

Cryptocurrency and Kazakhstan

Y.T. Akbayev¹, B.M. Abdirakhmanov²

¹Professor of the Department of Finance, ²Karaganda University, 2nd year master's student
erbolsyn.2011@mail.ru, bekzhanabdirakhmanov@gmail.com

^{1,2}Academician Y.A. Buketov Karaganda University, Karaganda city

Summary: The article analyses recent trends of cryptography and cryptocurrency in the world and Kazakhstan. Pros and cons are given in this paper.

Keywords: cryptocurrency, mining, Kazakhstan.

First type of exchange among ancient people was barter. You give me a sheep and I will give you an apple. Later human civilization evolved and started to use precious metals like gold and silver to make transactions. Now people can differentiate the value of things. One apple is 1 silver coin, one sheep is 10 silver coins. Since precious metal is hard to obtain, it was substituted with paper money. In the XXIst century another innovation is knocking the door. It is cryptocurrency. It has potential to replace the money we use today. Cryptocurrency is a type of digital currency, accounting for the internal settlement units of which provides a decentralized payment system (no internal or external administrator or analog), operating in fully automatic mode. In this paper we would like to analyze cryptocurrency and its application in Kazakhstan.

Let's dig into the history of cryptography. It had been used for the first time in the 1990's. The difference with modern types of currency is that it was a centralized one. Satoshi Nakamoto introduced us to the term "cryptocurrency" in 2009. Since then it has been widely accepted by the general public. There are ten types of cryptocurrency on the market. Namely Bitcoin, Ethereum, Litecoin, and etc. One might ask, where do we get these coins? [2]

Usually you need to solve math problems. If a computer succeeds, it is rewarded with one bitcoin. And the number of bitcoins is limited. Every following bitcoin is harder to get. At the beginning it was easy to obtain bitcoin. We heard stories when one man paid one bitcoin for a box of pizza. As of November, 2021, one bitcoin is 64 000 U.S dollars. The high price attracts entrepreneurs around the globe to "mine" bitcoin. Mining is a term used to describe obtaining cryptocurrency. Kazakhstan is no exception in this global trend.

According to researchers from Cambridge university our country takes the second place after the USA in mining cryptocurrency. It takes the lion's share in mining cryptocurrency, 18.2% to be exact. And this number continues to rise as mining farms increase in quantity. Mining cryptocurrency needs lots of electricity. Majority of them are located in the southern part of Kazakhstan. It is very intuitive to explain why they are located in the south. Kazakhstan has electricity surplus in the north, whereas south has deficiency. The rapid rise of mining is explained by the cost of 1 kw/h of electricity. It is one of the cheapest compared to other countries.

The dark mining of cryptocurrency is alarming. In Kazakhstan alone, around 250-400 megawatts are used to mine illegally. For the record, West Kazakhstan uses the same amount in one day. Only 50 out of 500 mining sites are registered. Other 450 sites are called "black" sites. Their work disturbs the electricity supply of the region. Also complicated the work of legal sites. Government is about to draft a law to prioritize the use of electricity during shocks. In these cases, miners had to shut down the site, in order for plants and the city to have access to electricity.

Situation in neighboring countries affects Kazakhstan's market. China, a bordering state with our country, outlawed mining sites last year. These nomad miners are luring to Kazakhstan. Why not? Simple registration and cheap electricity attract them most. Secondly, our cold climate allows mines to work without cooling. During the mining process computers tend to get really hot. The

high temperature affects the performance of the computer. These above-mentioned ideal conditions attract a lot of investment. Government officials estimate 300 million U.S dollars. From 2022, Kazakhstan is planning to tax miners for use of electricity [3].

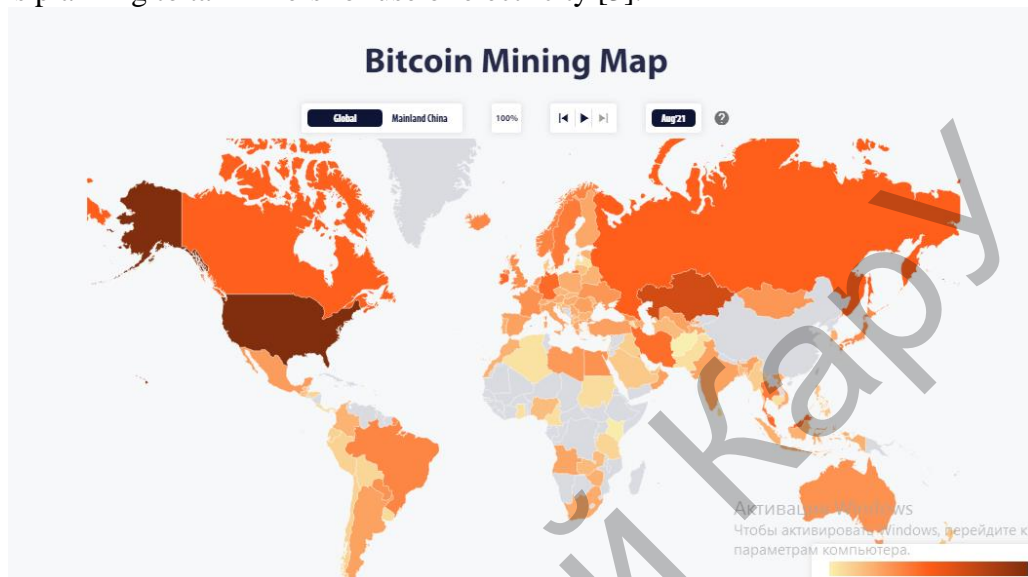


Figure 1. Cryptocurrency mining rating among countries

Note – source [1]

Regulation of cryptocurrency varies from country to country. And it is ever changing. Some countries allow it partially, while others ban it completely. For instance, recently it was banned in China, since the cryptocurrency is not backed by assets or commodities. The status of cryptocurrency is still vague. Let us compare two regions: the US and European Union. In States cryptocurrency is recognized as capital not currency. Hence it is taxed. Vice versa EU considers cryptocurrency as currency.

Cryptocurrency is not safe from fraud as well. In the early days of bitcoin Chinese traders lost 5 million U.S dollars, when trading platforms suddenly shut down. This is not just a single case. Most of the fraud remains unknown to the general public.

According to the FTC (Federal Trade Commission) of the United States, in 2021 alone more than 80 million dollars vanished from users of cryptocurrency. We can clearly see that these types of events could happen in Kazakhstan. To prevent fraud, Kazakhstan needs to develop safe technologies and procedures to fight fraudulent activities.

Main advantages are anonymity, security, and decentralization. But some people use anonymity in a bad manner. Since nobody knows who possesses bitcoin, it is a very convenient medium of exchange in black market. One notable occasion is the Silk Road. Through this black-market weapons, drugs and money laundering took place [2].

Without a doubt the future is behind cryptocurrency. But its status and legislation remains vague. Our country is not behind the worldwide trend. Favorable conditions for miners are attractive pros, which Kazakhstan has. To ensure security and flourishing of cryptocurrency, roadmap has to be implemented.

References

1. https://ccaf.io/cbeci/mining_map/ University of Cambridge. Bitcoin mining map. 2021.
2. https://forbes.kz/process/expertise/ob_osobennostyah_raboty_kriptoalyutnyih_birj_na_territorii_kazahstana/ Sholanov N. What is the peculiarity of working with cryptocurrency in Kazakhstan? 2020.

3. <https://24.kz/ru/news/economy/item/509265-dobycha-kriptovalyuty-privela-k-defitsitu-elektroenergii> Nakipov A. Cryptocurrency mining caused electricity shortage. 2021.

О концепции и перспективах внедрения цифровой валюты Банка России

В.В. Варзин

к.э.н., доцент кафедры экономики и менеджмента
varzin.vasily@yandex.ru

Российский государственный университет им. А. Н. Косыгина, г. Москва

Аннотация. Статья посвящена анализу концепции, предполагаемых этапов и перспектив внедрения цифрового рубля как третьей формы национальной валюты РФ. Рассмотрены предполагаемые преимущества внедрения данной цифровой инновации, а также ряд возможных способов нейтрализации сопутствующих рисков.

Ключевые слова: цифровая валюта, Банк России, концепция, платформа цифрового рубля, перспективы внедрения.

Развитие и повсеместное внедрение цифровых технологий в современном обществе неизбежно обуславливают необходимость актуальной трансформации финансового сектора. Центральные банки всё большего количества стран переходят от этапа обсуждения целесообразности к непосредственной реализации процесса внедрения национальных цифровых валют. Не является исключением и Банк России.

В контексте данной проблемы Центральный банк Российской Федерации в октябре 2020 года разработал и предоставил для общественного обсуждения доклад «Цифровой рубль» [1]. В данном документе отражены общие концептуальные подходы к разработке и представлены варианты практической реализации проекта цифровой валюты Банка России.

Проведённые с участием заинтересованных сторон многочисленные обсуждения, сбор и анализ разнообразных предложений и рекомендаций в определённой степени оказали влияние на следующий этап реализации проекта «Цифровой рубль» – официальную публикацию российским мегарегулятором в апреле 2021 года очередного документа под названием «Концепция цифрового рубля» [4].

В данной публикации находит отражение конкретизация базовых понятий реализуемого проекта, определяются основные преимущества цифрового рубля для основных субъектов национальной экономики, приводятся результаты опроса респондентов о целесообразности внедрения и предпочтительной модели реализации цифрового рубля. Также в указанном документе представлена принципиальная схема реализации и функционирования выбранной модели цифровой валюты Банка России, изложены концептуальные подходы к технологической реализации цифровой платформы, рассмотрено прогнозируемое воздействие данной инновации на национальную финансовую стабильность и монетарную политику государства. Кроме того, в публикации «Концепция цифрового рубля» рассмотрены планируемые последующие этапы реализации анализируемого проекта [2].

В декабре текущего года Банком России предполагается формирование прототипа платформы данной цифровой валюты, в январе 2022 года предусматривается подготовка необходимых изменений в национальном законодательстве, а в первом квартале 2022 года планируется осуществление тестирования формируемого Центральным банком Российской Федерации прототипа платформы цифрового рубля. Результаты данного тестирования