DOI: https://doi.org/10.59503/29538009-2025.1.15-166

THE ORIGIN AND DEVELOPMENT OF CRYPTO-ASSETS

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Abstract: It is imperative to examine cryptoassets in depth, the "reasons" for their emergence, the opportunities for development, and the risks that come with it. Cryptoassets are considered as an innovation in the function of the financial system from the moment of the publication of Nakamoto's paper in 2008 and the subsequent launch of Bitcoins in 2009. Cryptoassets are a new class of digital assets that exist "thanks" to DLT technology of which the blockchain technology is a part. Such a historical perspective is relevant for further development of cryptoassets, their expansion and increased intertwining with more traditional segments of the financial industry and the global economy as a whole. In this article, an evaluation of the emergence and historical cultivation of crypto-assets will be discussed, as well as how the underlying technologies support their growth and likely future trends in the developing digital assets market.

Keywords: cryptoasset, cryptocurrency, bitcoin, blockchain technology, DLT

JEL codes: G23, O33

Research aims: This research aims to investigate the genesis and development of crypto-assets, concurrent with technological

progress. It will also explore growth patterns and future potential of crypto-assets in the context of the global economy.

Research novelty: The novelty of the study lies in the fact that it reveals and articulates the trajectory of cryptoassets within the global economy. By examining their emergence through technological advances, this study reveals the complex interplay of innovation and market dynamics, offering new perspectives on the risks and opportunities associated with digital assets. Unlike existing literature, this study emphasizes the integration of cryptoassets into traditional financial systems and explores their potential as transformative tools in the transformation of global financial systems.

Introduction

Crypto-assets are often associated with increasing criticism of classic financial systems, which have high fees for operations, opacity, monopolistic management. Although generally classified as speculative investments at the beginning, crypto-assets have transformed themselves into new classes with different forms and effects on the various segments of the economy. Today, cryptographic securities include a vast number of tools and each of them has its functions within the digital economy. Bitcoin – created in 2009, and still the most widely known cryptocurrency – paved the way for the modern world of decentralized finance. Unlike the conventional physically printed currencies that are managed by central authorities, Bitcoin is a decentralized virtual currency its dissemination is over a peer-to-peer network (Nakamoto, S. 2008). However, despite such affiliations to traditional financial markets continuing to strengthen, there is still relatively scant regulation.

The volatility characteristic, which was previously apparent when crypto-assets were not yet as interwoven in financial markets, remains locked within crypto-assets but as crypto-assets penetrate financial markets, the risks of systemic implications are amplified. This is even more so given that most platforms for trading in cryptocurrencies are not very well regulated. Should the trends persist unsubsequently to adequate supervision and regulation, the integration of crypto-assets within the global traditional economies is likely to present serious risks in the global financial stability especially in emergent economies where these assets are utilized in evade capital controls (Financial Stability Board, 2022).

Research results

Blockchain originated as a part of distributed ledger technology (DLT), which was developed in the late 20th century. DLT functions as a digital ledger containing information (as a record or register) that can be simultaneously used and distributed across a network (as a shared digital ledger). This technology is believed to make recorded data immutable and the process transparent, making it decentralized through public access networks.

However, the practical outcomes can differ from the initial technological conception. Almost anything of value (assets) can be tracked and exchanged using blockchain. Blockchain works with tokens (values in a digital ledger), tokenization (using blockchain for existing assets), and smart contracts (computerized and pre-defined conditions that execute automatically). Currencies and assets can be exchanged and traded in both the "real" and virtual worlds. The use of blockchain for currencies originated from

analyzing the shortcomings of traditional financial environments. Crypto-assets range from tangible to intangible assets, and understanding them requires examining their nature and the conditions of their digital definition. Over a decade, numerous challenges have emerged, ranging from consumer protection to preserving the legitimate economy and the carbon footprint of crypto-assets (European Parliament, 2023).

The phenomenon of crypto-assets can be defined and analyzed from various perspectives, particularly the underlying technologies, their characteristics, and the economic implications of such assets. While the use of cryptography is indirectly related to the choice of the term "crypto" asset, traditional assets such as money and financial instruments can also be recorded using the same technology, typically distributed ledger technology (DLT). Therefore, DLT is not a factor that distinguishes new phenomena from other assets that are digitally recorded using more traditional technologies. Moreover, any issuer of a digitally recorded asset is, in principle, free to change the technology used to record it. This implies that using DLT as a defining element of crypto-assets would hinder data comparability over time and limit its informational content.

Therefore, the ECB has decided to define crypto-assets as 'a new type of digitally recorded asset based on the use of cryptography and does not constitute or represent a claim on, or a right to, payment or delivery of money or of any other assets by any entity'." The focus, therefore, is on crypto-assets as a new asset class from a regulatory, economic, and business perspective, rather than on the technologies that are currently necessary for its

existence but are not unique to it. The fact that a crypto-asset does not represent a claim on any identifiable entity means that its value is based solely on the expectation that other users will be willing to pay for it in the future, rather than on future cash flows that users can base their expectations on (European Central Bank, 2019).

The volume of cryptocurrency transactions has grown rapidly worldwide, especially since the beginning of the COVID-19 pandemic and against the backdrop of weakening global financial conditions. Given its growing scale, diversity, complexity, and interconnectedness with the regulated financial system, which can increase risks, understanding the main driving forces behind the use of crypto-assets is important from the perspective of policymakers, users, and industry.

Although Bitcoin and other crypto-assets, including stablecoins, are not widely used as a medium of exchange at present, some recent research suggests that Bitcoin has been used as a means of internal transactions and international payments. Regarding decentralized finance conclude that it has the potential to overcome the traditional financial sector's characteristic challenges of centralized control, limited accessibility, inefficiency, opacity, and lack of interoperability.

When it comes to decentralized finance (DeFi), Harvin and their colleagues (2021) argue that it has the capacity to address the typical shortcomings of traditional finance, such as centralized control, restricted access, inefficiencies, lack of transparency, and limited interoperability (World Bank, 2023).

Despite the widespread use of the term "crypto-assets" in economic literature, there is currently no universally accepted definition for this term. International organizations, financial regulators, and banking institutions use various definitions of crypto-assets to regulate their circulation and activities. Prices surged sharply in 2013 and 2017. The combined market capitalization of crypto-assets has grown significantly in recent years. In 2021, it reached a historic high of nearly $2 trillion, after which market capitalization fell sharply to $1 trillion in the second quarter of 2022. The decline in market capitalization coincided with the tightening of global monetary and financial conditions, but it was also due to specific negative developments in the sector, such as the failure of Terra Luna, a major stablecoin project, and the 'death' of several crypto-assets (World Bank, 2023).

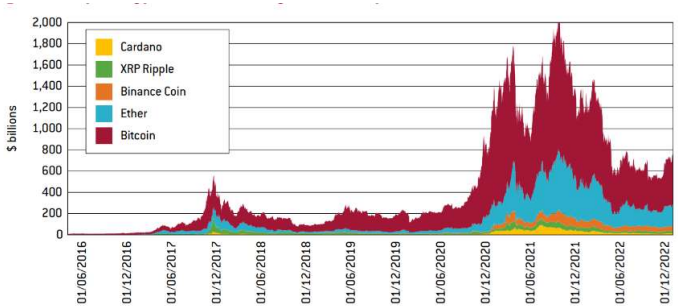


Figure 1. Top 5 cryptocurrencies by market capitalisation ($ billions)

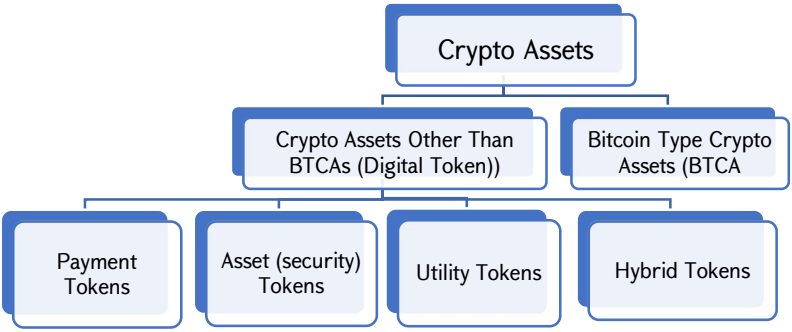
Source: *Demertzis, M. and C. Martins. (2023)*

Figure 1 presents the top 5 cryptocurrencies by market capitalization for the period 2016-2022.

To understand the various motivations behind cryptocurrency activity, it is crucial to accurately measure it. However, while public blockchains allow anyone to view the complete historical data of on-chain transactions, their pseudonymous nature makes it virtually impossible to link individual or corporate identities to on-chain addresses, unless, for example, they have undergone KYC (World Bank., 2022).

Cryptocurrencies are classified into several types based on their underlying foundation.

Different international organizations define and classify crypto-assets in several ways. According to one of the articles published by the IMF, crypto-assets are classified as shown in Figure 2 (International Monetary Fund, 2018).



Figur 2. Classification of crypto-assets

The IMF classifies crypto-assets based on their economic characteristics and whether they represent a claim or liability on another entity.

However, similar to the opportunities these provide, crypto-assets and the technology they use to emit them create risk factors that can certainly cause significant issues from a financial stability standpoint. Crypto-assets as they are in the process of developing themselves pose both opportunities and risks when incorporated with conventional financial systems. On the one hand, they provide new approaches to improving the existing centralized financial system especially in the sphere of cross-border payment that requires the highest level of speed and cost optimization. One potential of such smart contracts is shown by decentralized finance (DeFi), which establishes an equivalent of traditional finance without middlemen. Nevertheless, where crypto-assets have previously been comparatively insignificant with rather low potential rates, we are now seeing a clear tendency of the growth momentum together with equally high volatility probability. Thus, the issue arises to determine the characteristics with regard to which the use of crypto-assets is allowed, and legal requirements that, on the one hand, will prevent the appearance of potential threats on the other, will create favorable conditions for financial organizations. However legal regulation should not be such that it eliminate attractiveness factor entirely, they should be designed along lines of minimizing risks. The regulation and control bodies of countries should perform clear work not only in terms of defining the range of regulation but also to conduct explanatory work with different layers of population because of its novelty and relative opacity can serve as a reason for significant financial losses

Conclusion

Bitcoin was launched in the year 2009, and over the last decade, cryptoassets have grown to be more than just a tool for speculation where today they include stable coins, utilitarian tokens and even security tokens. That is still weak but gradually growing, and cryptoassets are seeping into various segments, from decentralized finance to asset tokenization. Having appeared in our world only recently, cryptoassets must become the subject of cognition in our time, as, on the one hand, they actively develop, on the other, there are various opportunities, threats, and trends in their influence on financial markets.

Significant increase in quantity and quality of crypto-assets calls for creation of innovative regulatory and developmental models. The right policies are pivotal to realizing value from the digital currencies and reduced macro-financial risks to the globe by ensuring that these Cryptographic instruments are an interconnect cogs in an efficient global financial structure.

Another area where such organisations need to be vigorous involves public education among large sections of the general population. As novel and partly unregulated investment instruments, crypto-assets can be highly risky for users; therefore, it is crucial to increase understanding about them. In new environment of global economy, it will be crucial to find optimized regulation strategy combined with equally effective education strategy in order to derive more benefits from crypto-assets while avoiding negative impacts. This article takes a trajectory approach in its analysis so as to present a clearer picture on the history of crypto-assets, how they have evolved and what role they play in the evolution of financial systems.

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Աննա Բալասանյան
Հայաստանի պետական տնտեսագիտական համալսարան,
հայցորդ

Բանալի բառեր - կրիպտոակտիվ, կրիպտոարժույթ, բիթքոին, բլոկչեյն տեխնոլոգիա, DLT

Ժամանակի հրամայականն է խորը ուսումնասիրության ենթարկել կրիպտոակտիվները, դրանց ծագման «պատճառները», զարգացման հնարավորությունները և այդ հնարավորությունից բխող ռիսկերը: Կրիպտոակտիվների առաջացումը համարում են ֆինանսական համակարգում հեղափոխական իրադարձություն, որի ազդարարարումը կարելի է համարել 2008 թվականի Նակամուտոյի հոդվածը և հետագայում՝ արդեն 2009 թվականին բիթքոյին գործարկումը:

Կրիպտոակտիվները թվային ակտիվների նոր դաս են, որոնք գոյություն ունեն DLT տեխնոլոգիայի «շնորհիվ», որի

տարատեսակ է բլոկչեյն տեխնոլոգիան: Կրիպտոակտիվների ծագումն ու էվոլյուցիան հասկանալու կարևորությունը կայանում է նրանում, որ ավանդական ֆինանսական շուկաներում և ավելի լայն համաշխարհային տնտեսության մեջ դրանք գնալով աճում և ինտեգրվում են: Հոդվածը ուսումնասիրում է կրիպտոակտիվների ձևավորումը և պատմական զարգացումը՝ տեխնոլոգիական առաջընթացին զուգահեռ, որոնք հնարավորություն են տալիս դրանց աճին և ապագա միտումներին:

Submitted: 30.01.2025; Revised: 14.02.2025; Accepted: 03.03.2025