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## **The Role of Crypto-Currencies in the Development of the Global Currency System**

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**Abstract:**

*The world monetary system is in the process of transition to a new level of development under the influence of the process of financial globalization, economic integration, as well as the activation of electronic currencies turnover.*

*In these conditions, it is necessary to understand the causes of the changes and their possible consequences.*

*One of the possible options for the development of the world monetary system can be the use of crypto-currency as international money.*

**Keywords:** *World monetary system, financial globalization, economic integration, electronic currencies, crypto-currencies.*

**JEL Classification Codes:** *F60, F63, O35, O44.*

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## **1. Introduction**

Modern features of the development of the world monetary system, the activation of the crypto-currency market, integration processes make adjustments to subjects of research in the field of economic science. At least the last thirty years the development of both the world economy and the world monetary system was influenced by financial globalization. The development of the process of financial globalization was focused on the expansion of financial markets, the increased complexity of financial institutions and instruments, as well as the increased degree of interdependence between countries. At the same time, the current state of the world monetary system and the issues of its transformation have actualized further research of the relationship between the cyclicity of the world economy and the process of financial globalization (Albekov *et al.*, 2017; Vovchenko *et al.*, 2017).

The analysis of the views expressed in the economic literature shows that the focus is on the relationship between financial globalization and crises, or rather the question of whether financial globalization causes crises, including that of the world monetary system. History proves that the transition to a new world monetary system is always accompanied by crisis phenomena (Thalassinos *et al.*, 2015).

## **2. Theoretical and methodological framework of the study**

Researchers of the International Monetary Fund such as Kose *et al.* (2009) point out that the assertion that the cause of financial crises is financial globalization has very little evidence. The analysis of the relationship between financial globalization and financial crises was focused on the importance of controlling the capital movement. Glick and Hutchinson (2001) believed that the open capital flows reduce the possibility of the emergence of current crises. Edwards (2005) investigated this issue using the notion of financial openness and exploring the two main manifestations of external crises - a sharp halt to capital inflows and withdrawals from bank accounts. He did not find any systematic evidence that countries with high capital mobility tend to show more frequent crises than countries with low capital mobility. In another article Edwards (2006) came to the conclusion that there is no evidence of a reduction in a number of currency crises in countries with limited capital mobility. As a result, it cannot be said with absolute certainty that financial globalization is the cause of financial crises. In our opinion, a broader view of the problem of the interconnection between financial globalization and the cyclical nature of the economy (the crisis being one of the stages of the economic cycle) solves the problem of the conditionality of the financial crisis by globalization processes or its independence.

Some studies investigate to certain extent the relationship between the cyclicity of the world economy and financial globalization. Thus, a number of studies by foreign scientists (Stock and Watson, 2003) show that synchronous fluctuations in business cycles in developed and developing countries and the interrelationship of the main

factors causing a change in cycles stages have grown during the period of globalization. Imbs (2006) noted that financial integration led to a consumption increase and correlation among developed countries. Other researchers (Kose *et al.*, 2005) underline the expansion of joint activities of developed and developing countries and link these changes to financial globalization. In general, the revealed and grounded interrelationship between the cyclicity of the world economy and the process of financial globalization also leads us to the conclusion that the development of the world monetary system is more cyclical than linear.

In this context conclusions about the unstable position of the dollar world monetary system arise. The transition to the modern world monetary system is connected with the US refusal to convert the US dollar into gold. Currently, the position of the US dollar as the world's leading currency is increasingly becoming the subject of experts' discussion and analysis.

One of the factors influencing the change in the US dollar's position is the stimulation of the use of the renminbi in oil settlements with the possibility of converting to gold and hedging at the Shanghai Futures Exchange. Thus, the decline in the status of the leading reserve currency by the US dollar is not a dramatic process, but a cyclical and slow one. In this regard the future of the world monetary system is seen as a withdrawal from the leading list of world reserve currencies using the "gold" benchmark in international settlements. The use of crypto currency is considered to be another alternative to the development of the world monetary system. The blockchain technology is actively introduced into various spheres of life. However, the issue of counteracting the turnover of criminal proceeds through electronic currencies is still acute. The loss of national financial regulators control and the decline in the importance of financial intermediaries is also an open question for research. The study considers issues of the possibility of crypto-currencies to perform all international money functions.

### **3. Discussion and Results**

The traditional theoretical approach reveals the essence of any category, including international money, through its functions. The main functions of international money are the following: 1) measurement of values; 2) maintenance of monetary circulation; 3) maintenance of payments; 4) accumulation and saving.

International money, being a mean of measuring the value of goods, services, etc., in the context of international economic relations, are not, nevertheless, a universal measure of value. Such an "incorrect", from the economic point of view, situation has developed due to the demonetization of gold, which took place gradually throughout the entire 20th century and was completed in 1976 at the Jamaican Currency Conference.

An assessment of the possible performing of this function by crypto-currencies leads to the following conclusion. Crypto currency can be created from scratch or use the public source code of another crypto-currency. The combination of all chain blocks of the existing crypto currencies can be defined as some theoretically estimated value. Thus, the crypto currency as a measurer of a part of a single world chain of blocks of digital and alphabetic signs can act as a universal measure of value. This conclusion proves the advantage of crypto currencies over modern fiat international currencies. In this case, a crypto currency can successfully perform the function of measuring the value of goods. It should be noted that crypto-currencies do not have universal recognition, unlike gold, which has been performing the function of a universal measure of value for many years. Some of the cryptotuals are accepted not in every country and not for every transaction. State regulators try to varying degrees to protect their emission function from the effect of issuing crypto currency.

Not the only one national currency, but several ones serve as international money. In modern currency relations, it is the US dollar, euro, pound sterling, Swiss franc, Japanese yen. Since October 1, 2016, the Chinese yuan has also been recognized by the IMF as an international reserve asset. The process of replenishing international money with new national currencies has not been completed. Globalization and periodic systemic financial crises are constantly creating conditions for the emergence of new international money.

Drawing parallels to crypto-currencies, we can conclude that their composition is also not homogeneous. And it takes time to form a complete list of conditions. However, this circumstance does not deny the possibility of performing the function of measuring the values by crypto-currencies at the supranational level. Modern international money - national currencies - are not the basis for building up a system of world prices due to their credit nature. It inevitably leads to a violation of equivalence in the exchange of goods and services in the world market. In the world economy, international money acts less as money than as capital, i.e., as self-increasing value or value surplus.

By nature crypto-currencies are not credit obligations of any state, they are based on a uniform equivalent of value. Thus, in this aspect they have advantages over the fiat currencies. Crypto-currencies are not tied to a specific state and regulatory system, in contrast to modern international money, which remains a national currency of a particular country or a group of countries. Being also international money, they are a subject to the influence of global factors associated with the processes taking place in the global economy and politics and the global financial market. Globalization "tears off" international money from national soil, reinforcing their "duplicity" and destabilizing the global financial market and the global economy. Since international money is represented in modern currency relations by national currencies of specific countries, their issue can be inflationary, which negatively affects pricing, exchange rate, balance of payments and, in general, the economic situation of the country issuing international money.

Modern international money extremely rare function as a means of circulation. This is due to an increase in the share of non-cash settlements in the countries - issuers of international currencies. The penetration (physical increase in the mass of cash) of foreign currency to the domestic market of a developing country has serious consequences for its national economy, intensifies inflationary tendencies, complicates the settlement system, and also contributes to the creation of a gray and black currency market. To counteract such negative consequences foreign exchange control and currency regulation are introduced. In case of crypto-currencies, which exist only in non-cash form, the issue of physical increase in the cash supply is not relevant.

In the sphere of international monetary relations the function of international money as a mean of circulation is closely related to their function as a mean of payment. Today, not only the volume of means of payment is growing, but their diversification is also increasing. As a rule, international money acts in the form of international credit and credit and financial instruments in non-cash form, including derivatives (options, forwards, futures, swaps). In this issue, the use of crypto-currencies as a mean of payment is fragmented. However, in theory, there are various payment services that allow large amounts of cross-border transactions to be made with the help of crypto-currencies. Thus, this function is performed by crypto-currencies as well.

The function of accumulation and saving is performed by international credit money. Currently this is mainly by US dollars and euros. They form national currency reserves, although many countries also accumulate gold in ingots in these reserves. But since gold does not perform monetary functions even in this context, it can be said that more often it performs the function of value saving. In modern conditions crypto-currencies demonstrate high volatility and rates' instability.

However, this can also be attributed to national currencies, which perform the function of international reserve assets. As noted above, the dual nature of international currencies determines the possibility of adversely affecting their exchange rate at the expense of the domestic factors of the issuing country. Summing up, it can be concluded that crypto-currencies perform functions similar to those of modern fiat international currencies. At the same time, it is necessary to consider the reaction of different countries and national regulators to the emergence of crypto-currencies. Financial regulators of many countries note the need for a more detailed study of the nature of crypto-currencies. Some of them, such as the Central Bank of Switzerland, conduct development of their own currency.

The leaders of the US Federal Reserve are still wary of crypto-currencies, bitcoin in particular. The FRS leadership officially states that crypto-currencies are not yet a competitor to the US dollar due to a high level of volatility of the rates and the absence of universal recognition of these currencies as a global mean of payment. According to the [coinmarketcap.com](http://coinmarketcap.com) website, the market capitalization of the crypto

currency increased from 18 billion US dollars as of January 1, 2017 to 674 billion as of December 21, 2017. It is also noted that the crypto currency can be subjected to cyber-attacks and can be widely used for laundering criminal proceeds and financing terrorism.

**Table 1.** Regulation of crypto-currencies operations in various countries (KPMG, 2017)

Country	Regulation of crypto-currencies operations
European Union	The European Central Bank recommends that banks not conduct transactions using virtual currencies. Operations with crypto-currencies are not subject to VAT
<b>Germany</b>	Legislation allows to attribute crypto-currencies to financial instruments, which are a form of "private money", which can be taxed. For retailers accepting the bitcoin as payment for goods, both sales operations for the goods themselves and sales of bitcoins taken at the time of purchase are subject to taxation
Spain	Crypto-currency is referred to electronic means of payment with reference to the gambling business, there is no other regulation
Lithuania	The Central Bank prohibits banks and other financial institutions from working with crypto-currencies
Netherlands	It is considered as a means of payment and as a commodity in the case of its implementation in the form of an independent object. When completing tax declarations, the owner of a crypto-currency is required to take into account their value in the "Capital" section
Norway	It is considered not as a monetary instrument, but as a financial asset, it is taxed on property. The use of crypto currency for commercial transactions falls under the sales tax regulation
Poland	Mining and purchase and sale of crypto currency is considered one of the types of commercial activity and is subject to registration in an authorized body
Finland	It is considered a payment instrument
Sweden	It is considered legal tender
Switzerland	It is considered an asset, not a security. Operations do not require licenses, but some activities, including the purchase and sale of crypto-currency on a commercial basis and trading platforms, may be licensed.
Estonia	It is considered as an alternative means of payment, transactions are not prohibited
<b>USA</b>	It is considered as property for the federal taxation purposes. The requirements for banking secrecy laws are applied to the sale and exchange activities. Operations in the issuance of crypto currency can in some cases be classified as the placement of securities.
<b>Argentina</b>	It is considered to be "a digital embodiment of a value that can be used for e-commerce and its functions are to form an exchange environment and / or a unit of account and / or value storage." Financial institutions working with crypto-currencies are required to notify the authorities of such transactions
<b>Venezuela</b>	The Central Bank is considering the possibility of issuing its own crypto currency. There are precedents of prosecuting citizens for mining activity
<b>Ecuador</b>	The existing crypto-currencies are prohibited. The government intends to create a new state system of electronic money, which will be controlled by the authorities and tied to the local currency. Users will be able to pay for certain services and make money transfers between individuals
<b>China</b>	It is considered as a non-cash digital asset. Public placement of crypto-currencies is prohibited. But crypto currencies storage and transactions between

	individuals are allowed.
<b>Singapore</b>	It is considered as an asset, not as a means of payment. In case of compliance with certain criteria it can be classified as a security. Operations with the crypto currency may be subject to VAT. Crypto-currency exchanges are subject to registration at the currency board of Singapore and are under its control.
<b>Japan</b>	It is recognized as legal tender. It is considered not a monetary, but negotiable asset, which can be used as a means of payment. Exchange operations to convert crypto currency to fiat money are not subject to VAT
<b>South Korea</b>	The possibility to review the existing law on electronic financial transactions is being considered in order to create a legal basis for crypto-currency transactions. Also, amendments to the laws on incomes and corporate taxation are being discussed that allow fiscal bodies to limit any cases of crypto currency transactions tax evasion. There are restrictions on the use of crypto-currencies to attract financing.
<b>Australia</b>	The possibility to review the existing law on electronic financial transactions is being considered in order to create a legal basis for crypto-currency transactions. Also, amendments to the laws on incomes and corporate taxation are being discussed that allow fiscal bodies to limit any cases of crypto currency transactions tax evasion. There are restrictions on the use of crypto-currencies to attract financing.
<b>Russia</b>	The Government and the Central Bank are working to create a basic normative legal act that regulates the legal status and circulation of crypto-currencies. Earlier, the Central Bank and the Russian Financial Monitoring Service repeatedly expressed their position on referring crypto currency operations to suspicious activities in accordance with the law on countering the legalization, or laundering, of the proceeds of crime and the financing of terrorism.

#### 4. Conclusions and recommendations

To sum up the analysis, it should be noted that the crypto currency is a relatively new tool and a little-studied system, the concept of which implies boundless flexibility and adaptability. There are some categories that are not quite clear; the volume of authorized users, the mechanisms of rate formation and the reasons for high volatility, etc.

At present, there is a situation when small private miners trying to "earn coins" are literally replaced by large players who change the market conjuncture through investments, introducing more technologically advanced computing capacities. This is an obvious sign that the crypto-currencies and, above all, bitcoin, are recognized as a high-yielding project. This fact suggest the existence of prerequisites to become a world currency in the future.

At the same time, according to the research data, crypto-currencies are not recognized by the governments of many world leading countries, which limits the possibilities of their use at the international level. Obviously, a certain trend has emerged. On the one hand, large financial researchers and market participants demonstrate a serious interest in crypto-currencies, on the other hand, its ignoring

continues at the official level. Nevertheless, the latter can in no case be the reason for the formation of a negative outlook regarding the future of internet currencies.

Of course, there are problems with the crypto-currency service. One of them is the low pace of integration into the business, because at the moment not many companies are ready to accept crypto-currency. The complication of mining algorithms is also a deterrent. Nevertheless, the trend is obvious - the crypto-currencies have a huge potential, which under certain conditions can lead to the fact that the electronic money will be in demand all over the world, that is, it will become a single world currency.

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