



CENTER FOR ADVANCED STUDIES

ON THE REGULATION OF THE
NATIONAL FINANCIAL SYSTEM

NEASF

REPORT ON 11TH MEETING OF THE CENTER FOR
ADVANCED STUDIES ON REGULATION OF THE
NATIONAL FINANCIAL SYSTEM (NEASF)

OPENING REMARKS

On August 25, 2021, the 11th meeting of the Center for Advanced Studies on Regulation of the National Financial System (NEASF) was held by the Center for Research in Law and Economics (CPDE), part of Fundação Getulio Vargas' Rio de Janeiro Law School. The meeting was exceptionally held online.

NEASF is a multi-stakeholder organization involving representatives of academia, the markets and government. Through debates and roundtable discussions, its members discuss topics related to regulation of the national financial system, contributing to broader understanding of the sector, trends, risks, any regulatory gaps and their implications. The opinions expressed at these meetings are the exclusive responsibility of their authors and they do not represent the institutional stance of FGV or NEASF.

The chosen subject of NEASF's 11th meeting was the reform agenda that the Brazilian Central Bank is working on for the financial system, especially the following items:

- i) The instant payment system known as PIX;
- ii) Receivables systems;
- iii) Open finance;
- iv) Regulatory sandboxes;
- v) Digital currencies; and
- vi) The sustainability agenda.

SESSION 1

OVERVIEW OF BRAZILIAN CENTRAL BANK'S ACTIVITIES

The 11th meeting discussed the agenda of reforms that the Brazilian Central Bank is implementing to tackle some challenges imposed by innovation in the national financial system. Regulation has been challenged by continuous microeconomic innovations and macroeconomic changes. At the moment, in the process of intense digitalization taking place in the financial sector, regulation must deal with the breakdown of the theory that balance in the financial system is achieved in a context of monopolistic competition.

Innovations are generating imbalances that are hard to predict, which could lead to greater market segmentation. In this area, there is still a lot of scope for evolution in Brazil. In the United States, unlike in Brazil, there is specialized trading of large batches of shares and large volumes of government bonds involving separate clearing houses and different rules.

Across the world, driven by the pandemic, there is a process of innovation and digitalization under way, changing the nature of competition in the financial system. So, the first big challenge is to determine the regulatory design and identify difficulties in meeting the objectives, involving choices that will determine how the innovation process will take place. Given the inevitability of this challenge, one possible solution would be to have regulations that are valid for a period and subject to periodic review (rolling rule regulation).

Another problem, of a less microeconomic and more macroeconomic nature, is that all over the world, there has been dramatic

growth in public debt due to the pandemic, because in order to avoid economic collapse, it was necessary to increase market liquidity, implying changes in macroeconomic policy assumptions. Thus, we are going through a very challenging moment and it will not ultimately be possible to have a medium-term discussion regarding the effectiveness or credibility of the dollar as an international reserve currency, as world geopolitics evolves, as we do not know how the situation will turn out if there is a stronger global crisis.

In this context, there are some issues directly related to the Central Bank's innovation agenda. Regulatory priority agendas are created in a development process, based on existing ideas and a survey of key points, which must be developed by the regulator of the national financial system, focusing on maintaining the progress of measures being implemented by the regulator, despite the difficulties generated by the COVID-19 pandemic.

Because of the growing importance of data in transit, asset valuation is more difficult. In the past, discounted cash flow was used. There were some variations and different traditional methods were compared. Despite these differences, everything was easier. Today, when looking at discounted cash flow, it is necessary to ask two questions: (1) Is this flow sustainable? (2) What value does it have, based on its degree of sustainability? It is hard to make valuations, considering that the environmental, social and governance (ESG) area has not yet found a universal parameter or taxonomy. Thus, there is great disagreement about how much the sustainable element of cash flow is worth.

Companies now produce a lot of data, especially in the service sector, and this data is very valuable. The most valuable assets today, in terms of production, are the production and organization of data. It is a difficult asset to price, which generates a lot of revenue, but you don't pay tax on it. There is a vision that influences a company's leverage, depending on how we analyze the value of data embedded in this cash flow and how this is expanded. With that in mind, in

the financial world, the first question to ask is, "What is there in terms of demand in the payments world today for the digitization of the economy?" When we look at payment system experiences, we almost always observe five characteristics: they are fast, cheap, secure, transparent and open. So, could the existence of an instant payment system reduce demand for some currently discussed forms of payment, such as digital currencies, cryptocurrencies and stablecoins?

1 BRAZIL'S INSTANT PAYMENT SYSTEM, PIX

The instant payment system implemented by the Brazilian Central Bank, PIX, is designed to reduce transaction costs, encourage the emergence of new business models in the payments market and contribute to transparency and tax collection. They are the pillars of a series of public policies being implemented by the Brazilian Central Bank. When it first appeared, the initial fear was that PIX would replace the TED and DOC payment systems, but it turned out that by sharply reducing the cost of intermediation, there would be more transactions and types of business models in the financial sector.

The Central Bank has been conducting a study to identify the number of new checking accounts opened exclusively to use PIX. In other words, the new instant payments system implemented by the Central Bank has promoted access to banking and financial inclusion. When PIX was launched, it was expected that 20 million user codes would be created in six months, but this number was reached in just a few days. There are now approximately 282 million user codes. Many of them have been created by organizations.

Furthermore, 94 million bank accounts have access to PIX, a considerable number in terms of Brazil's banking sector. Another fact is that

PIX has not replaced TED and DOC. In fact, the number of TED and DOC transactions has risen. The average size of PIX payments is falling, which implies more innovative uses. PIX is not yet used for person-to-person mobile payments (P2PM). Instead, it is currently focused on peer-to-peer (P2P) lending and it has recently been introduced into commercial transactions, with an accounting adaptation for small enterprises.

So far, PIX has only reached 20% to 30% of its potential size but it has a significant reach. As competition intensifies and payment systems are standardized, barriers to entry are diminishing. This implies a reduction in data production costs and more democratic access to data. All the latest projects, such as PIX, open finance and the Central Bank's digital currency, will in future be linked to a more modern system.

It is important to emphasize that there is a need for smart outsourcing. This means finding something that currently has an intermediation cost and, with the help of technology, making this intermediation cost disappear, thereby benefiting end users or users in general. One concrete example is the possibility for any store in Brazil to have an ATM, with withdrawal

and change modalities, but with much lower maintenance and transaction costs, through PIX. There will be a double gain for shopkeepers, as they will be able to deploy someone at the checkout counter and also make more sales, while experiencing fewer cash transport problems. The intermediation cost that was generated by a service that existed before will decrease. In theory, this benefit will be transferred to customers, who will be able to do this for free.

As for the PIX Withdrawal scheme, considering the existing incentives for shopkeepers who offer it, such as lower cash management costs and attracting more customers into their store, the need for additional remuneration for offering this service is questionable. At this point, technology development may serve as a barrier to entry. Thus, remuneration would encourage shopkeepers to develop technology to make it possible for cash registers to use PIX.

2 RECEIVABLES

As for receivables systems, card receivables had a very rough start. Some participants had problems importing information from data previously kept in the receivables schedules of payment institutions, due to technological misalignment with the new infrastructure for registering credit card receivables. The idea was to improve this collateral aspect, reduce friction in receivables and increase the efficiency of receivables use. In the old architecture, there was a creditor lock-in, as there was a single creditor. In the new architecture, multiple creditors are

allowed, which constitutes an efficient use of collateral. There was also asymmetric knowledge involving receivables schedules and receipt history, while now there is a shared schedule. This means there are smaller barriers to entry and new entrants can have the same access, including in terms of the possibility of offering new products. The meeting's participants discussed the possibility of continuous segmentation, whereby various companies can offer financial products in different segments, connected to a larger platform.

3 OPEN FINANCE

As far as open finance is concerned, including the sale, transfer and analysis of data, this is believed to be the future of the financial industry. When analyzing online platforms, stimulated sales stand out, such as when someone receives a message saying, "We have a product for you." Stimulated sales having been growing annually in double digits. This year, there has been even faster growth. As the algorithms have improved, they have found out more about consumers

and become better able to suggest products that match their preferences. There is huge potential for sales and segmentation in the industry. This is expected to happen quickly in the financial industry, making standardization vital, so that everyone has access to data.

During the meeting, open finance was analyzed in two main dimensions. The first is the possibility of using data to offer more tailored and affordable products. The second

is the power to compare products offered by the various institutions that are part of the ecosystem. The Brazilian Central Bank's open finance system will start with 700 companies and it will be the most comprehensive in the world, in terms of the number of participants and services. Phases 1 and 2 have been completed and we are now moving on to phase 3, in which the sharing of services will begin. The Payment Initiation Program (PIF), consisting of PIX's interaction with open banking, will soon start. After that, phase 4 will begin, with wider sharing. The name "open finance" refers precisely to this idea of a more comprehensive system. For example, pensions and insurance will join the platform, as well as a project called open health, which will involve the health sector.

In view of this, the need to update foreign exchange legislation was mentioned. The meeting's participants also mentioned a bill regarding financial services, which has passed the House and is awaiting a Senate vote. This bill is considered necessary to modernize foreign currency legislation and enable a possible digital currency. None of

this will be possible without a regulatory environment that allows ideas to be quickly transformed into application programming interface platforms. So, the regulatory sandbox environment is critical and it may point to the necessary direction in terms of regulation.

One example is the Laboratory for Financial and Technological Innovations (LIFT), the Brazilian Central Bank's innovation laboratory. Looking at LIFT's projects, in terms of ideas for designs and platforms, it is estimated that 60% of them are outside the regulated world. So, decentralized finance is growing. What role will the regulators have in future? What regulations will we have in future? There will be transactional channels, which will be more important than financial institutions. At some point, the concern will not be about the bank that you must go to in order to obtain a service, but about the channel you must be in to reach the service that the bank offers. Most likely, this channel will not belong to the bank. The regulatory sandbox environment will be critical for this future decentralization.

4 REGULATORY SANDBOX

Lying behind banks' concern with fintechs, there is a bigger phenomenon happening and a race for integration between texting, payments and content. This is important, since if all sales processes occur within a channel, with data accumulating and being interpreted on the same platform, such as advertising, selling and paying for a product, the value generated will be exponentially greater. Most likely, with modern algorithms, you know what customers think about a product in real time and what they are saying about that product to their friends. This amount of information is so powerful that no one – no financial institution – even

comes close to being able to compete with what this data can offer customers in terms of products, if organized correctly.

Furthermore, to a large extent, these chains are also owners of, or major players in, cloud systems. They not only capture data, but they also own or are partners in these spaces where this data is stored. This is happening more in the emerging world than in the developed world, because in some places in the developed world there is no longer the possibility of making this association. Looking at this association, the Brazilian Central Bank has been learning about this

movement and realizing that it is important that it does not generate so-called “market fragmentation,” so that different settlement systems do not communicate.

Thus, market fragmentation could potentially have been a big problem following the creation of PIX and the system currently being designed by the Brazilian Central Bank, but this has been mitigated, in order to increase efficiency and the level of competition between currency innovation and digital currencies.

As for the process of developing and implementing programs, it is necessary to start from the understanding that the computational capacity aspect is very fast, but it took a while for this evolution to affect things exponentially, as had been happening in data production. So, data production is growing while costs are plummeting.

The rapid evolution of cloud data storage has also been followed by rapid evolution in data interpretation, as it is necessary to be able to produce, store, evaluate, classify and use this data. This is the area where the financial world is most connected today, as the financial intermediation business is about asymmetric information. So, every information business will have lower margins as competitiveness increases and barriers to entry decline. Thus, the idea arises that all the gateways to financial intermediation will be in data reports. The meeting’s participants also noted the rapid evolution in the formation of data, especially in payment systems.

As for fintechs, the existence of regulatory asymmetries between large banks,

payment institutions and other fintechs was questioned by the meeting’s participants. It was argued that the principle of “same risks, same regulation,” is very important. In other words, if there is a risk to the markets, the Central Bank will ultimately be the lender of last resort. It is necessary to measure this risk, which could become systemic. So, if there is the same risk, there is the same regulation. This will interact with a newer principle, called “same products, same regulation.” That is, if companies offer the same product to customers, they must have similar regulations, because even if they are not captured in traditional leverage modes, these products could later be transformed into something more leveraged. Furthermore, a product sometimes starts with competitive equilibrium, which is understood to be unleveraged, but as the product advances, leverage is created. So, you can start with an environment that is perfectly competitive, but the rules that worked for that competition may not work as the market develops.

The meeting’s participants noted that it is easier to open an account with a digital bank than with a traditional bank, since digital banks do not cover all parts of the “know your customer” process, so they are not as strict when opening accounts. This is a process that is currently easier for digital banks, but it is necessary for them to offer the same level of security. There is not yet consensus regarding this subject. Another factor is fees, which are the same for everyone. That is, although fees are charged for products, no asymmetry has been noticed in them, given the freedom to make differentiated products.

5 DIGITAL CURRENCIES

To begin with, we need to distinguish between digital currencies and crypto wallets.¹ It was mentioned that China has a digital currency pilot project in some cities,² with the goal of eliminating market fragmentation. They understand that digital currencies are a way of bringing together different instant payment platforms through a kind of centralized settlement system. Platforms have reacted to this. Therefore, there is a dispute under way between the regulator and these platforms in China. The need for centralized settlement in the card payment market or a system that allows e-money storage during payment was also mentioned in the meeting. According to the monetary authorities, this will limit fiat currency in electronic media.

Initially, the Brazilian Central Bank considers that the physical real (Brazil's currency) will extend to online payments, while the offline aspect will be left for the future. This underlines the importance of cybersecurity. Central banks say that digital currencies are an extension of physical currencies. This implies a willingness to convert it at any moment in time. Given this conversion possibility at any time, it would be possible to, in a way, replace physical currency with a digital currency. If there is very high demand for this digital currency and substitution begins to occur very quickly, there will be problems issuing credit, which will be limited by the leverage generated by this conversion. This is because, the way digital currencies are being conceived (not only in Brazil, but also in most other countries), it will entail a 100% mandatory deposit on

banks' balance sheets, so it will reduce the system's leverage capacity.

One of the answers that some central banks are offering is to limit issuance. By limiting the issuance of physical currency, demand for digital currencies at some point will be higher. However, there may be premium or secondary market differentiation. Thus, it would no longer be an extension of the physical currency or, when carrying out conversion, it would be necessary to explain to the regulator who is benefiting from this arbitrage.

Another proposal is to set negative interest rates. However, dynamic optimization would be necessary, to calculate the necessary interest rate every day so as to equalize demand and supply, which would be unfeasible. It is worth remembering that some countries are moving toward a centralized digital currency system and others toward a decentralized system. This could create a problem between countries that have a centralized technology and others that have a decentralized technology, since it could be hard to carry out of international remittances due to the lack of integration between these technologies.

Given that most currency is already electronic, in the form of demand deposits in the banking system or bank reserves deposited with the Brazilian Central Bank, the question that arises is whether the bank will continue to issue physical currency and allow it to continue to exist, circulating alongside the digital currency. Most of the world's

¹ BRAZILIAN CENTRAL BANK. Vote 267 of 2018, December 20, 2018. Proposes alterations to the Regulations attached to Circular 3,682 of November 4, 2013, related to governance mechanisms for institutions in open payment systems and interoperability between systems. Available at: https://www.bcb.gov.br/pre/normativos/busca/downloadVoto.asp?arquivo=/Votos/BCB/2018267/Voto_2672018_BCB.pdf. Accessed on: December 27, 2021.

² "China é a primeira potência a criar sua própria moeda digital." IstoÉ Dinheiro, 2021. Available at: <https://www.istoedinheiro.com.br/china-e-a-primeira-potencia-a-criar-a-sua-propria-moeda-digital/>. Accessed on: December 27, 2021.

central banks began to look at this topic after being pressured by cryptocurrencies issued by the private sector. It seems that much of this effort was focused mainly on the technological aspects that this change involves, and the same emphasis may not have been given to issues such as privacy and implications of the management of macroeconomic and monetary policy itself. In a digital currency-based regime, there might be a decrease in the power of the banking multiplier and the seigniorage that the government receives when issuing currency. The meeting's participants also discussed the hypothesis of complete elimination of physical currency, allowing central banks to start to target price levels instead of inflation.

One of the meeting's participants asked about studies on the macroeconomic consequences of the introduction of a digital currency in Brazil. What is known, first of all, is that crypto wallets will coexist with digital currency, given the understanding that the government should never dictate which payment method people should use, but offer as many products and as easily as possible, in order to promote competition. From that point on, the market will determine what is best. With regard to data production, this topic is closely linked to the coexistence of digital currency and crypto wallets, such as the part of digital currency to be hosted on a blockchain platform. Regarding cryptocurrencies, the meeting's participants discussed the perspective of central bankers. It was said that they are mainly concerned about the type of currency and above all the network on which it will operate.

Another subject raised in the meeting was security and in particular the conversion rate between electronic currency and paper currency, because if there is a conversion rate, when dealing only with the issuance of electronic currency, the collateral and guarantee as a store of value is the federal government budget. Therefore, if there is a deficit, it makes no difference whether there is

electronic or paper money. If there is a deficit, there will be inflation and devaluation. If there is an exchange rate, then if there is just one asset, like bitcoin, this problem will not exist, but if there are two types of currency and both are issued by the government annually, in different amounts and keeping a fixed ratio, one currency will prevail over the other one. Three factors should be mentioned here. The first is the unit of account. The medium of exchange function is considered spectacular in the electronic environment, but as store of value its functioning is questioned. So, there is a problem in monitoring the stability of institutions, financial control and control of the public deficit, which goes beyond the Central Bank's remit, to the Treasury, in line with the Brazilian budget process. This generates a limit that requires caution. Furthermore, the duty of caution should be mentioned, given that the quantum computing or blockchain behind electronic currency could be harmed if encryption is broken. In addition, the processing of some elements could start to leave the country, creating a growing national security problem. Another issue is the delicacy of the situation if financial transactions are processed without Central Bank restrictions. That is, computer processing needs to take place in Brazil, using software that does not need to be homegrown, but it must be accessible to the Central Bank, so that there is some supervision and a certain guarantee of the functioning of this processing.

Regarding the issues mentioned, concern about possible disruption of the current system is a theme inherent to fear of innovation. In a prudential dimension, involving financial stability, and in a dimension of monetary policy, involving how this currency is issued, the intention is to create a centralized process in which the Central Bank is the issuer. In this way, custody could be decentralized, but the issuer will be the Central Bank. Many of the programs mentioned in the meeting also involve the issuance of other currencies.

6 SUSTAINABILITY

Regarding the sustainability agenda, the goal of promoting the financing of sustainable practices was highlighted at the meeting. The Brazilian Central Bank has held three public consultations about ESG:³ Public Consultation 82,⁴ which looked at database integration and risk management; Public Consultation 85,⁵ which looked at social risk management; and Public Consultation 86.⁶ In addition, information relating to risk management has been disclosed. The first steps have been taken to determine a reasonable taxonomy for the Central Bank's system. One thing that Brazil lacks is a taxonomy for sustainable practices. Without this taxonomy, it is very difficult to price carbon credits and talk about various projects that are important to eliminate negative externalities and price them.

The meeting's participants discussed the period in which big tech firms caused major breaks in traditional business models – first in sales and then in deliveries. A new disruptive process may now happen, in which the disruptors will experience disruption in data monetization. A lot may be invested to allow

people to monetize their own data without having to go through these data oligarchies. So, this monetization would be easy, but it would be necessary to create a framework in which people's data could flow so that they could, in a homogeneous way, extract value from the data and directly access sellers who are interested in them, without going through intermediaries.

One problem is the lack of regulation of databases when it comes to non-financial companies. Thus, retail conglomerates could end up controlling customers, and because they have no regulations on how to handle customers' data, there could be a massive overlap in the financial markets. In this regard, it is believed that the world of finance will interact with the world of data and a lot of data will be produced outside the finance sector. So, the principle of reciprocity must be maintained. If any company wants at some point to provide a service that involves finance and the exchange of data, it must open up the data in the same way. First, a competent data regulatory body must regulate the flow of data in general, aiming

³ The National Monetary Council already has a set of standards about financial institutions' environmental responsibility. See BRAZILIAN CENTRAL BANK. Resolution 4,327 of April 25, 2014. Establishes guidelines to be observed financial institutions and other institutions authorized to operate by the Brazilian Central Bank create and implement social and environmental responsibility policies. Available at: https://www.bcb.gov.br/pre/normativos/res/2014/pdf/res_4327_v1_O.pdf. Accessed on: December 28, 2021. BRAZILIAN CENTRAL BANK. National Monetary Council Resolution 4,945 of September 15, 2021. Concerns social, environmental and climate responsibility policies and initiatives to make them effective. Available at: <https://www.in.gov.br/web/dou/-/resolucao-cmn-n-4.945-de-15-de-setembro-de-2021-345117266>. Accessed on: December 28, 2021.

⁴ BRAZILIAN CENTRAL BANK. Public Consultation 82 of 2021. Discloses proposals for rules regarding sustainability criteria applicable to the granting of rural credit and definition of enterprises with restricted access to rural credit due to legal provisions and rules related to social and environmental issues. Available at: <https://www3.bcb.gov.br/audpub/DetalharAudienciaPage?3>. Accessed on: December 28, 2021.

⁵ BRAZILIAN CENTRAL BANK. Public Consultation 85 of 2021. Discloses a set of proposals to improve rules for managing social, environmental and climate risks applicable to financial institutions and other institutions authorized to operate by the Brazilian Central Bank, as well as requirements to be met by these institutions when establishing social, environmental and climate responsibility policies and implementing initiatives to make them effective. Available at: <https://www3.bcb.gov.br/audpub/DetalharAudienciaPage?4>. Accessed on: December 28, 2021.

⁶ BRAZILIAN CENTRAL BANK. Public Consultation 86 of 2021. Discloses proposal for rules to establish requirements to disclose information about social, environmental and climate aspects applicable to institutions in Segment 1 (S1), Segment 2 (S2), Segment 3 (S3) and Segment 4 (S4), pursuant to Resolution 4,553 of January 30, 2017. Available at: <https://www3.bcb.gov.br/audpub/DetalharAudienciaPage?5>. Accessed on: December 28, 2021.

to ensure reciprocity between the financial and retail sectors. However, companies that produce more data and store it efficiently are transforming that data, making it usable only through the algorithm that is in their domain. So, one concern is the possibility of reciprocity in light of a volume of investment that is too large to hide customers' data and information with the algorithms they own, because this would mean a lack of regulation in the system as a whole.

There is also the question of provision for the regulation of the supply and use of cryptocurrencies and blockchain-based financial services in Brazil, specifically decentralized finance (DeFi) and crypto assets in the financial inclusion process for community banks. Regarding cryptocurrencies, there has been a great increase in demand for them in recent years. Contrary to expectations, there has been a lot of growth in cryptocurrency trading for the purpose of investment and but very slow growth in their trading for the purpose of payment means. Regulation of cryptocurrencies as a financial asset or security is the responsibility of the Brazilian Securities and Exchange Commission (CVM),⁷ not the Brazilian Central Bank, but it would be important first to regulate cryptocurrency as an investment. Likewise, regarding stablecoins, meaning cryptocurrencies whose price is pegged to an asset, there are various types. Moving on to DeFi, it will be regulated once a digital currency has been issued or regulated by the authorities. It will be issued by the monetary authorities and its custody will be decentralized. Despite the uncertainties, looking at current DeFi projects, especially those involving node nodes, which are new

programmable nodes within the blockchain, it is understood that if currency does not have a numerical inscription, it will be difficult to bring it to our environment. Part of the reason for proposing the “digital real”⁸ is precisely to capture this DeFi. When looking at the biggest reasons behind the demand for crypto assets, PIX meets almost all of them, as it is cheap, fast, instantaneous, secure and open. This makes it hard to rationally identify any need to have a sovereign digital currency. The DeFi world is growing much faster than the regulated world.

Some currencies are defined by limited backing, in terms of operational capacity, which are closed and analyzed algorithms, such as bitcoin, which is limited to 17 million. However, we can see that mining capacity is getting close to the limit. In some places, a lot of electricity is being used for this type of production. In the end, it was determined that the currency that will prevail is the currency that strengthens network circulation. In this sense, Ethereum has a characteristic closer to network enhancement than others. Once the effect of each thing on the network is understood, it will be possible to regulate it better.

There have been many academic studies about the velocity of money. However, they make very strong assumptions at points that are not in line with the technology in terms of development and it is important to make progress here. The meeting's participants stressed the importance of networks in this area.

Another important issue, specifically in terms of payments, concerns the overall

⁷ “There are situations in which crypto assets can be characterized as securities, such as when setting up a collective investment agreement. In this situation, they must be offered in accordance with CVM regulations. When dealing only with the purchase or sale of virtual currencies (such as bitcoin), CVM is not responsible for this.” Available at: http://conteudo.cvm.gov.br/menu/investidor/alertas/ofertas_atuacoes_irregulares.html. Accessed on: December 28, 2021.

⁸ “BC apresenta diretrizes para o potencial desenvolvimento do real em formato digital.” Brazilian Central Bank, 2021. Available at: <https://www.bcb.gov.br/detalhenoticia/548/noticia>. Accessed on: December 28, 2021.

risk generated by credit card financing. This risk has different capital requirements for banks and non-bank institutions, making it necessary to identify leverage, given the “same risks, same regulation” principle and different levels of risk. It is necessary to equalize this situation, because some payment companies have become large and produce a lot of risk. Another factor is the regulatory requests that the Central Bank makes to large banks, as they have multiple departments and areas, so there end up being many repeat requests. On the other hand, for platforms, requests are easier as all orders are centralized. Thus, better organization by the Central Bank is essential, in order to have a single entry point, that is, a single point in this area, considering the importance of having a competitive environment without asymmetry.

In some countries, banks may already have other digital currencies or stablecoins, and even cryptocurrencies, in some cases, in their asset bases. In other words, this is already happening in some way, but caution is needed in the process. Regarding cybersecurity, another factor mentioned in the meeting, there is the perception of an increase in investment in this activity. Some quantum computing modules are now well advanced and the computational aspect of cryptography is growing exponentially. Companies are also looking for security mechanisms to support this new computational capacity, which will generate bigger gains in data interpretation than in the numerical area, which is to come. It was noted that all investments have been in this

area. This generates the feeling that the protection part is advancing at least as fast as the computational speed part.

As for monetary policy mechanisms, at the time the conversion is announced, the most informed groups will most likely try to convert as much as possible, because in terms of equilibrium, the worst that could happen would be to convert the currency to a digital one, and if it does not work, and the Central Bank guarantees that it will convert at par, it will only be necessary to convert again at par to another one. However, there is a chance that the digital currency will have more value. So, there would be an option built into the conversion process, in order to guarantee control. This process will be carried out cautiously, slowly, and it is being designed by many people. However, as an initial process, it would be as if the volume of physical money were blocked, while digital money is allowed. This would have an implication for deposits, as digital money does not have the same credit capacity. It would be necessary to create a shadow capital account to avoid limiting the leverage capacity of the banking system when this substitution takes place. This process is currently being studied. So, there are still more questions than answers when it comes to central bank digital currencies.

At the end of the meeting, it was emphasized once again that the Brazilian Central Bank operates in an area that is seeing technological development and it is interacting with the traditional, prudential and monetary policy worlds.



 **FGV DIREITO RIO**