ALTERNATIVE FORMS OF CURRENCY: AN EXPLORATORY THEORETICAL ANALYSIS OF BITCOIN

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ABSTRACT

Objective: The study aims to critically analyse the role of digital currencies in the context of the monetary system and the challenges and implications for monetary liberalism.

Method: Critical review based on an analysis of financial doctrine. A descriptive approach was applied to identify the relevant theories, followed by a critical analysis of the perspectives adopted by the authors. The main theoretical arguments are identified and debated. The methodology enables a critical study to be carried out through comparisons.

Results and conclusions: The results highlight the clarity of the arguments, the logical solidity, and the relevance of the evidence presented by the authors. The comparative analysis reveals points of convergence and divergence in the arguments. Inclusive interpretation and reflection allowed the implications of the theoretical approaches for the field of study to be analysed. The conclusions reveal the evidence obtained.

Implications if the research: They include an in-depth understanding of the financial theories examined at the level of Bitcoin, highlighting contributions and limitations. Promotes the advancement of knowledge in the theoretical field, identifies possible gaps in the literature, and suggests areas for future research. Provides relevant insights for academia, society, and policymakers.

Originality/value: It resides in the application of a critical and analytical approach to financial theories, offering a detailed and contextualised review of the literature. The value comes from providing enlightened insights into the theoretical foundations and possible applications, contributing to the advancement of the academic and social fields.

Keywords: Bitcoin, Monetary Liberalism, Critical Review, Monetary System.

FORMAS ALTERNATIVAS DE MOEDA: UMA ANÁLISE TEÓRICA EXPLORATÓRIA DA BITCOIN

RESUMO

Objetivo: O estudo visa analisar, criticamente, o papel das moedas digitais no contexto do sistema monetário, desafios e implicações para o liberalismo monetário.

Método: Recensão crítica fundamentada na análise da doutrina financeira. Foi aplicada a abordagem descritiva para a identificação das teorias relevantes, depois realizada uma análise crítica das perspetivas adotadas pelos

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The big question in relation to Bitcoin is whether it is possible to see digital currency as money or if, on the contrary, it is just a financial investment, like shares and other similar instruments. On the other hand, it also has to be ascertained whether or not digital currency is a good, whether it has value, whether it corresponds to some level of utility, and what its legitimacy is.

According to economic theory, the best way to analyse the phenomenon of digital currencies is through praxeology (Ulrich, 2014), that is, analysing human action based on the principle that agents act purposefully and not intentionally or thoughtfully (Mises, 1953). For Mises (1953), the nature of digital currency results from the value given to it by agents and the actions that result from this.

From the perspective of praxeology, agents act according to their objectives and apply the means that are strictly necessary and appropriate to achieve the desired ends. While the study of actions is intrinsic to psychology, the way in which the available means are applied concerns economic theory, including with regard to bitcoin.

Over time, bitcoin has evolved, new agents have joined the system, and these have increasingly used digital currency as an instrument to pursue their objectives (Samid, 2015). Regardless of the objectives of each of the agents, it is worth mentioning that there is a historical
record showing an increase in the number of transactions carried out with virtual currencies rather than paper money (Agur, Deodoro, Lavayssière, Pería, Sandri, Tourpe, & Bauer, 2022).

Regardless of the objectives behind the creation of bitcoin, the theory states that its ultimate goal is to evolve into an absolutely electronic means of exchange, even though it was initially acquired by investors for direct consumption (Ulrich, 2014). This is the starting point for any currency to be applied as an exchange asset in the future, including universally accepted money (Ulrich, 2014). However, one of the problems associated with virtual currencies is that they are associated by their buyers with mere virtual commodities, goods, and investments (Rotta & Paraná, 2022).

When investors acquire virtual currencies, such as bitcoin, do they present any utility, that is, do they exhibit any kind of utility or suppress any of the needs of the holders. In fact, the utility given by the purchasers may or may not be exactly the same as that granted by other agents, so, unlike traditional currency, the utility of virtual currencies is subjective (Salman & Razzaq, 2019), and its legitimacy is questioned (Soppe, 2016).

For Misses (1953), utility translates into two concrete situations: the causal relationship and the reduction of possible situations of discomfort; that is, for the author, the consumption of certain goods increases well-being and gives a value to utility. For praxeology, utility is the relationship between an object and the effects it can produce. It is in this sense that the literature questions what the value of bitcoin is, how useful it is for the exchange system, and what needs it actually suppresses (Ulrich, 2014).

Regardless of what the literature advises, digital currencies can, in fact, only be transacted on networks for this purpose. Currently, it is not possible to transfer currency via blockchain, as it is the exclusive and intrinsic property of digital currencies (Balamurugan, Poongodi, & Manu, 2023). Under current financial systems, the value of digital currencies can only be granted individually by each purchaser and according to their subjective valuation criteria, regardless of their intended intentions.

According to the regression theorem developed by Misses (1953), it is unrealistic for any type of currency to emerge as an immediate means of exchange because, in order to achieve this characteristic, it is necessary for the currency to obtain some kind of value as a commodity. On the other hand, it also needs acceptance and time of use, i.e., the currency needs to acquire a prior value of use in order to then be accepted as a form of payment (Thomas, 2021). In the case of precious metals such as gold and silver, they were and are the means of exchange on the market par excellence and the most universally accepted as currency.
In 2009, when bitcoin was founded, contrary to what was expected by the financial theory, there was demand for the asset, and units were bought, and, due to demand, prices were formed on the market. Thus, the creation of bitcoin is conducive to the principles defended by Mises’ regression theorem, for which it is necessary to demonstrate that, at some point in the commercial exchange relationships between the creators of the digital currency and the buyers, use value was present. For Chambers (2023), regardless of its use value, bitcoin is not money and should not be considered as such.

In fact, in the light of the theorem, the existence of some subjective use value is necessary for the exchange value of assets to emerge, even if a third-party agent is unable to notice it. This means that before assets can be used as means of exchange, they need to be valued by agents according to their individual judgement. For Mises (1953), gold is considered a preferred commodity, chosen by the market, valued for its intrinsic attributes (use value) and its acceptability as a means of exchange (exchange value).

When gold and silver were first discovered, it's possible that both metals had few applications and had a very low level of usefulness and acceptability as a means of exchange. Over time, they prevailed, and their use value began to coincide with their exchange value, i.e., they went from being adornments to highly acceptable forms of payment (Ulrich, 2014), something that is unlikely to happen with digital currencies (Malone, 2014).

Bitcoin is a much less liquid asset compared to traditional currencies, but that doesn't mean it can't have some subjective use value conferred by agents. For Mises (1953), the regression theorem is not just an instrumental concept; it is in fact a real economic phenomenon and has its origins in the instant when indirect exchanges emerged. In fact, the bitcoin phenomenon, for some authors, is the perfect representation of Mises' monetary theory (Skinner, 2014), and, since its conception, it has acquired the character, in very restricted sectors, of a medium of exchange.

2 THEORETICAL REFERENCE

Bitcoin was introduced in 2009 and has completely transformed the notions of money, finance, and governance, giving rise to a vast body of research in various disciplines. There are various perspectives on the emergence of digital currency, its potential as a currency, its possible impact on monetary systems, and its legal and economic implications.

According to Maurer, Nelms, and Swartz (2013), Bitcoin is an alternative to coins and payment systems; it is seen as a threat to users’ privacy and an instrument capable of limiting
the freedom of economic agents, devaluing the value of coins, and implementing a system of public and economic control. For the authors, Bitcoin's great advantage comes from its apparent ability to resolve issues related to the control and regulation of digital currency through the creation of cryptographic protocols.

According to Mittal (2014), Bitcoin is a "niche" currency compared to other currencies. On the other hand, Bitcoin has seen significant growth since its creation (around 12.5 million). Currently, Bitcoin's total market capitalization is around 14 billion dollars, and in the past, it was as high as 6 billion dollars. For the author, although it is possible to purchase goods and services with this digital currency, there are still questions about its economic and legal status. Depending on the view, Bitcoin is considered to be an innovative payment network or, conversely, a type of high-risk commodity, property, or asset. However, in order to know whether Bitcoin is a form of money or a commodity, it is essential to ascertain whether it falls within the characteristics of what financial doctrine considers to be money.

According to Lo and Wang (2014), Bitcoin's major discussion is the answer to the question of whether it can fulfil the functions of fiat money, such as medium of exchange, unit of account, and store of value. According to the authors, financial theory does not advocate Bitcoin as a type of money, at least in terms of financial intermediation, but they do attribute its greatest legacy to the adoption of new technologies in the payment system.

According to Iwamura, Kitamura, and Matsumoto (2014), Bitcoin did not emerge from the competition of cryptocurrencies but has in fact become the first dominant, broad-based cryptocurrency on the market. However, there are others with similar market values. For the authors, this is a sign of healthy monetary competition, as advocated by Hayek.

Pagliery (2014) argues that Bitcoin challenges every existing doctrine about money, financial institutions, and even political actors. In fact, digital currency can be almost anonymous, and, according to the author, it can be traded internationally without the fees, government regulation, and/or bank supervision of paper money. However, the author does not argue that it is a de facto currency but rather a high-risk asset in which the value fluctuates uncontrollably.

From the perspective of Gi-Hong (2014), it seems too much to consider Bitcoin as a currency, at least in the terms in which it operates today, mainly due to its high price volatility. However, the author emphasises that Bitcoin has worked well as a medium of exchange and that it is the only asset that can be accepted anywhere in the world, both in the real world and in the cyber world.
According to Olafsson (2014), Bitcoin should be considered money from the perspective of the Austrian school of economics. However, the author points out that one of the main reasons why Bitcoin has not yet been considered money in the strict traditional sense is the barrier created by society, i.e., the presence of high levels of inertia. A considerable part of the criticism levelled at Bitcoin as a medium of exchange by the Austrian school is due to the fact that Bitcoin does not fit into Mises' regression theorem on the emergence of money. In the Austrian view, Bitcoin is not money, since the school argues that it is an imperfect form of money, situated between commodity money and fiat money. The author goes so far as to define Bitcoin as a synthetic commodity currency.

According to Barber (2015), the rise in popularity and circulation of Bitcoin has sparked an intense discussion about the role of cryptocurrencies, especially in terms of the role of the state as a currency creator. While society argues that Bitcoin is a currency, states and authorities argue that Bitcoin is merely a commodity. In the author's view, Bitcoin is just an accessory asset and incapable of satisfying tax obligations, so it is seen as a commodity. In this sense, it is important to mention the perspective of Simmel (2004, [1900]), in which currencies, in a more abstract sense, can develop a supranational economic society as an ideological alternative to the monopolistic interests of states. However, the limitations imposed by national authorities and taxation prevent digital currencies from achieving their autonomy on the market.

For Kubát (2015), the preferred currency, the market currency, is one whose operation is not politically centralised, without the possibility of any kind of government influence on the level of the money supply. According to the author, Bitcoin cannot and should not be seen as money, as it does not fulfil the function of a store of value. However, if we associate the store of value function with the volatility of the cryptocurrency, then Bitcoin is the one with the best reserve levels compared to fiat currencies and other assets (despite the high risk).

According to Bjerg (2016), Bitcoin is an electronic payment system that functions as an autonomous currency. Based on the commodity, fiat, and credit theories, the author states that Bitcoin is a commodity currency without another, a fiat currency without a state, and a credit currency without debt. And he concludes that Bitcoin is in fact an ideological challenge to conventional forms of money, in that it not only challenges current beliefs about money but also exposes the system's interests in relation to credit money authorised by states.

According to Kirillova, Pavlyuk, Mikhaylova, Zulfugarzade, and Zenin (2018), there is no understanding of the legal nature of virtual currency; therefore, the legal status of virtual currencies and official rates are not officially fixed in relation to national currencies. The rate is determined in the course of trading on Bitcoin platforms and exchange platforms. For the
authors, it is possible to demonstrate that cryptocurrencies are a new type of money, stored in
the memory of a computer, whose monetary value is managed through technical devices. The
author even argues that Bitcoin is a new means of payment that does not require access to any
type of deposit account.

Conversely, Hazlett and Luther (2020) argue that Bitcoin is not a currency because it
does not function efficiently as a medium of exchange, unit of account, or store of value. They
argue that a given asset is only currency when, and only when, it functions as a commonly
accepted medium of exchange.

For Vianna (2021), bitcoin is far from being considered a currency, so it is difficult for
a monetary and payment system based on this model to emerge. In light of the characteristics
defined in Keynesian theory, cryptocurrencies are not money. At most, for the author, based on
the theory of portfolio choice, Bitcoin is defined as a perfect virtual commodity, i.e., a virtual
liquid speculative asset.

In Passinsky's (2021) view, the advent of Bitcoin has raised an important question for
legislators, namely, to what extent virtual currencies should be considered currency for legal
purposes. To this end, the author uses a descriptive and normative approach. With regard to the
former, the descriptive approach, he argues that Bitcoin should be defined as money only if it
is effectively currency, while the normative approach states that the question should be
answered on the basis of substantive normative assessments.

For Kang and Lee (2022), quantitative analysis shows that the welfare of an economy
with currency and Bitcoin is lower than that of exclusively monetary economies due to possible
problems in confirming Bitcoin transactions and that the welfare gap between the two
economies increases as inflation rises. On the other hand, increasing Bitcoin transaction fees
can increase welfare by reducing inefficient Bitcoin transactions.

These perspectives address the advent of Bitcoin, its economic and legal implications,
its potential as a currency, its challenges to conventional monetary systems, and its social
impact. They highlight Bitcoin's innovative features, its regulatory challenges, and its
implications for the future of fiat currency and financial systems.

3 METHODOLOGY

The article is a critical review based on the analysis of economic and financial doctrine,
which investigates, through a descriptive approach, and clearly identifies the theories under
study. An objective analysis of the contents of the authors' texts is carried out, and the main
arguments, themes, and conclusions presented are discussed. The research is contextualised within the field of study, and its relevance and relationship with other works and discussions in the theoretical field are discussed.

The theoretical review makes it possible to observe the clarity of the arguments, identify their logical soundness, and analyse the relevance of the evidence presented. Above all, the methodology makes it possible to carry out a detailed critical study of the assumptions adopted by the authors and, in particular, the limitations of the texts. The research is compared with relevant works, highlighting points of proximity and distance between the arguments defended and the respective conclusions.

At the level of interpretation and reflection, theoretical approaches are examined comprehensively and their implications for the field of study are reflected upon, identifying gaps in the literature where possible.

4 ANALYSIS AND DISCUSSION

According to economic theory, economic goods are scarce and do not exist in sufficient quantities to meet the present and future needs of agents (Mises, 2012). In turn, they reflect all the resources that are allocated in the actions of agents (Tribe, 2007), are subject to the rules of scarcity (Gwartney, 2016), and cannot be allocated or consumed at the same time by more than one agent (Anderman, 2007). This means, in Ulrich's (2014) terms, that the use of a good by a given agent immediately excludes the possibility of it being used by another agent.

However, there are not only material means that are applied in the actions of agents; there are also other types of resources that can be used to achieve certain ends (Mises, 2012). The ability of a given good to be used results from its characteristics, which are not limited to its tangible properties. Whether tangible or not, goods can be used as resources when they are capable of offering some kind of utility for a particular purpose.

After all, what is the use of digital currencies since, according to financial doctrine, digital assets are almost infinitely reproducible (Miller, 2020), so we are faced with the paradox of the scarcity of digital metallism. The paradox stems from the unlimited capacity to create digital currency, yet an artificial scarcity limit of 21 million bitcoin units is imposed on the system.

As a result of the advent of the digital age, financial theory is faced with new problems, especially in terms of defining the scarcity of economic goods (Tucker & Kinsella, 2010). For Tucker and Kinsella (2010), assets can, firstly, be economic goods and scarce; secondly, they
can be non-economic goods but scarce; thirdly, they can be economic goods and not scarce; and, finally, they can be neither economic goods nor scarce.

The emergence of computing has led to the development and expansion of a considerable number of assets that can be classified as non-scarce economic goods. These assets can be reproduced countless times without the asset being damaged or its qualities altered, i.e., the owner of the asset can use it in any way they like at the same time as other owners of the copies. This means that these assets are not scarce, even though they may or may not have economic value (Graf, 2013).

Transposing Tucker and Kinsella’s (2010) conceptualization to bitcoins, we can see that this is a different situation. According to the protocol, bitcoins can only exist in one wallet at any given time, and the system records all transactions in a single blockchain that prevents duplicate records. This is a fundamental and inseparable feature of the bitcoin system software (Ulrich, 2014).

Through the peer-to-peer protocol, combined with bitcoin’s advanced technology and cryptography, the digital currency is artificially “scarce”. A totally different reality is the scarcity of traditional currency, which stems from the natural limits of the exploitation and allocation of natural resources. Once the protocols have been changed, there are no limits to the creation of digital currency; once all the available natural resources have been exploited, it becomes impossible to create more monetary units (with or without backing). Scarcity is the result of natural barriers to the allocation of resources. Once the artificial barrier of the protocol is overcome, bitcoin is merely a non-scarce economic good.

Currently, as long as the protocol limiting the creation of digital currency is in force, we can say that bitcoin is artificially scarce, but it is never possible to classify this type of scarcity as genuine.

Along the same lines as Chambers (2023), Šurda (2012) argues that bitcoin is not a currency and does not correspond to a universally accepted means of exchange (an elementary singularity of currencies). For the author, digital currencies are only secondary means of exchange or, as Rothbard (2009) alludes to, a quasi-currency.

According to the doctrine, money is the most universally accepted means of exchange. According to Graf (2013), if it is the most universally accepted medium of exchange, then it is not possible to designate digital currencies as money since they are not universally accepted, and he adds that a given foreign currency will never be considered money in third countries either. This is indeed a grey area, but we recognise that the author makes a valid argument.
According to Shostak (2013), bitcoin is not a form of money, nor is it a substitute; it is a new way of investing available money; in other words, it is a new form of investment with the appropriate associated risks. For the author, bitcoin is not money; it is a code and a virtual number. It is a new way of investing idle fiat money. However, the doctrine is contrary to this position.

For Misses (1953), money is a commodity, and if digital money is an instrument of exchange, even if it is not generally accepted, then it should be classified as currency. However, it is not enough just to be a means of exchange for a given asset to be considered money; all and any kind of asset, from this perspective, is considered currency. This means that for digital currencies to be viewed as money, it is not enough just to present exchange value and be applied as a means for making transactions; they need to be seen as an exclusive means. (Pereira & Andrade, 2021). When Misses defended the currency as a mere economic good, regardless of the type of asset, he did not take into account the characteristic “exclusivity”. A given good is money because it exhibits a set of unique qualities compared to other economic goods.

The utopia of bitcoin’s quasi-currency comes not only from the lack of acceptance by the majority of agents; it also comes from a lack of intrinsic value. Bitcoin is, in fact, a virtual currency unit without any material form or holding any kind of ballast, so it's a bit unfortunate that someday the digital currency will come to replace the fiduciary currency (Dingle, 2018).

Another criticism indicated for digital currencies comes, in addition to the lack of monetary value, from the absence of a widely recognised use value (Mishra, 2022). Because of this fact, according to sceptics, digital currencies can never acquire the characteristic of a universally accepted medium of exchange (Luna, Montoro-Ríos, Martínes-Fiestas, & Casado-Aranda, 2018).

Because digital currencies are lacking ballast, it prompted academics to classify digital assets as weak and incomplete (BenSaïda, 2023). The historical annals show that the existence of the last minute is a necessary technique for restricting fraudulent and reckless practices by commercial banks and the inflationary investments of states with regard to monetary policy (Ulrich, 2014).

Gold and silver, historically, have been the main assets used as a balust by commercial banking, firstly because they were the most easily accepted monetary substitutes and, secondly, because they made it possible to impose some discipline on banking practice, especially when depositors questioned the presence of balust in the bank's possession and requested the rescue in kind, which put the banks more easily subject to insolvency. (Ulrich, 2014). Without a doubt, digital currencies alone already present a considerable risk of insolvency.
With the emergence of central banking systems, the gold boom took a slightly different outline from the initial objectives. After several centuries of gold being the global currency, states began to issue their own paper coins, within the limits of their jurisdictions, plated in gold. At this time, coins were nothing more than denominations of certain quantities of precious metal, gold, or silver. At the height of the monopoly on the issuance of currency, monetary policy was almost exclusively about the parities between the face value and its market value. (Sato & Takenaga, 2013). In periods of adoption of the inflationary policy of supply, states depreciated market value and pushed holders to redeem, in kind, by face value, that is, they redeemed at par. (Ulrich, 2014). In the case of digital currencies, this is undoubtedly the strongest point, since they are always traded at market value and not by their face value.

Despite our advocacy of keeping the ballast in the currency, we acknowledge that, from the point of view of governments, digital currencies allow the issuance of currency without any kind of restriction. But, as has been said earlier, when the system allows the issuance of currency without any kind of control, the premise “exclusivity” and, moreover, “scarcity” are put into question. In such a situation, the currency becomes merely an economic good, not scarce. We are thus advocating the existence of a ballast as a means of ensuring that the monetary supply will not be inflated by the excessive issue of money.

Currently, the monetary system is no longer based on the absolute convertibility of paper currencies, i.e., there is no more room for gold, but it has given rise to permanent bubbles in the financial system, more dangerous than the very natural scarcity of precious metals, where mainly the prices of virtual coins are included. (Haykir & Yagli, 2022).

In order for it to be possible to attribute the quality of money to digital currencies, it is essential that they observe the functions traditionally conferred on coins, among which they must serve as a means of exchange, reserve of value, and unit of value (Voshmgir, 2021). But functions are not always immediately noticeable when a good is used as a means of exchange. Because the currency was developed with the aim of facilitating exchanges.

When a given asset achieves liquidity gains in the market, it tends, through the agents, to be stored as a reserve of value and to be used in the future as a means of exchange. On the other hand, this also tends to be applied to the preservation of future purchasing power (Allen, 2009). Of course, that currency is not the only asset that is currently selected as a reserve of value; that is, there are also other types of high-liquidity goods that can play the role of reserve value, such as real estate and gold. (Ahuja, 2019). But the levels of liquidity between the currency and the other assets are clearly different. Gold has been, for a long time, an asset of protection and preservation of value (Ulrich, 2014).
As for the unit of account, this is the result of the use of currency as a means of exchange. The higher the liquidity of the monetary asset, the greater the likelihood of it circulating as the main currency in an economy (Li, 2021); in turn, individuals determine and quantify the value of goods and services according to the currency value (Taillard, 2021). It is in this sense that financial doctrine alleges that the highest quality of currency lies when the currency is used not only as a means of exchange but as a unit of account (Mittal, 2018).

According to Ulrich (2014), economic problems arise mainly from state intervention in the monetary markets. It is because of this interference in the currency that notable problems are generated for economies with the ability to disarticulate the functions of currency. Indeed, it is inflation and the devaluation of the money market that provoke individuals to seek stable and safer alternatives to the traditional currency. Due to the active search for safer alternatives, the exchange medium function is separated from the value reserve and account unit functions (Ulrich, 2014). The situation is due to two situations: the first is because agents keep deposits in national currency in order to cope with short-term expenses, and the second is because the country's currency is losing value quickly and actively.

In the case of digital currencies, how are the functions of the currency affected. For the proper functioning of financial markets, Mises (2012) mentions that it is essential that monetary policies be adopted to avoid large fluctuations in the supply of currency.

As for supply, the Bitcoin protocol ensures a controlled growth of units of bitcoin in circulation, and this amount is known to investors. That is, the increase in the supply of digital currency is predefined. But on the demand side, there are large fluctuations, hence the high volatility of digital currency prices. In reality, goods and services continue to be traded in the current currency despite inflation (Lacity, 2020).

As long as the high volatility of digital currencies persists, they will hardly be considered or adopted as account units (Yemack, 2015).

According to Table 1, it is possible to see, in a summary manner, the characteristics of each of the monetary systems.

**Table 1**

**Characteristics of monetary systems**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Precious metal</th>
<th>Paper money</th>
<th>Digital money</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durability</td>
<td>Perfect</td>
<td>Reduced</td>
<td>High</td>
</tr>
<tr>
<td>Divisibility</td>
<td>Average</td>
<td>High</td>
<td>Perfect</td>
</tr>
<tr>
<td>Maleability</td>
<td>High</td>
<td>High</td>
<td>Immaterial</td>
</tr>
<tr>
<td>Homogeneity</td>
<td>Average</td>
<td>High</td>
<td>Perfect</td>
</tr>
</tbody>
</table>
### Table 1: Characteristics of Different Currencies

<table>
<thead>
<tr>
<th>Shortage</th>
<th>Naturally limited</th>
<th>Unlimited, politically controlled</th>
<th>Mathematically limited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependency</td>
<td>High</td>
<td>High</td>
<td>Nearly zero</td>
</tr>
<tr>
<td>Acceptability</td>
<td>Perfect</td>
<td>High</td>
<td>Nearly zero</td>
</tr>
<tr>
<td>Trust</td>
<td>Perfect</td>
<td>Perfect</td>
<td>Nearly zero</td>
</tr>
</tbody>
</table>

**Fonte:** Own elaboration.

As can be noted in Table 1, the digital currency is the one that, theoretically, has the best characteristics. That is, it's durable and perfectly divisible; despite its immateriality, it is perfectly uniform due to its mathematical homogeneity, making it almost impossible to falsify (Graf, 2013). As far as precious metals, such as gold and silver, are concerned, they are dependent on verification as to their purity and texture. Paper currency, in turn, although remarkably homogeneous, can easily be counterfeited, making it difficult to distinguish between genuine currency units and counterfeit currencies. (Ulrich, 2014).

However, despite the theoretically superior characteristics of digital currencies, those that really stand out in the money market are acceptability and reliability, and, at these points, digital coins, compared to other monetary systems, have almost zero characteristics.

Societies are based on currency, and without the presence of money, it would be inconceivable. The currency is the preferential means of exchange and facilitates the conduct of trade exchanges between the agents. For liberals, the currency allows the division of labour and the economic specialisation of agents (Karimzadi, 2013). In the liberal perspective, the division of labour increases productivity levels and increases the savings capacity of agents, which in turn enables a higher level of loans and the accumulation of capital. (Vic, 2010). In the view of liberal theorists, the multiplication of accumulated capital represents a prosperous and growing economy in which society generates wealth and has the capacity to improve citizens' levels of well-being. (Ulrich, 2014).

In liberal societies, the currency is one of the most important institutions and is the economic good that makes large-scale cooperation possible. (Watson, 2004). For liberals, attacks on the currency institution and financial flexibility (currency breakdown) can have detrimental effects on the functioning of the economy (Gnos & Rochon, 2006).

For liberals, inflation is a way of financing state spending without resorting to taxes, loans, or the issuance of currency. On the other hand, it is a form of redistribution of wealth since the increase of the currency in the economy is not neutral (Ulrich, 2014). Currently, inflation is more complex and involves both central banks and the banking system.

The central banks control the supply of money in a monopoly manner, regulating and supervising the operation of the banking system. Indeed, economic activity is artificially
encouraged, producing a false idea of prosperity. (Barclays Bank, 1925). This supervision reflects the current order of the banking system; that is, it exists through the force of the law and not by the rules of the market, since states do not admit the existence of competition. (Salin, 2012).

The monetary system, in the terms of Ulrich (2014), is a disformed creature arising from the fiscal needs of states. Budgetary problems and the adoption and implementation of bad monetary policies led to the abolition of the gold standard system. However, the precious metal, as a means of exchange and as a monetary standard, did not collapse. The collapse of the system was due to the fact that states were dissatisfied with the discipline imposed by the gold standard, since the situation was a barrier to the free issue of money and, above all, to the financing of the social state. For Schlichter (2011), the issue of money is a mere political instrument embedded in obsolete economic theories and without any support in reality.

According to Hülsmann (2008), currencies produce effects on the power of states and still shape the behaviour of actors. However, we are not of the opinion of total monetary freedom, in which individuals have complete freedom of choice of currency, under the regime of total freedom to issue private money, as Hayek argued. (2009).

Since Mises, the liberals advocate the reform of the monetary system, a strong currency, and the adoption of healthy monetary policies free of state interference.

Despite defending the principle of a strong currency as the main objective of monetary policy, none of the liberal proposals have succeeded in revealing the best way to pursue this objective. On the other hand, despite all the merit points that can be attributed to liberal theories, all converge on the same dilemma; for them to be adopted, it is necessary that there be the will of the political actor (Ulrich, 2014). This means that the proposals of the liberal theorists, like the other suggestions for improving the system, are all subject to political acceptance and the promulgation and application of laws.

Despite the merits of the liberal proposals for defining a stronger monetary system, they are very unlikely to be adopted. Firstly, because the adoption of monetary reform, according to liberal theory, calls into question the status quo of banks and government (König, Tsebelis, & Debus, 2010). Indeed, a given government will never produce legislation that is contrary to its interests and/or that will jeopardise political re-election. For Hayek (2009), the solution is financial education.

Secondly, it is not easy for citizens to understand monetary phenomena. But, in order for monetary system reforms to be adopted and implemented politically, it is necessary for the actors to be able to criticise the system and the monetary choices of governments. However,
liberal theorists consider it quite unlikely that public opinion, even if educated, will come to meet with the adoption of a currency free of the bonds of governments and that it will be ensured by the force of the law. (Ulrich, 2014).

As for the future of digital currencies, it is impossible to assure whether they have come to last or not. In Read’s vision (2022), digital currencies are about to last, and according to Ulrich (2014), there is a great possibility of leaving their mark across the international monetary system.

Despite the various attempts by the doctrine and the investors to legitimise and institutionalise digital assets, there are still several barriers to be overcome. One of the main barriers is in the legal and regulatory framework, where there are remarkable uncertainties as to whether governments will accept and what political actions will be taken in the event of an increase in transactions involving the digital currency.

Another barrier is the legal legitimacy of the digital currency; that is, there are currently numerous supporters of this asset who claim and defend legal legitimacy under the argument that it is an indispensable means for the development of the monetary system (Yu, Ge, Mandizvidza, & Mulli, 2022). Indeed, if economic transactions with this kind of good increase, it will be necessary for the authorities to decide how the exchanges will be taxed. However, according to Ulrich (2014), it is expected that none of the regulatory bodies will support the adoption of the digital currency since they are currently the guardians of money, financial stability, and the monetary system. Ultimately, they are not in favour of the existence of private competition in the issue and control of currencies.

In addition to legal legitimacy, there is also the question of the legitimacy of the market in relation to the acceptance of the digital currency. That is, legitimacy originating from the market is essential for the advancement, development, and acceptance of digital currencies. Market legitimacy is a decisive factor in increasing the value of the use of digital currencies. Although Ulrich (2014) alleges that there is a remarkable acceptance of bitcoins by companies, reality shows the opposite, i.e., only 11,890 companies worldwide accepted this form of payment (Ferreira, 2018). In 2018, there were 29,661,214 companies in the European Union, which translates to 0.0401% of the total number of companies that accepted bitcoin as a form of payment, which is a totally ridiculous percentage.

Although financial markets have, in recent years, flocked to the adoption of new technologies, adherence to bitcoin is far from becoming a reality or, ever, an authentic market imperative. This is limited only to its condition as a mere alternative investment to shares and other similar assets.
If there is something really worthwhile about bitcoin, it is the fact that it has encouraged academics related to monetary doctrine to revisit concepts that have so far seemed to be fully understood and analyzed.

According to Tim Draper’s projections (Olinga, 2023), on January 3, 2023, it was indicated that the market value of bitcoin would be, by the end of 2023, $250,000.00 per unit. But, as of September 3, 2023, the value of each unit of this digital currency is $25,874.36, a figure far from the speculated value.

5 CONCLUSIONS

This essay sought to observe the complex interactions between liberalism, the current monetary system, and the emerging role of digital currencies in modern finance. Through the essay, perspectives, arguments, and challenges related to the topic were presented, which allowed for some important reflections.

At the level of liberal doctrine, we emphasise the importance of money for the pursuit of the goals of liberal philosophy. Liberals see money as a fundamental instrument for division of labour, specialisation, and increasing economic productivity. The conduct of transactions through a commonly accepted currency is considered essential for the economic development of countries, for the maintenance of an efficient monetary system, and for increasing the well-being of actors. Currency is currently the basis for supporting economic transactions that support cooperation between actors.

With regard to the challenges of the traditional monetary system, it can be pointed out that there are several challenges inherent in the current currency system, with most of the problems arising from the adoption of monetary policies with little backing on market needs and strongly based on the needs of political actors. On the other hand, at the level of the monetary market, inflation is seen by the liberals as a way of financing public spending without the need to resort to taxes or the issue of currency, even though it is seen as a threat to financial and economic stability. Furthermore, liberal theory is fiercely critical of central banks and governments’ intervention in monetary supply, as they end up generating market distortions and negatively affecting the economy.

Liberal scholars, despite being seriously critical of the model, also often make proposals for monetary system reform, with particular emphasis on the adoption of strong currencies and responsible monetary policies. However, financial doctrine shows that the implementation of liberal reforms is complex and, in most situations, depends on political will. Furthermore, we
must bear in mind that public understanding of monetary concepts is limited, which makes it difficult for reforms to be implemented in practice.

Indeed, the rise of digital currencies, in particular bitcoin, challenges the norms of the financial system. Bitcoin is a decentralised financial asset that is not controlled by the central authorities, and the supply is mathematically limited (artificial shortage). These features eventually invited investors who sought alternative forms to the conventional system.

However, digital currency, especially bitcoin, faces serious challenges in terms of legitimacy and general acceptability. With most developed states seeking to regulate digital currency transactions, legal and regulatory issues are raised, and uncertainty is generated among investors. On the other hand, the acceptance of bitcoin as a form of payment is still quite limited compared to other traditional currencies.

Market legitimacy is crucial to the survival of digital currencies, and despite increased acceptance by some investors, it still translates into a considerably small fraction of global economic transactions. The lack of widespread acceptance is undoubtedly a substantial challenge.

At the level of bitcoin's value projections, compared to reality, the projections present considerable deviations from the real market value. Reality has shown that the market is remarkably volatile and uncertain, and the risk of loss of asset value is high.

Ultimately, the future of digital currencies remains uncertain. Such assets have the potential to affect some of the foundations of the monetary system. As these assets reach their place in the financial system, it is important to maintain an open and informed dialogue with society on the role of these intangible assets and their impact on the economy. The more digital currencies evolve, the greater the need for close collaboration between academics, economic actors, politicians, and society in general.

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