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THE IMPACT OF DIGITAL CURRENCY IN THE MODERN ECONOMY

Abstract. New technologies favored by advances in cryptography are causing a radical change in the global economy, especially in the financial sector. One of the most important developments of digital technology in the financial sector is the birth and spread of cryptocurrencies or "virtual currencies", the most popular of which are Bitcoin, Ethereum, Litecoin, Ripple, etc. Digital currency has the potential to completely change the way society thinks about money. The rise of Bitcoin (BTC), Ethereum (ETH) and thousands of other cryptocurrencies that exist only in electronic form has led global central banks to explore how national digital currencies might work. This material aims to familiarize with the virtual currency infrastructure and evaluate the challenges and opportunities that the market entry of these currencies and their technology create for the financial policies of central banks. Like other technological innovations, virtual currencies represent a challenge for financial regulators, especially due to their anonymity and cross-border character. The infrastructure potential of digital currencies is considered the most promising premise for payment systems. The interest of the monetary authorities of large economies is focused in this direction. With this study, it is intended to create a broad and defined picture on the impact of digital currency and technologies in the modern economy. The results of this study will be able to contribute to policy formation and decision making.

Keywords: Cryptocurrency, Bitcoin, Ethereum, Digital Currency, Blockchain, DLT.

Introduction. Digital currencies, or cryptographic currencies, are a form of currency that moves only in the digital world. Their market value fluctuates as a result of individuals' demand for transactions or their expectations about the possible increase in the market price in the future. They have no physical form and are not connected to traditional financial institutions such as banks that control traditional currencies. One of the most popular crypto currencies is Bitcoin, but there are also many other currencies such as Ethereum, Ripple, Litecoin, etc. Digital currencies rely on technology known as blockchain, a public and distributed ledger that stores all transactions made with cryptographic currencies. The attention of the financial industry and academic actors has focused on the Bitcoin infrastructure. The technological innovation implemented in the infrastructure for carrying out Bitcoin transactions is referred to by the term "blockchain". "Distributed ledger

technology" (or DLT) is a more general term of "blockchain" technology, which includes modified versions of the infrastructure for the needs of different industries. DLT has the potential to revolutionize many areas of industry and society in general. Its applications include cryptocurrencies, financial services, supply chain management, electronic voting, data security, ownership transfer and many more. By using DLT, more transparent, efficient and secure systems can be built, eliminating the need for intermediaries and allowing direct and secure participation of stakeholders in a distributed network. Cryptocurrency exchanges, where digital currencies can be bought and sold, are highly volatile and investing in digital currencies is risky and can result in significant financial loss. It is always advisable to do research and consult with financial experts before starting to use or invest in digital currencies.

Beginning of the Digital Age. The concept of virtual money has a relatively short history compared to physical forms of currency. A brief history of key developments in the history of virtual money:

Early Digital Currencies (1980s-1990s): From the late 1980s and early 1990s, several digital currencies appeared. A notable example is Digi Cash, created by David Chaum in 1989, which aimed to provide secure electronic transactions through cryptographic protocols.

E-Gold (1996–2008): E-Gold, launched in 1996, was one of the early successful attempts to create a digital currency backed by tangible assets, in this case, gold. Users could open accounts, deposit funds and transact using e-gold units. However,

legal issues and concerns about possible use for money laundering led to its closure in 2008.

Bitcoin and the Birth of Cryptocurrencies (2008): The publication of the Bitcoin white paper in 2008 by an anonymous person (or group) known as Satoshi Nakamoto marked an important step in the history of virtual money. Bitcoin introduced the concept of a decentralized digital currency based on blockchain technology. It gained attention as the first cryptocurrency, allowing secure peer-to-peer transactions without the need for intermediaries.

Expansion of Cryptocurrencies (2010s): The success of Bitcoin paved the way for the development of many other cryptocurrencies, also known as altcoins. These include Ethereum, Ripple, Litecoin and many others. Each cryptocurrency operates according to a unique set of characteristics and features, but all share the common characteristic of being digital and decentralized.

Initial Coin Offerings (ICOs): In the mid-2010s, the cryptocurrency industry saw the rise of Initial Coin Offerings. ICOs enabled cryptocurrency firms to raise funds by selling their new coins in exchange for popular cryptocurrencies such as Bitcoin or Ethereum. This method contained regulatory risks due to bogus projects and undefined security offerings, leading to increased oversight and tighter regulation.

Central Bank Digital Currencies (CBDCs): In recent years, many central banks around the world have begun to explore the idea of issuing their own digital currencies. These CBDCs will function as digital versions of their fiat currencies, offering benefits such as faster transactions, improved security and increased financial inclusion. Several countries, including China, Sweden and the Bahamas, have made significant progress in developing and testing their CBDCs.

The story of virtual money continues to evolve rapidly as technology advances and financial systems adapt to the digital area. The impact of cryptocurrencies and digital money on the global economy, finance, and everyday transactions remains an ongoing topic of discussion and exploration.

The Benefits of digital currencies:

Mobility: Digital currencies are easy to transport and transfer over the Internet. This property makes them highly mobile compared to physical currencies and traditional credits.

Security: Transactions with digital currencies are secure and encrypted. Blockchain technology, used to record transactions, provides a high level of security and traceability.

Low costs: Due to the absence of traditional financial institutions such as banks, digital currencies can reduce transaction costs and eliminate the need for transfer taxes.

Independence from the banking system: Digital currencies allow individuals to transact and store their wealth without the need for a traditional bank account. This gives individuals more independence and control over their money.

The Challenges of digital currencies:

Cyber security risk: Cyber security is an important issue for digital currencies and for the digital environment in general. With the increased use of digital currencies and related technologies, the risk of cyber-attacks and cyber-theft has increased. Hackers can attack and steal digital currencies if proper measures are not taken to protect users' identities and money.

Volatility: The price of digital currencies can change a lot in a short period of time. This makes trading them very risky and makes it difficult to use them for everyday purposes.

Lack of regulation and consumer protection: Digital currencies are not yet regulated and protected to the same level as traditional financial systems. This can be shown as a risk to users if security problems or violations of their financial rights occur.

Lack of universal acceptance: Although the acceptance of digital currencies is expanding, they are still not accepted in all countries and businesses. This lack of universal acceptability may limit their use in some circumstances.

What is Blockchain? Blockchain technology is the result of combining the early principles of cryptography and collective collaboration in solving algorithms, which

allows storing and verifying data in a transparent, secure and irreversible way. Contains a permanent record (block) of transactions linked to a distributed network of computers that work together to validate and confirm transactions. Basically, blockchain is a chain of data blocks, where each block contains defined information and is linked to other blocks in a way to create a history of all transactions. This history is encrypted and secure, using cryptographic techniques to prevent data alteration and block manipulation. One of the key characteristics of blockchain is its distributed nature, meaning that the ledger is stored on all the computers that are part of the network, rather than being persistent on a single server. This makes it very difficult to manipulate data or breach its security. Blockchain is a fundamental technology used in cryptocurrencies such as Bitcoin, but has potential applications in many other areas, such as financial transactions, identity management, logistics, justice, and many others.

Another innovation that can be implemented through blockchain technology is the use of smart contracts. Smart contracts are a type of contracts that use blockchain technology to execute and enforce agreements. The use of blockchain technology gives smart contracts the ability to execute and store their information in a transparent, sure and verifiable manner. Smart contracts are programmed to operate automatically when certain conditions are met. This is because the contract information is encoded in a blockchain and the programmed code is automatically executed. This process reduces the need to rely on a third party to enforce the contract, as enforcement is automatic and transparent. The use of smart contracts has a tremendous potential in reducing the costs of economic transactions, replacing traditional transaction intermediaries, such as: notaries or payment systems with automated programs. This is one of several aspects of this technology that are thought to be able to fundamentally change the financial sector in particular and the service sector in general. For example, a smart contract for the purchase of a property can be programmed to release funds to the seller's account only if the buyer has transferred the entire required amount. This ensures that both parties get what they agreed to in the agreement, without the need for a notary or third party agent to verify and enforce the contract. In addition to the automatic execution of contracts, blockchain technology makes it possible to store data securely and transparently. Smart contract information is encoded in the blockchain, making it impossible to change the data or manipulate the agreement. This helps reduce conflicts and the need to rely on judicial authorities to resolve disputes. Although smart contracts offer several advantages, it is also important to consider the challenges and risks that come with them. Some challenges may include the protection of privacy and personal data, the security of blockchain technology, and the impact of various regulations and laws. To use smart contracts, technical knowledge is needed to program and implement the contract code on a given blockchain. Also, it is necessary to have a platform or an environment that enables the creation and implementation

of smart contracts. In conclusion, smart contracts are contracts that use blockchain technology to execute and enforce agreements in a transparent, sure and automatic manner. They offer the potential to increase efficiency, reduce costs and eliminate the need for third parties in the contract enforcement process.

The Opportunities that this Technology offers in Albania Payment systems and payment methods are areas where a comprehensive transformation has been happening for years and will continue to happen, driven by the demands and needs of a more connected and interactive world, as well as the opportunities offered by technological development. Since cryptocurrency is now relatively widely used, the need for legal regulation has arisen. Albania is among the first countries to have adopted a law regulating the cryptocurrency market. On May 20, 2020, Law No. 66/2020 "For financial markets based on distributed ledger technology", otherwise known as the "law on cryptocurrency", making Albania the 3rd country in Europe for the official legalization of cryptocurrency. At first glance, the law seems quite detailed, although it has received many criticisms, characterizing it as a hasty and ill-considered decision-making with the argument that Albania, as a whole of its economic elements, is not yet ready and prepared for cryptocurrency. Law No. 66/2020 aims to regulate the issuance of digital and/or virtual currencies, the licensing, monitoring and supervision of entities operating in the activity of distribution, trading and storage of these currencies, digital currency agents, innovative service providers and automated enterprises to collective investments.

Digital currency technology has the potential to bring great changes and advantages to Albania's economy. The implementation of technology will affect the minimization of liquidity and credit risk. Here are some opportunities that digital currency technology can bring to Albania:

Easier movement of funds: Through digital currency, financial transactions can be done easily and quickly. This would help reduce the cost and time of international and interbank transactions.

The remittance sector: In a massive market with a flow of around 2 billion euros per year, it is the first to be positively affected by this new development. In the field of remittances, transferring money to other countries through traditional channels often has high costs, complicated procedures, and the time required to complete transactions can be long. Blockchain technology can provide solutions to these challenges.

The financing of small and medium-sized enterprises through ICOs (digital methods of collecting funds, similar to public offers on stock exchanges) allows Albanian commercial companies to have access to more opportunities to raise capital, thus diversifying financing methods. of projects, not simply remaining at the mercy of bank loans.

Financing of innovation and startups: Digital currency technology, including blockchain-based open financing platforms (crowdfunding), can help increase opportunities

for financing innovative projects and startups in Albania. This type of financing has the potential to lower barriers to market entry and increase the level of investment in new and technology sectors.

Reduction of corruption: The use of digital currency technology and blockchain ledgers can help reduce levels of corruption. For example, the use of smart contracts (the inability to change data after creation) through blockchain technology can reduce the risk of fraud as well as fraud with public funds.

Building the fintech ecosystem: Through digital currency technology, a fintech (financial technology) ecosystem developed in Albania can be created. This would enable innovation and improvement of financial services, bringing great benefits to consumers and local businesses.

The attention of the authorities is focused on the potential of the technological infrastructure of the electronic register of transactions (blockchain) for the improvement of the current payment system. The implementation of the technological infrastructure in order to improve the existing payment system is in the attention of the authorities of many developed countries, in a long-term time horizon. A large number of other virtual currencies not regulated by authorities are based on similar technology. Also, the financial and IT industries are showing interest in implementing this technology in a new wave of financial products. In this regard, the modification of the electronic protocol makes it possible to format the "blockchain" technology according to the needs of public regulatory authorities or private entrepreneurs. However, it is important to note that in order to bring digital currency technology to Albania, several factors must be considered. These factors include the support of government and financial institutions, the drafting of appropriate laws and regulations, and the security of technology to protect consumers from potential risks. In conclusion, while there is great potential for the advancement of the financial sector in Albania, the implementation of digital currency technology requires extensive commitment and cooperation between the public and private sectors, as well as international stakeholders.

Conclusions. Bitcoin and the blockchain technology infrastructure have the potential to have major impacts in several areas. Following are some potential impacts of Bitcoin and blockchain technology:

The financial system: Bitcoin has the potential to change the way the financial system works. Cryptocurrencies can provide alternatives to traditional transactions and payments, allowing fast and cheap transfers without the intervention of banks or traditional financial institutions. This can have the effect of reducing the cost of transactions and improving financial access for non-exempt participants.

International remittances: Bitcoin and blockchain technology can improve international money transfers, reducing the costs and time needed to make transfers, es-

pecially for migrants sending money back to their countries of origin. This can help increase efficiency and reduce financial barriers.

Financial inclusion: Bitcoin can improve financial access for those who do not have access to traditional banking services. By providing a means of transferring value and a way to store wealth outside of the banking system, Bitcoin can help increase financial inclusion for low-income populations and those living in countries with weak financial systems. To promote financial inclusion, there have been developments and innovations in the financial technology (Fin Tech) sector. The use of alternative payment methods, such as electronic and mobile means, has opened the way for individuals to access financial services through their mobile devices. Also, the development of online financial services and mobile applications has helped to extend financial services to areas where traditional infrastructure is insufficient.

Data security and privacy: Blockchain technology can ensure a high level of data security and integrity. Using blockchain to store and verify data can help fight identity crime and security breaches. However, it has been estimated that appropriate mechanisms for privacy management should be developed in this context.

Technology and innovation: Bitcoin and blockchain technology have inspired the development of new projects and applications. Many companies and start-ups are exploring the use of blockchain to change various sectors, including logistics, medicine, energy and many others. This opens up opportunities for new innovation and change in the way industry and society in general operate.

However, it is important to note that these impacts are potential and are currently in the development phase. To achieve this full potential, the technical, legal and regulatory challenges associated with Bitcoin and blockchain technology must be addressed. The future of virtual currencies is expected to be determined by technological advances, legal developments and continued adoption by various actors.

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