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Cryptocurrencies in accounting and finance

Abstract. This article examines the problem of the role and place of the cryptocurrency market in accounting and in the system of global finance. For a more complete understanding of this issue, the author first examines the historical dynamics of prices and their market capitalization. The author identifies several periods of changes in the price of cryptocurrency, focusing on the most important dates in the development. Bitcoin is singled out by the author as the leader in terms of capitalization, and ethereum is placed in second place. It is noted that the share of bitcoin in the total market capitalization of the cryptocurrency market has varied significantly over time. The author also cites the level of this indicator in different years and indicates the reasons for the increase and decrease of this indicator. In addition, the author analyzes the dynamics of cryptocurrency trading in comparison with fiat currencies. This analysis also indicates the leaders of fiat currencies. The author notes that the capitalization of the currency market is still small. The article shows the indicator of the total capitalization of the cryptocurrency market in comparison with the volume of world GDP. In addition, the article measures the volume of money supply by the M2 aggregate and estimates the total debt obligations of countries, firms and the population. Based on the analysis, the author comes to the conclusion about the place and role of cryptocurrencies in the global economy and the financial stability of countries. Particular attention in this article is paid to comparing the capitalization of the cryptocurrency market with a similar indicator for the world's leading corporations. In the final part of the article, the author analyzes the prospects of cryptocurrencies and gives the opinion of various experts on this issue.

Keywords: accounting; bitcoin; capitalization; cryptocurrency; cryptocurrency trading; fiat currencies; financial stability; global corporations; global economy; global finance; market capitalization; price dynamics; volume

Introduction

Введение

The topic of cryptocurrencies is very relevant today, probably, for representatives of all economic entities. Investors are driven by the desire to make super profits and an easy opportunity to enrich themselves in a rapidly developing market — phenomena quite unique, since before the emergence of cryptocurrencies, the paradigm of an efficient market and the rapidly exhausting possibility of arbitration allowed only to dream of quick earnings and maintaining high profitability for a long period — especially for small players. Government officials see cryptocurrencies as a source of development and strengthening of the digital economy — as a new competitive advantage that can be used as a strategic weapon in the harsh conditions of globalization with long-established centers of power. However, the governments of many countries are also very concerned about the risks associated with the use of cryptocurrencies in settlements (the mechanism has not yet been sufficiently tested, and therefore theoretically poses serious threats in the case of building a nationally significant payment system based on cryptocurrencies), as well as investing in this financial asset (the threat of a financial pyramid; the events of the global crisis of 2008–2009 are too fresh in memory years and its impact on the world economy).

The purpose is to determine the place of cryptocurrencies in the structure of global financial relations, to predict possible ways and the strength of the influence of the cryptocurrency market on the financial stability of Russia. The objectives of the study are to identify the main risks and problems associated with cryptocurrencies, the effectiveness of investing in them, the development of the market, the study of the effectiveness of the legislative regime regarding the cryptocurrency market and the ICO market, the definition of global trends in the development of these markets.

The object of the study is cryptocurrencies, their essential characteristics and the cryptocurrency market.

The subject of this work is the study of trends in the formation, opportunities and risks of the international cryptocurrency market.

Theoretical and Methodological bases of the study. Methods

Теоретические и методологические основы исследования. Методы

Now monetary policy means too much as a competitive tool in the harsh reality of a globalizing world — with the help of monetary policy, states were overthrown overnight and new leaders were formed. And the authorities understand all this, therefore, perhaps, they are in no hurry to accept cryptocurrencies with "open arms".

When writing this article, the works of such authors as Chernysheva M.A. [1], Korennaya A.A. [2], Bondarev M.S. [3], Bakieva S.S. [4], Molchanov M.V. [5] etc. have been used.

When writing the work, general scientific methods were used, general scientific methods of cognition, such as a systematic approach, statistical methods of processing arrays of information, methods of analysis and synthesis. Inductive and deductive methods were widely used, as well as comparative analysis.

Results

Результаты

To determine the role and place of cryptocurrencies in the global financial system, it is advisable to start with a historical overview of price dynamics and their market capitalization. Over

the past year, there has been a boom in the cryptocurrency market, due to which the price of bitcoin has increased by more than 40,000 % in five years (including 8 times in a year). Such a "fever" has led to the rapid development of other cryptocurrencies. Currently, more than 1,150 cryptocurrencies are traded on 5,700 crypto exchanges [6].

The price of bitcoin rose from almost zero in 2011 — the beginning of bitcoin's history to \$14,000 per unit in 2018, allowing investors who invested in the early stages to earn super profits unprecedented in the world of the efficient market paradigm. It seems that the very fact of the existence of cryptocurrencies at this stage indicates a violation of many classical laws of economics and finance — for example, the possibility of arbitration on different exchanges.

Analyzing the dynamics of market capitalization, we can notice a gradual but steady growth since about May 2017 (among the possible reasons for the rapid growth of the bitcoin exchange rate during 2017 is the growth of mass popularization in the media, a large amount of investment from Chinese investors — according to estimates, before the ban in China, they accounted for about 80 % of the cryptocurrency market, investments in this sector of the world's leading TNCs, successful overcoming of hard forks -branching of the program code -bitcoin). The growth rate of the bitcoin exchange rate began to increase exponentially after the total capitalization of cryptocurrencies exceeded the \$160 billion milestone [7].

In the leaders in terms of market capitalization, of course, bitcoin, Ethereum is in second place, the technological characteristics of which are qualitatively different from bitcoin, and therefore give hope to many investors, followed by Ripple and Bitcoin cash. The total capitalization of the remaining cryptocurrencies accounts for about 21 %.

However, the share of bitcoin in the total market capitalization of the cryptocurrency market has varied greatly over time. Until July 2017, this indicator was more or less stable at the level of 80–90 %, but then a sharp drop followed, which resulted in a twofold decrease in the share of bitcoin (up to 35–40 %). Among the reasons for this phenomenon are the hacking of the Bitfinex trading platform, the sharp growth and popularization of another cryptocurrency — ethereum (outflow of investors' investments in this cryptocurrency), as well as a reduction in the remuneration issued by the system to miners for discovering a new block (in July 2017, the remuneration of miners decreased by half according to the plan laid down in the bitcoin program code), which also directly affected the course [8].

The second strong decline in the share of bitcoin in the total capitalization of the cryptocurrency market occurred in early 2018. This time, possible explanations for the sharp decline in the rate of the leading cryptocurrency were market news and stricter regulation of the cryptocurrency sphere in South Korea, as well as the theft of cryptocurrencies from the Japanese cryptocurrency exchange Coincheck in the amount of \$527 million. Also, this process was influenced by the factor of the mass launch of new cryptocurrencies and the growth of capitalization of bitcoin's main competitors.

According to the data, there are 81 trillion dollars in total in circulation in the world. The total capitalization of the cryptocurrency market accounts for \$159,2006 million, which is 0.019 of the total amount of dollars in circulation. At the same time, in 2022, 80 % of all money in the world is in the hands of 20 % of the world's population. The desire to accumulate bitcoins due to their limited number will lead to a colossal disproportion in the distribution of bitcoins as assets in the future and to the greatest inequality in the world (according to recent estimates, 96 % of the total number of bitcoins in circulation are held by only 4 % of owners of special addresses in the bitcoin system) [9].

The capitalization of the cryptocurrency market is still small. It is 1,155 times behind the volume of all derivatives in circulation. The indicator of the total capitalization of the cryptocurrency market is 0.47 trillion dollars, while the volume of world GDP (as well as the indicator of the capitalization of the stock market close to it), 75 trillion dollars, the global volume of money supply.

Measured by the aggregate M2 — 90 trillion, and the total debt obligations of countries, firms and the population — 233 trillion dollars. Analysis of the data obtained suggests that at the moment cryptocurrencies do not have a significant impact on the global economy and financial stability of countries, occupy a very modest place in the global financial system, since their indicators are not comparable with the rest of the figures given in this graph. With the growth of the total capitalization of the cryptocurrency market by 100 times, the situation will change, and it will have a significant impact on the global financial system.

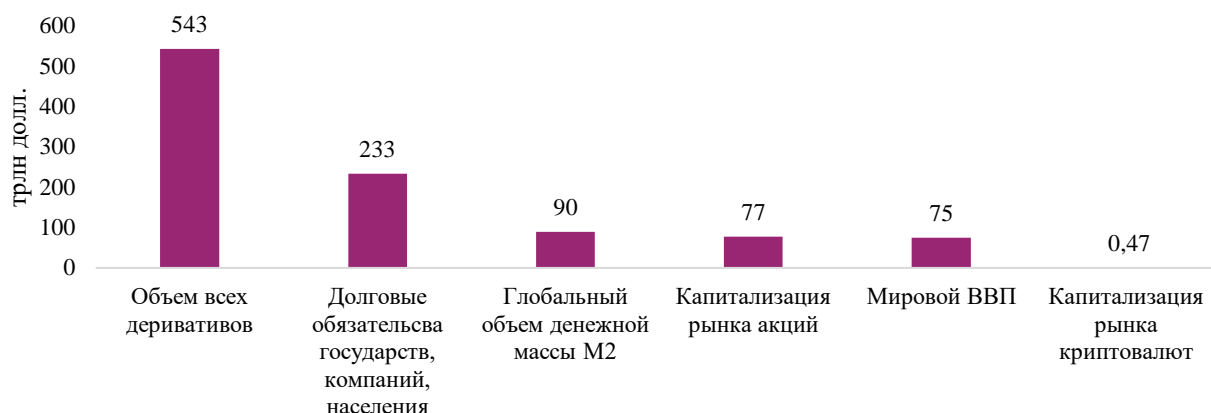


Figure 1. Capitalization of the cryptocurrency market [10]

Рисунок 1. Капитализация рынка криптовалют [10]

It is extremely interesting to compare the capitalization of the cryptocurrency market with a similar indicator for the world's leading corporations. According to Bloomberg, the capitalization of the cryptocurrency has overtaken Goldman Sachs (\$96.8 billion), Morgan Stanley (\$93.1 billion), Lockheed Martin (\$92.2 billion). But so far it is slightly behind the capitalization of BNP Paribas (\$100.2 billion). Of the Russian companies, Sberbank (\$72.4 billion) and Rosneft (\$59.3 billion) are the closest to bitcoin, which does not have a legal status in Russia.

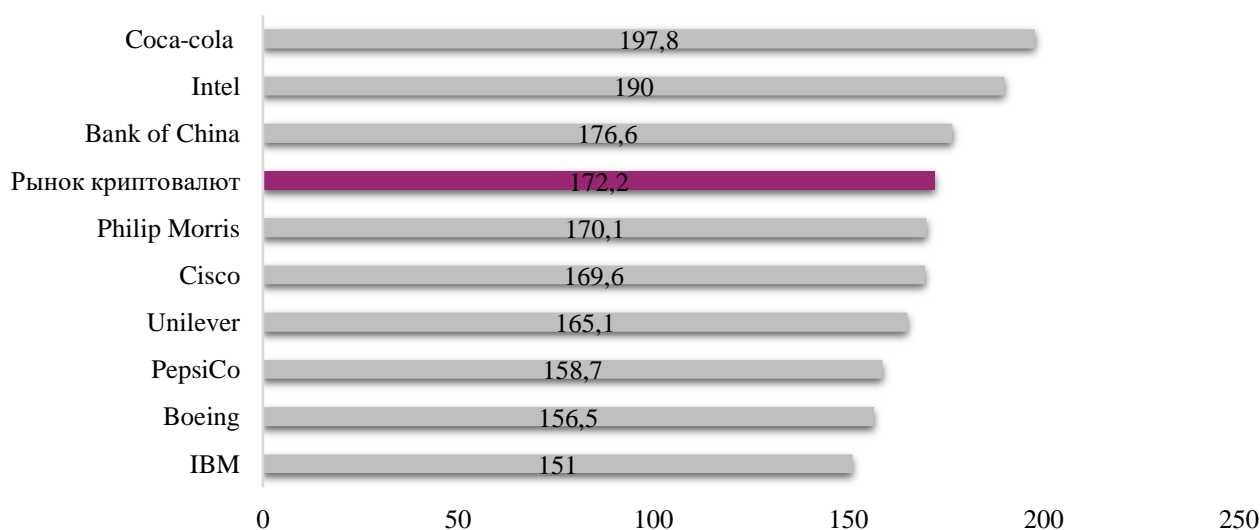


Figure 2. Comparison of capitalization of corporations and the cryptocurrency market (in billions of dollars) [11]

Рисунок 2. Сравнение капитализации корпораций и рынка криптовалют (в миллиардах долларов) [11]

In analyzing the possible role and prospects of cryptocurrencies, it is necessary to take into account the project of a group of leading banks (this group includes: Swiss UBS, German Deutsche Bank, Italian Santander and American BNY Mellon, British company ICAP, the world's largest broker of interbank transactions, Barclays (UK), Credit Suisse (Switzerland), Canadian Imperial Bank of Commerce (Canada), HSBC (UK), MUFG — Mitsubishi UFJ Financial Group, Inc. (Japan) and State Street (USA)) to create a digital currency for settlement and clearing operations to service transactions in the securities markets. The purpose of this cryptocurrency is to service interbank settlements based on blockchain technology, but without providing anonymity for participants. It is logical that upon completion of work on this project, it will be sent to the US Federal Reserve, the ECB, the NBS, the Bank of England, the Bank of Japan and the Bank of Canada, which are part of the so-called big six central banks. This cartel of central banks began to take shape during the financial crisis of 2007–2009. What was it expressed in? The fact that these central banks began to conclude agreements on currency swaps in order to prevent sharp fluctuations in their currencies [12].

According to some experts, bitcoin and other cryptocurrencies, unlike this project, have no strategic significance, and were released to the market in order to "test" the mechanism, give the idea recognition and popularity, and the real future of the world currency system is behind the new cryptocurrency created by these banks, which will replace the dollar and other leading world currencies, ensuring the transition from paper fiduciary money to electronic and solving the problem of the volatility of the dollar and other currencies, being the answer to the urgent question of reforming the world monetary system.

If, however, private cryptocurrencies (for example, bitcoin) become a new analogue of world money, then this will mean a transition to much stricter control over cash flows, since the technology underlying their issuance and circulation allows storing and recording all chains of transactions performed by all users in real time, which may indicate a change in the global strategies of TNCs and the nature of competition in general: the transition from the desire to subordinate certain markets to the struggle for each buyer [13]. If the assumption is that bitcoin is a special project implemented with the involvement of US law enforcement agencies, then it is likely that behind the widespread popularization and ubiquity of cryptocurrencies there is a desire to subordinate the monetary systems of all countries of the world to Anglo-Saxon transnational capital, which can be achieved by gaining control over all cash flows using information technology. In this case, as in the days of the gold standard, all other countries will find themselves in an uncompetitive position compared to the leaders — those who have control.

Conclusion

Заключение

The capitalization of the cryptocurrency market is not yet comparable with the market capitalization of the derivatives market, stocks or the volume of global GDP. At the same time, cryptocurrencies are already ahead of some leading TNCs in terms of market capitalization.

Cryptocurrencies have a number of advantages over traditional payment systems, however, in terms of the volume of payment transactions and the number of large online stores that are ready to accept them as a means of payment, they lag significantly behind the classical means of payment. Among the advantages of cryptocurrencies, we can highlight the high speed of transactions. However, the capitalization of bitcoin is 1.3 % of the total global volume of payments using cards. The number of transactions per day in bitcoin and other leading cryptocurrencies lags far behind the daily number of transactions in the world's leading payment systems — Visa and Master Card. From the perspective of international settlements, cryptocurrencies and settlements using blockchain technology in their current state are unlikely to replace traditional instruments of foreign trade settlements, such as letters

of credit and collection, but they may well replace bank transfers. With the introduction of sectoral sanctions against the Russian Federation, the mechanism of settlements in cryptocurrencies using blockchain technology will help circumvent the ban on the purchase of Russian energy carriers by other countries due to the impossibility of geographical determination of the participants in the transaction.

Analyzing all the multifactorial nature of cryptocurrencies, all cause-and-effect relationships, we come up against a singularity — a boundary beyond which the prediction of the further development of the model becomes meaningless.

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Актуальные вопросы применения криптовалюты в бухгалтерском учете и финансах

Аннотация. В данной статье изучается проблема роли и места рынка криптовалют в бухгалтерском учете и в системе мировых финансов. Для более полного понимания данного вопроса автором сначала рассматривается историческая динамика цен и их рыночная капитализация. Автор выделяет несколько периодов изменения цены на криптовалюту, акцентируя внимание на самых важных в развитии датах. В качестве лидера по объемам капитализации автором выделяется биткойн, а на второе место ставится эфириум. Отмечается, что доля биткойна в суммарной рыночной капитализации рынка криптовалют значительно варьировалась с течением времени. Автор также приводит уровень данного показателя в разные годы и указывает причины повышения и уменьшения этого показателя. Помимо этого, автор проводит анализ динамики торговли криптовалютами в сравнении с фиатными валютами. В данном анализе также указываются лидеры фиатных валют. Автор отмечает, что капитализация рынка валют все ещё невелика. В статье указан показатель суммарной капитализации рынка криптовалют в сравнении с объемом мирового ВВП. Кроме того, в статье измеряется объем денежной массы по агрегату M2 и оцениваются суммарные долговые обязательства стран, фирм и населения. Исходя из проведенного анализа автор приходит к выводу о месте и роли криптовалюты в мировой экономике и финансовой стабильности стран. Особое внимание в данной статье уделяется сравнению капитализации рынка криптовалют с аналогичным показателем для ведущих мировых корпораций. В заключительной части статьи автор анализирует перспективы криптовалют и приводит мнение различных экспертов относительно этого вопроса.

Ключевые слова: бухгалтерский учет; биткойн; капитализация; криптовалюта; торговля криптовалютами; фиатные валюты; финансовая стабильность; глобальные корпорации; глобальная экономика; глобальные финансы; рыночная капитализация; динамика цен