

Fragmentation and Concentration within the International Payments System – Risks, Challenges, Opportunities

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Abstract: This paper underscores the dynamic and complex context of international payments, with the aim to identify specific forces, risks and challenges behind current megatrends. It underlines also the opposite tendencies of fragmentation and concentration within the international payments system. Fragmentation is due to three main categories of factors: differences in regulation, difficulties of interoperability and lack of common standards; variety of participants, with different objectives and goals; geopolitical tensions, which may lead to the emergence of parallel payment systems, which do not interact with each other. Concentration within the international payments system is reflected by the market power of specific private actors, especially big technology companies (BigTechs), but also financial technology actors (FinTechs). This concentration is also evidenced by the overwhelming share held by the most used currencies in global payments. Our paper argues that the ideal international payments system should provide fast, cheap, safe, transparent and cyber resilient services. At the same time, financial stability, deterrence of illegal activities and the level playing field should be ensured. The qualitative analysis that is the basis of this paper takes into account multiple perspectives, including demand side, supply side and regulators.

Key-words: international payments system, fragmentation, concentration, digital currencies, cryptocurrencies, stablecoins, sanctions

JEL codes: E42, E51, E52, E58, F33, O33.

1. Introduction¹

The global payments ecosystem is one of the few sectors demonstrating resilience at present, in spite of the macroeconomic and geopolitical changes. The outlook for global payments through 2026 is remarkably favourable, with projected average annual revenue growth of 9%. It is worth noting that in 2021, the payments

¹ The paper is based on the authors' results of the research carried out as a part of the study 6.5.8 *The digital revolution of the international payments system. New tools, actors and partnerships*, coordinated by CSII Iulia Monica Oehler-Șincai, PhD.

industry revenues rebounded strongly, growing at an 11% rate, reaching a new high of \$2.1 trillion globally (McKinsey & Company, 2022).

Another characteristic of the global payment ecosystem is complexity. In the global payments, non-bank actors have been continuously increasing their role. These are mainly non-traditional players, especially BigTechs² and Financial Technology Companies (FinTechs). Some of them offer super applications or multi-purpose platforms, exempli gratia the Chinese WeChat, Singaporean Grab or Indonesian Gojek. They meet all consumer needs in one digital place, both for financial and non-financial goals. These super applications are a part of the daily life of many users around the world. In this way, the digitalization of everyday activities is becoming a reality (Oehler-Şincai, 2022a).

Besides them, there is also the world of decentralized finance (DeFi), where cryptocurrencies such as Bitcoin, Ether, Tether are generated, stored and traded. In parallel, over 100 central banks are exploring digital currencies as a potential solution to challenges such as illicit financial activities, low financial inclusion and unregulated cryptocurrencies (Capgemini, 2022).

Together with resilience and complexity, another attribute of the payments landscape is dynamism, as regards partnerships, new software solutions and evolving payment methods (Ampenberger et al., 2022). FinTechs, which are nimble, agile and flexible, cooperate with financial institutions, including banks.

Such changes are accompanied by two contrary trends: one of higher market concentration, the other of increased market fragmentation, both with specific risks, but also opportunities. These new drifts represent an impetus for the regulators to better control the market, but also a catalyst for new partnerships and initiatives, some of them involving both public and private actors.

Against this backdrop, the aim of this paper is to analyse the forces, risks and challenges behind these trends. Starting from these considerations the remaining part of the paper is structured as follows. The first section offers various examples of concentration within the international payments system. The second one reviews the parallel payment systems developed as alternative to the SWIFT system³, focusing on the role played by financial sanctions in conceiving of such alternatives. The third one approaches the fragmentation from the point of view of digital currencies (central bank digital currencies, stablecoins⁴, cryptocurrencies), highlighting the use of blockchain technology in international payments.

2. Examples of concentration within the international payments system

In the literature there is a lot of evidence pointing to market power concentration of specific private actors. BigTechs are among them. They have become “substantial players” in payments in both advanced and emerging market economies. For instance, BigTechs account for more than 90% of mobile payments in China. Worldwide, BigTech credit increased by 40% in 2020 alone, to a global total of over USD 700 billion. They compete with banks for loans to small and medium sized enterprises (Gambacorta et al., 2022).

BigTechs, with their “walled gardens”⁵ and “data-network-activities” (DNA) loop⁶, are sources of efficiency but also of risks. They can help increase the efficiency of the financial sector and accelerate financial inclusion, but may also generate risks for the financial sector (from the perspective of fair competition, consumer protection, data security or cyber security, among others) (Oehler-Şincai, 2022a).

² BigTechs are large technology conglomerates with extensive customer networks with core businesses in social media, telecommunications, internet search and e-commerce. Relevant examples are the following: American companies Amazon, Google-Alphabet, Apple, Meta (Facebook), Microsoft and the Chinese Alibaba and Tencent with its WeChat. Please consult: <https://www.imf.org/en/News/Articles/2021/06/16/sp061721-bigtech-in-financial-services>.

³ The Society for Worldwide Interbank Financial Telecommunication was founded in 1973 with headquarters in Belgium, when a number of 239 banks from 15 countries got together to solve the common problem of communication regarding cross-border payments. At present, SWIFT “is accelerating flows to achieve instant processing between 4 billion accounts and 11,000 institutions in more than 200 countries – while maintaining unrivalled security, reliability and resiliency” (SWIFT, 2022a and 2022b).

⁴ A stablecoin is a cryptocurrency that is collateralized by an underlying asset. Its value is pegged to a fiat currency like the U.S. dollar or euro, other cryptocurrencies, or a commodity like gold. In this way it is avoided the price volatility of traditional cryptocurrencies (Bains, Ismail, Melo and Sugimoto, 2022).

⁵ Closed platform with a total control owned by the provider.

⁶ Autogenerating more and more valuable data for the platform provider.

In the last decade, BigTechs and FinTechs expanded the range of financial services from payments to consumer lending, insurance, wealth management and more recently to banking. Due to an enabling regulatory environment, BigTechs and FinTechs have even obtained a banking licence in various jurisdictions. BigTechs that operate with a banking licence are overwhelmingly concentrated in Asia, led by China, while in the US, BigTechs do not own banks and only a few diversified FinTechs operate with a banking licence. In the European Union (EU), diversified FinTechs and a few BigTechs have banking licences, but also some partner with existing banks (Zamil and Lawson, 2022).

Hundreds of “digital-first banks” have appeared in the past few years, based on the cooperation between FinTechs and banks. This is enabled by a new business model: Banking as a Service (BaaS), combined with Application Programming Interfaces (API) (a connection between a third-party application and a bank) and Open Banking (which allows third-party providers of financial services to access data and credentials of banking customers) (Glazier, 2022; Agarwal, 2022). Digital-first banks do not have branches and only exist online, due to partnerships with existing banks, which offers a bank's charter necessary for regulatory compliance (Glazier, 2022). This enables on the one hand the banks to become more competitive, while on the other hand increases the market power of already strong BigTechs.

One can remark also the dominance of several payment service providers. In Europe, for instance, PayPal dominates online payments, while Visa and Mastercard handle more than 2/3 of the card payment transactions (Panetta, 2020). All these mentioned companies are FinTechs.⁷

The concentration within the international payments system is also reflected in the overwhelming share held by the most used currencies in global payments. In July 2022, USD, the most active currency for global payments by value, and EUR, the second one, detained a share of 41.19% and respectively 35.49% (SWIFT, 2022c).

Whether too much concentration or too much fragmentation are harmful should be decided from multiple perspectives, including those of consumers, business sector and the financial system as a whole. The relevant questions to answer in this regard include the following: Are the provided services fast, cheap, safe, transparent, cyber resilient? Are the financial stability and the level playing field ensured? Who are the losers?

3. The international payments system, faced with a growing risk of fragmentation - parallel payment systems

Through its mechanisms, infrastructures, participants and rules, the international payments system enables international transfer of funds among different jurisdictions, playing an important role in promoting international changes. However, due to differences in regulation, and challenges regarding interoperability and adoption of common standards, the international payments system is highly fragmented (Stefanovski, 2019). Besides, there are various participants in international payments system that range from Fintech start-ups to global banks. Currently, under the impact of geopolitical tensions and digitalisation, the international payments system faces even a growing risk of fragmentation (Georgieva, 2022). Exclusion of Russia from the SWIFT system following the invasion of Ukraine may determine countries to develop their own payment systems to reduce dependence on external systems (World Bank Group, 2022a).

Payment innovations have the potential of “lowering transaction costs, increasing transaction speed, and improving access and transparency”. Nevertheless, besides its “significant economic benefits” this “revolution” can lead also to major risks, which need to be addressed carefully (Gopinath, 2022).

Over the past few years, geopolitical tensions between Russia and the West have continuously increased in intensity, culminating with the Russian Federation's invasion of Ukraine on 24 February 2022. Previously, Russia recognised the areas of the Donetsk and Luhansk oblasts of Ukraine as independent and sent troops into the region. These actions have attracted a number of sanctions from the EU and its allies including financial sanctions. Among other punitive measures, the Western authorities banned some Russian banks from the SWIFT network in order to limit the Russia' capacity to finance the war (Table 1).

⁷ Please consult: <https://thefinancialtechnologyreport.com/the-top-100-financial-technology-companies-of-2022/>.

Table 1: Main financial sanctions adopted by the European Union against the Russian Federation in 2022

| Date of adoption | Sanctions |
|------------------|---|
| 23 February | <ul style="list-style-type: none"> Restrictions on Russian Federation's access to the capital and financial markets and services of the EU. |
| 2 March | <ul style="list-style-type: none"> Exclusion from the SWIFT system of seven Russian banks: Bank Otkritie, Novikombank, Promsvyazbank, Rossiya Bank, Sovcombank, Vnesheconombank and VTB Bank. Ban on supply of euro banknotes to Russia. Ban on investing in projects co-financed by the Russian Direct Investment Fund. |
| 8 April | <ul style="list-style-type: none"> Full transaction ban on four Russian banks, representing 23% of the Russian banking sector. |
| 3 June | <ul style="list-style-type: none"> Exclusion from the SWIFT system of three other banks: Sberbank, the largest bank in Russia, Credit Bank of Moscow and Russian Agricultural Bank. |

Source: Authors' summary based on the timeline provided by the Council of the European Union (2022a; 2022b).

It is worth noting that banks in Russia were not the first ones sanctioned with exclusion from SWIFT. On 15 March 2012, SWIFT announced that, following a decision of the European Council, the EU-sanctioned Iranian banks would be disconnected from SWIFT beginning with 17 March 2012 (SWIFT, 2012). Subsequently, in 2014, SWIFT faced pressures to disconnect Russian and Iranian financial institutions from its network, but it mentioned that "it has no authority to make sanctions decisions" and, therefore, must comply with EU regulation (being incorporated under Belgian law) (Swift, 2014). In 2017, SWIFT announced that North Korean banks under United Nations sanctions are suspended from the system (Wagstaff, Bergin, 2017). In 2022, in addition to the above-mentioned banks in the Russian Federation, some Belarusian banks were also disconnected from SWIFT: **Belagroprombank**, **Bank Dabrabyt**, and the **Development Bank of the Republic of Belarus**, including their Belarusian subsidiaries (Council of the European Union, 2022a; 2022b).

Against this background, alternative payments system to SWIFT have begun to develop. In 2012, China decided to create its cross-border interbank payment system CIPS (Cross-Border Interbank Payment Systems), for international transfers of yuan-denominated transactions. Even if its main goal is to promote yuan internationalisation, this initiative is also "an alternative to the western SWIFT payment system" (BOFIT, 2021). During October 2022, 7 new financial institutions were admitted as CIPS participants; as a result, the total number of CIPS participants reached 1353, among which, 1276 as indirect participants and only 77 as direct participants (CIPS, 2022). In 2020, China's international payments system CIPS processed 2.2 million payment transactions (BOFIT, 2021).

The Financial Messaging System of the Bank of Russia (SPFS), which has more than 400 users, operates since 2014 (Bank of Russia, 2022). The Central Bank of Russia decided to create its own financial messaging system after the threats with Russia exclusion from the SWIFT network in 2014 (Irabor, 2022).

But few financial institutions use CIPS and SPFS compared to SWIFT, which also benefits from a well-established experience. However, it was reported that Russia cooperates with China to connect to its payment system CIPS while India takes into consideration to use the Russian system SPFS for payments in rubles (Hotten, 2022). It was also reported that the Russian Federation intends to expand the use of its SPFS to other countries including Turkey and Iran (Irabor, 2022), which is another jurisdiction confronting with severe sanctions.

In order to circumvent the US sanctions against Iran, the EU has created the INTEX (Instrument in Support of Trade Exchanges) mechanism intended to allow firms in Europe to exchange goods with their counterparts in Iran without transferring euros between parties through banks (Deutsche Welle, 2019). In fact, the special purpose vehicle INSTEX operates "as a barter arrangement operating outside of the US-dominated global financial system" (Winter, 2019). Initially, it was expected to address trade with essential goods like medical products and food. However, it was not expected to involve oil-related transactions too (Winter, 2019).

Nevertheless, the development of alternative payments systems may rise the cost of cross-border payments (World Bank Group, 2022b), with negative impact on financial services consumers.

4. Fragmentation of international payment system under the digital currencies impact

4.1. Private digital currencies

An alternative to traditional payment systems, increasingly discussed in the context of the above, are private digital currencies (cryptocurrencies and stablecoins). Although they are not currently widely used for this purpose, they have properties that make them suitable for international payments, being differentiated from other types of instruments. Digital currencies allow payments to be made directly (peer-to-peer), without intermediaries, transparently and securely (Dijmărescu et al., 2022). There are currently around 21.600 such coins and tokens (the top 10 in terms of importance are worth USD 128 billion) (Coinmarketcap, 2022), many of them being able to serve as a means of payment in their ecosystem (Table 2). Among them, 559 crypto projects operate in the field of decentralized finance (DeFi) (Coinmarketcap, 2022), also fulfilling other functions, which are generally characteristic of financial institutions.

Table 2: Traded volume of the 10 most valuable cryptocurrencies (as of November 2, 2022)

| Ranking | Digital currency | Traded volume/24h (USD) |
|--------------|------------------|-------------------------|
| 1. | Bitcoin | 38.364.996.760 |
| 2. | Ethereum | 14.540.163.570 |
| 3. | Tether | 55.124.047.053 |
| 4. | BNB | 1.162.942.207 |
| 5. | USD Coin | 3.262.558.882 |
| 6. | XRP | 1.149.480.114 |
| 7. | Binance USD | 6.742.878.968 |
| 8. | Dogecoin | 6.497.393.260 |
| 9. | Cardano | 475.367.227 |
| 10. | Solana | 705.578.030 |
| Total | | 128.025.406.071 |

Source: Authors, based on Coinmarketcap (2022).

All of these can be used in international payments thanks to the *blockchain technology*. Having its own operating principles, it makes possible the existence of digital money (mainly in the form of cryptocurrencies) and settlement platforms, providing users specific experiences, different from those with traditional payment instruments. They all derive from the way that blockchain technology is "built". It basically works as a distributed ledger where, among others, data related to digital currency transactions can be recorded in a specific way (Sarmah, 2018). As its name suggests, in a blockchain such data is organized in the form of "blocks" which, recorded chronologically and linked to other similar sets by cryptography, determine a "chain of blocks" structure. To be registered in the distributed ledger, the "blocks" representing transactions are subjected to a validation process, based on specific rules, carried out by the network members (called "nodes") that support the blockchain, through consensus mechanisms (OECD, 2022). That means that, in the case of blockchain technology, cross-border payments can be made directly (peer-to-peer), without intermediaries, in a decentralized and anonymous way, with maximum transparency (transactions registered in a blockchain can be searched and verified at any time, by anyone), and under increased security conditions (transactions have associated *timestamps* and are signed with cryptographic keys, ensuring resistance to cyber-attacks, data theft, manipulation etc.).

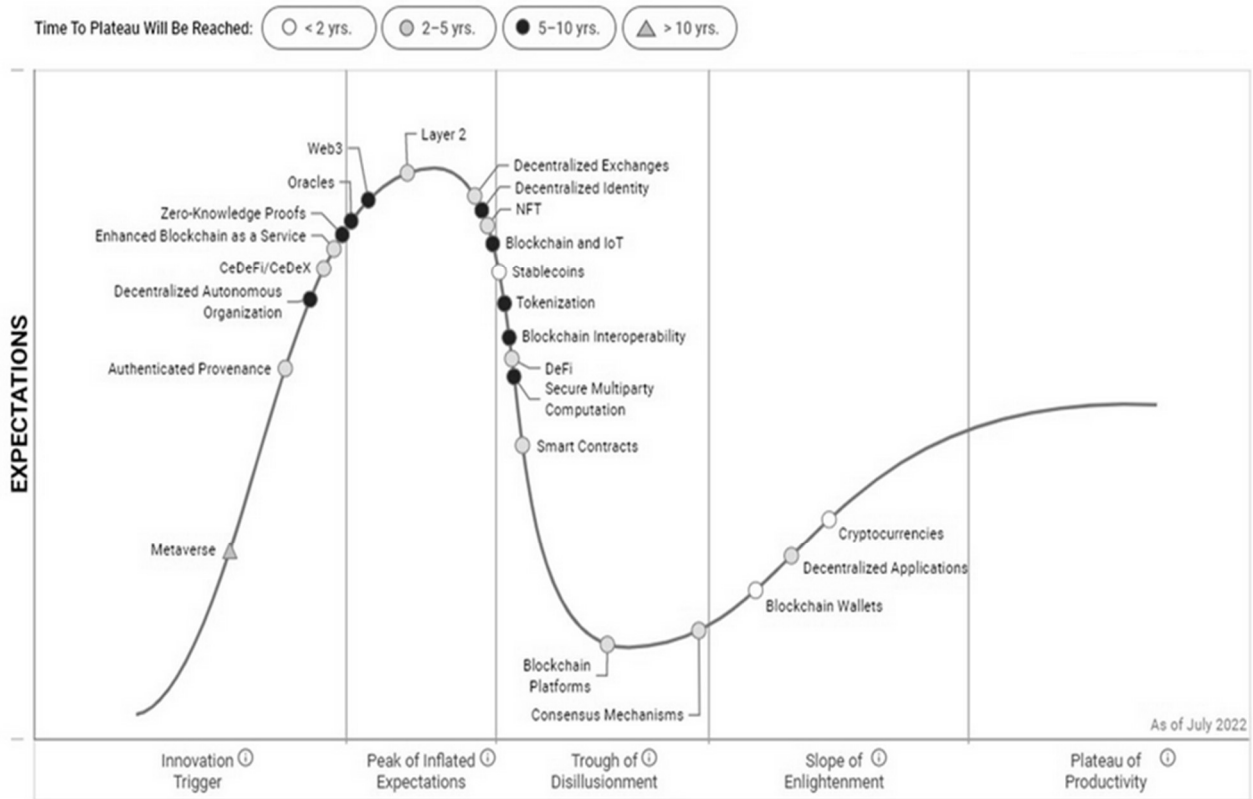
Given the technical aspects presented above, blockchain technology is seen as having the potential to significantly transform the field of cross-border payments (and finance in general), being the first to allow transactions without intermediaries in the digital field. This is because blockchain solves the problem of *double spending*. From a practical perspective, double spending, which hindered virtual currencies working until blockchain, refers to the fact that in digital transactions the information (the data) attached can be replicated, multiplied infinitely (and not transferred), being recorded both in the account of the beneficiary as well as the payer (OECD, 2022). Thus, the same money can be spent several times. The blockchain solves this problem by introducing the operation of verifying and confirming transactions (by mining, in the case of Bitcoin). Following this, the transaction is entered in the register with the consent of the majority of network members, becomes immutable, the associated data cannot be deleted or modified, and is compared with previous transactions, ensuring the fidelity of its entry.

With this, from a particular point of view, blockchain technology is seen as introducing a new stage in the use of the Internet. If in its early days, it facilitated the transmission of information anywhere in the world, with the blockchain, the international exchange of value (cryptocurrencies, digital assets, etc.), directly (peer-to-peer), without intermediaries, is enabled (Swan and Filippi, 2017).

Against this background, the emergence of the blockchain was a facilitator for the digitalization of cross-border payments, overcoming a series of inconveniences determined by the high costs deriving from currency exchange and transaction processing, the lack of interoperability between platforms and financial institutions, which makes the needed time for settlement to be significant etc. Added to these is the specific advantage of elimination of risks associated with the existence of intermediaries. With blockchain, settlement of transactions can be done directly (avoiding correspondent banks and clearing houses), quickly, securely and with minimal expenses.

Although not yet a widely adopted technology, blockchain, in terms of payments, has moved beyond its initial stage (Figure 1). As the latest Gartner Report on blockchain technology cycles shows, among all its applications, cryptocurrencies and digital wallets are at the most advanced stage from this point of view (Litan, 2022).

Figure 1. Stage of evolution of blockchain technology, by use cases, in 2022



Source: Litan (2022).

Under these circumstances, blockchain has seen an increase in popularity in recent years. This has led to an increasing number of entrepreneurs gaining confidence in its potential. According to a 2021 Deloitte Report, based on a survey among them, more than 80% of representatives of companies in the financial sector are confident in technology in general, tending to accept it more and more, and expect that the importance of digital assets, including those specific to payments, to increase considerably (Deloitte, 2021). The same respondents appreciate, in this context, 78%, that, in the next 2 years, they will particularly have a major impact on their businesses, and 76% believe that in a 10-year horizon, digital money will replace mostly fiat currency. Last but not least, in the category of those who use, in a generic sense, blockchain-based solutions, 44% use them to make payments.

As interest in cryptocurrencies and blockchain has been growing, investment in payments projects has also increased. In 2021, for example, spending on developing blockchain-based projects for payments and

settlements amounted to \$1.05 billion, accounting for 15.9% of total global investment (\$6.6 billion) (forecasts made in April 2021) (IDC, 2021).

An aspect to mention is that, beyond the benefits presented, the use of blockchain technology, in the form of cryptocurrencies and stablecoins, in payments, also involves risks. These risks derive mainly from their functioning without permission, that allows anyone to access the network, and from their anonymity (Makarov and Schoar, 2022). Thus, cryptocurrencies become difficult to supervise by the authorities. In the case of cryptocurrencies (this is not the case with stablecoins), for example, because they do not have guarantees from a central bank, a risk is that they are speculated and have significant price variations (volatility), which can cause losses to holders and can affect financial stability. Therefore, they are currently used mainly as speculative assets and not as currency (they do not perform the functions of money; this does not mean that they cannot be used to make payments). Beyond these, being easy to access and anonymous, they are frequently used in money laundering, illicit activities, tax evasion etc.

In this context, the issue of regulating these instruments, which are currently outside the law in many jurisdictions, is increasingly being discussed. From this perspective, the challenge that arises, however, is how to reduce the negative impact on consumers, the financial system and the economy in general, without diminishing the advantages they bring and without inhibiting the capacity for innovation.

4.2. Central bank digital currencies

At present, around 105 countries, representing more than 95% of the gross world product, are exploring or testing a central bank digital currency (CBDC) (Atlantic Council, 2022). The CBDC projects are focusing mainly on retail or universal access CBDCs (rCBDC); however they coexist with a second set of projects, intended for large-scale transactions. The latter alternative is dubbed wholesale CBDCs (w-CBDCs), set to improve the cross-border financial flows, also from the standpoint of costs (Gorjón, 2022).

Among the general motivations for the adoption of a CBDC are the following:

- Avoiding the risks of new forms of private money creation;
- Addressing the consequences of a decline in cash payments (meeting future payment needs in a digital economy);
- Improving the availability and usability of central bank money;
- Reduction of illicit use of money;
- Supporting the central bank's objectives of maintaining monetary and financial stability;
- Maintaining a resilient payments landscape;
- Promote financial inclusion (particularly for economically vulnerable households and communities);
- Reducing the cost of processing cash;
- Stimulating competition, efficiency and innovation in payments;
- Enabling better cross-border payments;
- Currency internationalization;
- The best solution adapted to geographical conditions, as demonstrated by the experience of Bahamas (Sand Dollar) and of the Eastern Caribbean Central Bank (DCash) (Oehler-Şincai, 2022b).

The inter-institutional cooperation meant to enhance cross-border payments started in 2015, at the initiative of the Financial Stability Board (FSB). Even if they are at the heart of international trade and economic activity at large, cross-border payments still face particular challenges, including: high costs, low speed, limited access and insufficient transparency. In October 2020, G20 joined the group made up of FSB, the Committee on Payments and Market Infrastructure (CPMI) of the Bank of International Settlements and other key international organizations in order to reach the objective of faster, cheaper, more transparent and inclusive cross-border payments (CPMI, 2022; BIS, 2022).

There are five evaluation criteria for analysing cross-border CBDC arrangements, namely: *do no harm, enhancing efficiency, increasing resilience, assuring coexistence and interoperability with non-CBDC systems, and enhancing financial inclusion* (BIS, 2022).

When designing their wCBDCs, central banks have three key alternatives as regards access:

- Closed, when only domestic payment service providers (PSPs) can access, hold and use the wCBDC (example of such projects: HSBC, Jasper-Ubin, Prosperus, MAS and Aber);

- Indirect, when foreign PSPs can access the wCBDC network via an intermediary (for instance Project Dunbar Phase I);
- Direct, meaning that foreign PSPs can directly hold and transact wCBDC, if they satisfy certain access criteria (e.g. Helvetia Phase II, mBridge and Jura) (BIS, 2022).

However, the drivers of CBDCs adoption include also bypassing restrictive financial measures imposed to sanctioned jurisdictions. Therefore, apart from their advantages in terms of efficiency and costs, CBDCs are currently considered "as geopolitical tools" (Reddy, 2022).

In 2018, the Asamblea Nacional Constituyente (National Constituent Assembly) in Venezuela approved the law regarding crypto actives, occasion for the Venezuelan authorities to declare that the law has an important role "to break the financial and commercial blockade" of the United States. The law regulates the use of El Petro as digital currency intended also to promote new international trade relationships of Venezuela with other countries (Gobierno Bolivariano de Venezuela, 2018).

In January 2022, the Central Bank of Iran (CBI) announced the intention to launch its own digital currency "in the near future"; subsequently, CBI provided financial institutions information about the rules regarding its crypto-rial, conceived to promote financial inclusion and to compete to other digital currencies (Iran Chamber of Commerce, Industries, Mines and Agriculture, 2022). According to a press report quoting Peyman-Pak, a senior government trade official in Iran, in early August 2022, Iran settled its first official import order (of \$10 million) with crypto. The official added that by the end of September 2022, Iran will "widely" use cryptocurrencies in international trade deals with certain countries (Lindrea, 2022). The Iranian authorities have also encouraged the crypto mining industry. Regulations for cryptocurrency mining have been ratified in October 2020 (Financial Tribune, 2021a). Therefore, in June 2021, 30 crypto mining centres were authorized to operate (Financial Tribune, 2021b).

The Russia's central bank also recognises the potential of the digital ruble among the current geopolitical tensions. Even before the invasion of Ukraine, in October 2020, the central bank's press office declared to a Russian newspaper that digital ruble could help Russia to better mitigate the negative effects of foreign sanctions (Baydakova, 2020). A proof of greater resort to cryptocurrencies in response to the financial sanctions imposed against Russia at the beginning of the war in 2022 could be "their unusual appreciation" on February 28 (Rebucci, 2022). Moreover, some observers consider that increased use of cryptocurrencies in Russia began even earlier, in 2014, after the first sanctions have been imposed against this country (Cacioppoli, 2022).

The fragmentation risk of the cross-border payment landscape will increase if the new digital payments solutions, including cross-border CBDC projects fail to achieve interoperability (Reddy, 2022). In order to avoid fragmentation, global public digital platforms that connect different types of money should be developed (Gopinath, 2022). Regulatory action may promote achieving a common standard; to this end, the creation of the Single Euro Payments Area is a successful example of turning more than 30 different national payments market into a single one (Stefanovski, 2019). At the same time, the risk of fragmentation of the international payments system may be mitigated by market-driven solutions (Stefanovski, 2019). In addition, exchanges should strengthen regulatory framework for transactions denominated in cryptocurrencies in terms of AML (Anti Money Laundering) and CFT (Combating the Financing of Terrorism) requirements, and also know-your-customer ("KYC") procedures (Kirkpatrick, Savage, Johnston and Hanson, 2019).

5. Conclusions

Due to its peculiarities and evolving technologies, procedures, methods and specific instruments, the international payments system is both complex and dynamic. One can remark the high concentration within the international payments system, which is reflected by the market power of specific private actors, but also by the overwhelming share held by the most used currencies in global payments.

The changing landscape of international payments is reflected, among others, by the development of alternative payments system to the well-established SWIFT network. The complexity and dynamism of the international payment system has grown alongside with the digital currencies. The new blockchain technologies has created the premises for the improvement of cross-border payments. Among other implications, growing interest in cryptocurrencies and CBDCs, driven by changes in technology, benefits in terms of efficiency, cost and accessibility, but also possibility to circumvent SWIFT sanctions, poses the risk of growing fragmentation of international payments system.

In this context, increased international cooperation is required to mitigate the negative effects of fragmentation and enhance the opportunities that new alternatives can bring. However, despite the growing proliferation of alternative payment system, we align to others authors (such as Rebucci, 2022) considering that, at least, in short and medium terms the US dollar will maintain its prominent role in the international payments system.

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