

The Use of Virtual Financial and Monetary Instruments is Soaring. How Urgent is Their Regulation?

Narciz BALASOIU

*Academy of Economic Studies – Faculty of International Business, Bucharest, Romania
narciz.balasoIU@rei.ase.ro*

ABSTRACT: Technologically advanced companies attract more advanced businesses in the field of AI or adapt their business more easily to everyday realities. This allows them to accumulate capital more easily, with fewer human resources, giving sustainability to the business in the long run, but not to the society. The incredible speed with which technology has developed has often left a gap in the regulation or legal requirements of new technologies. The lack of this regulation has become extremely visible in the field of cryptocurrencies, virtual money, without necessarily having an intrinsic value, which, however, circulate unhindered and produce effects on the entire chain of economic value.

KEYWORDS: cryptocurrencies, regulations, bitcoin, blockchain, financial technology

Introduction

The Internet of Things (IoT) and Artificial Intelligence (AI) are becoming a constant in everyday life and the foundation without which no public policy of the future can be conceived. States have constantly adapted to threats, risks, and security opportunities through the lens of technological progress and the development of new technologies. At the same time, politicians are focusing their agenda and electoral program almost exclusively on new media tools and instruments.

According to analysts in the industry, in 2015 there were between 10 and 20 billion objects connected to the Internet. This ecosystem of connected objects forms the foundation of the Internet of Things. The number of connected objects in 2015 was significantly lower compared to the situation today. Estimates vary, but it was generally estimated that the number of connected objects in 2020 was 40-50 billion, including everything from pens to homes, cars, and industrial equipment.

If we follow the red thread that connects economic power with the military one, especially in the medium and long term, understanding how technological innovation will shape the global economy, information environment and modern society is indispensable for the security and safety of citizens around the world. The most obvious link between state-of-the-art technology innovation and economic power is the effects that technology has on the ability of states, large corporations, or family businesses to raise capital, while also having profound consequences for the labor market.

At the same time, the incredible speed with which technology has developed has often left a gap in the regulation or legal requirements of new technologies. The lack of this regulation has become extremely visible in the field of cryptocurrencies, virtual money, without necessarily having an intrinsic value, which, however, circulate unhindered and produce effects on the entire chain of economic value. Virtual currencies are also used for practical purposes, facilitating long-distance e-commerce; however, they are also used for less orthodox purposes (illicit trafficking, terrorism, masking illicit earnings, evasion).

North Korea has taken full advantage of the lax regulations and by using them the Pyongyang government has been able to secure luxury goods that it should not have had access to because of Western economic sanctions.

What are cryptocurrencies? Can they be regulated?

Revolut became in 2019 the most important start-up of Great Britain. Founded in 2015 in a British start-up incubator, Revolut sells a product from the world of “fintech” (financial technology). Fintech is the crucible of technologies and innovations that aim to compete with traditional financial methods in the delivery of financial services. The purpose of the fintech industry is to use technology to improve financial activities.

Revolut is a virtual card, practically a mobile application that allows you to trade in about 150 currencies, transfer money to almost all countries of the world or make recurring payments without any commission. From 2015 to date, the application has accumulated over 15 million users and 550 million transactions worth over 70 billion pounds.

What has the Revolut added to the world of financial banking services? The integration of virtual currency transactions, unregulated, as part of basic services available to credit/debit card (card) owners. There is therefore no clear delimitation between the classic money, even if it is present only in a bank account, and cryptocurrencies. Revolut became a virtual bank that offers you debit, savings, and cryptocurrency accounts, which you can use simultaneously in different situations, without having access to your personal card and other personal data in addition to what you voluntarily shared to the app.

Revolut offers the possibility to trade in 5 virtual currencies considered the most used and the most secure. Cryptocurrencies are decentralized, peer-to-peer/P2P payment technologies that allow counterparts to exchange financial assets without any legal regulation or other intermediaries. Due to the lack of legal regulations and the fact they are difficult to track by authorities, virtual currencies have become a favorite tool for cybercriminals in their attempt to bypass the conventional financial-banking system.

However, the virtual currency market is extremely volatile. While in January 2019, it reached an impressive amount of 800 million dollars, in August it reached 200 million, while in April 2021 has exceeded 2 trillion dollars.

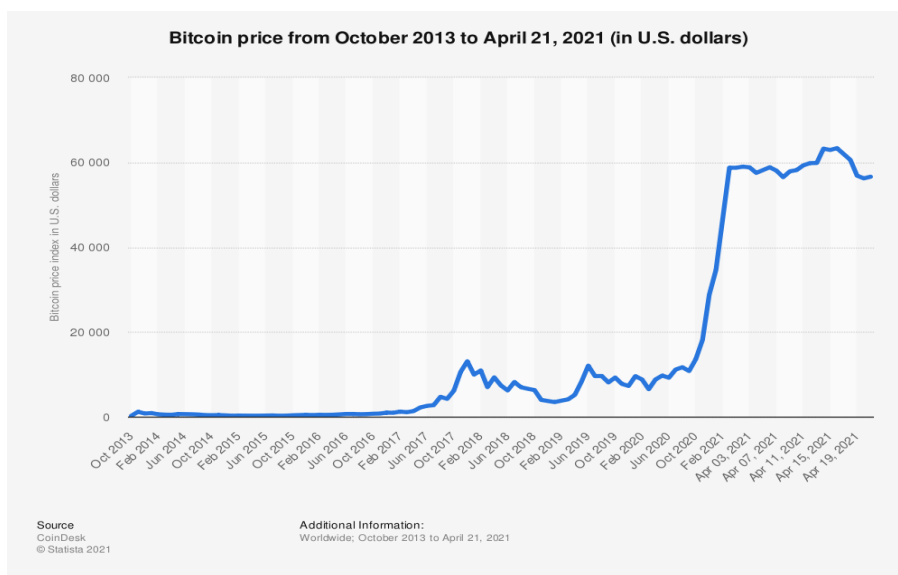


Figure 1. Bitcoin price from October 2013 to April 21, 2021(in U.S. dollars)

The volatility of cryptocurrency markets is given by the number of transactions and the most efficient possibility of securing and tracking them, aspects that have become easier lately by using blockchain technology. In short, the concept of blockchain represents a distributed database that maintains a dynamic list of records. The association with other concepts such as transactions, smart contracts, or cryptocurrencies, makes the concept itself more difficult to understand.

A blockchain is a chain of interconnected blocks, each node containing the hash key of the previous node, except for the first block called genesis. Normally, the structure of a block consists of two main components: a header and a body. The header includes the current version of the block, the hash key of the previous block, the hash key of the current block, a time signature, a counter, and target bits, and the body consists of transactions.

There is also the “dark web” tool that facilitates the provision of “crime-as-a-service” (CaaS), i.e. the activity through which criminals provide their know-how and technical support to other criminals. Cybercriminals rely on CaaS to provide malware and hacking services to other criminals.

There are states where these activities are regulated in one way or another. However, the regulations differ substantially, including among the Member States of the European Union, which deal with cryptocurrencies in extremely different ways, ranging from indifference to unrealistic regulations. Some classify virtual currencies as a unit of account similar with classical currencies, while others completely reject the idea that they can be used as monetary/financial instruments. Concerning the exchange of currencies and “virtual wallet” services such as Revolut, the majority of the public opinion leans towards them being required to have an operating license after meeting strict criteria.

The crypto market has major potential as classical financial systems lose their attractiveness. In the same way, it becomes even easier to use these modern means for illicit operations such as money laundering or financing terrorism. The protection of traditional consumers must take on new standards as normal transactions become an exception to the rule. At the same time, virtual currency transactions will be able to bring considerable income to states if they are taxed.

In the future, at the heart of all these concerns, will be blockchain technology. Considered the great revelation of the Davos Forum, the technology has shifted from internet financial and banking services to services related to the supply chain of large corporations, car and equipment production, or shipping. The blockchain virtually eliminates the middleman and is based on maintaining a decentralized database, which many engineers have called a “decentralization of trust.”

Basically, instead of a “central repository,” a registry within an institution that stores information, it is saved simultaneously in a large number of computers. This entails at least two major advantages. The first is that the reporting in such a register cannot be falsified or manipulated because the distortion of the information would be revealed when the register on another computer is questioned. This means reporting is based on trust because this decentralized register encourages participants to report transactions in an honest way so that in the end the blockchain corresponds exactly.

At the same time, the control of such databases is quite cumbersome, which leads to an increase in complexity and costs. It is estimated that the entire industry uses about 0.17% of the world’s electricity, more than what 161 countries in the world use individually. That’s why, lately, verification is done through nodes, called “allowed networks” that concentrate a greater amount of information and make verification easier. This combines the advantages of the centralized approach with the decentralized one in keeping track of data.

Last but not least, crypto-assets should be divided, in principle, into the value of something virtual, non-existent, or the value of something tangible that is to be validated by an institution. The distinction has considerable implications for initial regulations and subsequent supervision.

The value of cryptocurrencies will be influenced in the future by both the lack of resources to support them and by their ability to create a network of users. By comparison, the “virtual wallet” or ICO technologies can be likened to a representation of assets controlled by a “cryptographic key.” Their appeal will stem from the low transaction costs and accessibility of transactions. This means greater access to funding with smaller transaction costs.

Cryptocurrency volatility and market elasticity

The pressing problem with today’s cryptocurrencies is the difficulty of stabilizing them. The capitalization of the crypto market reached its peak in 2018, amounting to 836 billion dollars on January 7, 2019. After that date, it decreased considerably and gradually, reaching a value of 207 billion on August 16 (2019). Most crypto assets are held by cryptocurrencies, bitcoin in particular. But bitcoin is a virtual currency with extreme volatility, losing hundreds of dollars overnight and thus becoming highly speculative. The share of cryptocurrencies within the global trade transactions is still at an extremely low level. According to the data of the European Central Bank, 284,000 bitcoins are traded daily, compared to 300 million euros in the retail area alone. However, the value of bitcoin transactions can exceed the amount of 300 million euros per day, but this differs depending on the value of the virtual currency on a given day.

Moreover, unlike traditional trade, the volatility of cryptocurrencies is also given by the fact that transactions with them can take place in an undefined geographical area. They are extremely flexible, as they can be easily exchanged for almost any currency in the world, but this also contributes to their appreciation or depreciation, depending on the soundness and solvency of national currencies. At first, bitcoin exchanges to national currencies were mostly done in pounds sterling. Currently, bitcoin is trading mainly in rubles, US dollars, pounds, Chinese Yuan, and euros, in this order.

At the same time, this volatility is increased by the fact that virtual currencies are extremely easy to create. Mainly, the process of giving birth to such a coin is called “mining.” Participants of such network operations are known as miners. They check and date transactions and share them in a public blockchain-protected database. There are specialized nodes that validate transactions and blocks and connect transaction points. The mining operation is particularly complex and is exceedingly difficult to perform by an individual. Thus, groups of miners were created, called “mining pools.” A group of miners combines their processing power to solve cryptocurrency-producing algorithms. The yield and profit of such a business are mainly calculated according to the laws of the region and the cost of electricity. “Newly mined” coins draw much less attention and are more difficult to link to criminal activity.

Revenues from “mining new coins” have grown exponentially over the past five years. Since August 2013, daily mining revenues have increased from 0.7 million US dollars to 33 million US dollars in July 2018. More than 1.5 million unique users participate in these transactions every day, compared to 119,000 in 2013.

Regulation is becoming increasingly difficult

Being extremely numerous and having an almost infinite capacity to regenerate, crypto assets have sparked heated debates between legislators, supervisory and control

institutions, public opinion, and market users. The main contention points are related to how they can be properly classified and regulated. We are not only talking about cryptocurrencies, but also about ICOs, “virtual wallets” or currency exchanges between cryptocurrencies.

If we focus only on cryptocurrencies, we will see that there are big differences between their classification and perception, including within the EU. The European Supervisory Authority (ESA) has issued a warning about the risk of virtual currencies for consumers. The European Banking Authority (EBA) considers that virtual currencies should remain outside the scope of the Payment Services Directive, as the technological risks they involve differ from the classical money, so they should not be labeled as “currencies.” EBA thus clearly states that virtual currencies are not money. However, the European Central Bank (ECB) believes that this status could change in the future and, along with it, the accessibility of cryptocurrencies.

The Bank of England does not see cryptocurrencies as money either. The French Tax Surveillance Agency does not consider cryptocurrencies a financial instrument, as they are not subject to any legislative framework. Likewise, the Spanish authorities consider that they are not regulated, but still deal with them on a case-by-case basis. In contrast, the Italians consider them a means of exchange, and the German authorities classify bitcoin as a currency-like unit of account, the transaction with bitcoin thus falling under the jurisdiction of the law.

Even if cryptocurrencies are not currently considered money by most authorities, this will most likely change in the very near future.

Exchange platforms - Crypto exchange

Cryptocurrency exchange platforms are digital platforms that allow users to exchange “tokens” from one virtual currency with “tokens” from another virtual currency or even real money. Like any other asset on the crypto market, they also experienced a meteoric rise at the end of 2017, beginning of 2018, followed by a sharp decline, and now they seem to have stabilized.

Cryptocurrency exchange platforms have seen a large influx of customers in a relatively short time. Moreover, they are apparently extremely profitable, and these things are attributed to the fact that they operate in an unregulated market. And, as some Asian governments have begun to regulate these platforms, they have relocated to either Europe or other Asian markets. The most popular is Singapore. The top three trading platforms are in Asia. Europe accounts for only a relatively small share of the total global market for these platforms.

Nevertheless, the European Union seems to have an extremely clear opinion on the need to regulate such exchange platforms. They are governed by the provisions of the Anti-Money Laundering Directive. The ECB is of the opinion that virtual currency exchanges must be subject to standards as stringent as the conventional financial system, and national legislators can regulate these issues.

Why is there a need for regulation in this area?

Firstly, the development of this technology could bring an innovative source of funding, significantly reducing the costs of this operation. For the time being, crypto and ICO assets play a marginal role in financing the European economy. But as their security becomes increasingly better through blockchain solutions, transaction costs for initial or interim financing could decrease. At the same time, access to finance for small companies and projects would increase.

Secondly, cryptocurrencies are used in many illegal transactions. The anonymity of transactions also increases the difficulty of tracking the destination of a financing or a virtual currency exchange. North Korea has used cryptocurrencies to evade Western sanctions. Russia is using this tool for campaigns aiming to undermine Western democracies. Terrorist groups use cryptocurrencies to finance their operations. Once regulated, this type of operations should become much more difficult to do.

With the growing popularity of virtual currency transactions and as they represent a growing share of the market, we will need to talk at length about consumer and investor protection. The digital nature of crypto assets makes them accessible to the public, especially as it increasingly uses technology. Certainly, access to as many users as possible is desirable, as only in this way can this market grow organically, but this accessibility will also target vulnerable groups.

At the same time, the organic growth of the crypto assets market will entail the problem of financial stability. The volatility of currencies determines the instability of markets. For now, this is not a problem, since the markets are small and separate from the traditional financial system. However, as they grow and interconnect with global financial systems, this volatility will cause shocks on the global financial markets. At the same time, it will be extremely easy to speculate and exploit.

Finally, the question is how we can tax these coins. Some analysts believe that the profit should be taxed in the same way as the profit resulting from the trading of shares on the stock market exchange. However, it is not truly clear how virtual currency exchanges can be taxed, given the anonymity offered by this type of transaction. There is also the question of how and when virtual assets resulting from fundraising through ICO will be taxed.

Conclusions

There is certainly a broad consensus among both experts and lawmakers that cryptocurrency technology is attractive and growing. It is precisely the fact that it is developing rapidly that makes experts discover how this technology can be used to improve everyday life. For now, the total value of the crypto market is small and does not pose a risk to financial stability. But this will change.

The approach to future regulation must be adapted to the technological nature of the crypto market, especially as it is based on a fully decentralized system. Cryptocurrencies are not issued by a known entity. And in the transactional process, the identity is not revealed at all. That did not stop the Chinese from banning “mining” operations. Virtual currency exchange could also be banned.

The public debate around crypto market regulation should focus on a few key points. First, whether crypto-assets should be isolated, regulated, or integrated into the current global financial system. Whether we like it or not, the crypto market interferes with the classic financial system. Limiting banks or investment funds to grow this market would pose some serious challenges.

At the same time, however, when the market is accessed by as many users as possible, the risks for them will increase significantly. Classic trade has limitations when it comes to fair access and consumer protection. Crypto trade will make it even more difficult to oversee this field. And the exposure of financial institutions to cryptocurrencies is also a sensitive issue. Being high-risk goods, the development of cryptocurrencies postulates risks of financial stability, which can cause actual shocks in a vulnerable economy.

Second, the approach to cryptocurrency regulation must be unified globally. The ease with which crypto capital can be transferred to any corner of the world makes

regulating this market a truly global tool. At the same time, without a unified regulation of the crypto market, it will be unable to grow and generate added value in the world economy. Just as world trade has strict rules, adapted to specific markets, so must the regulation of crypto assets be designed.

Last but not least, the question is which institutions should be responsible for supervising this market, the capacity to implement the legislation in the field, and the possibility to penalize possible infractions. Beyond financial and banking institutions, the crypto market involves a major cybersecurity risk. For the time being, a prudent approach could be to coordinate between several institutions until a hybrid is created and will become functional after the adoption of the appropriate legislation.

References

- Barbaro, Matteo. 2019. "The Valuation of the Electronic Money Institutions (EMI): The Industry, the Regulatory Overview and a Practical Valuation Case." *Università Ca' Foscari Venezia*. Available at: [838857-1215888.pdf \(unive.it\)](#).
- Beauchamp, Todd W., Stephen P. Wink and Simon Hawkins Latham & Watkins LLP. 2019. "Crypto-Asset Trading Platforms: A Regulatory Trip Around the World." *Global Legal Insights*, pp. 9-15.
- Cardenas, Jonathan. 2019. "Cross-Border Financing of Fintech: A Comparison of Venture and Growth Fintech Financing Trends in Europe and the United States." *Global Legal Insights*, pp. 22-27.
- Dewey, Josias. 2019. *Blockchain & Cryptocurrency Regulation*. Global Legal Insights. London: Holland, Knight LLP. Available at: [GLI-BLCHI_3-9.indd \(acc.com\)](#).
- Houben, Robby and Alexander Snyers. 2018. "Cryptocurrencies and blockchain." *European Parliament*. Available at: [Cryptocurrencies and blockchain \(europa.eu\)](#).
- Medcraft, Greg. 2019. "Initial Coin Offerings (ICOs) for SME Financing." *OECD*. Available at: [Initial Coin Offerings \(ICOs\) for SME Financing \(oecd.org\)](#).
- Mikhaylov, Alexey. 2020. "Cryptocurrency Market Analysis from the Open Innovation Perspective." *Journal of Open Innovation*. Available at: [JOItmC | Free Full-Text | Cryptocurrency Market Analysis from the Open Innovation Perspective \(mdpi.com\)](#).
- Ponti, M., Micheli, M., Scholten, H., and Craglia, M. 2019. "Internet of Things: Implications for Governance." *European Commission*. Available at: [MC_IoTWorkshopReportFinal \(europa.eu\)](#)
- Seunghyeon, Lee, Changhoon Yoon, Heedo Kang, Yeonkeun Kim, Yongdae Kim, Dongsu Han, Soel Son, Seungwon Shin. 2019. "Cybercriminal Minds: An investigative study of cryptocurrency abuses in the Dark Web." *Network and Distributed Systems Security (NDSS) Symposium*, Available at: [ndss2019_09-1_Lee_paper.pdf \(ndss-symposium.org\)](#).
- Siegel, Dirk, Mirko Rene Gramatke, Jens Hermann Paulsen, Wanja Alexej Giessen, Mark Brosig, Sven Heinzelmann, Sawan Sathyanarayana Kumar. 2017. "ICOs – The New IPOs? How to fund innovation in the crypto age." *Deloitte*. Available at: [Blockchain ICO POV 1017 L03.indd \(deloitte.com\)](#).