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Third Meeting of the Fintech Forum

Virtual meeting

Central Banking of the future: The Fintech effect and other technological trends

Dr. Manuel Ramos-Francia
Director General, CEMLA

- Good morning. It is a great pleasure to welcome you to the **III Meeting of the Fintech Forum** which, given the COVID-19 pandemic, will be digital. Perhaps, this is a natural way to go forward, in an increasingly digitalized world. Evidently, we miss not having you all in Mexico City, as we did last year. We are still uncertain whether, for the next Meeting, the Forum members will meet face-to-face. In any case, I would like to thank the Central Bank of Chile for kindly accepting to host it in Santiago next year, of course, if conditions allow it.
- To begin, let me say that your interest in our events, and especially in this meeting, suggests that CEMLA's role is perhaps even more important in these critical times. I would like to thank our speakers and attendees for a remarkable response to our call. Today, we have over 100 participants from 25 central banks in the region, collaborating members, industry representatives and special guests, notably, the participation of Governors Verónica Artola from the Central Bank of Ecuador; Julio Velarde from the Central Reserve Bank of Perú and, Wilfredo Cerrato, from the Central Bank of Honduras. I would also like to thank our distinguished keynote speaker, Professor Darrell Duffie from Stanford University. Professor Duffie will speak about Central Bank Digital Currencies (CBDCs), interoperability of payment systems, and other equally interesting topics.
- From our last meeting, several fintech issues have evolved considerably. Allow me to share some thoughts with you on a couple of them. First, I will speak on the drastic changes that some in the central banking community have experienced related to CBDCs. Second, I will survey regulatory challenges to bridge the gap on fintech data requirements.
- **Central Bank Digital Currencies (CBDC) and the transformation of money and payments.** As recently noted by Brunnermeier (2019) and other scholars (Adrian, 2020; Duffie, 2020; Garratt, 2020, and, Kahn, 2020), our economies rely on public and

private means of payments under the condition that they have the backstopping of the central bank, either as a direct or an indirect claim. This architecture brings to the fore the idea of what money entails, especially in light of the possible negative consequences of relying on private money creation, and even more so in times of crises.

- The “*Chicago Plan*” and the “*Vollgeld*” (Sovereign Money) initiatives¹, in addition to other more recent CBDC projects, including the Digital Currency Electronic Payment (DCEP) in China, the Sand Dollar in the Bahamas, the e-Peso in Uruguay and the like, are significant responses to the debate on what should the role of private money be. Relatedly, what the role of a public infrastructure for money and payments should be. There need to be some answers, as there is a rushing avalanche of technology-driven initiatives that could affect the key roles of money. The Global Stablecoins (GSC) are perhaps the most challenging ones, as I will explain later.
- Accordingly, central banks are being challenged as they need to strike a balance between a design of a CBDC that combines a reliable and last-generation infrastructure, which is set to be fully interoperable, while mitigating important concerns on cyber risks, and the expertise of traditional intermediaries offering consumer protection and stable funding (i.e., financial intermediation), features that provide comfort when using cash as the most fundamental form of money, among other important ingredients. But the balance is by its own nature complex and demands not only a good understanding of the economic and social needs of money and payments at the retail level, but also an in-depth analysis of the potential consequences on the wholesale domain.
- For instance, if deposit taking could be subjected to shocks in the scenario of a rapid adoption of a CBDC, it could affect bank’s funding severely. Many international institutions, including ours, are discussing whether this balance can be achieved by establishing monthly limits to holdings and transfers with CBDC, for example. Yet, the unintended consequences of a CBDC cannot be fully envisioned at this point.
- The task is unprecedented, but unavoidable. Even if not implemented in the short-run, central banks need to be prepared “just-in-case” a GSC or the like comes up. Only a couple of months ago, the Banco Central do Brasil needed to rapidly suspend the WhatsApp initiative to deploy a Peer to Peer (P2P) payment feature in this global messaging platform, and while this central bank is open to foster competition in the domestic payments and financial services landscape, the potential risk of such an initiative by this Bigtech urged them to swiftly defend the principles of safety and data protection that authorized financial and nonfinancial entities must comply with since a

¹ The *Vollgeld* citizens' initiative in Switzerland, rejected in a national referendum, was intended at granting exclusively to the SNB the capacity of money creation, including its electronic forms. The 1930s *Chicago Plan* also suggested to restrict money creation by commercial banks by asking full coverage of the money they lent.

long time ago. This response is in effect accompanied by an interesting central bank-led initiative on fast payments named PIX. This initiative, which is similar to CoDi launched earlier by Banco de México, is a well-designed scheme to foster digital payments on a wide-nation basis using QR technologies.

In the case of CoDi, the underlying settlement platform is the Interbank Electronic Payment System (SPEI) which is a Real Time Gross Settlement System (RTGS) owned and operated by Banco de México. Before CoDi started to operate, commercial banks wanted to launch a similar initiative that would be running on a private platform. Even in the case of zero cost transactions to incentivize the use of this scheme, the value and data privacy concerns of the information generated by such a payment scheme was considered to be extremely important by the Mexican Central Bank. For this reason, it was decided that a fast payments scheme with these characteristics should rely on a public infrastructure.

- The US Congress and specialized anti-trust commissions or entities have entered a rough battle against the big four, Google, Amazon, Facebook and Apple to outline how these Bigtech giants will be wielding their market power at the sacrifice of fair competition and consumer protection standards. Libra, the Facebook Global Stablecoin proposal might be only the tip of the iceberg in private money creation by nonregulated new entrants.
- In the (near) future, central bankers will require a better understanding on what needs to be done to address the potential consequences for the well-functioning of the monetary, financial and payment systems given these continuing developments. Initiatives like the CBDC pilots in the Bahamas, the Eastern Caribbean Central Bank and Uruguay, the fast payments schemes in Brazil, Costa Rica, Dominican Republic and Mexico, and the newly functional approach set by the central banks of Argentina, Colombia, Jamaica and Peru, are noteworthy examples of how we need to adapt to such a new context.
- This leads me to the second issue I would like to flag. If early actions are not taken, **data gaps resulting from fintech developments** can become unpleasantly and uncomfortably important. The Global Financial Crisis brought several lessons for the global community of central bank and other financial regulators. One of them was the weaknesses around data compilation and usage to identify and address certain risks taking place in markets which, for example, contributed to the Lehman collapse and the following very well-known events. Moreover, with insufficient data, the diagnostics of the causes of a crisis may be wrong, inaccurate, misleading or, very well, can be difficult or even impossible to do. That, in itself, can make it also very difficult to adopt or apply the correct policy prescriptions.
- Fintech activities have an impact on some of the core tasks at central banks like monetary policy, financial stability, payment systems, and economic and financial statistics. Now, fintech activities are creating data gaps, because despite the relatively

small size of these firms, their diversity and lack of adequate classification systems and data reporting frameworks, makes it cumbersome to include them properly within the central banks' statistical systems.

- As fintech firms gain ground, it becomes critical to closely monitor their activities and fully understand their business models. Complexity and novelty are, in my view, some of the most significant challenges central banks will need to tackle to bridge the gap in terms of fintech data. The unbundled value chain of financial services might have become simpler from the complexity point of view; however, it creates new entities and new roles and its technology is increasingly more complex in terms of software and supporting tools for the delivery of its services.
- In such an intricate environment, standards and interoperability, as well as data needs for regulatory requirements, could quickly become a moving target. That is, it could persistently place central bank and other financial regulators and supervisors, behind the curve. Similarly, complex systems and entities demand complex coordination across an institutional architecture. The remit of central banks could rapidly reach a point of inability to collect relevant data by fintech firms and thus create a gap, making necessary to establish a coordinated data framework to embrace the complex ecosystem. In this context, additionally, coordination failure can become an important risk.
- Moreover, this situation can be categorized as a data governance problem in which two main risk might arise:
 - There could be one single unit in which the data is stored. A possibility is that such a unit hoards the data and makes it difficult to other areas to access the data. We have seen this in the past and it is not impossible to see it again.
 - It could be case that not enough promotion of the available data is done, preventing the timely identification of risks related to the upsurge of Fintech activities.
- Previous international coordination work to improve data sharing and identification are relevant efforts, yet do not suffice. A functional approach aimed at identifying and regulating roles, that is, functionality, instead of players, could be useful to overcome complexity issues. However, it takes time to put them in place. In fact, this approach is also something new in our thinking of financial stability. It is also novel and challenging to equip the staff with tools to implement such an approach. And, it is also novel and expensive for the (smaller) reporting entities to get used to data reporting. Many tears will probably be shed by fintech firms on this front. In this context, it is important for authorities to communicate to these firms, and to the public in general, the urgent need to collect this information, so as to neutralize complaints that “excessive bureaucratic burdening” of the former hinders financial innovation.

- The Wirecard case helps me to illustrate just how challenging is our task ahead. This fintech company, founded 1999 in Munich as a payment gateway for collecting card payments on online purchases, started looking as a hybrid of banking and non-banking service provider, if you allow me, pretty similar to PayPal. After significant geographic expansion in Asia and a major capitalization between 2011 and 2016, the German financial supervisory authority, BaFin, started facing difficulties to supervise its activities (including the acquisition of Citi's pre-paid cards business in the US), and was even not able to provide an opinion on Wirecard's entry to the DAX30, the first fintech to do so. Finally, this year, not in Germany, but in Singapore, it was possible to unveil the "round-tripping²" business of his CEO, a fraudulent scheme to deviate money using third-parties.
- Wirecard announced in June 2020 that near €2bn were missing, which confirmed the multi-year accounting fraud of a growing and promising fintech. Data gaps can lead to very serious consequences, as in this case. Evidently, filling data gaps may not be and probably isn't the only thing required to avoid and/or detect this type of anomalies. Central banks and other relevant financial authorities must always have a clear picture of exposures and of the financial health of such large companies, and they must also be able to monitor and enforce that financial institutions are compliant on regulations on a verifiable basis. Given, for example, the nature of this fintech firm, it is also key for central banks to have enough oversight powers to monitor closely prominent domestic Wirecard-like payment infrastructures, and not just focusing on wholesale (high-value) payment and market infrastructures, and to be able to inhibit and/or punish such practices, so as to avoid spurring systemic consequences to the overall financial system.
- To summarize, new data gaps are on the rise and, possibly, hand in hand with the latter, also potential risks. Therefore, we must be at the fore on how we equip ourselves to effectively pursue stable monetary, financial and payments systems.
- Considering the activities, we have ahead of us, let me conclude by briefly presenting the work that our **Innovation Hub** has achieved during the last year.
- After the Forum's meeting in 2019, CEMLA launched the Hub as a regional supporting vehicle for our central banking community to leverage new technologies for operational and regulatory purposes. It started with nine use cases led by CEMLA and, seven, by central banks of the region. These cases were devoted to explore how technologies like Machine Learning and Complex Network Systems could be used by central banks to enhance their monitoring and analytical capacity for financial stability purposes.
- I am proud to share with you that after months of intense work, some of these cases have been escalated to Central Banks' Boards discussions on their potential to become part of the surveillance toolkit in their respective central banks. These impactful results

² As in other cases of round tripping, Wire card engaged on asset interchanges, with no economic benefits, that made the company to look very active.

will be mushroomed once the use cases reach its publication as academic papers in the Latin American Journal of Central Banking, which I trust all of you have heard about.

- The use cases have helped central banks to gain a better understanding of the interconnections among the various layers of their financial system, indeed, to ultimately improve the capacity to identify systemic risk with high-tech algorithms. They have also showed that Artificial Intelligence is a powerful technique to detect anomalous behavior in payments systems' participants. Not less important, using specialized datasets, such techniques have been key to identify new ways of forecasting macroeconomic performance.
- These use cases allowed us to explore the application of the above-mentioned specific techniques. Nevertheless, we are prepared and ready to explore other different tools like bigdata, sentiment analysis and fraud detection, to name just a few. This depends critically on the new proposals that we will receive for the next edition of the course on Fintech for Central Banking to take place in 2021, please wait for our Call for Proposals.
- This year, we are engaging in four new use cases on Distributed Ledger Technologies and retail CBDCs. The way of working will be similar: a given central bank, CEMLA and the academic support of experts from University College London, UCL. The goal of these cases of the Hub will be to deep-dive in design choices and policymaking around digital forms of fiat money. I am confident that such efforts will significantly contribute to the central banks of the region to better understand the implications of CBDCs.
- For the rest of 2020 and in 2021, we already have set an ambitious program to build capacity in our central banks Membership. From machine learning and supotech to blockchain, our array of training and policy analysis fora will continue, in the same way new technologies are likely to continue.
- It is fair to say that this is one of our ways to contribute to the central banking of the future.
- As a final subject, let me share a couple of thoughts on the COVID-19 pandemic and how this could reinforce the opportunity for central banks to play an active role to embrace new technologies holistically. The 2020 Great Lockdown led many people around the globe to heavily rely on e-commerce and other digitally-initiated services were hailed, as banks' branches closed and telecommuting became a crucial practice for social distancing and confinement. Activities like digital onboarding,³ (P2P) lending, and funds transferring followed the same explosive trend that digital payments experienced. It can be acknowledged that fintech firms were able to make the change given their specialization in tech-driven business and non-existing legacy systems.
- A post-COVID world brings to the fore the need for the central banking community to transform its current understanding of how we pursue monetary, payments and financial stability. To name a few possible roads, in terms of financial stability and

³ This term refers to having access to banking services via online or mobile applications.

regulation, we need to focus more on how nonbank financial and payment service providers unbundled the value chain, to provide a role- and/or risk-based, rather an entity-based response. In terms of payments and monetary systems, we need to think seriously about how we can safeguard the public components of these goods to ensure that they are safe and efficient and, possibly, widely accessible. In terms of coordination, the task is tremendously complex, but forums like this one represent a meaningful vehicle, and CEMLA is of course a willing partner to continue fostering collaboration on this relevant subject, and related ones.

- In closing. I am sure that you will enjoy Professor Duffie's lecture on CBDCs as well as the rest of the sessions that have been carefully thought out to underscore the most relevant issues for our central banking community. For the Forum members, I would like to express my gratitude for your meaningful contributions to the working groups and for the policy insights that you have put in the reports we will present at the Governors' Fall Meeting.
- I wish you a successful digital meeting and look forward to meeting you again in person when the storm ceases.

Thank you.

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