CEMLA
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IV Meeting of the Fintech Forum

Opening Remarks

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Welcome to the **IV Meeting of the Fintech Forum,** which CEMLA has organized as a digital meeting. It is always a pleasure to meet the Forum's members. I would like to show our appreciation to our featured speakers for accepting to present and lead the discussions on the various topics of the meeting's agenda. In particular, I would like to thank Hyun Shin, for his participation tomorrow. Hyun´s outstanding insights and work on this and many other topics are well known to most of you. It is a pleasure and an honor to have him speak tomorrow. Again, thank you all very much for taking the time. I am confident that we will have fruitful exchanges given your knowledge and expertise.

Allow me to congratulate two working groups: the one on **Fintech Data Gaps** and the other on **Central Bank Digital Currencies,** for their tireless efforts to have the policy reports ready. They were released in October and November of last year. I am glad to inform you that both reports were presented at CEMLA's Governors Fall Meeting, held in October 2020. They welcomed the work done by this Forum and I am sure they are expecting this initiative to continue moving forward the regional fintech agenda.

I am also pleased to inform you that these reports will be published in the *Latin American Journal of Central Banking*, our peer-reviewed research and policy papers journal. In fact, the CBDC one has just been published.

In addition, we are organizing several capacity building events during the year. There will be training events on Suptech and Regtech, Machine Learning, and a call for proposals on Advanced Fintech Analytics for Financial Stability. We are organizing a new edition of the course on Blockchain Applications for Central Banking. In sum, CEMLA continues to do much work on fintech issues in 2021, particularly, under its Innovation Hub initiative. I truly hope that you, as members of this Forum, will be active participants in all of these.

Serafín Martínez Jaramillo has been central in all these efforts, so I now take the opportunity to publicly congratulate and thank him.

Allow me then to mention some of the **key economic** and **technological fundamentals** on money. To this end, let me divide the rest of my remarks into two parts. **In the first one**, I shall cover some of the main **economic aspects of money,** and describe some of the implications for a digital currency. **In the second part**, I will mention some of the core **technological aspects of money,** and their implications for **digital currencies**.

Economic Aspects

Money has been, for a long time, a social convention. It has three main characteristics: to function as a store of value, a mean of payment, and a unit of account. The question that interests us is: What makes fiat money plausible? In a nutshell: public institutions. More generally, an institutional framework with a favorable policy track record. If one considers the origin of the word, **fiat** refers to the fact that money is made by **decree**.

Arguably, many central banks have been relatively successful in maintaining a currency´s purchasing power. There are **various aspects** to this. Of course, the first one is the country´s institutional framework. Second, to have the central bank´s **independence** and/ or autonomy **enshrined** in a legal norm at the highest level in the country's legislation. Third, respect to its independence and/or autonomy, particularly, from heads of state. Finally, a central bank´s appropriate **governance**.

Fiat money is a type of **fiduciary money**. The latter term derives from the Latin, *fiducia*, trust, and *fides*, meaning faith. In general, **it is money "*created on faith*"**. Faith that it will be used and accepted by everyone to honor debts, today and tomorrow, and under most states of nature. Perhaps the most important issue to emphasize here is that various diverse market failures, in combination with the structure of incentives faced by those that create money, mean that, today, only a strong centralized institutional figure with the right incentives can "pull it off".

Indeed, many of us believe that, presently, the existence of fiat money that can efficiently achieve its main objectives cannot be a market-based outcome. In my opinion, Hyun Shin from the BIS, who will join us tomorrow, has most clearly and eloquently written about this. In effect, it is difficult to think that there could be widespread use of a **market-based (digital) currency** solely based on **faith**. What´s more, that constitutes an oxymoron.

As I mentioned before, having efficient and effective fiduciary money entails addressing market failures. One could argue that this is one of the main reasons why most private currencies quickly became part of the dustbin of history, and why one typically needs a central, strong, and reputable institution to control the creation of money. Else, the incentives to deviate from reasonable price and financial stability policies are too big. For example, it would be very unlikely for an issuer of private currency to take a loss for the sake of maintaining price or financial stability.

Historically, we might be at a crossroad in terms of what we could consider to be money. At this point, **we do not know for sure the extent to which, for example, digital currencies could become widespread**, **whether this would be desirable from an economic welfare point of view, and what implications they might bring in terms of monetary policy and financial stability.**

As Hyun Shin comments on BIS (2018), there is much hype about them. Thus, the need to see through it, to try to understand what they entail. It is important to note that, in the sample of currencies we observe today, there is **survivorship bias**. As it stands, we probably know more about why a currency could have survived and less on why one might have not. To see through

this hype, **it is useful to bring to the fore some of the functions of money, as well as part of its history**.

We know the textbook explanations of what money needs to have as basic characteristics or functions: a) unit of account; b) store of value, and c) medium of exchange. Of course, there are other features.

What we have learned recently -historically speaking- is that its **supply should be elastic and, closely related, scalable**. This means that it should respond swiftly to possible changes in the demand for it.[1] Perhaps more importantly, there should be a central authority that assesses and decides under what circumstances and in which magnitude its supply should respond to, having as its main responsibility maintaining price and financial stability.

There are other characteristics that are desirable in money. Prominently, it should be **divisible, portable, and verifiable**. These characteristics lend support to its basic functions. As another feature, it should be **information insensitive**. In practice, this means that everyone should have access to the same information to value it.

*These, among other elements, are worth reviewing as **we want to gain a better understanding on how the introduction of a (private or public) digital currency might play out in terms of such properties and characteristics**.*

A related consideration is how **financial intermediation** could be affected. Consider the basic functions served by financial intermediation: maturity and liquidity transformation, risk-pooling, and monitoring. **How could the presence of a digital currency affect such functions?**

God (or the devil) is in the details, as the Dutch architect Ludwig Mies van der Rohe once remarked. The implications for **financial intermediation** depend on several factors, for instance, whether the digital currency is based on **accounts** or is **tokenized**. In the **former** case, its transactions are identified and the **asymmetric information** that leads to many of the **market failures** that financial intermediation addresses, could be mitigated. This would come at a cost, maintaining a ledger for example. In the **latter** case, if they are **anonymous**, their implications in this respect might be fewer. Capping transactions or holdings thresholds could be also relevant. To avoid a run-to-CBDC episode in times of financial stress, a digital currency could display limits to monthly holdings and deposits as well as rules on maximum transaction amounts, to make it more cash-like and less deposit-like.

Another point to note from present currency issuers´ (central banks´) perspective is what could change if there were a digital currency issued by a private entity. Beyond policy implications, there could be **seigniorage loss** if the private sector is able to successfully provide a digital currency.

In terms of the monetary policy transmission, again, **it depends on the details of its implementation**. For example, if it were a digital currency where each agent had an individual

[1] Relatedly, its cost of production and operation has to be small. Intuitively, if it were costly to produce, it will be more problematic to make it elastic.

account in the central bank, and leaving aside questions of scalability, this could have direct implications for the transmission of monetary policy. Again, here one would need to consider the cost of doing so.

When it comes to being **information insensitive**, one should pay attention to the evolution of the payments infrastructure that would be needed. As changes in the infrastructure take place, some users could have an **informational advantage**, which they might seize at the expense of users that are unaware of such changes.

More specifically, any digital currency should have three key elements.

- ✓ A protocol, a way to perform transactions.
- ✓ A ledger, which could be either centralized or distributed.
- ✓ A group of developers that maintain the ledger and the network of participants. The network could entail a selection of participants (permissioned) or all of them (permissionless).

The protocol, as well as the ledger, are subject to hacking. Indeed, there are strong incentives to do so. Particularly, in a private setting, the issuance of digital currencies faces an incentive structure that is prone to potential abuse.
In sum, while I have barely touched upon the surface of many of these issues. I want to get the message across that the **economic implications of digital currencies are not direct and the stakes in terms of economic welfare can be very high**. We need to think very hard what is exactly the fundamental economic problem that a digital currency would solve. And, in the process, consider the potential costs that it would entail.

From the above considerations, it is evident that one should pay close attention to the interactions between the economic and technological aspects of digital currencies, to which I now turn.

Emphasis on some technological aspects and their economic implications

I will now touch upon some **technological** aspects and their (economic) implications for digital currencies. Many of the same type of market failures that have prevented the existence of efficient (from a social point of view) private money, are present in the case of digital private currencies. Furthermore, as we are now referring to digital currencies, new problems and challenges have arisen. For example, in the case of some digital currencies, such as cryptocurrencies:

- ✓ There is the **latent possibility of cyber-attacks**, which could be exacerbated given the growing reliance on third parties and more interconnected and decentralized ecosystems, broadening the range of vulnerable endpoints.
- ✓ Threatened **interoperability** with other payment systems, given the disconnection of decentralized and unregulated platforms with legacy infrastructures that run under the two-

tier banking system.[2] For instance, consider Bitcoin-like platforms that are completely isolated from other retail financial services.

- ✓ **Privacy aspects of transactions**, including the use of transactional information, either for exploitation or misuse purposes, present major implications. This would be particularly acute given the lack of a regulatory basis and the need for supervisory authorities being able to establish an enforceable data management framework.

- ✓ The possibility of **sovereign currencies substitution**, such as a quasi-dollarization process, given the perceived weakness of the currency against an "internationally accepted currency", which ultimately could also lead to have a massive number of transactions to take place out of the domestic payment systems.

- ✓ The **supervision of important nodes** and activities would certainly become a major concern given the decentralized nature of these platforms, making the central bank or other relevant authorities unable to supervise and monitor them properly.

As a case in point consider the so-called **global stablecoins**. These are mostly associated with decentralized platforms relying on emerging technologies such as blockchain. Stablecoins differ in considerably ways from cryptocurrencies. This is given that their value is pegged to a basket of currencies, which provide support to the basic functions of money. There is a growing universe of stablecoins, notably, Tether, Diem (formerly known as Libra) and USD Coin. Having said that, **all of them raise similar considerable concerns on the extent to which they possess the fundamentals to become fiduciary money.**

- ✓ **First**, they work as a new form of money, nor fiat nor as an existing private-owned digital money. They could potentially be used for cross-border operations. They could be more of a concern without an appropriate code and without surveillance.

- ✓ **Second**, stablecoins could **alter** the two-tier banking system as they would be running outside of the existing rails, making the users' base more vulnerable in case of a major disruption of such a quasi-payment system.

- ✓ **Third**, stablecoins arrangements could be highly likely **exposed to cyber risk and data management vulnerabilities**, lacking a supporting regulatory safety network that could be resorted in times of distress.

Let me briefly talk about Central Bank Digital Currencies (CBDCs). Different from stablecoins, a CBDC would necessary be a mix of cash-like and deposit-like instruments, having the "singleness" of fiat money, but the digital nature of cryptocurrencies. This central banking development is increasingly being explored worldwide and it could certainly ease some of the considerations that

[2] Moreover, consider the two-tier banking system that is typical in a market economy. We have that commercial banks have accounts with the central bank and agents have accounts with commercial banks. Importantly, digital currencies already exist in the first tier in many economies. Natural questions are, why we have not observed a digital currency in the second tier? Is it purely a technological issue?

I have previously listed. This is relative the potential digitation of money. Let me elaborate further on this:

- ✓ **First**, **a CBDC** should serve as a platform to **strike a balance between innovation and efficiency in the payments system**, bridging current market failures in retail payments markets, such as poor interoperability and outreach.

- ✓ **Second**, **the CBDC** system should **coexist with the long-established two-tier banking system**, enabling the private sector to actively contribute with the provision of financial intermediation instruments (robust private money) and engaging them in the provision of a widely accessible and trustable new form of central bank money. As such, there should be a system of incentives to foster efficiency, competition, innovation and inclusiveness.

- ✓ **Third**, any CBDC system should not be **excluded from an appropriate decision-making process concerning the underlying technology**, data management and identification systems.

CBDCs are not completely exempt from the risks associated with cryptocurrencies and stablecoins. Most could, however, potentially be addressed with a careful design. Moreover, as it has been pointed out in Bank of England (2020), there are opportunities for the CBDCs to support two core central bank activities: Monetary Policy and Financial Stability.[3]

Let me sum up here: It is difficult to think of efficient and effective private money. Digital private money is no exception. However, CBDCs can address many of the market failures and poor incentives that are present in private money issuance. Clearly, for this you need a strong and reputable central bank. Now, even in this case, digital currencies should be thought more as a complement to fiat money, and not a substitute to it. At least with the current state of technology.

The pandemic has led to significant volatility in international financial markets. With the lockdowns, corporates have suffered important supply disruptions and weak demand. However, financial markets and the financial system have shown some resilience. Such outcome is the product of the timely and robust intervention of the regulatory and supervisory agencies, including monetary authorities, that put in place the mechanisms to avoid important disruptions right after the Global Financial Crisis (GFC).

Financial Market Infrastructures (FMIs) performed well amid unprecedented market volatility and trading volumes during the first months of 2020, associated the COVID-19 outbreak for many economies. But what could be the scenario in the aftermath of this crisis? Certainly, the risk-management toolkit of the FMIs requires some adjustment to remain trustworthy.

Before concluding, **it is worth underscoring that there is much financial innovation taking place, with technologies that could surely create or enhance financial services**. That said,

[3] Among such opportunities the paper mentions the following ones: i) supporting a resilient payment system landscape, ii) Avoiding the risks of private money creation, iii) supporting innovation, competition and innovation on payment systems, iv) Meeting the needs of a digital economy, v) improving the availability and usability of central bank money, vi) addressing the implications of cash decline and vii) as a building block for cross border payments.

the objectives in terms of money should be well defined. There are niches for the successful use of a private digital currency. We should, however, avoid the fallacy of composition.

Precisely for this reason and other ones, I find the launch of the Regional Innovation Hub very timely, which after almost two years has facilitated a deep dive for thirteen central banks of the region to learn from new technologies. This year, we plan to launch new use cases. It goes without saying that, as Members of this Forum of Fintech experts, you should feel free to approach us as we will be willing to accompany you on new projects under the umbrella of the Hub.

As I have briefly explained at the outset, we will have a series of fintech-related activities in the remaining of 2021. I am confident that you will find them relevant for you and your teams. I will now end by wishing you a very constructive meeting.

Thank you very much.

References

Bank for International Settlements, (2018) “Cryptocurrencies: looking beyond the hype” BIS Annual Economic Report, June 2018.

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