

Evolution of Money from Stones to Digital Blocks: Transformation of Value

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Abstract

This study examines the evolutionary route of money and discusses its transformation within increasing digitalization. Although economic thought has focused on different topics and employed different analyses throughout history, concepts such as value and justice have always been part of the discussion. Approaches regarding the functions of money have also changed with digitalization and new possibilities have emerged regarding its impact on social structure. As central banks are also joining this journey, which started with bitcoin using blockchain technology, it is of great importance that the practices to be implemented eliminate concerns raised in the past and are functional in terms of equality and justice. This paper discusses the current framework, along with important themes in economic history and the development of decentralized technologies that aim to alter functions of money. The opportunities and potential risks are identified while possible scenarios for the future are discussed in the conclusion.

Keywords: Bitcoin, Monetary Policy, Blockchain, Central Bank Digital Currency.

Paranın Taşlardan Dijital Bloklara Evrimi: Değerin Dönüşümü

Öz

Bu çalışma paranın geçmişten günümüze evrimini ele alarak dijitalleşme ile günümüzdeki değişimini ele almaktadır. İktisadi düşünce dönemler boyunca farklı başlıklara eğilmiş, farklı analizleri gündeme almış olsa da değer ve adalet gibi kavramlar daima tartışmaların içinde yer almıştır. Dijitalleşme ile beraber paranın fonksiyonları hakkındaki yaklaşımlar da farklılık göstermiş, sosyal yapı üzerindeki etkilerine dair yeni olanaklar ortaya çıkmıştır. Bitcoin ile başlayan ve gücünü blok zincirden alan bu yolculuğa Merkez Bankalarının da dahil olduğu düşünüldüğünde, hayata geçirilecek uygulamaların geçmişteki endişeleri gidermesi, eşitlik ve adalet özelinde işlevsel olması büyük öneme sahiptir. Mevcut durumun iktisada ait önemli başlıklarla birlikte tartışıldığı bu çalışmada dağıtık para teknolojilerinin geçmişten günümüze nasıl geldiğine, taşıdığı fırsatlar ve olası riskler vurgulanarak geleceğe dair olası senaryolara değinilmiştir.

Anahtar Kelimeler: Bitcoin, Para Politikası, Blok zincir, Merkez Bankası Dijital Parası.

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Introduction

Almost every economics textbook underline three properties of money: it serves as a medium of exchange, it acts as a common denominator to measure value and it is a tool to store that value. By acting as a common medium of exchange accepted by the participants, money prevents the market from being flooded with thousands of different prices based on various goods, while simultaneously allowing individuals to plan their future in terms of their savings and consumption, enabling them to establish and exercise their preferences between different time intervals.

Given the turbulent history of economics, both scientifically and socially, it is easy to see that many events - scientific, technological, political, to name but a few - have raised a range of questions about the functions of money and how it can be defined. While some of these issues have been addressed by different schools of thought with varying perspectives and emphases, new debates still emerge. Indeed, different schools of thought have offered - and continue to develop - a wide range of approaches regarding the definition of “money”, its inner mechanism, its implications, and the aspects in which monetary effects unfold. At its core, it is safe to argue that money is indeed organic with such close ties to humanity. Money is not something exogenous or otherworldly (Dietsch, 2021:152); it is inherently molded by, interacts with and subsequently influences social institutions in a cyclic fashion.

The nature and role of money have been approached from different perspectives by numerous schools of economic thought. Many of these have taken different approaches to the concepts associated with money. Definitions or even methodologies regarding monetary variables have been controversial subjects throughout history and a historical analysis or a comprehensive comparison of these are beyond the scope of this paper.

This study aims to discuss the themes surrounding the concept of hard money, its history, its evolution through technological progress, how central banks are attempting to fit into the picture today and what the future may hold as social structures continue to evolve in which money holds a crucial role.

If sound money is to be recognized as a prerequisite for prosperity and a fairer, more transparent, more productive, and more robust economic structure is the ultimate objective, it should not be surprising to observe creative destructions along the journey. It should be wise to anticipate that conventional wisdom will be questioned in various contexts and economics, both as a social science and as a policy development tool, will not be exempt from this.

A (Brief) History of Economic Thought

A comprehensive history of economic thought and money is beyond the scope of this (or any) paper but the route that ultimately led to the current economic system deserves some attention. Various commodities have had their chance to be treated as money, and although many of them failed miserably, a few did achieve some degree of acceptance, at least for brief periods.

Ethics has always played a key role in economic thought and as the history of economics goes back to ancient times, some of the issues widely debated today can be traced back to these eras. Plato sought to explain the development of society through the division of labor, while Aristotle focused on money and prices, but also on value. As the ideas put forward by philosophers in this period treated the economy from an ethical standpoint, they were highly normative in their methods. Another ideology that influenced the economic perspective was mercantilism, which stressed wealth and trade while addressing the role and scope of government. The last mainstream approach worth noting here, physiocracy, attempted to explain the inner workings of the economy until classical economists came forward with a comprehensive analysis of the economic system. The physiocrats were ardent defenders of natural order and agriculture was a key aspect in their approach.

Although the thinkers of ancient eras lacked a fully scientific approach, they reveal a common quest to understand society that continues to the present day. Their influence transcends time. Aristotle's description of excessive consumption leading to harm later became established in microeconomics as diminishing marginal utility. Aristotle's distinction of value between exchange and use, and traces of Quesnay on classes, would be observed years later in Marx's schemes of reproduction, to name but a few (Sandelin et al., 2014:13).

Then came classical economics. Adam Smith, Jean Baptiste Say, Thomas Malthus, David Ricardo, J. S. Mill and many others contributed to the understanding of economics during this period. Classical economists mainly defended the concept of the stationary state, treated prices as a function of production costs or analyzed wages, rents and profits with a comprehensive approach to explain economic development. Adam Smith, the forerunner of the classical school of economics and often regarded as the first modern economist, focused not only on economics but also on moral philosophy. Liberty, freedom and human behavior were some of his concerns. Smith was not alone in this endeavor, as Mill shared a similar background. To add more, Ricardo dealt with wages and profits and Malthus influenced the field of political

economy and demographics, which proves a common concern among them was not only in economics but also in philosophical aspects. They are known to treat monetary issues with a basis on neutrality but their perspective has also faced some criticism (Humphrey, 1991).

Neoclassical thought dominated economics with a novel perspective on some topics explored by the predecessors. Although marginalism played some role in classical thought, it was the neoclassical economists who extended it to the whole system, with attention to the dynamics of equilibrium. To achieve the goal of maximum profit or utility, mathematics was crucial in their analyses. This tendency also points to a transition from political economy to economics, which later became evident in works by the pioneering neoclassical economist Alfred Marshall and many economists who subsequently engaged mainly with microeconomic issues (Sandelin et al., 2014:53). Although the historical development of neoclassical economics will not be discussed in detail in this paper, it should be noted that many economic concepts still widely used today - such as elasticity, surplus, marginal utility, indifference curves, to name a few - can be traced back to the ideas of these minds. Pioneers of the scientific method in economics such as Jevons, Walras, Marshall, Edgeworth, Pigou, Fisher and many others paved the way for a holistic understanding of economics. Later sections discuss the movements inspired by ideas of Jevons, Menger and Böhm Bawerk, stressing the importance of time preference and the fact that present goods are more valuable relative to future goods, which is reflected in interest rates.

Later mainstream thinking transformed with wars and the Great Depression, being expectedly short-sighted as a result. The economist who influenced macroeconomics greatly in his time, Keynes treated economic problems as consequences of lack in effective demand and regarded governments as saviors in times of crises to stimulate consumption. Unlike many of his predecessors, Keynes argued that equilibrium was the exception, not the norm. His standpoints were later challenged by many from different perspectives, such as monetarists who emphasized the concept of money demand although Keynes paid particular attention to the role of liquidity preference or Austrian economists who criticized Keynes for downgrading irrational decisions in his analyses to a level of animal spirits.

Many others have also contributed to economic thought throughout its evolution. Historical schools, as the name suggests, paid particular attention to the history of nations in their economic development. Similarly, institutionalists focused on social and cultural dynamics. Great thinkers of their

time, such as Marx and Engels, centered their economic analysis on class struggle. Although orthodox economics is still the major driver of policy decisions, decades of heterodox thinkers influenced many aspects of those policies. With the advance of technology and positive science, newly developed fields such as neuroeconomics, behavioral economics or game-theoretic approaches strongly oppose various assumptions of neoclassical thinking (Sandelin et al., 2014:42).

Although perspectives or questions may have differed, themes of value, money and interest rates, combined with questions about society, humanity and morality have always been present and will continue to be of interest in economics as a social science. Approaches to sound money may contain some of the answers to these concerns, which is discussed in the next section.

A (Brief) History of Sound Money

History provides several examples illustrating the effects of sound money and the destructive power of easy credit. Take Mongol Empire, for example - Marco Polo failed to convince others when he returned from his journey in Asia and witnessed Kublai Khan's tendency to force easy money across an empire. This is not surprising as it was unprecedented policy, described as mad by Marco Polo himself. Nevertheless, the banning of other coins and the forcing of the nation to use paper money, with diminishing and eventually non-existent levels of security, meant that a fully centralized Mongol state and a wealthy political elite eventually emerged (Goldstein, 2020: 29).

A better-known example of the demise of easy money originates from an island called Yap. The islanders, who used Rai stones as a currency, experienced an economy rather different from ours. These stones, brought from the neighboring island, meant that many islanders had to endure harsh conditions to travel and bring them back, only to place them in a central location to declare ownership by announcement to others. Until an American captain arrived with a handful of modern tools, the supply of stones meant hard work and a slow increase in stock. Although this newly created stones were initially refused, the increasing supply of stones created by this shock eventually led to disputes among the natives and the collapse of the economic structure. Rai stones had a high stock-to-flow ratio (Ammous, 2018: 38), which meant stable and predictable price movements. Similar scenarios can be observed in many continents throughout history, be it pearls or shells (Ammous, 2018), whose supply eventually increases beyond control, resulting in their abandonment as a monetary unit.

The (im)balance in the flow or stock of money sooner or later affects individuals by altering their time preference. For individuals to set expectations about the future, make decisions and choose whether to consume or save, they need to be able to predict the real value of goods in the economy. Otherwise, they may use their holdings for consumption (in some cases for hoarding) or for risky alternatives which inherently promise higher rates of return. Monetary policy not only drives economic decisions, but also motivates and guides behavior. If the flow or stock spins out of control and begins to hurt the economy, individuals will likely make the most rational short-term decisions with the imperfect information they have, resulting in a downward spiral. Primitive monies were not the only ones who suffered along the way and reached their inevitable fate.

With so many different commodities sharing this cycle of life, attempts were made to establish a common currency that could hold its value by forcing issuers to obey some form of boundaries. The monetary system between 1870 and 1920 was based on an economic unit of account pegged to gold, forcing central banks to hold reserves of bullions, thereby limiting their ability to create wealth unless it was backed by this common, accepted definition of value. It was not uncommon historically to value precious metals due to various reasons, but the adoption of a gold standard meant a firm commitment on an international level which promoted trade (López-Córdova & Meissner, 2003).

Unfortunately, many modern currencies have been through hard times when credit was desperately needed. World War I was critical in this context in modern history. A sudden, violent and enormous conflict meant governments needed sources to fund their armies, resulting in a prompt suspension of gold convertibility and central banks utilizing issued fiat money to keep on pushing. A four-year war meant destruction and credit booms, soon followed by inescapable inflation. Virtually all currencies depreciated against the Franc after the war (Ammous, 2018: 114), while the Swiss kept their currency pegged to gold until late 1990s.

The following attempt to establish a universally accepted unit of value was the short-lived Bretton Woods system after World War II. The shortcomings and performance of mixed currency regimes are widely debated with conflicting results (Bordo, 1993) but Bretton Woods' prominent legacies are institutions including the World Bank and the International Monetary Fund whose policies continue to spark controversy in economic debates. The system lasted until 1971, when the de-facto dollar standard was abandoned by the US after an expansionary period when the country faced a huge trade

deficit, threatening the role of fulfilment of other countries' currencies conversion to gold. This paved the way for the emergence of the dollar as a reserve currency later, only this time the necessity to hold sufficient reserves was not an obstacle.

The fractional reserve system made it easy to adopt expansionary policies that benefited debtors and traders, as banking practices continue to transform (Peneder, 2022: 186). With rapid innovations in finance and banking, societies' perceptions of money can change, bringing new opportunities and new risks. As monetary policy influences the society, it needs to treat every member of the society in a just manner, as argued in the next part.

Money and Justice

Monetary policy, whether conducted by a single authority or by multiple central authorities, demands attention. Money creation and credit allocation can be unjust, not only on an individual level but also in interbank lending. From this perspective, money has and will always have significant functions in contributing to social justice (Dietsch, 2021: 152).

From Cohen's (2011: 74) perspective, freedom is the ability to decide, to be free of influence, and not having money means being less free. Dietsch (2021: 169) illustrates this with the fractional banking system, where taxpayers usually suffer losses in crises, even boom and bust tend to exhibit distributive bias and prospects are asymmetric, creating moral hazards. Shareholders and too-big-to-fail firms are usually the ones who come out the better off because of political decisions. Butler (2022: 84) uses the term Schrodinger's debt in a similar vein while referencing Modern Monetary Theory: "*If a debt is not have to be paid back, is it really a debt?*" A similar question is posed by Wray (2002: 26);

"If the central bank cannot control reserves in a discretionary manner, and if the deposit multiplier is reversed, and if the supply of privately created money is essentially determined by the demand for loans, then what can the central bank control?"

These questions may have a philosophical dimension that goes beyond economics, but they certainly have relevance to the individual's relationship with money.

In a floating currency system, governments are not required to back their currency with reserves. Policy decisions can be made without fear of erosion of holdings to varying degrees according to their economic power. The benefits of decisions to the public can be controversial.

Sound money is essential to curb the power of central banks and their capacity to expand money for political gain. Once the genie is out the bottle, the cycle begins, transforming money itself and society. Inflation cannot be treated as merely a change in prices, as its effects fundamentally transform society, including trust and social justice. An economist was among the first to observe one of these effects, now known by his name as the Cantillon effect: Those who first get hold of newly created money in an inflationary phase are the ones who benefit the most while hurting the rest, usually the poor.

As justice needs a solid foundation, monetary policy does as well. Technology not only changed the mechanics of data transfer but also of value.

Technology and Money

Although Fukuyama (1996) was generally receptive but skeptical about the magnitude of technological progress and the power of information when Internet was the “big thing,” he discussed the close relationship between trust and social capital under centralization. Since then, much has been accomplished in the direction of a decentralized future, both in economic and social systems. As many events that unfolded decades before ours have shown, over-centralization is a threat to society and the individual, decreasing trust and increasing costs.

As one of the prominent members of the Austrian School, Hayek (1984) had a somewhat more extreme opinion about centralized currencies, which he shared in an interview:

“I don’t believe we shall ever have a good money again before we take the thing out of the hands of government, that is, we can’t take them violently out of the hands of government, all we can do is by some sly roundabout way introduce something they can’t stop.”

Surprisingly, Bitcoin comes close with a decentralized approach regarding value and information.

The mortgage crisis of 2008, one of the many economic and financial crises throughout history, revealed the need for fair use of technological advancements - and possibly the means of utilization in this perspective - to fix the financial system. It was in this atmosphere of volatility that Satoshi Nakamoto (2008) proposed a decentralized, peer-to-peer payment system on an online community. His suggestion to “get some in case it catches on” was prophetic - bitcoin would soon become a global phenomenon and gain popularity. The mortgage crisis was characterized by the intensive use of derivative tools and mathematics in finance, but digital payments and cryptography

lacked significant traction until then. It appears that the time was now right for such solutions to emerge.

One of the most debated aspects of the current monetary system revolves around the concept of privacy. Mooradian (2009) emphasizes the importance of privacy in terms of its evolution and theoretical basis and it is safe to acknowledge the importance of its intrinsic value, its ever-changing impact on society and social networks.

To address concerns regarding privacy, Bitcoin was introduced along with the concept of blockchain, which cryptographically validates the financial data of participants in the network, in a way transforming trust into a digital meta. Many improvements have been implemented to support this perspective, such as Taproot in 2022, which made it even more difficult to trace specific entities while increasing efficiency. Whether privacy is seen as a final good or not, it has intrinsic value that allows resistance to censorship and facilitates interchangeability (Bailey et al., 2021:15).

One of the main conundrums is determining the optimum level of privacy, assessing when it reaches its maximum utility (and, to quote neoclassical economics, when its marginal utility begins to decline) to avoid harming society. Bitcoin can be considered one of the lesser private cryptocurrencies, as others with more radical approaches to privacy, such as Monero, are more difficult to track. Given the early history of cryptocurrencies, it is not surprising that news about their use for money laundering or other crimes still emerges every other day, along with academic attention to future crimes (Trozze et al., 2022:15).

As Bailey et al. (2021:15) point out, companies and states themselves can use censorship to restrict speech or financial activity, thereby reinforcing biases around sensitive topics. This trade-off between surrendering freedom to empower and trust others to combat unlawfulness deserves thoughtful consideration.

Bitcoin is also enlightening in terms of observing the social effects of money. Blockchains are not static, but in an ever-changing dynamic and defining them socio-digital as Caliskan (2020: 530) does can be appropriate. From this perspective, Bitcoin, like society itself, is sometimes contradictory at its core. As Dodd (2018:36) points out, the network consists of different members with different political views and different financial backgrounds, demonstrating pluralism. Dodd (2018: 37) asserts that for Bitcoin to succeed as money, it must fail as an ideology. Treating Bitcoin as a tool for denying money's dependence on social relations can be a limited view of the ideological background

of Bitcoin. It may seem paradoxical to observe the trust in the Bitcoin community which believes in the transformation of trust but this can well be interpreted as trust in different aspects, money and people. Citing Simmel, Dodd (2018: 52) emphasizes the importance of society and shared experience of existence in relation to money, demonstrating dualities in Bitcoin but technological developments may change what we define as “money” or how seemingly contradictory traits or shared experiences can coexist.

A similar critique comes from Nelms et al. (2018: 27), claiming money without the state is also money without a society as in cryptocurrencies. An opposing perspective by Butler (2022: 94) may help explain the seemingly paradoxical structure of Bitcoin: the diversity of participants is a function of Bitcoin, independent of the system itself. The common denominator is the lack of trust in centralized process of monetary policies. Highlighting the failure of states to monopolize money, Bitcoin’s emergence as a social resistance that transcends all national boundaries undoubtedly requires asking questions that have never been asked which may challenge conventional wisdom.

Dodd (2018: 52) quotes Simmel’s treatment of money as a claim. Schumpeter also treated money as a claim ticket to goods and technology as social accounting (Peneder, 2022: 180), emphasizing the role and function of accounting with special attention to innovation. Although Bitcoin’s core ideology can be broadly explained by the Austrian School, its perspective also incorporates the viewpoints established by many predecessors. Brunnermeier et al. (2019: 29) take the idea of decentralization a step further by unbundling or rebundling the functions of money between currencies, with increased competition parallel to the lower switching costs associated with digitalization.

Claim theory means a break from the emphasis on money as a commodity and opens new horizons about supply-side mechanics. Another fundamental aspect of bitcoin is scarcity in its code with the flow diminishing over time through halvening (Şahin & Bulut, 2021: 498), projected to reach zero around 2140. With Austrian perspective in its roots and the 2008 financial crisis in recent memory, many Bitcoin supporters are resistant to any level of inflation. Often referred to as digital gold, bitcoin is coded to be sound with a predictable stock-to-flow ratio. However, some investment methods utilizing this property have yielded controversial results (Morillon & Chacon, 2022).

In conclusion, Bitcoin was first of its kind and despite being pronounced dead again and again, keeps rising from its ashes to face its next challenge. Bitcoin cannot be defined as merely a currency, a network, a community or an institution, but perhaps a mix of all those. As its journey continues, it will not

be surprising to see alternatives fulfilling roles like automated value transfers (i.e. Ethereum) or other functions once thought improbable. In this evolutionary path of money, central banks face their own set of challenges to address.

Central Bank Digital Currencies

Given the critical role of money supply and its flow, different perspectives on this topic can be traced back to years ago with possible remedies; the adoption of the gold standard, the establishment of monetary policy rules or the privatization of money (Togay, 1998: 55), essentially setting the boundaries of monetary policy and its actors. CBDCs do not differ from the common approach in terms of monetary policy in the current economic system, they have the potential to simply offer a speedier digital infrastructure compared to the current one.

When public and private approaches to blockchains collide with different methods for establishing the rights of participants, the emerging product is typically a permissioned blockchain. This infrastructure is likely to serve as a foundation for networks to implement CBDCs. A permissionless network means participants can potentially play any role, but certain purposes will require differing infrastructures. Table 1 summarizes possible use of those in terms of availability to public and the right to manage data (in case of CBDCs, bookkeeping).

Table 1 Different Implementation Methods of Blockchain and Value Transfer

Type of Blockchain \ Right to Manage Data	Public	Private
Open	Transaction and data management are both permissionless (<i>Bitcoin</i>)	Transaction needs permission, data management is permissionless
Closed	Transaction is permissionless, data management needs permission (<i>Possible CBDC</i>)	Both transaction and data management need permission (<i>Specialized tokens or cryptocurrencies</i>)

There is some potential for CBDCs to increase financial inclusion, enable faster settlements and improve the efficiency of monetary policy (Bank of International Settlements, 2022: 76). However, the methods of implementation will most likely require some forms of tradeoff within different segments of society, and this demands a way of thinking that goes beyond the utilitarian

view of economics. In a simplistic sense, it is safe to assume that digital currencies will differ only in the method of storing information at their current state, but not in value, as opposed to cryptocurrencies, which offer a radical approach. CBDCs are more likely to be a variant of digitized fiat money, leveraging a distributed infrastructure still constrained by select actors, albeit less than the current system.

By their nature, CBDCs cannot be fully decentralized. Therefore, concerns about censorship and distributive bias may remain. In addition, the near-instantaneous transfer of value and data may eliminate lags observed today in executions of monetary policy, encouraging short-term decisions by authorities for political gain. Fair implementation of blockchain may be beneficial, but history suggests authorities tend to act differently. Bitcoin and blockchain were born for this exact reason. Ironically, the (partial) adoption of the underlying technology by central banks is now on the table.

Although various methods of money creation and its distribution are still being tested along with interoperability, CBDCs will be monopolistic. They will also be susceptible to many risks, as currencies are now, along with technological risks. If used democratically, they could serve as a steppingstone towards greater technology adoption and more fair distribution in the future.

Nigeria's experience with the first publicly accessible blockchain and corresponding digital currency, eNaira, has revealed an increased interest in FinTech, suggesting that CBDCs can be instrumental in promoting financial inclusion (Ozili, 2023). With significant remittance flows evolving alongside a parallel interest in cryptocurrencies, the Central Bank of Nigeria leveraged blockchain to curb any sort of undocumented inflows to the greatest extent possible, while combating informality (International Monetary Fund, 2022: 33). The adoption process also lowered the costs compared to the prior infrastructures, further boosting financial inclusion but also with challenges mentioned above (Ozili, 2022: 20).

While there are many positive outcomes to celebrate alongside this interest, such as increased financial inclusion and literacy, the eNaira still has a long journey ahead of it to achieve its ambitions, which will require collaboration between national institutions (Wezel & Ree: 17). Much remains to be seen in the coming years.

On a final note, the Central Bank of the Republic of Türkiye announced the development of its CBDC with partners in 2021. Interoperability was one of CBRT's main concerns, and offline payments, the integration of a digital

TL and the establishment of a cross-border platform were in focus (BIS, 2022: 195). Since then, steps have been taken towards open banking and the digital lira has reached the pilot phase with ASELSAN, HAVELSAN and TÜBİTAK BİLGEM and various banks.

CBDCs will carry a lot of similarities with current monetary mediums in many aspects, but the economic actors' roles may change via different methods of implementation. As Bjerg (2017) put it, the adoption of CBDCs alongside cash as a complementary medium can shape the structure of money supply, the drivers of equilibrium and interest rates, or even the role of central banks as lenders of last resort. Given the different economic dynamics around the world, each country's adoption process is likely to face unique risks and challenges with diverse paths and outcomes that deserve in depth analyses.

Conclusion

Money, as a dynamic instrument with an ever-evolving nature is shaped by society and reciprocally molds the society back. The history and evolution of money cannot be analyzed without paying attention to political, legal and social trends, let alone its definition. History has shown technology played a key role in the transformation of money and its functions in many instances. From this perspective, it is possible to treat the blockchain technology as a catalyst for creative destruction, much like the industrial revolution.

Like a complex organism, the dynamics of change in the perception of value in modern societies can be challenging to uncover. Nevertheless, technological tools offer a glimpse into shared visions by increasing efficiency through fast moving information, combating asymmetry, and digitizing trust by eliminating third parties whenever possible. Given the current system can be biased in many ways, decentralization of information, trust, or power can offer benefits to vulnerable groups.

Bitcoin has sparked an unprecedented journey in monetary history and CBDCs will soon be a reality offering new opportunities. The digitalization of money and the journey itself will offer valuable lessons to achieve a just and effective social structure, probably with hurdles along the way.

As Eichengreen (2019: 12) pointed out, the evolution of money is not linear. From barter to fiat money, history has witnessed many commodities serve as currency and disappear at some point. With technology, new ideas and tools see the light of day, bringing new perspectives and methods, and new possibilities. However, these are rarely positive sum games and require

careful consideration. As we get closer to the reality of CDBC's with many shortcomings of the current system, the future holds many opportunities and risks we have not yet seen with tools we have not yet imagined.

The main concerns and questions of humanity which have been carried over from the ancient philosophers to contemporary economists are still the same. However, through achievements of humanities the power to solve many of those challenges to establish a just system is in our hands. Nevertheless, with great power comes great responsibility and parallel to the philosophy shared by many Bitcoiners, decentralisation may be a viable option when the stakes are higher than they have ever been in this ever-shifting economic landscape.

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