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# Cryptocurrencies as a capital investment during the COVID-19 pandemic

***Abstract.*** *The purpose of the article is to show the possibilities of investing in cryptocurrencies during the COVID-19 pandemic. As regards cryptocurrency deposits, Bitcoin is the most frequently selected option, thanks to its simplicity and transparency. It is therefore becoming increasingly popular not only with investors but also with ordinary citizens who want to secure their finances during the pandemic. In addition, the key feature of cryptocurrencies is the fact that the amount of bitcoins in circulation is fixed and cannot exceed 21 million. For the time being, i.e. in 2020, the annual Bitcoin inflation rate is very similar to that of gold (about 1.6%), and will only decrease over time (it decreases by half every four years). For this reason, Bitcoin is frequently compared to gold and is becoming an increasingly attractive capital investment option, especially given its virtual nature; during the coronavirus pandemic it seems to be an ideal alternative in terms of security in the area of health protection as it eliminates the need for human contact.*

***Keywords****: Bitcoin, capital investment, COVID-19, cryptocurrency, dollar, saving*

## 1. Introduction

Bitcoin is the first money which issue is not controlled by any entity (in the current monetary system it is the state that is the issuer of money). In the case of Bitcoin, its issuer is the Bitcoin protocol, i.e. a set of rules that determine under what conditions transactions can be carried out in the network and under what conditions new Bitcoins are created, but these rules cannot be changed. In the case of traditional money, the central bank can print money as required. Such a need may be to cover budget expenses, but as you know, along with

printing money, existing ones lose their value. So there is inflation, i.e. prices are rising, and with the same amount of money in your wallet, you can buy less goods and services for it. In the case of Bitcoin, the situation is different, i.e. we have predefined rules for creating new coins. They are paid to "miners" in the form of a reward for maintaining the network. (currently this reward is 12.5 Bitcoin for the transaction block created). This award is regularly reduced by half. This change occurs approximately every 4 years and the nearest will take place around May 2020. As a result, over time, less and less new Bitcoins are created, to eventually reach around 2140 Bitcoins around 2140, which will result in the cessation of new coins. Currently, 17,774,450 of 21,000,000 has already been extracted, i.e. 2020. Nearly 85% of Bitcoins have been mined in less than the first decade of Bitcoin existence, and just over 15% for the remaining 120 years of mining. This means that in the near future we will have to deal with a small amount of Bitcoin arriving on the market. Due to this situation and the growing interest and demand for Bitcoin, we will be dealing with a situation affecting its long-term price increase [Misiurek 2019].

In the case of saving cryptocurrency, e.g. bitcoin is an excellent option, which in the long run may prove to be an ideal solution for investing capital in the era of COVID-19 and moving away from traditional saving (saving in tangible goods – money, coins).

## 2. Transaction mechanism of a digital coin

The digital currency peer-to-peer Bitcoin debuted in 2008 and ushered in a new era of cryptocurrencies. There are currently over 500 different cryptocurrencies, but Bitcoin still remains a pioneer. While tax, law enforcement and regulators are still investigating this phenomenon, one important question remains: is Bitcoin legal or illegal? This answer depends on the user's location and activity. Bitcoins are not issued, approved or regulated by any central bank. Instead, they are created by a computer generated process known as mining. In addition to being a cryptocurrency unrelated to any government, Bitcoin is also a peer-to-peer payment system because it does not exist in any physical form and must be exchanged online. As such, it offers a convenient way to conduct cross-border transactions without fees for exchange rates. It also allows users to remain anonymous. When trying to construct a transaction using a digital coin, there is the problem of "double spending". After creating the data, restoring it is a simple matter of copying and pasting. Most e-cash scenarios solve this problem by dumping some of the controls into a central body that tracks the balance of each account. DigiCash, an early form of digital money based on pioneering cryptography of David Chaum, passed this oversight to banks. This was an un-

acceptable solution for Szabo. "I tried to mimic the security and trust of gold in cyberspace, and the most important thing is that it doesn't depend on a trusted central authority," he says [Szabo 1997]. Bit gold proved that it was possible to decentrally transform solutions into difficult ownership calculations. But ownership is not enough cash, and the proposal leaves many unsolved problems. How do you assign the right value to different data strings if they are not as difficult to do? How to encourage people to recognize this value and adopt currency? And what system controls the transfer of currency between people? After b-money and bit gold did not get wide support, the e-money scene became quite quiet.

Then, in 2008, a mysterious character appeared who wrote under the name "Satoshi Nakamoto" [Nakamato 2008], offering something called Bitcoin. As befits the creator of a private digital currency, Nakamoto's true identity remains a mystery. "I've never heard of someone who knew the name before," says Szabo [1997]. "And I'm not going to speculate who he may be and who he may be" [Szabo 1997].

To create a working system, Nakamoto began with the idea of a data chain similar to bit gold. But instead of creating a digital property chain, Bitcoin records the transaction chain [Hileman, Rauchs 2007: 1223].

The easiest way to understand bitcoin is to think of it as a digital book. Imagine a group of people at the table who all have real-time access to the same financial book on the laptops in front of them. The account book records how many bitcoins each person has at the table at any given time. By necessity, the balance of each account is public information, and if one person wants to transfer funds to the person sitting opposite him, he must announce this transaction to everyone present at the table. The whole group then appends the transaction to the ledger, which everyone must agree on. In such a system, money never has to exist in physical form, but it cannot be spent twice. Basically, this is how Bitcoin works, except that participants are dispersed in a global peer-to-peer network, and all transactions take place between addresses in the network, not people. Address ownership is verified by public key cryptography, without revealing who the owner is. The system replaces traditional banking privacy: all transactions are made in public, but they are difficult to combine with human identity. Dissociation requires vigilance on the part of the Bitcoin user and careful decision about which external applications and exchange methods are in use [Wójcik-Czerniawska 2019].

## 3. Bitcoin as an investment capital ratio dollar

Let's try to see how the ratio of bitcoin to dollar looks like; based on the bitcoin investment calculator tool – Dollar Cost Averaging Bitcoin – dcaBTC (dcabtc.com, bitcoin.pl).

We would put $10 a week in Bitcoin every week for the last two years and then four years as a typical example. We would have invested a total of $1050 for which we would have bought 16,388,000 satoshi (or 0.163 BTC) throughout this period which today have a value of around USD 1,489, which means 41.89% positive against the dollar – see Fig. 1 [Kubiak 2020].

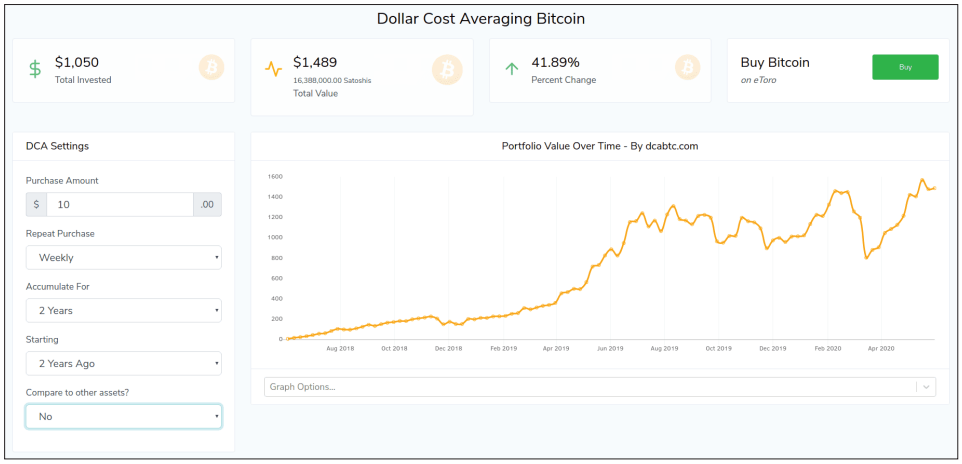


Fig. 1. Dollar Cost Averaging Bitcoin (2-Years)

Source: Kubiak 2020.

If we had started putting off the same thing ($10 a week) 4 years ago, we would have invested $2090 at the moment, which would give us 91,580,000 satoshi (0.915 BTC) worth $8325 at the moment, which means 298.35% plus against the dollar – see Fig. 2 [Kubiak 2020].

This way of investing, i.e. buying small amounts from time to time, is called DCA (Dollar Cost Averaging). This is an interesting solution because we save not only money, but also time, because we do not have to follow the charts and we are not interested in the current, short-term, even very large price variability. You can do DCA for ordinary online shopping.

Cashback services come in handy and they usually offer a refund of a few percent of the price of a product purchased via the Internet – at BTC. You can do DCA without directly investing in bitcoin on the stock exchange or in an exchange office.

Cashback services usually offer a refund of a few percent of the price of a product purchased via the Internet – at Bitcoin. You can do DCA (Dollar Cost Averaging) without directly investing in Bitcoin on the stock exchange or in an exchange office (in Poland has recently appeared Satsback which give such a possibility) [*Włochy otwarte na cyfrowe euro*, 2020].

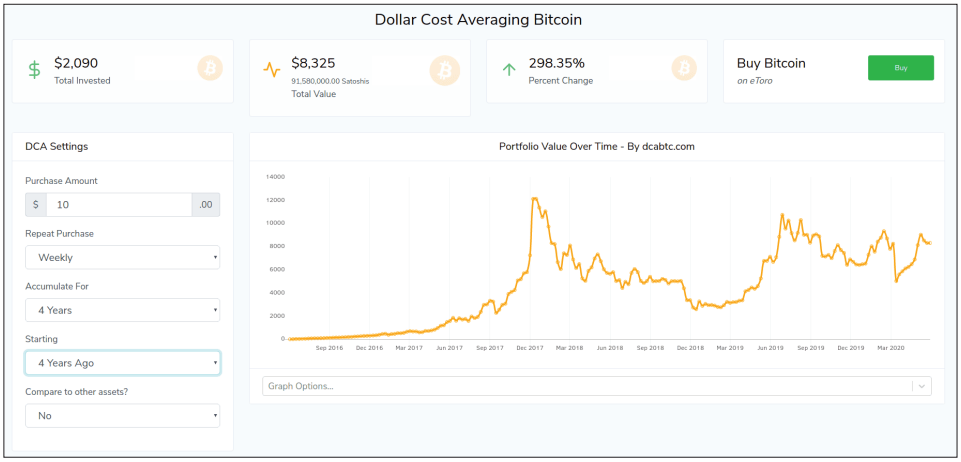


Fig. 2. Dollar Cost Averaging Bitcoin (4-Years)
Source: Kubiak 2020.

We shop as always, and the platform returns a part of the amount spent in Bitcoin. Thanks to the use such a service, we will be able to pay out very small amounts to our wallet.

What in the era of COVID-19 and non-paper money trading as well as widely recognized secure online shopping we will not only have a product but also a cryptocurrency that is starting to grow in the world of „flat finance" as a new element of capital investment.

Companies that offer such an opportunity on the Polish market are: Allegro, Philips, Media Markt, Sephora, Orsay, Eobuwie.pl [Kubiak 2020].

## 4. Conclusion

To sum up, it can be said that money is one of the most valuable and sought-after goods in the world, affecting people in almost every aspect of their lives. Cryptocurrencies are one of the most controversial innovations in this field. It is a currency that is not protected by government laws or laws, making it immune to government interference. Currency is fully decentralized and, unlike fiat money, the government cannot influence its value. The first cryptocurrency created, and the most used, is the aforementioned bitcoin. The book, called the blockchain, publicly records all transactions with bitcoin maintenance and users are completely anonymous. The supply of bitcoins comes from 'mining', i.e. a process that involves calculating a complex algorithm with increased difficulty over time, making it more expensive and resource-consuming, and therefore less profitable

over time. The demand for bitcoins mainly results from their decentralization and anonymity, transaction costs, use for illegal transactions and as a financial instrument to profit from its price, volatility or portfolio diversification. Other possible uses of bitcoin include measures to avoid currency controls or other sources of government interference and tax evasion. However, cryptocurrencies also have disadvantages. Because the currency is decentralized, there is very little consumer protection, stolen bitcoins are lost forever, and bitcoins are very vulnerable to code-based attacks. The price is very high, unstable, and therefore it is very risky to maintain many bitcoins as well as lack of liquidity. This currency is also taxable in many countries, such as the USA, Japan, Finland and Germany. Countries with strict capital control, such as China and Iceland, also have a recognized currency and have banned transactions, eliminating the possibility of circumventing restrictions on capital control.

In the current version, bitcoin is unlikely to become an official currency for the general public because it has too many disadvantages and too many threats, while its strengths are not necessarily what the general public wants in a fixed currency. To define it as an innovative currency and for it to succeed, it must improve what the debit card and credit card have to offer. Cryptocurrencies must therefore be more convenient, safer and accepted by sellers around the world.

In Poland, where cryptocurrencies are banned and not considered a secure source of financing, there are many benefits to be seen [Wójcik-Czerniawska, 2020].

In addition to the significant increase in tax revenues – especially when appropriate regulations stimulating market development are introduced – we can expect other, less measurable benefits, including:

1. Increased interest in the aspect of "mining" cryptocurrencies, which currently generate several dozen million zlotys of daily income on a global scale. This will translate into electricity demand, and thus – hard coal to power the power plant.

2. Increased interest in blockchain technology and its application. This means that the country's cyber security will increase, transaction costs in the economy will decrease, costs of the financial system will decrease, the country's innovativeness will increase, its competitive position in the world will improve.

3. Increasing the level of education of blockchain specialists – they come mostly from the cryptocurrency sector in the world. (With few exceptions, it's difficult to develop blockchain technology without first developing cryptocurrencies.)

4. There will be an inflow of foreign portfolio investments (subject to appropriate regulations) on a scale of up to several hundred million dollars a year. It is possible that companies with high market value will appear (several blockchain projects in the world have a valuation of over USD 1 billion) [Wójcik-Czerniawska 2020].

However, due to the fact that cryptocurrencies are still in their initial stages, their actual impact on the traditional financial system will not be noticed until a few years, when many countries will definitely address this phenomenon as a new virtual world of finance, which arose and unexpectedly moved to the traditional world of flat finance.

In addition, it is worth mentioning that due to the coronavirus pandemic, some of the countries most affected by the pandemic decided to introduce a virtual version of traditional currencies in this Euro, which was done by Italy, i.e. the country most affected in Europe COVID-19. The Italian Banking Association (ABI – Associazione Bancaria Italiana) associating over 700 Italian banking institutions implements digital currencies supported by the European Central Bank (ECB) by participating in projects and experiments related to this process. In 2019, ABI also set up a working group to study digital and cryptocurrency resources. Among other things, it was written that: "priority must be to preserve monetary stability and full compliance with the European regulatory framework" [*Włochy otwarte na cyfrowe Euro*, 2020].

The group also prioritized the need for the digital currency framework to be fully in line with EU legislation. This is to help win public confidence. According to Italian experts, banks will play a key role in maintaining this trust. According to the group, the Central bank digital currency (CBDC) would lead to future innovations in the traditional banking system, such as: peer-to-peer transactions, machine-to-machine transactions, and the ability to manage exchange rate and interest rate risks thanks to the programmable capabilities of the digital currency [*Włochy otwarte na cyfrowe Euro*, 2020].

"The programmable digital currency is an innovation in finance that can profoundly revolutionize money. It is a transformation that can bring significant potential added value, especially in terms of the efficiency of operational and management processes" [ABI – Associazione Bancaria Italiana].

One may be tempted to say that COVID-19 may lead to the transformation of traditional financial structures and schemes adopted so far, which may lead to a situation where finance-technology and the virtual world of finance may become the future of the global financial market and cryptocurrencies will become one from widely accepted payment methods in the world next to the already slowly introduced virtual euro.

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## Kryptowaluty jako lokata kapitału w dobie COVID-19

***Streszczenie.*** *Celem artykułu jest pokazanie możliwości, jakie niesie ze sobą lokata kapitału w kryptowaluty w dobie COVID-19. Kryptowalutą najczęściej wybieraną przez inwestorów, a także zwykłych obywateli, którzy chcą zabezpieczyć swoje finanse na czas pandemii, jest bitcoin. Cechą stałą kryptowalut, w tym bitcoina, jest to, że nikt nie może go dodrukować i nigdy nie będzie go więcej niż 21 mln. W 2020 r. roczna inflacja bitcoina jest bardzo zbliżona do złota (ok. 1,6% w skali roku), a z upływem czasu będzie tylko mniejsza (obcinana jest o połowę co 4 lata). Dlatego też bitcoin jest coraz częściej porównywany do złota i coraz częściej rozpatrywany w kategorii lokaty kapitału. W dobie koronawirusa jest on idealną alternatywą dla zwykłej waluty ze względu na bezpieczeństwo w obszarze ochrony zdrowia, gdyż redukuje kontakt ludzki do minimum, a nawet do zera.*

***Słowa kluczowe:*** *kryptowaluta, lokata kapitału, COVID-19, bitcoin, dolar, oszczędzanie*