

# III • ECONOMY

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## CRYPTO CURRENCY – A NEW PHENOMENON IN MONETARY CIRCULATION

**Abstract.** The world of crypto currency is developing very quickly. For example, bitcoin over the past five years outperformed by its return investments such as gold, stocks and real estate. Also recently, hundreds of new crypto-currencies appeared on the market, which in their essence copy each other, differing by very insignificant characteristics. However, only a small part of them truly represents value and in the long run it can blow up the market, as bitcoin did in 2016-2017.

Interest in the blockchain and crypto currency in Kazakhstan goes both “from above” and “from below”: while the government is taking a course to introduce a new promising technology, ordinary citizens view the ether and bitcoin as a good way of investing. The business community also shows a high interest in the topic, because the development of blockchain-technologies and the increasing role of the crypto currency are a good space for the formation of start-ups. The government of Kazakhstan for the first time clearly indicated its interest in the topic of blockchain in the summer of 2016: a workshop was held at the IX Astana Economic Forum on the prospects of blockchain in the state administration. During 2016-2017 years, In Kazakhstan, several major state-level block projects were announced. Today, the country is confidently moving towards the blockchain, and this movement aims to make Kazakhstan a technologically advanced country and increase its investment attractiveness. Bitcoin, according to the forecast, will continue to grow in price – up to \$ 5000 per unit. Therefore, in Kazakhstan, mining of bitcoins (mining) is becoming a popular business. This article reveals the essence, functions and prospects of the crypto currency as a new trend in the currency system of many countries.

**Key words:** crypto currency, bitcoin, money, transactions, securities, blockchain.

**Аңдатпа.** Криптовалюта әлемі жоғары қарқынмен дамып келе жатыр. Мысалы, өткен бес жылдық ішінде биткоин өз табыстылығы жөнінен алтын, акциялар және жылжымайтын мүлікке инвестицияларды асып түсті. Сондай-ақ, соңғы кездері нарықта бір-бірін көшіріп, тек елеусіз сипаттамаларымен ерекшеленетін жүздеген жаңа криптовалюталар пайда болды. Алайда, олардың тек кішігірім бөлігі ғана құнды саналуда және болашақта биткоинның 2016-2017 жылдары істегені тәріздес нарықты дүр сілкіндіруі мүмкін.

Қазақстанда блокчейн мен криптовалютаға қызығушылық “үстінен” де, “астынан” да пайда болуда, үкімет жаңа перспективті технологияларды ендіруге бағыт алып жатқанда, қарапайым азаматтар эфир мен биткоинды қаражат салудың тиімді көзі ретінде қарастырып отыр. Бизнес-қауымдастық та аталған тақырыпқа жоғары қызығушылық танытуда, себебі блокчейн-технологиялардың дамуы мен криптовалюта рөлінің ұлғаюы – стартап құруға жақсы кеңістік. Қазақстан Үкіметі блокчейн тақырыбына қызығушылықты алғаш рет 2016 жылдың жазында танытты: IX Астана экономикалық форумында мемлекеттік басқарудағы блокчейн болашағына арналған воркшоп өткізілді. 2016-2017 жж. Қазақстанда мемлекеттік деңгейдегі бірнеше блокчейн-жобаларының таныстырылуы өтті. Бүгінде еліміз блокчейнды тиісінше қабылдап отыр, мұның мақсаты – Қазақстанды техникалық дамыған елдер қатарына қосу және оның инвестициялық тартымдылығын арттыру. Болжамдар бойынша, биткоинның бағасы ары қарай да артатын болады – тіпті бір бірлікке \$5000 дейін. Сондықтан да биткоин өндірісі (майнинг) Қазақстанда танымал бизнеске айналып жатыр. Берілген мақалада криптовалютаның көптеген елдердің валюталық жүйесіндегі жаңа тармақ ретіндегі мәні, функциялары және болашағы зерттеледі.

**Түйін сөздер:** криптовалюта, биткоин, ақша, транзакциялар, бағалы қағаздар, блокчейн.

**Абстракт.** Мир криптовалюты развивается очень быстрыми темпами. Например, биткоин за последние пять лет опередил по своей доходности такие инвестиции, как золото, акции и недвижимость. Также в последнее время на рынке появилось сотни новых криптовалют, которые по своей сути копируют друг друга,

отличаясь совсем незначительными характеристиками. Однако только небольшая часть из них по-настоящему представляет ценность и в перспективе может взорвать рынок, как это сделал биткоин в 2016-2017 годах.

Интерес к блокчейну и криптовалюте в Казахстане идет как «сверху», так и «снизу»: в то время как правительство берет курс на внедрение новой перспективной технологии, рядовые граждане рассматривают эфир и биткоин как хороший способ вложения средств. Бизнес-сообщество тоже проявляет высокий интерес к теме, потому что развитие блокчейн-технологий и повышение роли криптовалюты — хорошее пространство для образования стартапов. Правительство Казахстана впервые явно обозначило свой интерес к теме блокчейна летом 2016-го года: на IX Астанинском экономическом форуме прошел воркшоп, посвященный перспективам блокчейна в государственном управлении. В течение 2016–2017 гг. в Казахстане было анонсировано несколько крупных блокчейн-проектов государственного уровня. Сегодня страна уверенно идет навстречу блокчейну, и это движение преследует цели сделать Казахстан технически развитой страной и повысить его инвестиционную привлекательность. Биткоин, по прогнозу, будет и дальше расти в цене — вплоть до \$5000 за единицу. Поэтому в Казахстане добыча биткоинов (майнинг) становится популярным бизнесом. В данной статье раскрываются сущность, функции и перспективы криптовалюты как нового веяния в валютной системе многих стран.

**Ключевые слова:** криптовалюта, биткоин, деньги, транзакции, ценные бумаги, блокчейн.

## Introduction

Creator of bitcoin is Satoshi Nakamoto. At the same time, no one knows whether this person or the name of the group of people who created the crypto currency is real. But the concept of the system suggests that authorship is not fundamental. Bitcoin 0.1 was released on January 9, 2009.

The revolutionary idea was that this is the first electronic payment system based on mathematical calculations. This currency goes beyond the usual paradigm: someone specific does not release it, it is decentralized. Operations are conducted without intermediaries. Currency emission occurs through the work of millions of computers that are engaged in the calculation of mathematical algorithms around the world. This process is called mining.

Crypto currency is a digital (virtual) currency that does not have a physical expression. The unit of such currency is “coin”, which in English means “piece of money”. In this case, the coin is protected from forgery, since the coin is an encrypted information that can not be copied. The use of cryptography led to the use of the prefix “crypto” in the name of the crypto currency. (1)

The existence of crypto currency is based on the blockchain. This is a continuous series of consecutive blocks of data. Blocks contain information about all transactions in the payment system of the crypto currency.

The system is anonymous, there are no names in it, only numbers of purses. In this case, the blockchain is a decentralized database, it is distributed to several thousand computers around the world. Therefore, the blockchain account provides transparency and full autonomy for operations on the crypto currency.

## Materials and methods

After creating bitcoin, many other crypto-currencies have been appeared. Moreover, there are crypto-currencies, named after Putin and Trump. In 2015, Ethereum was created (ether, etherium). The idea of “Ethereum” was proposed by the Canadian programmer of Russian origin Vitaliy Buterin. At the age of 20, Buterin developed the Ethereum platform to create decentralized online services on the basis of the blockchain, working on the basis of smart contracts. The program code of the ether is more secure than that of bitcoin, and is suitable not only for financial transactions, but also for applying blockchain to legal transactions.

To start the mine and earn money on crypto, you need equipment. In fact, the farm for mining is a computer with a powerful video card. Farmers say that today it does not really make sense to run the bitcoin today – on aliexpress it is already possible to buy equipment adapted for mining, and, therefore, more efficient. In China, such units with the size of a toaster, for example, are hammered in entire buildings and produce crypto-loans on an industrial scale. However, there are too many single participants in the system. Beginning farmers are usually mine altcoins, that is, alternative currencies that work on the principle of bitcoins. In this case, the most popular crypto currency is the etherium.

In order for ordinary money to appear on the account in electronic form, they must first be physically deposited into the account, for example, through a bank or payment terminal. That is, for ordinary currency, the electronic form is one of the forms of physical incarnation. Crypto currency is issued directly on the Internet and is not connected in any way with any ordinary currency or with any state currency system.

In early 2011, Jed McCaleb launched the MtGox exchange, which allowed exchanging bitcoins for “real” money and back. MtGox immediately became a very popular platform, and to this day remains one of the main places for both entering and withdrawing virtual money, and for assessing their course.(2)

Currently, there are some flaws in this system, such as:

- trust in bitcoin;
- the problem of inaccessibility;
- difficult to obtain;
- it is impossible to say in advance which crypto currency will be in demand in a few years;
- unlike a credit card transaction, a transaction with a crypto currency can not be canceled – any write-off transaction is considered complete and is not subject to change;
- limited circulation: at the moment, bitcoins can not be paid anywhere.

In the market represented by more than 700 crypto-currencies, bitcoin dominates with a share of about 80%, and the top five (including bitcoin), by market capitalization, occupies 94%.

In addition to attempts to regulate or ban the government, bitcoin has other problems, such as currency deflation, speculation, and the arms race.

The main advantage of crypto-currencies over conventional ones is the substantially lower transaction costs – distribution costs – zero or very low commissions. The absence of monopoly in the production of bitcoins – one of the most attractive of its characteristics. Crypto-currencies have one very useful feature in the face of tightening sanctions. They allow you to bypass sanctions aimed at limiting monetary transactions with one or another country.

Protection against the collapse of the banking system: why bitcoin is better than a bank account:

- bitcoin does not depend on the state of the financial system, and even if all the banks of the world are massively bankrupt, your money will still be available.
- the main difference between money in a bank account from bitcoin – the latter can be spent and transferred anywhere, and in payment for anything at any time, be it a working day or an international holiday. And no one will ask you questions about the purposes of using the funds, no matter how large these amounts are.
- the third important difference between crypto currency is the previously known emission rate.
- with the help of crypto currency, in principle, you can perform any operation – the

main thing is for the service provider to accept this currency. In addition, with the help of crypto currency, you can carry out transactions safely and without intermediaries.

Unlike classical electronic money, digital currencies do not have analogs in the physical world and represent a set of encrypted data stored in the network of the block chain. Emission of new coins occurs according to a given algorithm and usually has a limit on the number of coins issued, for example, bitcoins will be issued only 21 million.(3)

To work with crypto currency, there is a necessity of special software – a wallet program. This program allows the user to work with the block chain and create transactions or receive transfers to his address. To work with bitcoin-wallet you need two keys:

- public key is an address where any owner can transfer funds;
- private key – a secret alphanumeric code, with the help of which the user signs his transactions.

The signed transaction is transferred to the network and after several confirmations the funds are credited to the specified address.

Basic principles of working with crypto-currencies:

- irreversibility – the transaction made cannot be canceled;
- anonymity – the block chain does not contain information about the owners of funds;
- decentralization – the network is maintained by a huge number of nodes controlled by different users;
- Security – the use of cryptographic methods makes crypto currency resistant to hacking.

Some consider the crypto currency to be the genius invention of mankind, others – the usual financial pyramid. The attitude of different states to bitcoins is ambiguous. After all, the philosophy of crypto currency is contrary to the concept of power and control. Nevertheless, governments of different countries are already thinking how to use blockchain with benefits for themselves.

Interest in crypto-currencies can be divided into speculative, anarchistic or shadow. Speculators see in them the ability to quickly earn on the growth or arbitrage of crypto-exchange rates, see them as another techno-toy, and the anarchists see an opportunity in a new redistribution of the world financial system. Also there is a large volume of the shadow sector, in particular bitcoins are often used in the shadow markets, as it is anonymous and relatively safe. In general, Bitcoin as the most widespread and capitalized currency, for six years,

has grown by 25 thousand percent – it is extremely difficult to find a financial instrument with a similar yield. Perhaps this is kindling the excitement of both professional and non-professional players.

Crypto currency is also used in black online markets, such as Silk Road. The original Silk Road was closed in October 2013, and since then two more variants have appeared; the current version is Silk Road 3.0. The successful format of the “Silk Road” is widely used in the black markets on the Internet, which led to the subsequent decentralization of the black online market. Within a year after the closure of the original Silk Road, the number of notable black markets increased from four to twelve, and the volume of drug lists increased from 18,000 to 32,000 records.(4)

Markets in darknet are facing growing problems with respect to legality. Bitcoins and other forms of crypto currency used in black markets are not legally classified almost in all parts of the world. In the United States bitcoins are designated as “virtual assets”. Such an ambiguous classification increases pressure on law enforcement agencies around the world, creating obstacles to the elimination of drug trafficking from black markets.

Because most of the markets in the darknet work through Tor, they can be found relatively easily in public domains. This means that their addresses can be found, as well as customer reviews and open forums relating to drugs sold on the market, without exposing users. Such anonymity allows users on both sides of the dark markets to hide from law enforcement. As a result, law enforcement agencies are campaigning to separate individual markets and drug traffickers to reduce supply. However, dealers and suppliers can stay a step ahead of law enforcement agencies that cannot keep pace with the rapidly expanding and anonymous platforms of dark markets.

In addition, the market of crypto-currency is still very small, and the rate of electronic money varies depending on the information field. At the moment, the market is very young, and the crypto-currency is perceived more as a commodity than a currency, and goods are characterized by such high volatility, an example is the oil market. Most players are traded for the first time on the exchange and easily succumb to both euphoria and panic. Also, the fundamental factor is the capitalization of the crypto-currency market, which does not exceed \$ 89 billion USD, which is very small for the world market. This means that even our National Bank can enter the market with small interventions and arrange high-level speculation.

In our opinion, the government should not try to regulate this sphere with the help of the usual mechanisms, since such an approach is impossible with the crypto-currency. If our bankers and those in power do not understand that they need to reorganize, as in Japan, this could negatively affect our economy. The technology of blockchain is equivalent to a mudflow, an element that can not be resisted. If the flow takes hold, it sweeps everything away, and neither the status of a person, nor how much money is in his bank. If in Kazakhstan some will try to regulate the blockchain, will try to leave privileges for themselves, at the next stage of development smart and active people will simply take their business abroad. Here remains a purely raw material appendage to other states. We believe that this issue should be solved in the most open manner. But many are afraid, because the blockchain deprives people of privileges, and people do not want to lose their privileges. This is the main problem.

In 2016, the Russian Ministry of Finance proposed to put for the release of bitcoins for seven years. But this year the head of the SberBank, German Gref, spoke in favor of bitcoin’s regulation by state. A Swiss private bank Falcon, for example, launched a service for the purchase and storage of bitcoins.

In Kazakhstan, only now we saw the prospects and opportunities of blockchain technology. At the Astana Economic Forum, held in May 2016 in Astana, the representatives of Kazakhtelecom spoke out its plans to study the possibility of using blockchain in the public sector. In Kazakhstan, there are also conversations about the development of blockchain technologies. A year ago, Almaty Tech Garden CEO Sanjar Kettebekov said that IBM intends to invest \$ 3 million USD in the creation and development of a blockchain laboratory in Kazakhstan. The National Bank of the Republic of Kazakhstan recently announced that it is launching a project to buy and sell securities on the basis of blockchain. The first national crypto-currency of Kazakhstan was called Halykcoin.

The International Financial Center “Astana” (IFCA) and the investment company EXANTE signed a memorandum of cooperation, under which a new crypto-currency will be created on the basis of the Stasis platform, provided with traditional financial assets. According to experts, the expected capitalization of the new crypto-asset will be about 2-3 billion in equivalent of Euro. This asset will act as a protective asset for the crypto-currency market by analogy with US government bonds for the global stock market.

In addition, EXANTE representatives plan to develop the “IFCA Act on Regulation of the crypto-assets’ market and Support the development of financial and technological ecosystems”. Blockchain and crypto-currencies are becoming one of the top priorities for the development of the economic sector in many countries of the world. Right now leading financial regulators are actively working to create favorable conditions for the development of financial and technological companies. We believe that the International Financial Center “Astana” can become one of the global innovative financial hubs. In the future, EXANTE intends to cooperate with other state financial institutions. The Stasis platform is a financial and technological infrastructure for launching a digital asset in the world market, provided with traditional financial instruments with regular state audit.

Nowadays, the first and so far only bitcoin-ATM appeared in Kazakhstan in 2015, earlier than in other CIS countries. It is in the well-known shopping center of Almaty “Ritz Palace” and gives the opportunity to buy bitcoins for KZT with a commission of 5%. Some online stores, such as Satam, Robotron Gadgets and Zapp Premium, also accept bitcoins for payment. In addition, direct exchange of KZT to bitcoins and back is possible online via electronic exchangers of the type pmcash.kz or 1wm.kz with further withdrawal to bank cards.

Bitcoin has problems, and their popularity has caused them. Due to the increased number of transactions, information about them ceased to be placed in the standard block of bitcoin-network. Therefore, it was decided to reform the system.

There are two versions of the event developments: either the block size will simply be increased from the standard 1 MB to two, or the network will be optimized by taking some information out of the blocks, with the separation of the electronic signature, which is confirmed by each transaction. This update was called Segwit (Segregated Witness). However, both versions cause disputes around the platform users, which even nicknamed “civil war”. After discussions, the miners signed an agreement that they will switch to Segwit on August 1, 2017, but in November of the same year the size of the blocks will still be increased to 2 MB. However, there is a possibility that some of the miners will still refuse to switch to Segwit. Then bitcoin can be divided into two chains.

A similar problem was already with the broadcast. Despite the high resistance to external attacks, the blockchain systems can be hacked. June 17, 2016, an unknown hacker began to massively

withdraw the “Efirium” blockchain’s tokens, stealing \$ 53 million. Buterin and his team for a long time tried to track down the hacker, but could not return the money. As a result, they decided to roll back all transactions at the time of the hack.

As a result, the “Efirium” hardfork was implemented, that is, split into two branches. But some users were against this action, because it is generally contrary to decentralization, which is the basis of the blockchain. As a result, “Efirium” was divided into two camps: “Efirium hardfork” and “Efirium classic”. The consequences of the split are still visible on the crypto-exchange markets.(5)

There is an opinion that crypto-currencies, for all their revolutionary nature, are just another financial pyramid, which can collapse as soon as enough money is collected. Some economists believe that this technology has signs of a financial pyramid. Another issue is that the crypto-currency can hardly be estimated within the framework of traditional concepts.

Opinions were divided into positive (the rate will grow further) and skeptical (this is a bubble, and everything will burst). At the same time, both sides are based more on their feelings and technical analysis than on any fundamental factors. If you evaluate the crypto-currency with a conservative analysis, then yes, currently, all the factors of the financial pyramid, praise, blind faith in technology are inherent in it. The crisis showed that from the time of Internet companies’ growth, a substitution of concepts took place: doing business via the Internet is only a tool for implementing a business process, but not an independent business process capable of generating income from invested capital.

Andrei Sustavov, CEO of SAS Kazakhstan, working in the field of business analytics, believes that any tool can be wrapped for good or bad, but support for blockchain-technology at the state level means, first of all, building a stable and secure payment system. He also believes that the blockchain will maintain its independence from the National Bank.(6)

At the moment, financial experts identified five main crypto currencies, which promise to become stronger in 2018 due to the active growth of investments, and as it follows – the growth of their exchange rate.

At the moment, the leading position among all currencies is Bitcoin, also known as the “cue ball,” according to the forecasts of experts, the “cue ball” rate at the end of 2018 will be about 3000 US \$ per unit. One of the main advantages of this type of crypto currency is the anonymity in having a

deal with transactions. In 2018, the most popular and promising currencies will be those that will not lose their positions and offer users more options and additions, compared to their closest competitors.

Despite the huge number of advantages, the currency, of course, has its drawbacks, so it can be classified as limited emission and the emergence of new difficulties associated with mining. At the moment, there are practically no crypto-currencies that can compete strongly with the “cue ball”, because it is bitcoin that now brings the greatest profit to owners.

For example, the owners of Bitcoin-mines become not only more difficult to solve organizational and computing tasks, but the cost of electricity, equipment and technological requirements are constantly growing, and revenues are falling. But, on the other hand, the closer the limit of a certain digital currency, the higher its rate and attractiveness in terms of investments. In 2017, the number of private self-earners of the currency has decreased significantly, but collective mining has become more promising and profitable. This was the impetus for the rapid development of not only a variety of mining organizations and pools, but also developers of computer equipment capable of coping with more complex tasks.<sup>(7)</sup>

The leading position of bitcoin is also explained by the fact that the currency has received official status in some countries. However, obtaining an official status can negatively affect the virtual currency, since the participants in financial transactions can no longer remain anonymous. In this regard, the opinions of experts were divided into two, where one side believes that legalization of the crypto currency will make bitcoin more reliable and promising, and the other that the officially recognized “cue ball” will not be interesting to anyone.

The next place in the list of the most attractive crypto-currencies belongs to the Efirium, created on the block chain platform not so long ago – in 2015. Developed on the basis of a distributed database, the Efirium has become quite popular over a short period of time. For comparison, we can consider the dynamics of the growth of the crypto currency, so in the spring of 2017 the rate of the efirium was about \$ 40, and already in the middle of summer the value of the virtual currency increased to \$ 280. Such growth rates make Efirium quite attractive from the investment point of view. So, according to forecasts, the amount of investment in this crypto currency in 2018 may reach \$ 3 billion. It is worth mentioning that due to its stability and versatility, the efirium

can completely replace the electronic instruments of the world financial market in the near future, as well as completely displace bitcoin. The popularity of the digital currency and the growth of the rate can also be explained by the favorable terms of trade offered by the eToro service for the currency pair of the efirium dollar.

When it comes to the most promising digital currencies of 2018, we can not to mention Litecoin. Litecoin appeared almost immediately after bitcoin – in 2011 and already earned a lot of positive feedback from well-known financial experts. Despite the fact that lightcoin appeared as early as 2011, it is only passing to active development, which is confirmed by the stable growth of the exchange rate and the increase in the amount of capital investments. The appearance of Litecoin gave the possibility of mining crypto-currency to individual miners, and not only to owners of powerful crypto-currency mines, as it was the situation with bitcoin. This currency is rather unusual in that its creator, Charlie Lee, was able to tie the course of the crypto-currency to silver prices, and the peculiarity of the settlement system lies in innovative methods of mining, which significantly shorten the settlement time. At the moment, Litecoin has gained a reputation as one of the safe and stable crypto-currencies, which is confirmed by the investment of \$ 2 billion, and the light-coin rate at the moment is about \$ 39 of US. It is necessary to take into account the fact that in April 2017, the light-coin rate did not exceed 9 dollars. Such dynamics of growth and an impressive amount of investments give lightcoin the third place in the list of the most promising crypto currency in 2018.

The prospects for crypto currency are market quotes, so the Monero rate for 4 months increased from 21 to 43 dollars. Of course, maybe this is not such a large amount for a unit, as the aforementioned crypto-currencies, but according to financial experts, the monero only begins to reveal its potential. At the moment, the amount of investment in the crypto currency exceeds 260,000,000 US dollars, and continues to increase steadily. The penultimate place in the list was taken by the crypto currency called Monero. The first Monero became known even before the advent of the Ethereum, in 2014. An interesting feature of this digital currency is that the entire technology is based on complete mutual trust between the holders of the crypto currency. So, the user can easily exchange currency at a favorable rate with just one mouse click, thereby creating a new information channel in the system. The number of investments in ripple now exceeds \$

250 million, and the exchange rate of the currency unit is approximately \$ 0.27. It is important to say that as early as in the spring of 2017, one ripple was much cheaper, and in 2018 experts forecast an active growth of the Ripple rate. The last place in the list belongs to the open source crypto currency called Ripple. Although the Ripple exchange rate is lower than all the above crypto currencies, experts do not advise him to underestimate.(8)

It is worth mentioning that along with the listed top 5, there are other digital currencies, such as Zcash, DogeCoin or Golem which can also take the top spots in 2018.

### Results and discussion

In the world, the popularity of crypto currency and blocking technology is growing, which gives a lot of ways how to earn bitcoins or other crypto currency. There are a lot of such ways, they can be divided into those that require financial investments for the purchase of equipment or purchase of digital coins and how to earn a crypto currency without investments. The first option includes:

1. Trade in crypto currency. Exchange bitcoin or other coins among themselves or for real money, at a favorable rate. The principle of earnings is simple – with a decrease in the rate of buying, and with an increase in selling. To conduct trade it is possible on crypto currency exchanges – Exmo, Binance and other. Also, digital coins can be exchanged for online exchange services. You can buy bitcoin via telegram-bots.

2. Invest funds in the Crypto-currency into the Trust Management. You can independently deal with stock trading, thanks to the world's first social broker eToro. The platform makes it possible to repeat the actions of successful traders.

3. Mining bitcoin. The solution of complex cryptographic tasks with the help of special equipment is the mining of the farm. Finding a certain result allows you to confirm the blocks of transactions in the network, for which you receive a reward in the form of new coins. This method requires the purchase of equipment. Users wishing to mine without attachments and possess a powerful PC can try to extract altcoins by merging with other users into the pool using the Minergate service.

4. Cloud mining. This service is provided by special services, which make it possible to take a certain amount of computing power for rent and make a profit. The minimum investment is several USD, and the most popular service – Hashflare gives access to the mining of several popular crypto-currencies.

The second method includes bitcoins. There is a possibility of earning bitcoin without attachments for visiting special sites where a certain number of coins are charged for entering captcha and viewing advertising. The award is available once in a certain period of time, and one of the popular cranes is considered to be freebitcoin. Such sites support a referral system of rewards for attracting new users. Even there is a bitcoin of the game, for example Chopcoin.(9)

Recently, many new crypto-currencies have appeared. To develop their projects, they use the ICO program – the initial placement of coins to attract investment.

You can earn on these programs in several ways:

- purchase coins in the early stages of placement with an additional bonus and sell it after it grows;
- Airdrop – free distribution of some amount of crypto currency to attract attention and popularize new coins;
- Bounty – a program to promote new coins in social networks and popular portals, developers pay active users or their subscribers who contribute to the popularization of their currency.

### Conclusion

Currently, the legal status of crypto-currency in the world is expanding. Bitcoins are recognized as a monetary unit in Germany, in Japan bitcoin is a legal tender for a long time already. Kazakhstan is far from such a perspective.

The main purpose of legalization of turnover is toughening of state control over transactions with virtual currency and combating illegal currency transfers. In addition, authorized state structures should be able, if necessary, to check each participant in the chain of currency transactions in order to prevent money-laundering. It is predicted that the appropriation of the national status will enhance the security of foreign exchange operations and will make the state the guarantor of the reliability of electronic transfers.

Today, life is changing very rapidly. This is due to innovative information technologies that improve the quality of life of everyone who actively uses them. It is impossible to say whether the crypto-currencies are good, whether they will bring something new to the economy or become one of the types of electronic money, becoming attached to the rate of materially secured currencies. One thing is clear: there is a huge potential in the crypto-currencies, which, on the one hand, can give a strong impetus to the economy of the whole world, on the other – to slow down its development.

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