GLOBAL CHALLENGES AND MAJOR TRAJECTORIES OF PAYMENT SYSTEMS EVOLUTION

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Abstract

Payment systems, as one of the areas of global financial digital transformation, have not been studied thoroughly and objectively. Some researchers believe that payment services make up a substantial share of all fintech projects. This is determined by the relative simplicity of payments as financial products [1]. First, fintech companies engaged in payments business are able to expand their customer base relatively fast and at low cost. Second, today's technological development in payments enables constant introduction of new innovation-driven features and capabilities. Third, payments are financial services that are most popular with both legal entities and individuals. For instance, today cross-border payments are viewed as one of the key tools of sanctions pressure [2]. With these factors in mind, the objective of this article is to provide an overview of current trends and challenges in the development of the global payment industry.

Keywords

Payment systems, sanctions, stablecoin, digital currency regulation, cross-border payments, emission quotas, national regulators.

Amid macroeconomic shocks and geopolitical turmoil, the payment system is designed to ensure:

- continuity;
- · reliability;
- · stability of settling monetary claims

and liabilities generated by economic agents;

Currently, the expert and academic community around the world is seeking alternative solutions to ensure effective economic development. The key objective is to facilitate efficient payments and settlements both domestically and internationally by promoting national projects and technologies with focus on regional agreements and arrangements. Apart from that, a tangible aspect is the large-scale digitalization in the settlement and payment segment.

Today, we witness meticulous efforts at the regional and international levels to mitigate the risks and threats to the financial stability of individual states and the entire world economy associated with large-scale digitalization, in particular, related to stablecoins and digital currencies of central banks.

It is important to note the immutability of regulatory framework on the settlements and payments market with various and abundant available tools and in view of the lack of a clear division of responsibility among market participants [3].

Despite the rapid development of the payments industry, both in connection with digitalization and due to the growing volume and cost of settlement transactions, several systemically important problems are obvious.

The problem associated with cross-border payments is particularly acute. Thus, according to consulting firms, the aggregate annual growth of cross-border payments on developed and emerging markets in 2018-2022 reached 5%, with international payment transactions growing by 11% and 2% on emerging and developed markets 2% respectively. At the same time, it is worth mentioning that national payments are usually made through highly standardized payment networks [4]. Meanwhile, cross-border settlements are often effected through a chain of three or four banks around the world and may involve several payment systems. Moreover, this payment should contain the technical data of all participants in this payment chain: account numbers, bank identifiers and route numbers to ensure the continuity of settlement obligations fulfillment. This data should have the appropriate format for a clear understanding of the transaction in any part of the world. Delays and failures in cross-border payments may be caused by mismatches in the payment information supply chain.

Banks, businesses and suppliers from different countries may not enjoy the same level of interaction with each other as they do with national suppliers. Poor communication may cause misunderstanding of information, incomplete payment data and possible due diligence warning signs, which in turn may lead to potential payment failure.

To alleviate the problems associated with cross-border payments we see a number of measures taken. They include the adoption of the ISO 20022 standard (an international standard for the exchange of electronic messages between organizations in the financial services industry), which implies:

- inclusion of more complete and better structured transaction data in payment messages;
 - · ensuring more accurate compliance processes;
 - improved fraud prevention;
- · developing the sufficient basis for the uninterrupted and continued transfer of payment data around the world;
- eliminating the risk of data loss or conversion, which often causes delays in the current environment.

In addition to standardizing international payment transactions, we witness active use of various technical tools to verify payment data when initiating payments, namely, routing directories and artificial intelligence solutions can define the most successful payment route and confirm all necessary bank identifiers. The tool facilitates transparency about fees and delivery time and provides end-to-end tracking of payments by payment service providers.

The key trend in the development of the modern payment industry is the large-scale application of modern technologies, which ensures:

- · continuous tuning and optimization of the system for detecting dubious payment transactions;
- Application of new technologies such as machine learning and artificial intelligence to eliminate as much noise as possible.

It is worth noting that the use of a data or information exchange portal that connects all parties in the payment chain can help simplify data collection and enable correcting errors or blocking and reversing payments, which will allow companies to increase control over the process, as well as ensure the collection of accurate data about payment recipients and the use of reliable banking and identification solutions in settlements.

The introduction of automated payment services enables a precise analysis of income and costs in real time, taking into account foreign exchange transactions and adjusted for exchange rates fluctuations, saving time and preventing errors. One of the key features of this solution is the payment management function.

A characteristic feature of the payment system digitalization is the connection of companies through an application program interface, better known as API. This solution substantially simplifies the payment process. Thus, according to a McKinsey study on the global payments market, the growth of the payment industry revenue on international markets in 2021 reached 11% and its growth forecast is estimated at \$3 trillion by 2026 [5]. Such figures are feasible due to the rapid digitalization of the payment segment.

Currently the expert community focuses on introducing innovative payment solutions for the effective implementation of international payments and settlements. At the same time, when expanding abroad, it is necessary to use simplified payment solutions. Meanwhile, for the development of this segment it is vital and urgent to create special structural divisions and departments with specialists to perform processes that cannot be automated.

To ensure efficient scaling of the payment business it is necessary:

- to overcome language and cultural barriers;
- to meet the needs of new clients;
- to address compliance and regulation issues.

The problems of outdated technological systems, lack of specialists and safe and reliable payment systems are becoming critical today.

Thus, the effective management of cross-border payments is one of the main factors contributing to business development in the current environment, which implies:

- · application of modern technological solutions;
- · reduction in the amount of time-intensive and costly manual work which increases risks, including those associated with operational errors;
- · development and implementation of a scalable platform for currency conversion and settlements in transactions between clients and suppliers.

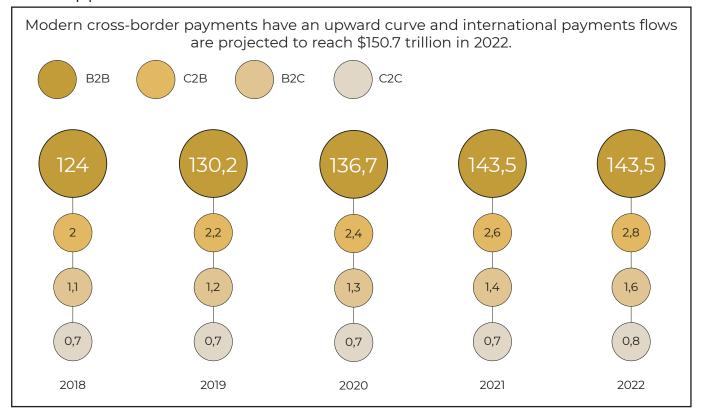


Figure 1. Modern segmentation of cross-border payments.

Source: EY Global (2021), Can business trade tomorrow on today's strategies, available at: https://www.ey.com/en_uk/global-trade/can-business-trade-tomorrow-on-todays-strategies (Accessed 12 April 2023).

Figure 1 shows the current segmentation of the cross-border settlement market, which in 2022 was equal to \$150.7 trillion. Such growth is explained by the penetration of the solutions developed in the financial technology industry into settlement and payment relations and the introduction of adaptive payment digital systems capable of operating globally [6].

A significant number of paytech startups are developing solutions

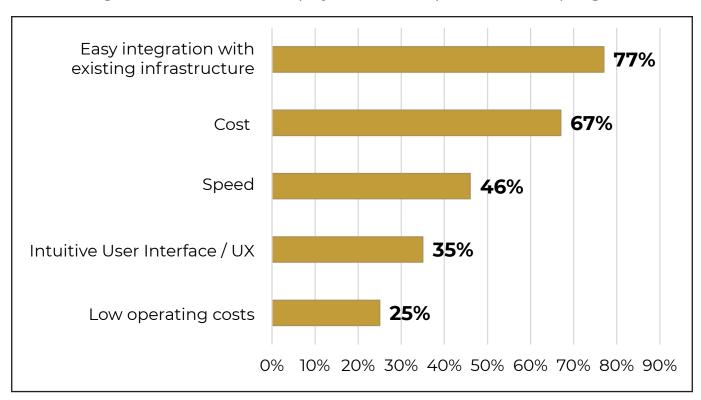


Figure 2. The main requirements of companies for payment services in international settlements.

Source: EY Global (2021), Can business trade tomorrow on today's strategies, available at: https://www.ey.com/en_uk/global-trade/can-business-trade-tomorrow-on-todays-strategies (Accessed 14 April 2023).

to simplify and reduce the cost of cross-border B2B payments, some innovative companies are using alternative methods such as blockchain and cryptography.

Figure 2 shows the hierarchy of business requirements for payment services in international settlements. They include:

- a high degree of adaptation of modern technologies to regulatory changes, which will ensure compliance with future requirements;
- understanding the requirements for access to financial services of each country and consideration of these requirements, which enables companies to act in good faith when compliance is grey;
 - reliable regulatory framework with digital solutions that is easy

to check and update;

- introducing horizon scanning function in payment business processes to anticipate changes in legislation that may come into force so that business will be ready to adopt such changes;
- compliance automation can help corporations reduce the administrative burden of regulation in the process of scaling up;
- moving away from manual processes through technologies and tools such as artificial intelligence and use of vast data to control information and cash flow among other things.

An important area of payment industry development is counteracting dubious payment transactions. In this regard, the use of KYB (Know Your Business) platforms is of particular importance.

KYB platforms constitute aggregated data from multiple sources to facilitate business verification. At the same time, banks and card payment systems operate as partners and invest in electronic wallets, launch large-scale payment platforms, including:

- Standard Chartered's cooperation with Toss, the largest payment company in South Korea managed by Viva Republica;
- Visa's stake in Interswitch, a Nigerian payment company, operator of the mobile payment platform Quickteller.

An interesting initiative is the launch of a payment network with several digital currencies mCBDC. New technologies in this area will open up development opportunities for commercial banks, as they will be able to offer their clients innovative on-network products and services, such as smart contract-based money management. Commercial banks will have the right to use their inhouse technological capabilities to participate in developing a special multi-currency payment system for digital currencies of central banks.

In this respect, we highlight the experience of Citigroup which actively uses electronic wallets, innovative bank transfers and Request to Pay and Open Banking technologies. Citi is working on digital consumer payments in collaboration with Mastercard Payment Gateway Services which has access to the network of numerous acquirers and e-wallets around the world [7]. In addition, the financial conglomerate is expanding its global payment network, enabling instant transfers in more than 20 new countries.

Let's look into the PPRO experience. In the first quarter of 2021 payment system PPRO reached a billion dollar valuation when it raised funds at \$180 million, followed by a second round at \$90 million from JPMorgan Chase. The financial holding company hopes to further expand its operations in Latin America and the Asia-Pacific region. As part of its comprehensive strategy, JPMorgan Chase intends to develop and promote its payment services through the PPRO system.

An important example is Russian case based on the analysis of Sberbank's experience. The Sber ecosystem comprises more than 40 companies of various profiles. In 2020 Sberbank launched a new system of payment services, SberPay, enabling online and offline payments, which was a strategic step in building the ecosystem and allowed Sberbank to save external fees for tokenized transactions [8].

An extremely relevant trend is the implementation of payment mechanisms on the market of carbon credits.

Carbon credit is the verified result of the climate project, expressed in the mass of greenhouse gases equivalent to 1 ton of carbon dioxide.

In the academic literature it is customary to distinguish two types of carbon credits:

- · voluntary credits carbon credits, the verified result of the climate project, expressed in the mass of greenhouse gases equivalent to 1 ton of carbon dioxide. In Russia they appeared only in September 2022.
- emission reduction credits the verified result of compliance with the established quota, expressed as the difference between the established quota and the actual amount of greenhouse gas emissions equivalent to 1 ton of carbon dioxide. It appeared in Russia as part of the Sakhalin experiment in 2022.

This classification implies two types of markets for carbon credits - voluntary and mandatory. In some jurisdictions (including the Sakhalin experiment) these markets are intercorrelated.

Human-made emissions of greenhouse gases cause rise in the average temperature in the atmosphere, which in turn leads to an increase in the frequency and severity of the implications by extreme weather events. It is important to annotate the chronology of international decision-making to combat global warming.

Thus, on 9 May 1992, as part of establishing an international system for regulating greenhouse effects, 198 parties adopted the UN Framework Convention (UNFCCC) on climate change. Today its scope implies an almost universal international legal tool. The main goal of the UNFCCC is to prevent dangerous anthropogenic impact on the Earth's climate system.

The Kyoto Protocol was adopted on 11 December 1997, which is a framework to develop the provisions of the UNFCCC committing industrialized countries to limit and reduce greenhouse gas emissions in accordance with agreed individual targets. Currently it is not effective due to the end of the commitment period (2 commitment periods: 2008–2012, 2013–2020).

On 12 December 2015 193 parties adopted the Paris Agreement with the general objective to limit temperature rise to 1.5 °C [9]. This tool also contains information on the sustainable development action plan to adapt to a changing climate, mechanisms for cooperation and financing.

Emission quota system represents the implementation of a

special procedure for regulating emissions on the basis of consolidated estimate in the experimental areas against emission reduction targets.

The emission trading system is an effective tool for carbon regulation as it encourages the reduction of greenhouse gas emissions through carbon trading (in the amount of the difference between the established emission cap (quota) and real emission) and implies penalties for exceeding the cap. Its main parameters are:

- the prevalence of the emission cap and trade system is widespread in more than 40 jurisdictions (27 EU countries 3 (Iceland, Liechtenstein, Norway), UK, China, California (USA), Quebec (Canada), RGGI (USA));
- · some jurisdictions allow taking into account the result of climate projects for meeting quotas, but to a limited extent.

Looking into global experience in this field we can single out two systems of emissions trading:

- European Emissions Trading System. This is the world's largest system of regulation of greenhouse gas emissions based on the principle of serviceability, which was launched in 2005 [10]. It is effective in 30 countries: 27 EU countries + Iceland, Liechtenstein and Norway and covers 40% of greenhouse gas emissions. This system aims to reduce emissions by the largest emitters in the power and various manufacturing industries, as well as those caused by air travel between airports in the ETS countries. Depending on the industry, emission permits are either purchased through auctions or allocated free of charge.
- China National Emissions Trading Scheme. It was launched in 2021. The system covers more than 2,200 companies in the energy sector (including combined heat and power production and captive power plants in other sectors), which emit more than 26 thousand tons of CO2 per year. The Chinese system allows the use of special carbon credits within climate projects to offset up to 5% of confirmed emissions [11].

According to Taskforce on scaling voluntary carbon markets, the demand for carbon credits will grow 15 times by 2030; 100 fold rise in the demand for carbon credits by 2050. The market is expected to reach \$50 billion and the emissions that could be "offset" by credits purchased on voluntary markets in 2020 are projected to reach 95 million tons in 10 years [12].

At the moment it is possible to buy or sell carbon credits on:

- exchange. Major commodity and energy exchanges trade in credits and futures contracts for a certain number of credits of the same type;
- over-the-counter market. Over-the-counter market facilitates transactions through the climate project contractor directly, which allows the seller and the buyer to negotiate the transaction themselves without intermediaries, whereas the price is not made public.

The reasons for buying voluntary carbon credits are the following:

- reduction in own emissions in reporting;
- · reduction in the carbon footprint of products;
- · offset under mandatory emission control systems (limited application in some national quota systems).

In 2021 Russia experienced a real breakthrough in understanding global issues such as carbon neutrality and energy transition. At the same time, speaking about the progress of the matter we should single out the following periods:

- 2017-2022 Rusal produces low-carbon aluminum. Emissions are reduced through the use of more modern technologies and power from renewable sources;
- March 2021 Gazprom and Shell jointly offset the carbon footprint of an LNG shipment with VCS and BCC emission certificates. The CO2 emission credits used in the deal will be paid off;
- July 2021 Norilsk Nickel produced the first batch of carbonneutral nickel (5 thousand tons) by reallocating saved tons of CO2 from emission reduction measures;
- September 2021 Aeroflot and Gazprom Neft enter into an agreement on the supply of low-carbon fuel certified under the CORSIA aviation carbon offset program [13].

The most important achievement in the fight for carbon neutrality was the launch of the national register of carbon credits in Russia on 1 September 2022, which includes the voluntary carbon credits with the following life cycle:

- 1. selection of project type, location, timing and methodology. Preparation of project design documents;
- 2. validation of the project by an accredited agency and registration of the project in the register;
- 3. implementation and monitoring of the climate project. Verification of project result. Then the carbon credits are issued and submitted for sale and reservation.

A climate project is commonly understood as a set of measures that reduce (prevent) greenhouse gas emissions or increase their absorption, taking into account the absorbing capacity of ecosystems (technological and natural).

Each project should go through assessment and confirmation of its compliance with the criteria of climate projects:

- project activities are in line with the law of the Russian Federation and the constituent entities of the Russian Federation;
- · reduction in greenhouse gas emissions and/or increase in their absorption are not the result of factors not related to the project activities;
- the result of the project is the reduction (prevention) in greenhouse gas emissions and / or increase in their absorption;

• the project activities are complimentary to the mandatory ones and do not cause emissions outside the area of the activities.

To register a climate project in the Russian register of carbon credits it is necessary: to have a positive validation report, an account of a legal entity on the unified state web portal of public services. If the climate project performer is a legal entity, to identify an authorized person (employee) who will carry out operations in the register on behalf of the company. It is necessary to submit an application for signing an agreement with the operator of the carbon credits register and open a personal account in the carbon credits register (carried out by the operator of the Register when such an agreement is signed) and pay for the service at the operator's tariff.

After opening a personal account, it is necessary to submit an application for registration of a climate project with a positive validation report attached, as well as pay a registration fee at the operator's tariff. Moreover, it is mandatory to prepare a report on the project in the required form and calculate the result of the project in carbon credits. It should also be supplemented by report verification carried out by an independent accredited agency from the list of Rosaccreditation. The verifier is to confirm how correct the calculation of the result is and to issue its own report. It is also required to file an application with the register operator to issue carbon credits on the public services web portal (free of charge). Entry of carbon credits into the account and their issue are effected through submitting an order by the climate project performer to the register operator with the fee paid (at the operator's tariff).

From the standpoint of international monetary and credit relations evolution, the project of a global stablecoin as a supranational currency is of particular interest.

There is quite active academic search in the development and implementation of a supranational currency. Different governments declare the need for a policy of global de-dollarization. In the current era of the rapid pace of digital technologies development and their penetration into the financial sector we see new ideas to create a global virtual currency driven by blockchain.

It is worth noting that the idea of stablecoin status of a supranational currency is seriously considered by the expert and academic community. So, on 13 October 2020 the G20 Financial Stability Board released a document with a report and recommendations "Regulation, Supervision and Oversight of «Global Stablecoin» Arrangements" where a stablecoin is viewed as a potential supranational currency [14].

The Financial Stability Board proposed its vision of the role attributed to stablecoins in the system of international finance. The position of the authors who released the document boils down to the following: stablecoins are recognized as a type of digital assets and global stablecoins, in turn, are a type of stablecoins. Stablecoins are distinguished from other types of digital assets (for instance, cryptocurrencies) by special stabilization mechanisms that reduce the volatility of this asset.

G20 experts note two possible types of stabilization. The first is "pegging" stablecoins to the underlying asset (for instance, national fiat currency, goods, other types of digital assets). The second is algorithmic stabilization through the use of special protocols that, when demand / supply changes, ensure the stability of their value.

It should be highlighted that at this stage a widely used stablecoin is not viewed as a global stablecoin, but only one that potentially has a chance of gaining substantial weight in the global financial system. According to the paper, the possible criteria for defining a global stablecoin are as follows:

- 1. number and classification of users;
- 2. value and volume of transactions;
- 3. quality and volume of reserve assets;
- 4. the total value of outstanding stablecoins;
- 5. market share in international payments and transfers;
- 6. the number of jurisdictions that recognize the use of this currency;
 - 7. market share per jurisdiction;
 - 8. relationship with financial institutions and BigTech companies;
 - 9. integration with digital services and platforms;
 - 10. structural and operational complexity, etc.

The document "Regulation, Supervision and Oversight of «Global Stablecoin» Arrangements" explores potential risks. We are unlikely to completely mitigate the volatility of a stablecoin [15]. Therefore, if this asset becomes a store of value, any fluctuation in its value will have a serious impact on the welfare of users. It is also necessary to consider the "trust problem" not only in the asset itself, but also in the financial system as a whole due to technological and infrastructural risks associated with issue and circulation of stablecoins.

The "globality" of stablecoins is ensured by a significant amount of issuance which affects their ability to circulate in several jurisdictions. One can find fault with this interpretation, since the intangible nature of stablecoins and their presence in information networks themselves suggest that this digital tool a priori has every chance to freely go beyond national jurisdictions. In this context globality is important primarily to indicate the risks that, once again, countries will have to cope with through joint efforts.

Thus, the transformation of a stablecoin into a widely used medium of exchange or store of value bears risks for investor and consumer protection, data protection, combating money laundering and countering the financing of terrorism. In general, this is a very typical "set" of side effects relevant to any financial instrument of the 4.0 era.

Therefore, the document identifies the following difficulties associated with the adoption of a single virtual currency [16].

- 1. Unified global regulation (the need to find a compromise).
- 2. Who will issue? Where?
- 3. Which asset/s to peg to?
- 4. How will stability be ensured, with the help of what mechanism: algorithm/peg to an asset?
- 5. How to classify: legal tender/saving asset? What regulatory standards to apply so that all functions can be legally approved?
 - 6. Unified international classification.

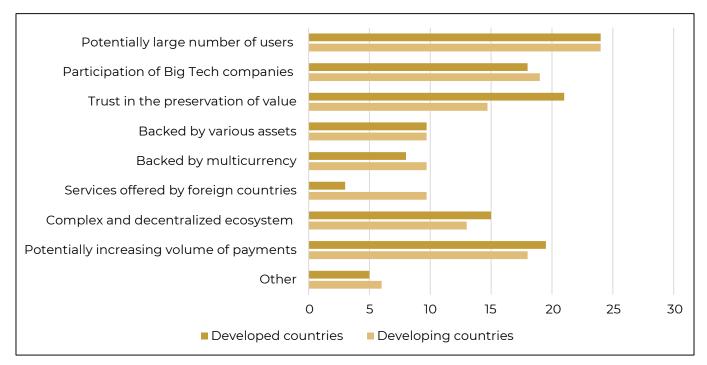


Figure 3. Characteristics of stablecoins based on a survey by the Financial Stability Board.

Source: Regulation, Supervision and Oversight of «Global Stablecoin» Arrangements. Final Report and High-Level Recommendations (2020), Financial Stability Board, available at: https://www.fsb.org/wp-content/uploads/P131020-3. pdf (Accessed 14 April 2023).

7. National regulation and control, etc.

The recommendations on the regulation of "global stablecoins" released on 13 October 2020 show that today 13 legal regimes have been proposed for stablecoins in various jurisdictions - from the status of a cryptocurrency to a financial instrument and a digital asset [17].

According to the document "Regulation, Supervision and Oversight of «Global Stablecoin» Arrangements", global stablecoins are distinguished by three key characteristics: a huge number of users, their issue with the participation of BigTech companies (Google, Apple, Amazon, Facebook) and widespread use in international payments and

transfers (Figure 3).

International cooperation in this area is required to minimize risks and create a more advanced and efficient mechanism for regulating the global digital currency.

The document explores the following risks associated with the adoption of a global stablecoin.

- 1. Associated with the control arrangements: fraud and conflict of interest of managing structures; lack of fixed agreements between them; uncertainty associated with the difficulties of classifying and identifying the appropriate control structures; inappropriate government form of classification and approach to regulation; the lack of central responsible institution.
- 2. Associated with the issue and withdrawal of currency: impossible prompt «reimbursement» of the currency at very short notice; an algorithmic system of changing the number of stablecoins failures in the algorithm, which may affect the value of the currency.
- 3. Associated with the management of reserve assets: a sharp drop in the price or liquidity of the reserve asset/s; insufficient transparency of reserve assets; fraud or mismanagement of reserve assets; investment in illiquid assets; substantially increased volatility of reserve assets.
- 4. Associated with care and custody of reserve assets: fraud, cross-country organization, ambiguity regarding rights to reserve assets (especially when the legal systems of several countries collide).
- 5. Associated with infrastructure: system failures that could affect the value of a stablecoin (cyber attack); ambiguity regarding the option to reverse the transaction.
- 6. Associated with recognizing transactions validity: several validation nodes and their conjugation.
- 7. Associated with the storage of access keys to the currency (digital wallets): theft/hacking, loss caused by a cyber incident; actual loss of keys.
- 8. Associated with the exchange, trading, resale and market valuation of currencies: cyber incidents, fraud, system failures, unauthorized transactions, market manipulation, etc.

It is worth noting that the document does not explore the benefits of a stablecoin compared to conventional fiat currencies. However, it contains general recommendations to the governments on taking the necessary measures: to ensure comprehensive control; to identify responsible institutions; to assign functions that fall under the control of one institution, to legalize this; to identify new stablecoin functions that do not fall under the jurisdiction of existing institutions, to ensure their regulation; to define the areas with overlapped legal norms which leads to contradictions and creates room for fraud; to facilitate the interaction of all regulators. These recommendations are prescribed to

supranational institutions. At the international level it is vital to come to a mutual understanding, develop common norms and rules and classifications, sign appropriate agreements.

Financial Stability Board worked out regulatory recommendations for a global stablecoin [18].

- 1. Regulators should have all the powers, tools and resources required to regulate global stablecoins.
- 2. Stablecoins should be subject to the same regulatory requirements as other similar assets with a corresponding degree of risk, regardless of the technology used or the principle of "same business, same risks, same rules". That is, issuers of stablecoins will be compelled to follow the same rules for banks or large payment systems.
- 3. Regulators in different countries should cooperate closely with each other for AML/CFT purposes.
- 4. Regulators should develop a structured and comprehensive system for regulating global stablecoins, regardless of the type of classification, issue mechanism or degree of decentralization of such stablecoins.
- 5. Regulators should ensure that stablecoin issuers effectively manage all possible risks, including cyber threats, and comply with AML/CFT regulations.
- 6. Regulators should securely collect and store data received from stablecoin issuers, including for AML/CFT purposes, and issuers should provide regulators with "timely and unimpeded access to relevant data and information" on all transactions and users "in compliance with the law on personal data protection". In fact, this clause deprives stablecoins of any privacy.
- 7. Regulators should develop procedures for settlement of legal conflicts between users and issuers of stablecoins.
- 8. Regulators should ensure end users have open access to the entire information on issuers, issue and collateral mechanisms, and peculiarities of all stablecoins.
- 9. Regulators should enforce the financial liability of stablecoin issuers for their obligations.
- 10. Regulators should ensure that a particular stablecoin meet all requirements before it is allowed in a particular jurisdiction. Apparently, the issuer of a stablecoin will need to obtain licenses and register with the relevant authorities in each country this stablecoin is to circulate.

The reality of a supranational virtual currency is backed by the fact that supranational institutions start to study it, develop control mechanisms and prepare recommendations. The analyzed document contains a developed project roadmap.

1) By December 2021 organizations such as the Committee on Payments and Market Infrastructures, the Financial Action Task Force on Money Laundering and Terrorist Financing, the International Organization of Securities Commissions, the Basel Committee on Banking Supervision should complete the revision of existing standards and principles and provide further guidance to supplement them should need arise.

By the same date national governments are recommended to adopt or supplement measures and regulatory mechanisms for global stablecoins with a focus on those stablecoins that have the potential to become global.

- 2) By July 2022 it is expected that national standards will be revised in accordance with the new recommendations of the Financial Stability Board, international standards and guidelines from supranational institutions.
- 3) From January 2022 to July 2023 the Financial Stability Board together with other institutions will hold discussions about the identified unregulated aspects of global stablecoin use and consider possible application of existing mechanisms. Should need arise previously released recommendations will be updated.

Bringing together different approaches and views, the Board outlined several basic guidelines that national regulators should follow. Indeed, when developing a unified approach in stablecoin regulation, it would be useful to create a regulatory environment adequate to the risks; to consider the standards of reputable international organizations (BCBS, FATF, IOSCO, etc.); and to provide potential owners of this crypto asset with full information on how it functions and how its value stability is ensured. To do so governments should thoroughly look into the digital nature of the stablecoin, neither denying nor overestimating its potential. Probably, only the flexibility and willingness of financial regulators to change will help them debunk the myths and come to terms with the new reality, which has a place not only for a supranational virtual currency, but also for even more progressive financial phenomena.

Therefore, a supranational virtual currency has every chance to become a new reality, notwithstanding many risks associated and complexity of the project. The process of global digitalization is inevitably advancing, although moderately but at a very confident pace. The process has started and it is unlikely to be ceased.

REFERENCES

- 1. Turuev I. B., Pertseva S.Y. Payment systems in a new reality. M.: Aspect Press, 2023, p. 216.
- 2. Pertseva S.Y. Transformation of the Russian payment system under sanctions # Bulletin of the Altai Academy of Economics and Law. Saratov. 2022. Nº 10-2, pp. 291–298.
- 3. Multiple CBDC (mCBDC) Bridge, Bank for International Settlements, available at: https://www.bis.org/about/bisih/topics/cbdc/

mcbdc_bridge.htm (Accessed 7 April 2023).

- 4. US dollar funding: an international perspective (2020), Bank for International Settlements, p. 81.
- 5. Federally Chartered Banks and Thrifts May Participate in Independent Node Verification Networks and Use Stablecoins for Payment Activities, The Office of the Comptroller of the Currency, available at: https://www.occ.gov/news-issuances/news-releases/2021/nr-occ-2021-2.html (Accessed 9 April 2023).
- 6. Report on Stablecoins (2021), U.S. President's Working Group on Financial Markets, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency, p. 23.
- 7. Global Financial Stability Report: COVID-19, Crypto, and Climate: Navigating Challenging Transitions (2021), The International Monetary Fund, pp. 41–57.
- 8. Payments Are Eating the World (2021), J.P. Morgan, U.S. Department of the Treasury, p. 7.
- 9. Regulation, Supervision and Oversight of «Global Stablecoin» Arrangements. Final Report and High-Level Recommendations (2020), Stability Board, p. 69.
- 10. Regulation, Supervision and Oversight of «Global Stablecoin» Arrangements. Final Report and High-Level Recommendations (2021), The Financial Stability Board, p. 26.
- 11. Fintech. On the brink of further disruption (2020), Deloitte, available at: https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/financial-services/deloitte-nl-fsi-fintech-report-1.pdf (Accessed 14 April 2023).
- 12. Future of Digital Payments (2019), Infosys, available at: https://www.infosys.com/services/digital-interaction/documents/future-digital-payments.pdf (Accessed 17 April 2023).
- 13. Global Payment Cards Data and Forecasts to 2020. Press Release (2020), Retail Banking Research, available at: https://www.rbrlondon.com/wp-content/uploads/2020/10/GC25_Press_Release_071020.pdf (Accessed 19 April 2023).
- 14. Unlocking \$120 Billion Value in Cross-Border Payments. How Banks Can Leverage Central Bank Digital Currencies for Corporates (2021), Oliver Wyman and J.P. Morgan, p. 34.
- 15. The 2020 McKinsey Global Payments Report, Global Banking Practice (2020), McKinsey & Company, p. 37.
- 16. The 2021 McKinsey Global Payments Report (2021), McKinsey & Company, p. 37.
- 17. The Future of Digital Payments. Choices To Consider for a New Ecosystem (2019), Deloitte, available at: https://www2.deloitte.com/content/dam/Deloitte/sg/Documents/financial-services/sg-fsi-future-of-digital-payments.pdf (Accessed 20 April 2023).
 - 18. Pertseva S.Yu., Sribny A. Achievements of the FinTech Industry

as a Factor of Economic Growth. # Bulletin of the Altai Academy of Economics and Law. Saratov. 2022. №8-2, pp. 273–284.

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