Report

International Seminar

22 March 2023

Developments in Central Bank Digital Currencies and issues for consumers

Foreword and Acknowledgements

This document sets out the Agenda, Summary Report and Speaker Biographies for the joint G20/OECD Task Force on Financial Consumer Protection and FinCoNet *International Seminar on Developments in Central Bank Digital Currencies and issues for consumers*, held on 22 March 2023.

The G20/OECD Task Force on Financial Consumer Protection and FinCoNet would like to acknowledge and thank everyone who organised and participated in the Seminar, and particularly all Speakers, Panellists and Moderators for their valuable contribution to the discussion.

About the G20/OECD Task Force on Financial Consumer Protection

The G20/OECD Task Force on Financial Consumer Protection ("the Task Force") was established in 2010 in response to the financial crisis and in recognition of the fact that an appropriate level of financial consumer protection is an essential requirement to ensuring consumer trust and confidence in the market. The Task Force is the leading international forum for the development of financial consumer protection policy and acts as a forum for the exchange of information and expertise relating to policy developments and emerging issues across jurisdictions. The Task Force is responsible for the High-Level Principles on Financial Consumer Protection ("the Principles"), which have been endorsed by G20 Leaders and adopted by the OECD Council, and are included in the Financial Stability Board Compendium of Standards.

About FinCoNet

In November 2013, International Financial Consumer Protection Organisation (FinCoNet), was formally established as an international organisation of market conduct supervisory authorities with responsibility for financial consumer protection. FinCoNet is recognised by the Financial Stability Board and the G20. The goal of FinCoNet is to promote sound market conduct and enhance financial consumer protection through efficient and effective financial market conduct supervision, with a focus on banking and credit. FinCoNet Members see the organisation as a valuable forum for sharing information on supervisory tools and best practices. By sharing best practices and by promoting fair and transparent market practices, FinCoNet aims to strengthen consumer confidence and reduce systemic consumer risk.

Disclaimer

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Moderator: Carmine Di Noia, Director for Financial and Enterprise Affairs, OECD

Keynote speaker: Maria Demertzis, Senior Fellow at Bruegel and Professor of Economic Policy at the School of Transnational Governance at the European University Institute in Florence

Panellists:

- Keith Bear, Fellow at the Centre for Alternative Finance, Judge Business School, University of Cambridge
- Priscilla Koo Wilkens, Senior Economist, Innovation and Digital Economy Unit, Economic and Monetary Department, Bank for International Settlements.

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Panel: Jurisdiction updates regarding the development of CBDCs

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- Stephanie Haffner, Senior Specialist in Central Bank Digital Currencies Unit, Bank of England
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Closing Remarks

Chris Green, Chair of FinCoNet

Summary Report – International Seminar

Developments in Central Bank Digital Currencies and issues for consumers

22 March 2023, 10.00-13.00 CEST

Opening remarks

Ms Nisha Arora, Chair of the G20/OECD Task Force on Financial Consumer Protection (Task Force) opened the Seminar and welcome in-person and virtual participants.

Ms Arora noted that, as the leading international forum for financial consumer protection policy and regulation, one of the functions of the Task Force was to bring together policy makers, public authorities and experts from around the world to discuss and exchange perspectives on emerging issues and trends that affect consumers around the world.

She further highlighted how digitalisation was transforming all aspects of our economies and societies, including financial services and was also a strategic priority for the Task Force, as well as one of three new cross-cutting themes in the recently updated G20/OECD High-Level Principles on Financial Consumer Protection, which are the international standard for financial consumer protection frameworks.

Ms Arora noted that the effects of digitalisation on financial consumers could take many forms, including new types of digital financial products, service and distribution channels, changes to the way that financial consumers interact with financial services providers or the impact of AI and machine learning on financial decision-making.

She reminded participants that the Seminar would look at a specific form of digitalisation – that of fiat currency, in the form of CBDCs – for which the effects on consumers (or users) were less well understood, given its novelty and the limited number of real-world examples. Ms Arora noted that many central banks around the world were researching and developing CBDCs, with significant work taking place at the international level in terms of analysing the systemic impacts. The Seminar, she noted, would explore these developments and related issues, but in keeping with the focus of the Task Force and FinCoNet, with specific attention on the implications for users.

Ms Arora concluded with an overview of the Seminar's agenda, which she noted would feature a keynote speaker, a panel discussion and a series of presentations from country representatives.

Keynote and Panel Discussion: Issues, risks and opportunities of CBDCs for consumers

Mr Carmine Di Noia, Director for Financial and Enterprise Affairs, OECD thanked the Chair of the Task Force for her welcoming remarks. Before giving the floor to the keynote speaker, Mr Di Noia made the following comments:

- Mr Di Noia noted that the OECD Secretariat was progressing a report on CBDCs, which touched on many of the topics to be discussed at the Seminar, and which would be enriched by the conversations of the day.

- He noted that CBDCs could soon constitute a central component of the digitalisation of our economies and societies and that their possible issuance at large scale could have a fundamental impact on the structure and functioning of the financial system. He further remarked that CBDCs therefore had a prominent place in the policy agenda of OECD and non-OECD member countries: at the time, central banks in 114 countries around the world were exploring whether to issue their own retail and/or wholesale CBDCs. Three central banks had fully launched a CBDC (Bahamas, Jamaica and Nigeria). Pilots of CBDCs with real end-users were running, or had been run, in five jurisdictions (China, Eastern Caribbean Economic and Currency Union, Ghana, India, and Uruguay), and sixteen jurisdictions had started or completed technical proof-of-concept (PoC) work, including the Euro Area, Japan, Korea, Russia, Sweden, and the United States.
- Mr Di Noia noted that, in advanced economies, central banks were looking at CBDCs as part of their focus on ensuring continued central bank money access and monetary sovereignty. These priorities arose against a backdrop of significant decreases in the use of cash for retail payments, increasing competition from private sector digital payment platforms, and the emergence of crypto-assets. In emerging economies, he indicated, CBDC exploration tended to be driven by financial inclusion motivations, reducing costs associated with physical cash, increasing payment system efficiency, and strengthening financial integrity.
- Given the central role that possible CBDC arrangements would have on the structure and functioning of the financial system, Mr Di Noia said it was critical to consider how such instruments could affect the financial lives of individual citizens, whether through direct impacts or through systemic effects.
- He suggested that, when introducing CBDCs, and in order to safeguard the accessibility of central bank money of some form for all citizens, policy makers could consider the continuous availability of physical cash in parallel to CBDCs. Depending on how CBDCs were designed, some parts of the population could face challenges in using them – such as the elderly, people without smartphones or internet access, people with disabilities or people without formal IDs. CBDCs should therefore be considered as a means to expand safe payment options, not to reduce or replace them.
- While CBDCs have been characterised as a potential enabler of a more inclusive financial system, Mr Di Noia noted that there were also questions about the impact they would have on financial consumers, especially concerning privacy. At the extreme, CBDC rails could give issuers the ability to monitor and track all transactions and other financial activity details of users in case of widespread adoption of the digital currency. Built-in privacy protections, disassociability and other design choices are some examples of possible ways to ensure that privacy is included by default ('by design') in a potential CBDC. At the same time, the right balance would need to be struck between an acceptable level of privacy and other important public policy objectives of protecting financial integrity of financial markets (incl. AML/CFT).
- Mr Di Noia noted that the OECD report on *CBDCs and Democratic Values*, would be debated at the OECD Committee on Financial Markets in the coming weeks.

- Finally, Mr Di Noia introduced Maria Demertzis, Senior fellow at Bruegel and part-time Professor of Economic Policy at the School of Transnational Governance at the European University Institute in Florence.

Keynote speaker: Maria Demertzis

The key points of Ms Demertzis's presentation were as follows:

- Ms Demertzis opened her remarks noting that, in the wake of banking turmoil in the US and Switzerland, increasing calls were being made for CBDCs to be considered as a deposit guarantee. However, she acknowledged that there remained a lot of need to understand the value add of CBDCs.
- She noted that CBDCs were a reality (in some form) for 114 countries, representing 95% of global GDP, while a few had fully launched CBDCs. The US and the UK were still debating the value added; the US had said that they will not launch unless there is demand from stakeholders. Ms Demertzis highlighted the many choices to be made regarding the launch of a CBDC - technological, legal, and economic. At the global scale, governance choices would also be pivotal in terms of defining the success or not of CBDCs.
- Ms Demertzis explained that she would summarise what CBDCs are and what they are not. She noted first that CBDCs are legal tender - if you opt to pay with CBDCs you should not be refused. She further explained that CBDCs are convertible one-for-one into other forms of central bank money. CBDCs are cash and will not clear instantly - but they will be as close to a substitute as possible.
- She set out two main purposes for CBDCs - retail CBDC (small payments and transactions) and wholesale CBDCs (settling transactions in the financial markets, primarily for banks).
- Ms Demertzis noted that when central banks discuss CBDCs, they define four strategic goals, with different motives for different central banks: facilitating payment markets; financial inclusion; monetary policy implementation; maintaining financial stability.
- She explained that the discussions around CBDCs started with the emergence of the crypto world, and the worry that crypto currencies were going to take over as a payment system, and therefore the sovereign monetary authorities were worried that the monetary base would be undermined.
- Ms Demertzis noted that the world was moving away increasingly from payments in cash. However, she explained that cash was associated with anchoring trust in the monetary system when there was a run on a financial institution. If cash were to disappear, would we also lose the anchor of trust in the financial system? E-cash could be an answer to this worry. We can dispute whether this is true, but it is a motive.
- CBDCs aim to preserve the role of public money, she continued. In her view, the most interesting part of CBDCs was how they were revolutionising the way that settlements were made and enabling bilateral settlements between any two countries, which could be used as a finance tool for geopolitical reasons.
- Ms Demertzis then discussed the fear of crypto taking over our systems, showing that by looking at the market value of the most important crypto currencies, bitcoin

dominated most of the transactions in the ecosystem. Crypto currencies were not, however, taking over the system. From 2017 to 2021, the increase in the value of bitcoin transactions is due entirely to the increase in the price of bitcoin. The volume has not increased.

- Ms Demertzis discussed the second argument in favour of CBDCs: the issue of financial inclusion. For countries without sophisticated methods of payment, the provision of a public good, in the form of CBDCs, could contribute to financial inclusion. In North America and Euro area, she noted, financial inclusion was not a significant challenge, whereas in Africa and EAP, financial inclusion gaps remained.
- Countries with financial inclusion challenges were the fastest to implement CBDCs. Ms Demertzis presented data on the uptake of CBDCs in countries where they had been launched, demonstrating limited take-up. To explain this limited take-up, she noted the existence of other alternatives (debit cards, mobile money), which could be used with existing payment systems and were easily accepted by merchants.
- Ms Demertzis asked whether the euro should have a CBDC. In terms of motives, she noted that it would not add value to the euro area on the retail side and it could cause problems. If a public authority offers a good, she remarked, you have to ask what the externality is. On the wholesale side, Ms Demertzis noted that cross-border payments could potentially benefit from the introduction of wholesale CBDCs, since under the current system, speed is slow, cost is high, there is limited access and a lack of transparency.
- Ms Demertzis discussed the implications of moving from a dollar-euro-based international system to a system with bilateral and multilateral financial settlements. The settlement systems of the dollar and euro are pivotal in encouraging world trade today, she noted, but CBDCs could remove the centrality of this. CBDCs could create direct corridors between central banks, bypassing correspondent banks.
- In conclusion, Ms Demertzis noted that retail CBDCs, where they had been introduced, had not been a remarkable success - they have little value added in places where there is robust digital payment infrastructure. Wholesale CBDCs, however, have potential benefits for speed and cost. Many questions, however, remain to be solved.

Discussion

Mr Di Noia thanked Ms Demertzis for her presentation and introduced the panellists. He moderated a discussion in which the following questions were raised:

Q: What do you see as the future of cash with the advent of CBDCs?

Ms Demertzis noted:

- Whatever happens in the future, we need to be prepared. Regarding infrastructure, it is important to understand that without access to the internet, CBDCs are not of much use. A second issue to note is that demand for cash will remain; interest rates matter in this sense. Is digital cash the same as cash? No, but it's very close.

Priscilla Koo Wilkens, Senior Economist, Innovation and Digital Economy Unit, Economic and Monetary Department, Bank for International Settlements noted:

- Most of the retail CBDC initiatives have the intention of financial inclusion, however mostly focused on payments rather than investments. As means of payment, there are lessons that can be drawn from payment systems (e.g., TIPS in the euro area). Pix, the instant payments scheme in Brazil, recently celebrated its second anniversary: within two years, 64 million people made their first credit transaction ever. The adult population of Brazil is around 170 million. Pix is a success enabled not only by the infrastructure that allows for settlement. There is a settlement platform, but this is an effort that the Central Bank of Brazil (BCB) has been putting forward since 2013 with laws that allowed payment institutions to be created, that created the groundwork for more competition among participants. One could see a society that was very digitally ready for that adoption (more than 75% of household had internet access, more than 90% had access to smartphones). These components came into play to make financial inclusion happen. There was also a comprehensive rule book establishing the details of the payment scheme, including the pricing scheme, and participation criteria for payment service providers. If a jurisdiction is thinking of retail CBDC as an infrastructure for payments only, there are other things that need to be addressed for financial inclusion. Consider switching costs for users, from cash to digital. Small fees for using digital, for example, might dissuade users from paying digitally. Even in wholesale CBDC, infrastructure is just one part.

Q: Concerns have been raised about the implications of CBDCs on data protection and privacy, with the use of CBDCs potentially meaning that all financial transactions could be tracked by Governments. How can these risks be addressed? Are there other risks arising from CBDCs that concern you, such as new forms of financial exclusion?

Keith Bear, Fellow at the Centre for Alternative Finance, Judge Business School, University of Cambridge, noted:

- There are three key topics - access, trust, and utility. Access is a key question regarding financial inclusion. Smartphone penetration in Nigeria is some 34%, which is relatively low. How do you make CBDCs available to the digitally and financially excluded? Regarding the issue of trust, taking Nigeria as an example, many see a lack of trust in the Central Bank. Bitcoin is much more popular in some Sub-Saharan countries, including Nigeria. Education, awareness, and campaigns are necessary to encourage use of CBDC. There are lessons to be learned on this from Nigeria and the Bahamas. The third issue is around utility. Taking China as an example, we see a very small percentage of total payment flow going through CBDCs. One reason is the pre-existing high adoption of payment mechanisms such as AliPay and WeChat Pay. What is the real incremental utility of a CBDC for retail users over existing payment systems? For developed countries, there is a risk that value is not added, and users face the additional complexity of managing a second wallet. In the UK, there are discussions on what kind of new innovations and applications can be developed to drive adoption among the financially excluded but also among the general public: automated payments, supply-chain payments, social media tips, internet of things. The Bank of England has set a potential target date of 2030. What will the state of the economy be in 7 years' time? Probably less cash, among other things. There is tremendous opportunity, but also tremendous challenge. The outcome will also depend on commercial banks and intermediaries.

Q: People may see CBDCs as a substitute for bank deposits. We know this is not cash, but it is a close substitute. Is there a possibility that with the advent of CBDCs, and considering the role of central banks as issuers of CBDC, central banks could become substitutes for commercial banks? Would there be an implicit or explicit deposit insurance on CBDCs?

Ms Wilkens noted:

- Jurisdictions vary in their level and their appetite for the boundary between public and private. Recall the three functions of money - unit of account, store of value, means of exchange. Most discussion regarding CBDCs has been on means of exchange. When we're talking about deposits, there's the component of store of value. No central bank is currently designing retail CBDCs to fully disintermediate the financial sector and start giving loans to consumers. In this sense, we're focusing more on the means of payment and not on the store of value aspect of money. This is one of the arguments for a wholesale CBDC, where you will have the trust of central bank money (M0) underpinning all transactions, while the private sector will come and provide all the innovations both for payments and performing their role in extending credit to society. In this type of arrangement, you see clear differences in the central bank providing CBDCs as a public good or as an enhanced form of money. CBDCs can be thought of the plumbing – they will not actually compete with deposits, lending, etc.

Mr Bear noted:

- Regarding store of value, none of the major CBDC implementations pay interest. This is a key topic when we're living in a relatively high interest rate environment. Looking at bank guarantees, for digital euro and digital pound - the holding limits are much less than the guarantee limits. The distinction between central bank money and commercial bank money is lost on most users. This is not a significant factor in adoption.

Ms Demertzis noted:

- Regarding wholesale CBDCs, the innovation there is only the technology, on the ledger. The ledger would bring about gains on times and costs. However, it would create a different type of settlement system, with advantages and disadvantages. In the current financial system, the deposit guarantee is an essential feature of the retail banking system. Would a CBDC do a better job? The way that central banks are thinking about this at the moment is not to distort the way the financial sector is working.

The following questions were raised by members of the audience:

- CBDCs have mainly been considered from the perspective of monetary policy and financial stability. This seminar gave the opportunity to consider CBDCs from the perspective of financial consumer protection. Three dimensions arise: inclusion, the trade-off between keeping privacy but preventing financial crimes, and implications for financial education. When considering CBDCs as substitute of paper cash, the most distinctive feature of cash is that it is not tracked. Cash has been used for tax evasion, money laundering. But cash itself has a physical constraint - you cannot bring huge amounts of cash. CBDCs overcome that constraint. Yesterday we discussed the problem of crypto assets, heavily used by criminals. How can we overcome that difficulty in CBDCs? Finally, what are the implications for financial education? Many people, especially kids, learn what money means when they physically pay with cash. With CBDCs, money becomes pure digital information. How can young people feel the difference between 10k and 1k?

- We've heard a lot about the challenges of driving take-up. What are the solutions? If we consider women cross-border traders - they buy their goods in another country, so if they carry cash there, they risk theft. How do you think about this? It's difficult to understand the difference between FCP for digital money and CBDCs. In the case of CBDCs, what are the FCP issues we should look at, especially with a focus on poor, excluded, women?
- This discussion brings back memories of massive debate in our country about access to cash. Legislation will be introduced requiring that there is reasonable access to cash for those who need it. This was driven by research finding that certain people rely on cash (the digitally excluded, the elderly, for example) and use it for budgeting. Are there any benefits this can bring, in light of the loss of cash? Could it resolve some of those concerns and issues that we've seen?
- What can CBDCs provide that digital money cannot? There is talk about expiry date on CBDC money - is that an issue or something we should be concerned about?
- When we look at why people are not banked - it's because they do not have enough money, or they don't have ID. For closed-loop programs (e.g., Government-to-Person payments), ID is not a problem because the government will identify you. But if you need the internet, many poor people only have feature phones, not smartphones. Should we use offline payments?
- In the aftermath of Silicon Valley Bank, we understand that interest rates are a public good. We are seeing globalisation of inflation. With CBDCs coming into force and enabling multilateral exchanges, will it bring customer benefits by reducing barriers to remittances?
- In terms of risks to consumers, are you envisaging specific risks to financial consumers and investors? Are there specific risks or the same risks as with other crypto assets?
- Our jurisdiction is undertaking research to see whether CBDCs are feasible. In Africa, we have other initiatives, such as mobile money, which does not require the internet. Could CBDCs have negative impact on such private sector initiatives?

Ms Demertzis responded:

- There are indeed risks to consumers. When you have a public solution, what is the externality you are solving? There isn't a clear answer to this when it comes to CBDCs. If you were a private provider of payment systems, you'd be worried about being wiped out. If the consumer misses out on competition, that is a risk. On financial inclusion, there might be ways of thinking about it that could help - ECB is looking at off-line solutions.
- Privacy is not anonymity; this is important to remember. While CBDCs will aim to be private, they will not be anonymous. Even crypto, when regulation comes into force, will not be anonymous anymore.

- Regarding financial education – and noting that this week is Global Money Week - the argument about the behavioural issues is absolutely essential. We need to acknowledge the fact that the world is digitalising.

Mr Bear responded:

- If we have a CBDC in a developed country in seven years, it will be the digital natives taking advantage of it. Our kids are much more familiar than many of us are. The question on privacy is very important; this is the most dominant concern that people have. There's the practical side of it - most of the implementation for the digital euro and digital pound assume that central banks would not have any personal information (intermediaries would have responsibility for KYC, etc). That doesn't stop the imagined risk to security and privacy - we've already seen some of the concerns coming out. If you don't trust the government or the central bank, it will persist as a risk or perceived risk.
- Regarding risks to consumers, there are questions that remain to be resolved. CBDCs could reduce risk of other payment mechanisms (stablecoins in particular).

Ms Wilkens responded:

- On the privacy and anonymity issue, there are factors that are non-technological. Technology could go fully anonymous or fully identified. It's more a question for society to decide. What are the appetites for privacy? An example is how different jurisdictions might have different views regarding women's comfort making mobile transactions because they might be concerned about their husbands' viewing their accounts. Some of the frictions in cross-border transactions are mainly political. To comply with legal requirements, you must undergo many checks that technology will not be able to overcome.
- On the drivers of uptake, collaboration is needed between private and public sector. The vision of user-centric development of products, by thinking about product development with user-centric focus, will help us get to user needs. We might think we know what they need but being with users on the ground is what is necessary to understand the needs and the pains of consumers.
- As we move toward an enhanced type of money, one of the things that comes as a benefit is the instant settlement (delivery versus payments). How do consumers get protected in such an environment where a payment is automatically settled without the opportunity for recourse? FCP is very much needed in a world where everything becomes automated and instant.
- Regarding expiry dates on CBDCs and their use as vouchers, those are also choices that societies can make. Technology exists for those use cases, but it's a public policy decision.

Panel: Jurisdiction updates regarding the development of CBDCs

Mr Miles Larbey, Head of Financial Consumer Protection, Education & Inclusion Unit, OECD moderated a panel discussion of policymakers from four jurisdictions.

United Kingdom

Ms Stephanie Haffner, CBDC Senior Specialist at the Bank of England, delivered a presentation on a potential digital pound. The key points were as follows:

- On 7 February 2023, Bank of England published a consultation paper for a potential digital pound. The paper analyses the public policy case for a CBDC in the UK and sets out a proposed design. While the paper explains that a digital pound is likely to be needed, it does not make any commitment to implement one. Rather, it maintains that further preparatory work is needed.
- The Bank of England recently completed two years of a research phase and is now entering a design phase. At the end of the design phase, the Bank will take a decision on whether to build a digital pound. Next, a build phase will commence with the aim to develop prototypes and live pilot tests. Then, a decision will be made on whether to launch.
- Why is a digital pound likely to be needed? The UK House of Lords has said that CBDCs are solutions looking for a problem. The Bank of England does not believe this to be the case. We must consider the long term – we cannot only look at how we pay today. Transactional use of cash is declining, and the usefulness of cash is limited in the digital world. A digital pound would allow users the option to use central bank money in transactions online, which is not the case for cash today. International developments in CBDCs could affect the UK.
- Two key motivations are: to ensure the role of central bank money as an anchor for confidence in monetary system; and to promote innovation, choice and efficiency in payments. Other motivations include payments resilience, improving cross-border payments and advancing financial inclusion.
- The proposal under consideration is for a retail CBDC that would use a "platform model" comprising a core ledger, API layer, intermediaries, and users. Private sector innovation would play a key role in the digital pound system.
- Per the high-level design for a digital pound, user interaction would happen through smartphones or cards, in-store, online and person-to-person payments. It would need to be easy to move between digital pounds and other types of money. The digital pound would not pay interest, and there would be a limit on how much a user could hold.
- Regarding privacy, a digital pound would need to be subject to rigorous standards. It would be private but not anonymous. Neither Bank of England nor government would have access to personal data. Users would be able to make choices on how their data is used. There would be no restrictions by the central bank nor government on how funds are spent. Some programmability might be offered - but subject to user consent.
- Financial inclusion is not a main motivation for introducing digital pound, but it could be an additional payment option. The digital pound would need to be straightforward and easy to use, trusted and easy to understand.

Brazil

Mr Fabio Araujo, Project Leader of the Digital Brazilian Real Initiative, Banco Central do Brasil (BCB) presented on Brazil's Digital Real Initiative. The key points were as follows:

- The Digital Real Initiative follows a consumer-centric design that has been adopted in developing innovations in Brazil to democratise financial services. Examples include e-money and Pix for payment services (a synthetic CBDC where deposits are 100% backed by deposits at central bank, paired with 24/7 instant payments system). These were very important for financial inclusion in Brazil. 40 million people made the first digital payments in their lives in the first year of Pix. The Central Bank of Brazil is now working to increase competition and lower barriers to entry for fintechs.
- A digital real is the cornerstone of a platform for programmability and efficiency in contracts which will complement open finance initiatives. The Central Bank of Brazil aims to promote safe democratisation in access to financial services.
- Most central banks are still looking at what should be the use cases of CBDCs. The BCB acknowledges that central banks cannot answer it by themselves. They need to open the discussion to include society. Thus, BCB provided guidelines for stakeholders to discuss the potential evolution of a CBDC for Brazil. The most particular feature of the digital real initiative is the willingness to incorporate technologies that allow for developments that will lower barriers of entry for fintechs to provide financial services.
- There is a range of existing and potential forms of the Brazilian real: physical, electronic (typically centralised) and digital (potentially decentralised). BCB is trying to mirror the relationship between central bank money and commercial bank money that exists with electronic media in the digital media context (i.e., digital real and tokenised real).
- Off-line functionality is the quintessential application for retail CBDCs, as only central bank money has legal tender status, and off-line functionality cannot be fulfilled by a private entity.
- Several questions remain outstanding: how to handle liquidity, registry and custody, bridges/stablecoins and integrity.
- BCB has been running tests that will help to assess a wide range of use cases for proposed by different market participants.

Nigeria

Ms Rashida Monguno, Director of Consumer Protection Department, Central Bank of Nigeria (CBN) presented on the eNaira, Nigeria's CBDC. The key points were as follows:

- The global trend toward CBDCs is due, in part, to the decline in the use of cash, an explosion in digital payments and the rise in private currencies.
- Nigeria's population comprises 200 million people, the financial inclusion rate is 64% and the most common payment method is cash. There is a large unbanked rural population. Thirty-eight percent of Nigerians are not literate. Eighty-one percent of adults own a mobile phone, while less than 40% have mobile internet access. Twenty-five percent of Nigerians have adopted cryptocurrency.
- The Nigerian financial ecosystem is robust. Nigeria started testing the use case and potential need for a CBDC in 2017. This research established a compelling need to launch a CBDC, especially with regards to Nigeria's youth population.

- CBN issued a Design Paper with Key Considerations relating to the earning of interest, regulation, AML/CFT compliance, privacy and data protection. CBN made sure that regulation was in place for eNaira and made regulation as adaptive as possible, so it will continue to change, while remaining complaint with AML/CFT guidelines. The system is account-based and still requires identity checks (via the biometric verification number). CBN has also considered privacy and data protection, to bring the CBDC in line with international standards. eNaira will run at par with Nigerian Naira.
- The core use cases that the eNaira initially addressed were P2P, P2B, diaspora remittances, and P2G.
- CBN decided to use a tiered approach and a phased launch. The project aims to reduce levels of exclusion, since one of the objectives is financial inclusion. With just a phone, an individual can onboard on eNaira, with tiered limits and wallet caps.
- The eNaira offers a value proposition for all stakeholders - for financial institutions, fintechs, federal and state government agencies, Nigerians in diaspora, banked customers, distributor/merchants, unbanked customers, and corporate institutions.
- Nonetheless, challenges have been confronted, related to security, adoption, and onboarding.
- Lessons learnt include:
    - Collaborate with financial institutions;
    - An existing digital ID is critical;
    - Identify winners and losers; and
    - Adopt a phased approach.
- CBDCs are here to stay, we must conduct our due diligence and learn along the way.

Australia

Mr Chris Thompson, Deputy Head of the Payments Policy Department, Reserve Bank of Australia (RBA), presented on RBA's research into a CBDC. The main points were as follows:

- RBA started thinking about this issue in 2017, marked by Governor's speech on whether Australia needed a CBDC. This kicked off a research project that dove quickly into technology experimentation, with focus on DLT and blockchain. The project developing proofs of concept using DLT (ethereum), mostly focussed on wholesale CBDC use cases. We wanted to learn more about the technology, rather than moving into discussions about design. RBA published thoughts on retail CBDC in article in 2020; our view at the time was that it's not clear there's a strong policy case for a retail CBDC in Australia. We were thinking about technology questions, but one of the fundamental questions that remains unanswered is what the use case is for a CBDC – in other words, what problem would it solve? Last year, RBA pivoted its research away from technology and toward use cases for CBDCs.

- The pilot CBDC is a collaboration between RBA and Digital Finance Cooperative Research Centre. It aims to explore use cases and business models that could be supported by a CBDC and the potential economic benefits of introducing a CBDC. A pilot CBDC, with a real claim on the RBA, will be issued with a limited amount of money in a ring-fenced environment. RBA invited industry participants to develop use cases, which could be retail or wholesale. RBA received 140 submissions of proposals and selected around 15 of them in Q1 2023. There are regulatory questions about the pilots, and the team has been working with regulatory colleagues to ensure that use cases meet regulatory requirements. Pilots would go live April/May 2023.
- The pilot CBDC use cases can be grouped into four broad categories:
  - settlement of transactions in tokenised/digital asset markets;
  - smart payments and digital escrow using the programmable capabilities of CBDCs;
  - banking asset for privately issued stablecoins; and
  - peer-to-peer payments using CBDC to provide cash-like digital payment services for P2P payments.
- RBA has seen significant interest from industry in this project. Industry participants are spending their own time, money and resources. Majority of use cases are focussed on wholesale use cases. These use cases do not represent the full range of use cases for CBDCs, but they give some indication where there may be demand for CBDCs and the types of problems that a CBDC could solve.

Discussion

Mr Larbey moderated a discussion, during which the following questions were raised from members of the audience:

Q: One big area for welfare improvement are cross-border transactions. Is there sufficient coordination happening to prevent countries going in different directions that could make alignment more difficult?

Q: Can you say more about the costs of running a CBDC?

Ms Monguno responded:

- Charges are very low, to create incentives for adoption. This was agreed between the central bank and depositary institutions.

Ms Haffner responded:

- The challenge so far on international engagement is the fact that countries are at different points in their development, which can make coordination difficult.

Mr Thompson responded:

- It is very important that jurisdictions are thinking about having discussions with each other on what they're developing. We want to make sure that we're not developing CBDCs in silos. It is important to think about requirements for interoperability among countries.

Mr Araujo responded:

- We are conducting experiments in collaboration in the regional area of Latin America by using ISO technology. For a CBDC, it's much harder to integrate right now because of the different stages of development. IMF and BIS are important facilitators of engagement.

Ms Demertzis added:

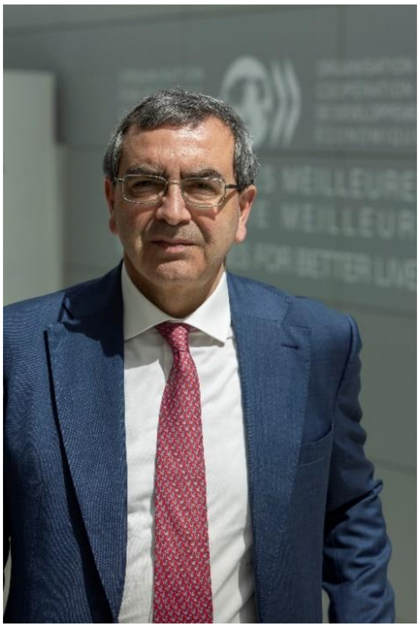
- There are different motives for using CBDCs, while a common benefit for everyone is on cross-border payments. The incentives should be aligned for countries to coordinate. Nigeria should have a leading role in driving this because they have the experience.

Mr Larbey concluded the Panel discussion by thanking the Panellists for sharing their experiences and insights and for a rich discussion.

Closing remarks

Mr Chris Green, Chair of FinCoNet, closed the Seminar and thanked all participants.

Speaker Biographies



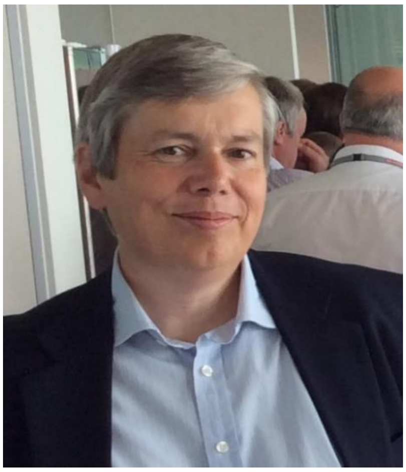
Carmine Di Noia is the Director for Financial and Enterprise Affairs at the OECD.

Prior to his appointment, he was Commissioner of the Italian Securities and Exchange Commission (CONSOB) from 2016 until 2022. In this capacity, he was also an alternate member of the Board of Supervisors of the European Securities and Markets Authority (ESMA) and chair of its Committee for Economic and Markets Analysis (CEMA) and Post-Trading Standing Committee, and vice chair of the OECD Corporate Governance Committee.

Carmine Di Noia was previously Deputy Director General and Head of Capital Markets and Listed Companies at Assonime (the Association of Italian Corporations) and served two terms as a member of the Securities and Markets Stakeholders Group at ESMA. He was also a member of the board of directors of the Italian Stock Exchange (Borsa Italiana).

He holds a Ph.D. in Economics from the University of Pennsylvania, a Doctorate in Economic Theory and Institutions from Tor Vergata University in Rome (Italy), and a Bachelor’s Degree in Business Economics from La Sapienza University in Rome.

Maria Demertzis is a Senior fellow at Bruegel and part-time Professor of Economic Policy at the School of Transnational Governance at the European University Institute in Florence. She was the Deputy director of Bruegel until December 2022. She has previously worked at the European Commission and the research department of the Dutch Central Bank. She has also held academic positions at the Harvard Kennedy School of Government in the USA and the University of Strathclyde in the UK, from where she holds a PhD in economics. She has published extensively in international academic journals and contributed regular policy inputs to both the European Commission's and the Dutch Central Bank's policy outlets. She contributes regularly to national and international press.

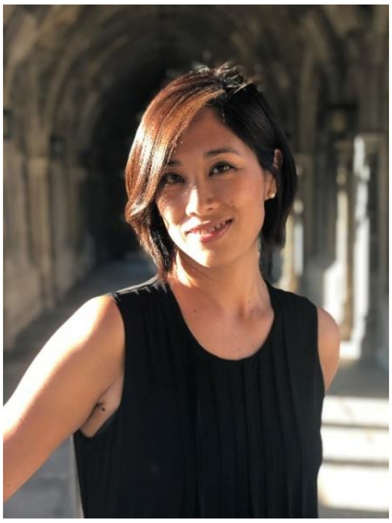


Keith Bear is a Fellow at the Centre for Alternative Finance, focused on research and industry collaboration in Blockchain, Digital Assets and Fintech innovation within Financial Services. He chairs the Cambridge Digital Asset Research programme, supported by 15 global institutions, and teaches on the Cambridge Digital Assets course for Regulators.

Previously, Keith was responsible globally for the strategy, development and execution of IBM’s business in Financial Markets, working extensively with global clients on major transformation programmes.

Keith is a Board Advisor to five Fintechs, a Board Member at DFNS (a digital asset custody provider), a lead mentor at the Techstars ABN Amro and Web3 accelerators, a member of the Technology and Operational Resilience Committee at the LME, and a member of WEF’s Expert Council. He is also a member of the ESMA’s Consultative Working Group for Financial Innovation, and the BoE’s CBDC Technology Forum.

Keith holds a MA (Hons) in Physics from University of Oxford, an MSc from University of London, and completed a Master of Business Management programme at the London School of Economics.



Priscilla Koo Wilkens is a Senior Economist in the Innovation and Digital Economy unit within the Economic and Monetary Department of the Bank for International Settlements. Prior to joining the BIS, Priscilla was the head of the Pix Management Division within the Competition and Financial Market Structure Department of the Central Bank of Brazil (BCB) and had a long experience working in the Financial System Monitoring Department, where she co-led as business manager the development of the Brazilian Credit Information System run by the BCB. Graduated in Industrial Engineering from Escola Politécnica da Universidade de São Paulo, she completed a master's degree in Public Administration with an emphasis on Economics and Finance at Cornell University.

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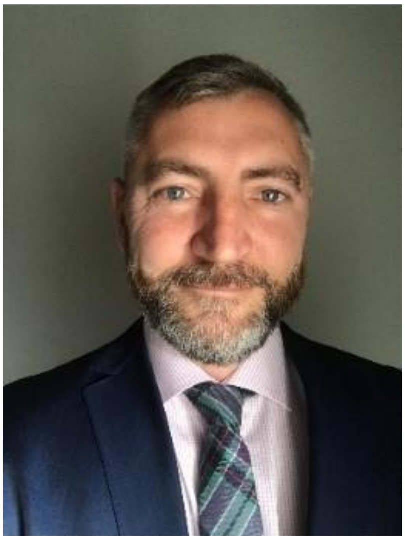
<td></td>
<td> <u>Miles Larbey</u> is the Head of the Financial Consumer Protection Unit at the OECD. He is responsible for the OECD's work on financial consumer protection policy, as well as supporting the G20/OECD Task Force on Financial Consumer Protection and FinCoNet, a network of market conduct supervisors. Particular areas of focus include the protection of consumers who may be vulnerable, the impact of digitalisation, demographic changes, financial inclusion, sustainability, and the impact and response to COVID-19.
Miles has over 25 years' experience of working in financial regulation, law and policy; banking and insurance supervision; and financial education across a number of jurisdictions. Before his role at the OECD, Miles held positions as the Senior Executive Leader for Financial Capability at the Australian Securities and Investments Commission; General Manager of the Investor Education Centre in Hong Kong; and worked on consumer protection law reform at the Financial Conduct Authority in the UK. </td>
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<td> <u>Stephanie Haffner</u> is a senior specialist in the Bank of England's CBDC Unit, covering domestic stakeholder engagement and work on functional design.
Stephanie has been working at the Bank of England for seven years, and has held roles across Financial Market Infrastructure and Prudential Policy. Prior to joining the Bank, Stephanie worked at the European Commission and at a political risk consultancy.
Stephanie holds degrees in European political economy and economics from the London School of Economics and Claremont McKenna College. </td>
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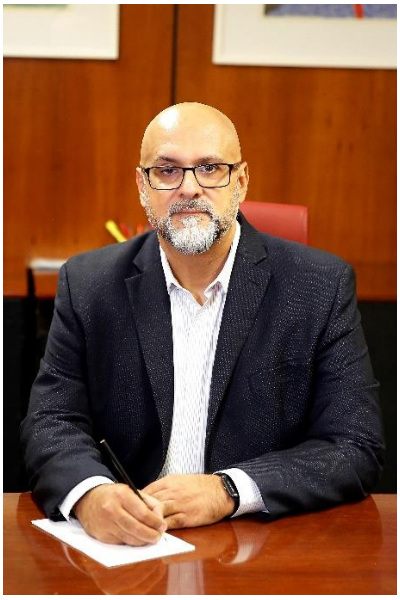
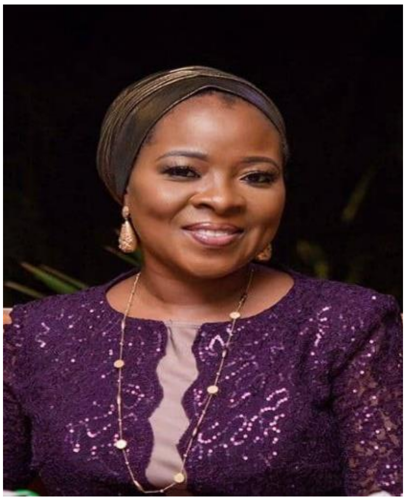
	**Fabio Araujo** is a telecommunications engineer and PhD in economics and has been working at Banco Central do Brasil (BCB) since 1998. At the beginning of in his career in the BCB he took part in the implementation of the Inflation Targeting regime in Brazil and, afterwards, dedicated to advising the conduct of the monetary policy. More recently, Fabio was the head of the Office of Economic Advisors to the Governor and currently coordinates the work for the future implementation of the Digital Real - the digital version of the Brazilian Real.
	**Rashida Monguno** is the Director of Consumer Protection Department at the Central Bank of Nigeria. A visionary and Solution-Oriented Senior Director with 29+ years of success managing executive board administrative affairs, leading chartered secretarial project teams, coordinating strategic commercial developmental and consumer protection processes for the Central Bank of Nigeria. A proactive Legal Advocate leveraging profound background in Corporate and Commercial Law, Consumer Protection, Regulatory Compliance, Corporate Governance, Legal Drafting, and Risk Management gained through working with different committees across variety of sectors. She holds a Bachelor of Law (LL. B) from the University of Maiduguri, Borno State, and a Master of Laws (LL.M), University of Abuja both in Nigeria. She is a member of the Nigerian Bar Association, an Associate of the Chartered Governance Institute (ICSA), London, a Fellow of the Institute of Chartered Secretaries and Administrators of Nigeria (ICSAN), an Associate, Institute of Chartered Mediators and Conciliators of Nigeria (ICMC) and an Associate of the Society for Corporate Governance of Nigeria (SCGN). She is also a Member of several Institutes which included institute of Directors of Nigeria, Institute of Credit Administrators, Chartered Institute of Bankers of Nigeria (CIBN) Risk Management Administrators of Nigeria (RIMan). An outstanding Multilingual Communicator (English, Hausa, Yoruba, and Kanuri) with the ability to build and lead highly efficient teams and convey complex concepts in understandable terms.

	She possesses proven expertise in Project Management, Strategic Planning, Organizational Modelling and Design, Stakeholders Management, Board Reporting, Business Advisory and Partnering, Budget Planning and Optimization, Performance Management, Labour Relations, Information Management, and Expatriate Relations. She has over time demonstrated a record of delivering sustainable results consistently and have made significant independent contributions to planning and developing policies and procedures. She is described as a valued mentor and leader, who provides employees with the autonomy to do their work well while building strong, personal relationships to improve communication and advance business development efforts
	**Chris Thompson** is a Deputy Head of the Payments Policy Department at the Reserve Bank of Australia, where he contributes to the RBA's policy work in relation to promoting a safe, competitive and efficient payments system. For the past few years, he has been leading the RBA's research work on central bank digital currency. He has previously had a number of other roles in the RBA, including as Chief Representative in the New York Representative Office, and prior to that in the Financial Stability, Domestic Markets and Economic Analysis Departments. He did his graduate study at the London School of Economics.