struck image of a lion on a tiny ingot. Herodotus also gives two anecdotes making the link with the lion: first, as a common symbol of royal power in the Middle East where Crassus gives a lion to Delphi (Hdt. I 50); second, the carrying of a lion around the city of Sardis to protect it from its enemies (Hdt. I 84). Other numismatists think that coinage started during the same period as the first Achemidides (6th century BC), from what is today Iran, Iraq and the Black Sea, but also conquered Egypt and Libya.

<sup>9</sup> Rostovtzeff, M.I., *The Social and Economic History of the Hellenistic World*. See References.

<sup>10</sup> Locke, G., *Montesquieu*. See References.

<sup>11</sup> The Battle of Actium in 31 BC, when the Romans defeated the Egyptian fleet gathered by Mark Antony, put an end to Egyptian independence and brought to a close the Hellenistic period of Alexander the Great's successors around the Eastern part of the Mediterranean, including Asia Minor down to Mesopotamia.

Fluctuations in financial power characterize the core of market economies – in particular from the time of the 15th-century Lombardy traders to the 19th-century English Industrial Society, where the Bank of England’s power to print bills dates back to a charter instituted in 1694. (26 years before, the Swedish Risken Ständers, acting as a central bank, was accorded the same privilege as successor to a failed private bank whose privilege had already been granted in 1656.) The French Banque Royale, chartered in 1718 and having the monopoly to issue bank notes with the guarantee of the King, was the first to operate as a modern bank and to be used by a government to finance a war and reimburse budget deficit with paper. It also allowed a reduction in public debt. It dragged a large public of 2 million citizens out of public debt and brought forward the concept that gold should be put aside. People were forbidden to hold gold. It also facilitated the development of colonial trade companies, such as one for Louisiana, one for India and one for China. France’s yearly external trade with its colonies was multiplied threefold by volume (number of boats sent) after 1719 due to the capacity to finance its cargo. The bank failed because of an uncontrolled speculation on its shares and bonds; the first example of the possible disconnection between price determination processes for financial instruments, Banque Royale shares and realities. Even more interesting was its organized liquidation, with over 2,000,000 creditors, 251,000 depositors, holding up to 100 gold Louis, will be reimbursed totally while larger depositors, 100,000 with over 2,000 gold Louis would not, and 185 speculators would be sanctioned with penalties amounting to 137 million Louis. The resolution process for Cyprus’s 2013 process on a much smaller scale was not much different. Nothing is new in the world but France, like the USA later, was very much against pure paper money for 200 years, and both returned to gold worship.

Of course, Europe was only following a process already known in the east as a promise to pay the bearer. They were made on leather and appeared in 118 BC during the Han Dynasty. In fact, public literature says that even prior to China’s 7th-century Tang dynasty, paper bills guaranteed by the state were being issued. As claimable instruments, these issued bills were differentiated from instruments issued between private individuals as promissory notes, and utilized to clear a trade. In these evolving systems of currency-based economic societies, democracy or liberty was defined as the power of the individual to act without coercion, thus linking economic commerce with the freedom to trade – and limited only by the capability of traders to come into possession of valuable coinage, goods, notes or their equivalents.

In many settings, the scarcity of metal – and consequently of metal coinage – was the reason for the emergence of paper bills (Massachusetts Bay Colony, 1690),<sup>12</sup> as had occurred at earlier points in history. By serving to eliminate the transport of heavy currency metals and decreasing the motivation for theft thereof, the utilization of paper bills appeared to favour long-distance trade as did loan contracts in ancient times.<sup>13</sup> Compared with metal coinage,

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<sup>12</sup> For their local needs, the colonies issued 20 shilling bills in 1690 and a six shilling and eight pence bill on February 4, 1736. It was stated at the time: “The bill of six shilling and eight pence due by the province of the Massachusetts Bay in New England to the possessor thereof shall be in value equal to one ounce of a coin’s silver troy weight of sterling; alloy gold coin at the rate of four pounds eighteen shillings per ounce, and shall be accordingly accepted by the treasurer or receiver subordinate to him on all payments.” The colony’s treasury defaulted, and the resulting “sour-grapes” souvenir of defaulted Massachusetts Bay Colony bills explains why the wording of the subsequent US Constitution referred only to metal coinage.

<sup>13</sup> Venture loans for sea transportation. Charles-Picard, G. and Rougé, J., *Texts and documents relating to economic and social life in the Roman Empire 31 BC–AD 223*, p. 167 (Vienna papyrus no. 19972). See References.

paper bills lacked intrinsic value as goods; the holder had to be recognized by the receiver, and the use of recognition codes facilitated the use of carriers unknown to the receiver.

Viewed as a whole, bills or credit issued by sovereign authorities and/or chartered banks (the system that prevailed in the USA until 1913) in essence constituted a loan to the beneficiary of the bills. The growth in use of paper bills paved the way for the birth of a fractional reserve banking system. A fractional reserve did not require the issuer to meet an eventuality where all bearers and depositors could simultaneously demand execution of all guarantees, in total, at the same point in time. However, the reserve issuer could be liable for reimbursement of a large fraction of the deposits on hand.

Regulations were required to maintain some discipline, but extenuating circumstances, such as extraordinary government expenses or wars, led to relaxation of the rules and issuance of credits where an inherent complicity between governments, central banks and chartered banks (with authorization to issue paper bills) inevitably developed. Such collusion could predispose to instability.

## THE RISE AND FALL OF CIVILIZATIONS

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Civilizations are characterized by their populations' acceptance of common values; overall cultural ones such as language and religion. They also correspond to a political and military common space. However, they don't always have all of these attributes. An organization's exchanges and what it shares with the public characterize best what a civilization is, and through economic exchanges will tend to use common price sampling mechanisms such as that brought about by a generally accepted monetary unit over a territory. Money will ever more cause an extension of such civilizations outside their own territory as a result of superiority in trade. Civilization, currency and political unification are parallel phenomena, if not closely interlinked. On the contrary, financial difficulties of the head of state, whatever they are caused by, may lead to monetary decline and the extinction of a civilization by reducing exchanges between the populations from which it is composed, or the centralized power to regulate wealth and taxes.

What differentiated successful public issuance of paper money from instances that failed was the quality of the issuer or authority that represented the mandate to levy taxes, and the potential capability to redeem the issued bills with levied taxes. The value of bills to be issued was pegged in relation to the magnitude of expected tax levies. The link between what characterizes a civilization and the capability to gather forces, including a military to defend its future, does not have to be demonstrated here. The forces are, out of necessity, economic ones as those in military service are retrieved from production, and money and taxes are the tools for the consequent required transfers.

Already, in ancient times, many authors denounced the pattern of an exploding distribution of credits followed by impaired liquidity, which frequently presaged a major crisis. Greek philosopher, trader and statesman Solon,<sup>14</sup> deemed to be the father of Athenian "democracy", issued laws cancelling the debts of peasants unable to repay and therefore at that time

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<sup>14</sup> Solon (640–558 BC). Moses, F., *La servitude pour dettes: Revue technique de droit Français et Etranger Série 4*, XLIII, pp. 159–184, 1965. Aristotle, *Athenian Politician*. He also reformed the measurement units AR (Athe 10.1–2) and the calendar (Plut Solon XXXV).

condemned to slavery. Again, referring back to Greek antiquity when philosophical ideas traced their ancestry to Sumerian times, and when 4th century BC trans-Mediterranean trading flourished, Rostovtzeff writes: “Systematization and regulation of commerce widely benefited from the development of banks which professionalized. Banks were practicing on a regular basis monetary transactions that included a wide variety of credits.”<sup>15</sup> Yet, why did an ensuing economic crisis fall over Greece – was it primarily due to the nation’s political evolution?

Rostovtzeff’s comments sum up the essential societal value and perception of what money represented during the pinnacle of ancient Greek civilization, starting in the 5th century BC – namely, a monetarily unified economic exchange system based on both coinage and standardized “letters-of-credit”, which recognized the metrics of time and transactional duration. This system thereby facilitated the requirements of advanced monetary commerce, specifically in allowing for the clearance of an exchange transaction during the period beginning with a decision to ship the merchandise, to the end point where the merchandise was delivered to and accepted at the buyer’s end of the transaction pipeline. Implementation of this type of system represented major progress in economic society, considering the risk and time involved in having ships transiting the Mediterranean Sea, and in continuing maritime commerce even during periods when sea travel was precluded every winter due to inclement weather.

The historical interaction between the rise and fall of civilizations, regional and distant trading patterns, the emergence of philosophical ideas, the political evolution of democracy and tyranny, as well as the emergence of increasingly complex means of economic exchange represents a continuum in the human experience. The exchange of goods (as well as intangible assets such as ideas) by electronic means of transport, namely the Internet, remains to be completely standardized in the monetary context. Ultimately, these patterns bear continuing relevance to the concept of prosperity, described by Adam Smith<sup>16</sup> as arising by consequence of improved efficiency and the advantages of competitive processes.

With globalization, goods not readily available in one region may be located elsewhere in an instant and transacted by means of the Internet, solely due to the options provided by the existence of monetary currency and advanced technology. There are, however, innumerable detractors of the monetary system of commerce, who since the dawn of “money” disdain its perverse impact on society – a point of view that can be extended to suggest that money is to blame for underlying causes leading to the decline of civilization, solely based on adversely interpreted issues involving systems of monetary commerce.

The Greek economic crisis of antiquity described by Rostovtzeff demonstrates parallels with our contemporary financial crisis. The Greek model was a unified political assembly of independent cities with common cultural elements assembled around the leadership of Athens or Sparta. Greek civilization was extending its economic and cultural influence across the entire littoral regions of the Middle East,<sup>17</sup> including areas under the political domination of the Persians – the naval Salamine Battle in 480 BC, won by the assembled Greek cities, marked the peak period of its civilization but also the start of its decline. The Parthenon monument in Athens, ordered by Pericles as a development, is proof of the degree of sophistication reached by the ancient Greeks with their mathematical expertise used to determine how to calculate optic effects of dimensions in order to correct them for the eyes of citizens passing

<sup>15</sup> Rostovtzeff, M.I., *The Social and Economic History of the Hellenistic World*. See References.

<sup>16</sup> Smith, A., *The Wealth of Nations*. See References.

<sup>17</sup> Today’s Turkey.

by this sacred area. Many dedications record in stone the cost in Drachma of the huge constructions launched in this period, but sometimes interrupted by wars requiring other priorities. Democracy has also left behind proof, in the form of stone slot machines to count votes, to demonstrate the link between state resources (treasuries) and their allocation.<sup>18</sup>

A major factor in the rise of regional Athenian influence may be attributed to the Athenian currency, the Drachma. We note that Athenian prosperity allowed the Greek government of that time to indemnify citizens who participated in public charges, making possible the recruitment of competent citizens irrespective of their class.<sup>19</sup> In the same way, the Greeks had the monetary resources to be educated and to become scientists, philosophers and teachers (usually all at the same time). Eventually, however, the Drachma's value declined, triggered by the combined effects of ancient Greece's growing debt, a loss of competitiveness in its economic structure and output, and an associated decline in Athens' military superiority.<sup>20</sup> The inherent domination of Greek culture in the Mediterranean and Middle Eastern regions then began to wane, as its commercial/monetary strength and competitiveness weakened – in part as a consequence of and due to the costs of multiple foreign wars against the Medes and Phoenicians, as well as domestic exhaustion from internal strife involving civil wars between Greek cities and social revolutions. The Peloponnesian wars started the decline that ended the brilliant 5th century BC.<sup>21</sup>

In contrast to the ancient Greek model, the patterns of Roman military and political expansion that took hold after their destruction of Phoenician Carthage<sup>22</sup> in 146 BC resulted in social and economic structures that would prove more resilient in terms of handling monetary crises. The natural geographical space extended by the Pax Romana<sup>23</sup> facilitated the Roman power structure annexing large, economically exploitable territories – which in turn allowed for the development of highly diversified and robust monetary and economic exchange systems. This pattern of acquisitions led to gains in productivity through specialization of populations and economies of scale, and included benefits derived from North African and Egyptian imports and Sicilian corn, to mention only a few examples. A quasi-globalized international economic system triggered cyclical enhancement of prosperity, and repeatedly countered or delayed the impact of other factors that could have prematurely weakened the Roman Republic and its successor, Imperial Hegemony. In contrast, the Imperial Hegemony and resulting deeper economic integration of its territorial components made each of its centres, such as Rome, dependent on imports of food and luxury goods triggering monetary needs, especially when importing from Asia and delivering gold to do so.<sup>24</sup>

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<sup>18</sup> Visit the new Athens' Archaeological Museum.

<sup>19</sup> Kagan, D., *Pericles: The Birth of Democracy*, p. 184; Theucydides, *History of the Peloponnesian War*, pp. 2, 37. See References.

<sup>20</sup> After the Romans took control of Greece with Octavian, who became Emperor Augustus after he took power in AD 31 with the Actium naval victory. The Greek civilization and culture survived, but in AD 267 the Roman Empire was no longer able to protect Athens. The city was destroyed by a German invading tribe – the Urules.

<sup>21</sup> Described by Theucydides. See References.

<sup>22</sup> In today's Tunisia.

<sup>23</sup> 799 years after the mythological birth date of Rome in AD 49, Emperor Claude decided to have Thracian – at the current border of modern Turkey, Greece and Bulgaria – conquered. The Mediterranean Sea, a lake, was then dominated entirely by Rome for two centuries.

<sup>24</sup> Temin, P., *The Roman Market Economy*. See References. Temin shows the degree of interdependency of the Roman economy with a unified flour market favoured by the "Pax Romana".

The concept of territorial space acquisition as a driver for monetary unification originated with the Sumerians and Athenians, and would develop further as a major underpinning for both Carthage and Rome – both in terms of their sovereignty and in enhancing efficiency for trade and wealth accumulation. However, in terms of historical analysis, it is essential to distinguish between political and monetary unification. For instance, in a more recent setting, this issue arose within the Eurozone of the European Union – where the “Fathers of Europe”<sup>25</sup> originally decided to reverse the previous political pattern of nations and law, and thereafter decided that economic integration was a prerequisite for the ultimately intended trans-European political integration, which should eventually follow as a preventative institutional state structure designed to avoid future armed conflict. The Fathers were taught by the never-ending European wars that followed the final collapse, in AD 476, of the Western Roman Empire.

We believe that the economic and monetary crisis of our time spreading over non-politically unified territories is more similar to the Greek crisis of antiquity than to models of cyclical Roman economic instability. After all, the extension of commerce in the manner known during ancient Greece was not primarily defined by political borders, as economic structures in the Roman Imperial state hierarchy were. The issue of an inherent gap between sovereignty and political/economic and cultural realities represents a primary challenge impeding financial regulation in today’s politically heterogeneous world order. A curious anecdote may underscore this contention. The unification of Italy, before it was split between the Greeks and Phoenicians under rule of the Roman Republic in 211 BC, led to the murder by a legionary of the most extraordinary inventor, Archimedes.<sup>26</sup> The successive Roman Imperial era never demonstrated the creativity and intellectual/scientific renaissance that had characterized the decentralized environment of competing cities in ancient Greece and indeed, much later in Western Europe, the so-called “Renaissance”.

However, it became imperative for the sophisticated and “westernized” exchange system of the Roman Empire to require that coinage be struck again, as it was under the Greek era, not by cities but on a global territorial basis where it should be accepted. In the 1st century AD, Emperor Augustus (63 BC–AD 14) unified the coinage system across the Empire to allow both an easier long distance trade and a State (Empire) global budget. At the end of the 3rd century AD, Emperor Aurelian (AD 214–275), trying to restore the breaking imperial system which was plagued for a century by continuous political unrest, usurpers and invasions, triggering military costs and reduced tax collection, as well as fake struck coinage, pioneered a new metallic but fiat<sup>27</sup> currency (money) that would more or less survive until the successive Eastern Roman Empire (Byzantium). He would mint a new currency – showing for some coinage a “XXIKA” mark for a metallic formula – which acted as a kind of implicit guarantee

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<sup>25</sup> Jean Monet, Konrad Adenauer, Robert Schumann, Paul Henry Spaak, Count Carlo Sforza, Joseph Bech and others, because of the painful scars of World War II, decided to start the rebuilding of Europe with a progressive process of economic integration (CECA Treaty of April 18, 1957 between Belgium, France, Germany, Luxemburg, the Netherlands and Italy; Rome Treaties of March 25, 1957 establishing the European Community with a single market and the Euratom). Later, statesmen like Altiero Spinelli proposed the first Constitution.

<sup>26</sup> Archimedes (287–212 BC) was an inventor in all fields, and was also a gifted military architect and engineer. He was the architect who conceived the fortress of Syracuse, built to protect the city against Phoenician assaults.

<sup>27</sup> Fiat money is a currency with an exchange value higher than its corresponding content of metallic weight at price. Aurelian also imposed fixed prices on basic goods.



of content that would distinguish it from previous fake or poor-quality struck coinage.<sup>28</sup> In turn, this would constitute another advance in “money”, until the Renaissance and subsequent emergence of the next form of “money” – paper bills.

## **WHAT CAN WE LEARN FROM ANCIENT AND MORE MODERN HISTORY?**

History reveals how certain monetary mechanisms were introduced to satisfy specific transactional needs in society, and how the resultant impact of monetary development triggered economic growth. Such mechanisms include: (1) a unified and universally recognized monetary instrument that is a weight measurement of a transaction-specific precious metal that is, by itself, a factor of economic unification, as indeed paper currency became; (2) a potential shortage of metal as a driver for the development of bills-of-credit; (3) the ability to repeatedly address necessary timing issues for transactional exchanges via such bills-of-credit (requirements that passive metal coinage could not satisfy); as well as (4) the authorities’ right to set money-standard measurement metrics and to guarantee them. Subsequently, throughout history, monetary jurisdictions accepted the inevitable deviances that resulted from the introduction of fiat money – an evolutionary economic process that descends from the emerging privilege of seignorage.<sup>29</sup> The latter development presents an inherent paradox that has been highlighted by the economist Robert Mundell (see Chapter 7: The Growing Issues of the Size of the Monetary Zones – Research for Optimum) – the practical infeasibility of simultaneously satisfying all functional requirements that money should be expected to provide in a complex society administered using purely monetary systems based solely on fiat “monies”.

Overall, we see in ancient history that money already allowed education and public service. Advanced civilizations existed alongside money. The ancient Greek democracy, a social contract, came with monetary strength and declined when the monetary system weakened.

Even a cursory review of ancient history (as shown in Figure 1.1) reveals how excessive acceptance of overvalued struck monetary coinage can destroy domestic industries and favour imports (a major issue for the upper-crust lifestyle of many Roman citizens, whose consumer demands drove the substantial import of luxury goods from eastern territories and later from Byzantium – following oriental division of the Empire). Other negative factors impacting economic stability included the tendency for those centres of government that enjoyed a strong political and military position to issue too large a quantity and value of “money”, especially that which was seignorage-derived.<sup>30</sup> The 1492 discovery that led to colonization of the Americas, and the resulting access to large South American gold reserves, demonstrates how economic destruction can be triggered by uncontrolled access to resources considered as representing the equivalent of wealth. Although understood only as the cause of major inflation at the time, this and related phenomena throughout history exemplify the ultimate examples of monetary disorder.<sup>31</sup>

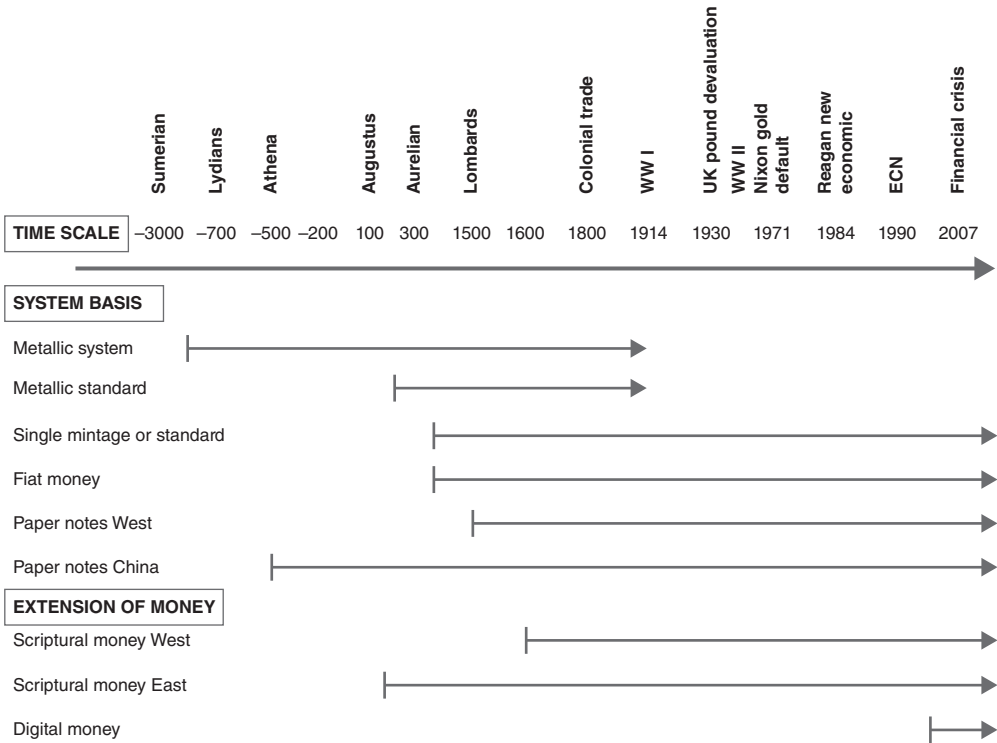
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<sup>28</sup> Summary of Eliot, S., *Catalogue des monnaies de l’Empire Romain*, pp. 39–49. See Selection of Articles.

<sup>29</sup> Fiat money derives its value from government regulation.

<sup>30</sup> Derived from the sovereignty privilege to issue and impose coinage.

<sup>31</sup> Jean Bodin (1529–1596), French juriconsult and economist, declared “there is no other wealth than man”. See References.



ECN: Electronic Communication Network – the original term for electronic marketplaces was created in the 1990s, linking market participants without using any intermediary. As a result of their competitive development, brokers’ fees went down. Non-regulated, they mixed the transaction and clearing functions. Since then, they have agreed to be separately regulated for each function. A repository for electronic marketplaces was created during the 1990s.

**FIGURE 1.1** Historical chart (author’s view)

Through the evolution of “money”, it was possible via revolution or social unrest for the rich to be defeated by the poor. With a shortage of agricultural goods to feed populations, and of tangible goods to bring comfort, we can explain – from Solon to Marx – how, because money was looked at to advise or promote reforms for the happiness of the population, the existence of a sovereign was necessary. History provides many examples where different forms of “money” and various monetary policies characterized different societies. It also explains that fully linking currency with a universal and fixed physical reference will not allow for the necessary flexibility of monetary systems in terms of providing the quantity, price adjustments to values and ultimately the fixing of targets to rotation needs. In our contemporary crisis, liberated from the metal link, a different paradox has emerged. The overvaluation of western non-manufacturing “service industry” wage structures pegged against the undervaluation of manufactured goods shipped by emerging economies presents monetary imbalance. In such an environment, the consumers of our time can be defeated by both the suppliers of goods and a mismatch of tangibles versus intangibles (services) that are arbitrarily and differentially valued after the sociological realities of a special continuous online digital relationship between the service provider and its receiver, which is different from that between vendors and users

of tangible goods. A range of monetary instruments and related fiscal policies has been developed by central governments of larger monetary zones, as well as national budgets to keep up consumption and the resulting exchanges to satisfy their citizens. There are no clues and no scientific papers drawing up a general framework of what is to be expected from such long-term policies. The expectations are to be considered as part of the sociological issue of who wishes to be part of a society and who is not; a base for further conflicts not only inside a defined national society, but also between zones of economic influence. This is the target of the present book, which aims to bring the reader through these topics.

We also see, with the Banque Royale failure, a new mechanism at the time that allowed disconnection between the price-setting mechanisms of goods and services and financial instruments, with the need for understanding and regulation to set reconciliation.

Modern 21st-century “money” is clearly different from its predecessors in the ancient world. Following the Second World War (WWII), financial democracy and its attendant creativity led to broadened transactional exchange capabilities worldwide. As a lesson from history, the Fathers of the European Union understood that exchanges should be the basis for economic development and a guarantee of peace, at least within a geographic zone. Their successors also considered that a monetary union was the corollary to a trade union. They were helped in achieving such a goal by all the changes in the intrinsic nature of money. Monetary instruments have come a long way from the simple definition of deriving monetary value from any metal weight measurement or its scripted equivalent – that is, monetary elements that are merely designed for the clearance of an exchange transaction. It can be seen that today’s “money” has been extended not only in a technical context (e.g., supporting hypothetical value on the Internet) but also from the standpoint of legal definitions governing non-physical electronic payment transactions that are no longer limited to cash equivalents and that are not necessarily executed with a cheque, “money bill” or wire transfer, but rather via any number of alternative exchange formats.

## QUESTIONS AND ANSWERS

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### **From antiquity to modern times: monetary development over 6000 years. What history explains and comparison with new contexts**

*When did money appear?*

Probably at the same time as writing; 2900 BC.

*What was money originally made from?*

Metal; some civilizations used other goods they had available, like shells, but these were limited.

*What did metal allow?*

Weight as a measurement and stamping as a reference to it; also, it was easy to carry.

*What was the evolution?*

From metallic money to derived paper bills.

*Since when do we have proof of money existing?*

In the Hammurabi Code of 1650 BC and other slightly more ancient literature we have references to monetary measurement of prices.

*How and since when have we had proof of coinage?*

Since the 8th/9th centuries with Asia Minor coins.

*Why did paper bills appear?*

A shortage of metal, they are easier to transport and adapted to long distances, for long-duration lending and better safety against theft because of a possible holder's check on identity.

*What are the other advantages?*

Paper bills can be coupled with infinite contractual conditions and attached to a purpose to be achieved, such as the transport of goods.

*Is there a link between civilization and money?*

Yes. A civilization gathers humans together as a single society with a culture. The gathering is linked to the exchange and accumulation of wealth and means, including military, to defend them. To conduct its exchanges, a society needs monies that each participant will recognize.

*What is the first example of a chartered bank?*

The Bank of England in 1694.

*What is the first example of a modern central bank, and why?*

The French Banque Royale. It disconnected paper bills from guaranteeing reserves, allowing financing of both government and trade.

*Why did it fail?*

Speculation on its equity and lack of trust in the royal guarantee for depositors in the absence of metallic reserves.

*Is there something to learn from history?*

Yes, the irresistible evolution towards less and less tangible money and the above link between civilization and money. Further, a need for regulation to replace the constraint of metallic-based money and to survey its use by market participants when not for exchanges.