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The condition of the cryptocurrency market in Poland on the background of global development. Small and medium companies

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ABSTRACT

The development of the cryptocurrency market and the implications for the whole economy and finance all traders causes a keen interest in this subject. The article discusses the functioning of a financial system based on cryptocurrencies and its significance for economies. It was presented the development of the global cryptocurrency market and analyzed the most popular cryptocurrency, bitcoin. The analysis and assessment of the state and structure of the Polish cryptocurrencies market were presented on the background of the global cryptocurrency market. Also we presented the possible development paths for the cryptocurrencies market in the world.

Keywords: cryptocurrencies, financial innovations, cryptocurrency market, market regulations for cryptocurrencies, Small and medium companies

1. INTRODUCTION

This article will include the analysis and assessment of market developments and exchanges cryptocurrency in Poland, along with the attempt to present the perspectives of development. The evaluation will be made on the background of cryptocurrency the world. Cryptographic currency, popularly known as cryptocurrency, is, in the definition, a distributed accounting system based on cryptography, which stores information about the state of ownership in conventional units. The state of ownership is related to individual system nodes

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(portfolios) in such a way that only the holder of the corresponding private key would have control over the given portfolio and it was impossible to issue the same unit twice. The creator of the most popular cryptocurrency defines it as follows: it's an electronic coin as a chain of digital signatures. Each owner transfers the coin to the next by digitally signing a hash of the previous transaction and the public key of the next owner and adding these to the end of the coin. A payee can verify the signatures to verify the chain of ownership. However the problem of course is the payee can't verify that one of the owners did not double-spend the coin. A common solution is to introduce a trusted central authority, or mint, that checks every transaction for double spending (Satoshi N., (2008). *Bitcoin: A Peer-to-Peer Electronic Cash System*. http://bitcoin.org/bitcoin.pdf access) [1].

Current commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust based model because cannot avoid mediating disputes. Therefore is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party (https://www.investopedia.com/ terms/c/cryptocurrency.asp) [2]. A peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending [1]. The entire system operation cryptocurrency is based on cryptology, the field of knowledge about the transmission of information in a manner protected against unauthorized access (Christin, Nicolas. "Traveling the Silk Road: A measurement analysis of a large anonymous online marketplace." *Proceedings of the 22nd international conference on World Wide Web*. ACM, 2013) [3]. However, this system is also based on trust and institutions certifying the authenticity of even cryptographic keys. On the other hand, the currently operating cryptocurrencies are mostly based on bilateral trust (sellers and investors), and additionally, at the very end, the creators have the ability to manipulate and change the operating principles of the algorithms on which the operating system is based. This is the biggest danger, as is evidenced by numerous cryptocurrencies that have gone bankrupt or stopped functioning overnight. That is why this topic is so important. On the one hand, these systems seek solutions that could work without the need for third party trust. The global cryptocurrency system operates despite the lack of confirmation of trust from the countries or institutions. At the same time, it gives the opportunity to speculate and create large estates for private individuals or enterprises, which are basically in the global system unnoticeable to the whole. On the other hand, it can cause great systemic threats and great economic losses around the world and be a source of hiding large crime and financial crises. In this chapter we will explain how the functioning of cryptocurrency together with the current developments in the world and in this context will be made analysis and assessment of market cryptocurrency in Poland.

2. THE ESSENCE OF INDEX ANALYSIS AND ITS APPLICATION TO ASSESSMENT OF FINANCIAL LIQUIDITY

The biggest interest in cryptocurrencies results from two reasons. First of all, this is due to the idea of freedom and independence from third parties, such as state or financial institutions. Secondly, from the point of view of possible investment gains, both legal and illegal. One of the main features of cryptocurrencies is that it acts like a virtual currency.

The holder of such a cryptocurrency stores it on his computer or in a smartphone application in the so-called wallet that only he can access. If he wishes to make a transaction, it takes place electronically, directly between him and the contractor. Each unit of cryptocurrencies has a unique code, which contains information preventing its copying or re-spending. The key to the concept of cryptocurrencies is also the fact that there is no regulator in circulation. Therefore, there is no, for example Central Bank of Crypocurrency, which may decide, for example, to increase the supply of cryptocurrency and thus to decrease its value. The author decides how much of a given cryptocurrency is in circulation at the stage of creating the system. Its value is in the hands of the free market. Trading in cryptocurrencies takes place electronically, without the participation of any banking system directly between users of the crypto currency, i.e. in peer-to-peer technology.

This means that the transaction is not supervised in any way. Therefore, there is no entity that will inform tax authorities if we want to sell a large number of cryptocurrencies, as it happens in the case of banking transactions for an amount exceeding the equivalent of 15,000 Euro. No one can also block our account. The bailiff will not come. Considering the above, it turns out that the mission of cryptocurrency really boils down to one word, which is "freedom." Cryptocurrencies are electronic currencies completely free from the control of politicians, domestic or international financial institutions, whose turnover is not controlled in any way, and is subject only to a strong system of electronic, automated securities.

Cryptocurrencies are, first of all, breakthrough internet technology, and using it as a means of payment is just one of its possible applications. It is a system based on a peer-to-peer network, i.e. fully dispersed, without a central unit, organization or place that controls it. System users, their computers, are network nodes through which transactions are exchanged, authorized and settled. This system stores information on the state of ownership in contractual units of cryptocurrency. The possession of a given cryptocurrency is related to individual portfolios containing information about the cryptocurrency of a given user.

The wallet is created automatically during the first user authorization in the system. Only the owner of the corresponding encrypted private key has control over the portfolio. Advanced mathematical and cryptographic methods make it impossible to double-issue cryptocurrency, counterfeit or theft. The whole system is based on blockchain technology. Cryptocurrency is the first invention in the financial system that was developed outside of financial institutions, even without cooperation with them. It is innovative, simple and does not use existing financial systems. Moreover, it poses a threat to the status quo of the financial system. Therefore, many market regulators, including the countries and international financial institutions, regard this system as a threat primarily of their own income and generally understood power and authority. For this reason, we observes a very different reaction of countries in the world.

Starting from Japan (as an example of the most far-reaching regulation), one can point to the rapid evolution of the Japanese regulators' approach. Starting from the recognition of cryptocurrency as a means of payment, but not yet as the currency introduced by the act on payment services of 25 May 2016, until the adoption in April 2018 of new regulations fully recognizing cryptocurrencies as legal tender. What's more, the Japanese Central Bank began work on creating its own digital currency, whose working name is J-Coin. On the other hand, we have a contrast. For example, in China, we have a ban on making cryptocurrencies. On the other hand, Bangladesh and Nepal, by introducing the relevant regulations, penalized the marketing of cryptocurrencies. In Bangladesh, the use of cryptocurrencies is currently regarded as a violation of the provisions on money laundering and is punishable by imprisonment of up to 12 years. In Nepal, after introducing changes prohibiting the circulation of crypts, the first detainees of such activities took place [4]. On the other hand, many countries have no regulations on this matter and, in principle, are considering which party to address in relation to cryptocurrencies. For example, in Europe so far none of the countries has banned trading in cryptocurrencies. However, many countries are preparing the right law because they are aware of the facts that point to the rapid growth of transactions in cryptocurrencies. Most countries see this as primarily a threat system, which will receive the role of management, which takes obvious opportunity to influence the financial and economic phenomena. Maybe a system in which there is no supervision of specific organizations due to a change in rules it's a good direction of development.

However, it is certainly not a cryptocurrency system, where one person can play such a role (www.moneycontrol.com/news/business/cryptocurrency/philippines-boxer-to-launch-his-own-cryptocurrency-2553257.html) [5].

Currently the most popular cryptocurrency in the world is bitcoin. It has the highest market capitalization and the highest rate, and often as part of discussing the topic, cryptocurrencies are a flagship example. The most popular cryptocurrency in the world, bitcoin, was created in 2008. It is not known who its creator. Almost simultaneously, three IT specialists (King, Oksman, Bry) patented solutions similar to those on which the bitcoin system was based (https://blockgeeks.com/what-is-cryptocurrency/) [6]. Bitcoin is a flagship example of a cryptocurrency system, most of which repeat the regularity of the system's behavior. However, there are several hundred other cryptocurrencies, which are referred to as altcoins (alternative coines, including the "bitherin's younger brother" currency ethereum). The creation of some of them had at the same time to achieve other goals, for example namecoin creates a decentralized DNS system, and peercoin tries to spread the income from the extraction of its units more evenly. There are also plans to build cryptocurrencies on the forecasting market. New cryptocurrencies are constantly being created due to the use of open source software and P2P networks. The source code is based on free software, so anyone can download it and create your cryptocurrency. Currently, there are more than one thousand five hundred individual cryptocurrencies. Many of them work on the same code principle, they present only a few minor changes and different parameters (time distribution of blocks or number of coins) in contrast to the original coin.

Currently, more than one thousand five hundred cryptocurrencies are listed on more than seven thousand special exchanges market. Each of them has some advantages and unfortunately disadvantages. A large number, especially local cryptocurrencies, have a short history of functioning and then disappear from the market. It has the negative effect of receiving the cryptocurrency system as a whole, because there are many examples for using it for financial fraud purposes. Undoubtedly, however, there are also advantages, the emphasis and full use of which would require certain legal and technological solutions.

Cryptocurrency is the first invention in the financial system that was developed outside of financial institutions, even without cooperation with them. It is innovative and does not use existing financial systems. Moreover, it poses a threat to the status quo of the financial system. Undoubtedly, this trait of independence and lack of trust in the third party (institutions that create and regulate the financial system) would be a revolution in the world of finance where only two parties would be required.

This is the main argument for creating a system that is not dependent and subject to the influence of financial regulators. Unfortunately, however, in practice, despite the vision of the scattering of the system and dependence only on the parties to the transaction, so it does not work. In fact, a technology-based system also has regulators and is based on trust, but this can be a natural feature of social systems that must be based on social recognition. However, unfortunately many cryptocurrencies and exchange market depend on a group of people or even one person who may have malicious intentions, as exemplified by many scams related to the cryptocurrency market.

On the one hand, manipulations are made by the creators or regulators of the rules of operation, including changes in the algorithm itself, and on the other, players who have a huge impact on the entire market. An excellent example is the most popular cryptocurrency (bitcoin), where 97 percent of the currency is in the hands of only 4 percent of all portfolios (https://businessinsider.com.pl/finance/kryptowaluty/analiza-credit-suisse/6g9r9zg access) [9]. Therefore, more and more people and institutions from the financial world warn against investing in cryptocurrencies, speaking about the financial pyramid, the speculative bubble, or ordinary scams.

Currently, when they do not function as legal means of payment, it is a form of speculation or the saurisation of values. However, undoubtedly this technology has great possibilities, which is why it is so difficult to define a system that would function in a safe way. You can store any type of transaction in transaction books. It does not matter if bitcoin represents currency, property, real estate or shares. Users can decide themselves by defining the bitcoin parameters, which the given bitcoin unit represents. Each bitcoin is individually identifiable and programmable. This means that users can assign different properties to each individual. The user, using specialized applications, can program bitcoin to represent eurocents, company shares, kilowatt hours of energy, votes in elections, loans or digital holding certificates. Because of this, this cryptocurrency is much more than just money and payments. Bitcoin behavior rules can also be programmed as needed.

They can be automatically deleted after the expiration date, can be exchanged, they can automatically return to the owner, if the recipient does not meet, for example, the agreed terms of the transaction, will not pay on time or will not send the goods to the buyer. Just this feature could be used against fraudsters. However, establishing such a system is in fact not an easy task and undoubtedly requires a trusted party, otherwise regulators, who will somehow watch over the safety of turnover. It seems that a financial system based on the discussed technology should go this way. Currently, despite the great interest, the problem itself is not fully recognized as evidenced by, for example, different approaches of countries around the world to properly apply this technology. In the next section, we will look at the development of cryptocurrencies and their exchange market in Poland against the background discussed cryptocurrency market in the world [7-9].

3. THE CONDITION OF THE CRYPTOCURRENCY MARKET IN POLAND

Undoubtedly, the development of the cryptocurrency market in a given country depends on government legal decisions in relation to this market. As discussed before, the possibilities are a lot, from a total ban to full acceptance as a full-fledged currency, and there are many important options and solutions. At present, Poland has taken 24th place on the list of countries through which the largest cryptocurrencies take place. Of course, this also has to do with the state's decisions in relation to the cryptocurrency market. Currently in Poland, cryptocurrencies are not considered a currency unit, a payment instrument or electronic money. However, in spite of this, creating units as part of the built-in algorithm (so-called mining or digging) is legal under the law. However, as a result, it often happens that cryptocurrencies do not benefit from the tax relief provided for currency trading. In any case, the impression is often that, just like in Poland, states deliberately impose tax burdens, on the one hand, for profitable purposes for the state budget, and on the other hand for the purpose of authenticating and protecting potential clients. The Commission on Financial Supervision (KNF) and the National Bank of Poland (NBP) also launched a campaign on this subject. They remind about the risk associated with investing in cryptocurrencies and issuing an official warning, where they pay attention to the possibility of theft, high price volatility and the lack of any guarantee of invested capital.

In tax matters, many countries see short-sightedly only the desire to tax for profit. In addition, disinformation and lack of regulation occur in many countries. However, even without such regulations, tax officials collect data on the circulation of cryptocurrencies and order to show income in testimony and pay tax. Therefore, the taxation of trading in cryptocurrencies raises a number of controversies on the basis of tax law due to the lack of detailed regulations relating to these issues. It can be safely said that this is one of those examples where legal regulations, including tax regulations, do not keep up with the economic reality. In addition, on 20 April 2018 in Poland there was a protest against the unclear introduction of tax obligations in relation to trading in cryptocurrencies. The regulators themselves did not understand the clarity of the cryptocurrency market and introduced defective legal provisions. At present, in Poland in the area of personal income tax, the income from the sale of purchased cryptocurrencies will constitute income from property rights referred to in the above-mentioned art. 18 of the act on personal income tax. Most often such a state of affairs is noticeable in small and medium-sized enterprises. (https://www.spidersweb. pl/2018/ 04/) [10].

The consequence of obtaining income from property rights is an obligation on the seller to prove this income and to calculate the tax due on the sum of income obtained according to the tax scale. However, during the tax year, there is no obligation to pay advance payments for personal income tax. On the other hand, with regard to VAT, the turning point in the tax authorities' approach to taxation with this trade tax was the judgment of the Court of Justice of the European Union (CJEU) in the Skatteverket / David Hedqvist case, in which the CJEU stated that the exemption from VAT provided for in art. 135 of law 1e) [11].

The VAT Directive also covers the provision of services consisting in the exchange of traditional currencies into units of virtual currency and vice versa, made on payment of an amount corresponding to the margin resulting from the difference between the price at which the trader acquires currencies and the price at which he sells them to clients. The above position of the CJEU is currently applied by tax authorities who previously refused to apply exemption to this type of services. In current interpretations, tax authorities take the view that the cessation of the use of art. 43 section 1 point 7 of the act on goods and services tax relating to transactions in currencies, banknotes and coins used as legal tender (http://bitcoin.pl/zestawienie-gield access) [12, 13].

The KNF wants to clearly separate the topic of cryptocurrencies and new financial technologies. We are positive about new technologies in the financial market. When it comes to blockchain technology, we support it and see it as a chance for development, so it's not like crypts and blockchain have to be put in one bag.

The KNF explains that the first step was the Anti-Money Laundering and Terrorism Financing Act. In his opinion, however, there are still no mechanisms to protect cryptocurrencies from dishonest sellers. It is an unregulated market, so there are no tools to protect consumers. At the time when such an entity would cease its activity from day to day, the institutions are not able to help clients to recover their funds. Undoubtedly, there is an unfavorable regulatory and tax climate in Poland, as well as information chaos, which limits the use of cryptocurrencies. In addition, 4 banks (BZ WBK, mBank, PKO BP and Alior Bank) terminated contracts with companies that ran platforms allowing them to invest in cryptocurrencies. As a result of such actions, the largest stock exchange of cryptocurrencies in Poland announced that they are considering relocating their activities abroad. Daily turnover on the cryptocurrency market in Poland reached PLN 50 million in 2017. According to Morgan Stanley, most of the registered cryptocurrency exchanges are in the UK (What is PolCoin? https://polcoin.pl/access) [14].

The creator of the first Polish coin was at the beginning of January 2014 "djbartek" - author of Dubstepcoin (abbreviation: WUBS). His coin referred to the popular genre of electronic music - dubstep - and had the chance to get something from this popularity. She did not make it because she fell. However, he is about to make his debut again, but currently it's only plans. Therefore, taking into account the currently existing cryptocurrencies, the first three Polish cryptocurrencies, which were created at the beginning of 2014, include:

1) PolCoin (PLC), is the first Polish virtual currency. Established in January 2014 as a clone gaining Bitcoin popularity. It is based on the same SHA256d algorithm. Currently, it is a completely Polish project in which only the Polish team of creators and Polish capital are involved. Currently, it is being developed by the third team of developers. The reborn Polcoin project is based on a new block chain. Polcoin has a stable network of nodes and developers are working on its development. The main assumption, like other world cryptocurrencies, is the release from the bondage of banks. According to the assumptions, the value of Polcoina should grow in the long-term perspective due to the rigid limitation of supply embedded in the system while increasing demand. An additional reason for increasing the rate of increase in the value of the currency is the growing awareness of the widely understood cryptocurrencies and their usefulness. The history of transactions between addresses is public and available to anyone, when the assumptions of the Satoshi Nakamoto manifesto are guaranteed, the far-reaching anonymity of the transaction is guaranteed by the inability to explicitly state who is the holder of the given address. This is the first and one of the major differences compared to banking systems in which transaction logs are one of the most-watched types of registers. Polcoin is above the state, it is not issued by an organ connected with any state administration, and the auditor is the Polcoina community. It is already used as a means of payment. At present, you can pay with Polcoin, among others, in one stationary store and several online stores [15].

2) PolishCoin (PCC) - created to help Polish people in making the first step in the world of digital money. In terms of new technologies, access to them, and even awareness of their existence, Poland is at the back of the world and Europe. That's why we created PolishCoin (PCC). Experts believe that so far it is the best prepared cryptocurrency from Poland and is available on one of the exchange cryptocurrency exchanges. Ultimately,

the creators want to disseminate PolishCoin enough to hit the global cryptocurrency exchanges.

3) PLNcoin (PLNc) - on March 17, 2014, another Polish cryptocurrency started - PLNcoin. The creators of this coin, before the official opening, extracted 2 million coins. They distributed them for free in exchange for setting up an account on their site. 16 thousand profiles have been created on their website. The currency appeared on several stock exchanges, and the company organizing foreign travels declared that it respected payments in PLNc next to Bitcoin and Litecoin.

The creators of these Polish cryptocurrencies declare that we have created them in order to be able to pay in the virtual world for what we want and to whom we want without the control of banking institutions or the government (https://www.nature.com/news/the-future-of-cryptocurrencies -bitcoin -and-beyond-1.18447) [16]. This is the most frequently mentioned argument emphasizing the advantages of developing a new financial system based on cryptocurrencies. Unfortunately, there are also many uncontrolled threats. For example, skeptics indicate that many crypto-currency writers are trying to use the prevailing socio-economic climate to earn from “pump and dump” - artificial price raising to sell coins or stocks when others are interested in them). They elevate the value of cryptocurrencies without any intention of building new economic infrastructure. Creators of all are dreaming that one day their coins will become the means of payment. And for people who decide to dig and collect coins that will make up for the chance to sleep on bitcoin. There is no point in cheating. Most coins will go into non-existence after a few months [17-22].

In the Polish market cryptocurrency, unfortunately, is dealing with chaos and destruction - in the best Polish execution. The only positive movement in relation to the cryptocurrency market is the issued statement of state authorities that the circulation of cryptocurrencies does not violate national and EU law, but their possession is associated with high risk, although it is definitely too small activity of legislative bodies. On the other hand, on the basis of global events in Poland, we are also moving towards the introduction of cryptocurrencies on certain legal regulations. An example will be new information obligations. The Ministry of Finance wants to cover the information obligation of the company trading in cryptocurrencies, such as bitcoin.

The idea was dealt with by members of the Public Finance Committee, who were working on a government bill on counteracting money laundering and financing of terrorism. Currently, the first Polish act on cryptocurrencies awaits the signature of the president. They talked about them and blockchain technologies yesterday, among others experts from the National Bank of Poland and the Polish Financial Supervision Authority. As they said, we will have to wait at least two years for a full legal regulation of this issue.

This is a good direction that already works, for example, in Japan. Undoubtedly, one should analyze the history of cryptocurrencies in countries that have experience in this sector thanks to faster development and that can be said for years. Because the collapse of the cryptocurrency exchange market in Japan took place already in 2014 and on these experiences regulations were introduced, which will now be introduced in Poland. It is a pity that it was not done earlier, learning from experience from other markets that already existed. In Poland, history has repeated itself and the regulations introduced are the aftermath of the fall of Bitcurex cryptocurrency in October 2016.

Suddenly it was closed, and more than 2,000 Bitcoin belonging to users were embezzled. However, as a result of the lack of regulation, no investor or consumer protection institutions have legal assistance options. In the modern phase of cryptocurrency market development, their price depends to a large extent on many social and legal factors than economic measures. The most important factors that affect on cryptocurrency courses were presented on Figure 1.

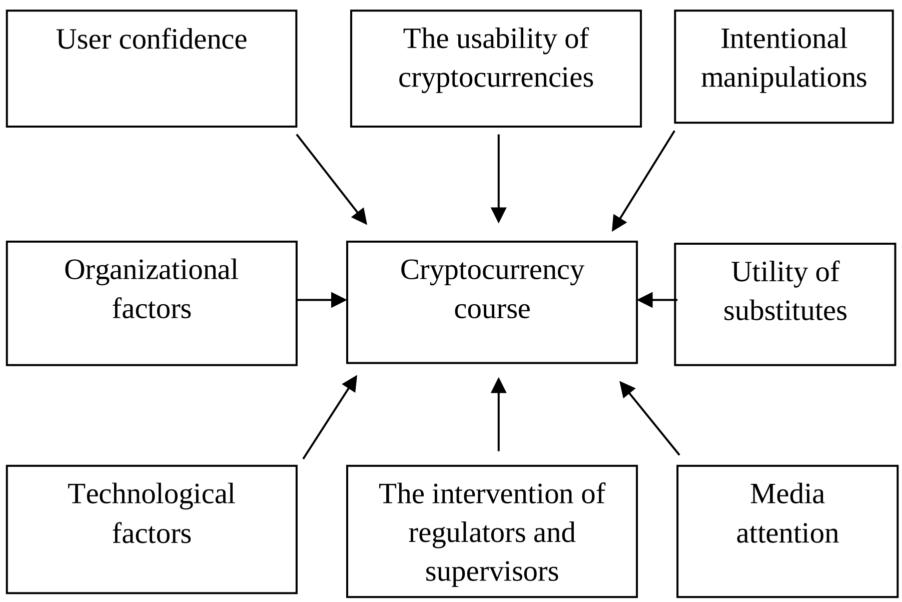

Fig. 1. The main factors affecting the current cryptocurrency rates.
Source: own study.

4. CONCLUSIONS

Cryptocurrencies are not controlled by governments or central banks. Countries usually use two tactics. Some adopted the ostrich strategy, hoping that the fashion will pass by itself and generally does not introduce any regulations on this subject, only those that result from the law of the associated countries, i.e. refer to, for example, European Union Member States, as in the case of Poland. The other part, however wants to try and partly take control and earn on it. For example, in Japan, bitcoin has become a fully-fledged payment instrument. However, due to experience (the collapse of the Mt.Gox stock exchange in 2014 and the disappearance of 850,000 bitcoins), the government of Japan has clearly defined regulations. For example, entities that want to run cryptocurrency exchange services must appear in the register of the Financial Services Agency of Japan, which carries out additional supervision.

Countries such as Russia, Ukraine, Belarus and Lithuania are in favor of earning money. These countries near Poland, due to the restrictions and unclear actions of state authorities, will simply take over cryptocurrency market participants and they will be earning money. On the other hand, the Polish government does not do much as part of real activity. Admittedly, the chaos related to the tax interpretation of the cryptocurrency market has finally been partially resolved, but no doubts have been finally resolved, which has a negative impact on investors.

Because the Polish government stated that it is not going to issue a general tax interpretation in this matter. According to analysts, these negligence (lack of legal regulations) and lagging behind simply lose the chance of big money. For example, in 2016, the industry cryptocurrency in Poland paid over PLN 100 million in taxes. An example is the Auroracoin cryptocurrency (Iceland's national coin) introduced in 2014. During the year, half of all coins were distributed to Iceland's citizens. Everyone is eager (Icelandic population is about 330,000 people), he got 31 coins, worth about 380 dollars.

The goal of the creators is to decentralize control over money and revive the local economy, which has long been struggling with the fall in the value of the Icelandic crown. In the coming years, all eyes will look to Iceland. What the Icelanders will do - whether they are interested in the coin and whether they will start trading it - may depend on the future of national crypts in other countries. According to the Wall Street Journal, more than 70 hedge funds are currently investing in cryptocurrencies, and each day the value of operations carried out with bitcoins reaches 750 million dollars.

The most common opinions are that virtual currencies will be a new stage of development or a haven for cheaters. Certain solutions and regulations should be introduced, including possible ones, based on trust in international institutions that will cause a shift in the likelihood of using the possibility of using cryptocurrencies towards the development of the information society, thus limiting the opportunities of fraudsters and other crimes.

Therefore, the main conclusion of the analyzes carried out regarding the cryptocurrency markets is that it will undoubtedly be the future of the financial payment system, but certainly not in its current form. Many local markets will repeat the already known cryptocurrency history, many of which will cease to function in a short time, resembling the financial pyramids. Certainly cryptocurrency markets will develop and limit negative phenomena that affect confidence in the entire market.

It is also possible that, as a result of the lack of other solutions, there will be a need to base cryptocurrencies on trust in states or international organizations. One thing is certain, some solutions will go down, and some will go into widespread use, laying the foundations for the digital financial system of the information society.

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