

Building a thriving CBDC ecosystem

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You're listening to the OMFIF podcast, the show that explores the latest insights and discussions on global finance, economics, and policy for people who love staying informed about the rapidly evolving landscape of the financial world. Join us as we break down complex topics, interview key thought leaders, and provide essential insights to keep you informed about the evolving world of finance.

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Hello, and welcome everyone to this conversation with Volt RMS item and Chief Executive Officer of D currency technology. I'm John Orchard OMFIF CEO. Today we're going to discuss the important balance of public and private sector involvement in the developing ecosystems for central bank digital currencies. That is a theme which comes up at almost all conversations on digital currency run by on Fifth a central banks and their commercial bank and payment service provider stakeholders working out the division of labor and responsibility for digital money to retain a version of public cash on the one hand, without crowding out an innovative private sector ecosystem on the other, which already solves complex issues such as interoperability, and KYC AML. So, for example, who will interact with the end user? And how and to what extent? Will digital money interoperate with the private money and other payment means, what new private sector products might sit on top of the new public sector infrastructure? Offline payments, for example, is a very challenging area in this regard, which we constantly hear from central banks, how will they work? And what will the private sector do to help the public sector solve those challenges? Octave civil monetary Institute has explored exactly these themes together with God in our report, unlocking the potential of a cbdc system available to download from the ONVIF website. So Wolfram It's great to have you back, and D to have worked with you and your team on another fundamental area of the digital money arena.

 01:59

Thank you, John.

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Tell us the idea behind commissioning the unlocking of the potential of a cbdc ecosystem, our joint report together.

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Yeah, we wanted to broaden the perspective on cbdc as a catalyst for innovative possibilities for the entire currency ecosystem. Banks as well non banks. Since current discussions mostly revolve around two topics, technology or cbdc. As a competitor, it's important to talk about the potential that the public digital currency and the benefits it could bring, and how it can coexist with different forms of privately issued digital money. CBDCs hold great promise in revolutionising financial transactions with numerous beneficial applications, including programmable payments, enhanced security features, offline payment capabilities, streamlined digital assets, settlements, and more efficient cross border transactions. But to unlock this potential, we need to address the entire ecosystem.

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To tell us more about that ecosystem. Both roads are a complicated and intricate thing.

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Yeah, with pleasure. jindee has engaged in CBDCs for many years now, we do this for a simple reason. We believe that public currency which is only available today, as physical cash must continue to play a key role in our digital world. A digital form of public money could reshape the payment landscape, and bring real value for societies and businesses. But to harness the full potential of CBDCs, we need to build a thriving ecosystem, joining forces is essential to achieve the desired effect of cbdc. This requires a fruitful public private collaboration. community could serve as a foundational layer to facilitate interoperability and connecting various entities participating in the future digital economy and convinced that the future financial landscape will continue to comprise of variety of payments methods, such as cards accounts into payments, mobile money and stable coins. tokenized deposit and cbdc will also be a part of that. The cbdc infrastructure could facilitate the exchange between various forms of digital payment instruments essentially act as a bridge between them.

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Yeah, central banks officials specifically mentioned the offline payment is an area for collaboration. I mentioned that right at the beginning. Tell us why this function is so crucial. It certainly seems to me a lot more complicated when you start to look at the detail.

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Yeah, a public currency needs to be reliable and accessible to all segments of society. For all digital form of cash, that means to be resilient, and to work always and everywhere. Contrary to common belief, digital currency is not a high-tech solution that digital currency is not a high-tech

to common belief, internet access, even in highly industrialized economies is not uniformly reliable. Regardless of the extent of a country's internet coverage, power or internet outages can also occur due to unforeseen events, such as earthquakes. Eggs floods. Take just Hong Kong for example, a region with high mobile network penetration that will be even more affected by typhoons due to climate change.

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Yeah, until today, cash is the public instrument that serves as the backup for that.

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Yes, indeed, a public instrument is well suited for that. Furthermore, offline functionality is essential to drive financial inclusion, and to narrow the digital divide. Currently, participation in the digital economy is restricted to those who have access to the digital world. So offline capabilities, opens the door for an unbanked people and people in rural areas is an integral part for acceptance, and to build trust in a cbdc. The numbers bear this out, according to a survey related to the BIS project, Polaris, which aims to design secure and resilient CBC systems 98% of central banks. So offline payment is either vital or advantages for a retail CBC. And the user confirms does as well. And a recent study of the German central bank 59% said that a offline version of the digital euro was very important or important.

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Yeah, in the unfair future payments report similar kind of numbers 60% of central banks have the offline payments as one of the two most challenging features of their CVC plans. Do you agree with that? Bob Rome?

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Yeah, I do. From a security perspective, offline payments are a challenge, since you cannot immediately verify tokens being exchanged. We all know the challenge of digital money design is to solve the double spending problem, which can be solved through combining software with hardware security. And this needs to work across various form factors, smartcards wristbands, and it should also work offline with smartphones. So we'll see should be stored locally on a smartphone becomes evidently, why private public collaboration is the key. The central banks don't want to keep up with technology updates for user devices. This is the responsibility of the private sector. So yes, it's a very challenging feature. But I'm proud to say that it's solved and field tested.

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Give us a few examples. Wolfram, I've heard you at our roundtables talking about some of them share, share those with our listeners, please. Happy



07:24

to do some sci fi asafa is a village located in a remote region of Ghana. It was selected for the official offline pilot of the Bank of Ghana's ECD project, hardware wallets. In that case, smart cards designed with banknote features and branded with the bank of Ghana seal, and point of sale devices enabled. For consecutive offline transactions were given out. The selected users were unbanked and have not yet made any transactions. But it went it went remarkable well, and soon the report will come out of Bank of Ghana on results of this pilot. Another example was the lift challenge by Banco Central to Brazil. The initial phase of the project identified the various scenarios for dual offline payments, and the technical requirements to enable offline use cases such as person to person payments. During the implementation phase, it was demonstrated that users acceptance of new technologies enabled them to deduct dual offline cbdc payments, and that these are payments where both the payer and the payee is offline, using various form factors. Even with the success of Brazil's instant payment system picks, Brazil still sees the capital that cbdc could fill with pics. As is the case with all instant payment schemes. It requires a phone and it requires connectivity. Most require a bank accounts. That already leaves out a significant segment of the population and swing from South America to Asia. Together with Standard Chartered Bank, Hong Kong, we conducted a trial together with Hong Kong monetary authority in their hypothetical ie Hong Kong dollar project program. The test and experience sessions included a range of real life scenarios involving public transport restaurants, small retailers, and a number of offline payment applications were tested. Despite Hong Kong vital digital infrastructure, close to 80% of consumer participants saw value in offline payment capability of a hypothetical Hong Kong dollar.



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It's reassuring to hear that God has a field tested answer to this already. offline functionality is a really important benefit for the end user as you say. Let's talk about the added value for the other players of a future cbdc ecosystem. But what's in it for the commercial banks who of course, were very worried at the beginning of the whole discussion about CBD See how are they going to benefit from this ecosystem that we're talking about? Yeah,



10:04

you hit the nail. John, I have the impression that commercial banks think they need to defend their turf or protect their investments. The financial system is in the transition phase though, there will be new roles and responsibility. But at the end, we all will benefit from increased efficiencies, the central bank will simply supply the core platform infrastructure, much like as they have previously done with cash, and private players will close the loop and interface with users. So commercial banks are in a good position to negotiate. But we need less discussions about financing and less negativity and more open minds instead of defensive modes. The discussed offline is just one facet of cbdc. One has to see the whole picture to see cbdc as the fundamental infrastructure of a payment system that will provide the stability and trust needed. And as the enabler of innovation and thriving ecosystem. Commercial Banks should think about future business opportunities. Gen that is a demanding target group. Commercial banks need to evolve their business models, I believe, visionary providers recognize the benefits already and already exploring the possibilities and stand out from traditional banks.



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Yeah, another significant participant in the ecosystem, one thinks of the Gen Z that you've just talked about as well in this respect. Is the the retail sector the way that people buy things. How could that deep part of the ecosystem benefits from



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merchants our consumer oriented cbdc complements existing digital payment platforms, allowing them to offer a wider range of payment options for the consumers both on and offline in the internet or in the physical shop. with severe disease retailer can also reach a wider consumer base access new segments, including those who are unbanked or underbanked. And benefit from speed and efficiency of the digital payments often fail fall short in providing immediate settlement and offline usability. This, of course, enhances cash flow and reducing the risk associated with delayed payments that also benefit from standardization, which means less devices in their shops. And we see low transaction costs. According to a recent study of the European Commission, the average net merchant service charge applied by card schemes in the EU almost doubled between 2018 and 2022. So I can also even imagine retailers to issue cbdc wallets and offering special loyalty programs or services to clients. Yeah, interesting. And



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I've heard some people preparing business models along those lines. We talked Voltron about national stakeholder and benefits. What about cross border payments? This is a constant area of debate in our many roundtables, as you'd know and seems to present some of the tougher challenges. Tell us about that part of the ecosystem, please.



13:00

It's also a tough challenge, but it's also common understanding that herein lies the huge potential. Since cross border transactions often involve multiple intermediaries, each of which may charge a fee. with severe disease the need for intermediaries could be reduced, leading to lower costs. Currently, international transfers can take several days to process to disease could make these transactions nearly instantaneous. CBDCs can facilitate global business opportunities for small and medium sized enterprises. Bank of Ghana and Monetary Authority of Singapore have been working on cross border pilot involved in Ghana's ECD central bank digital currency and a Singapore dollar stable coin. The focus of this project D S f t, which stands for Digital Economy and semi fungible token was to enable small and medium sized enterprises in Ghana to trade with SMEs in Singapore. This was showcased a few weeks ago in Accra at the three eye African summit vivid FinTech festival.



14:03

Oh, yes, you were you were you were dealing with what? What do you consider the biggest challenges standing in the way of delivering the sort of widely beneficial cbdc that we're talking about here today?



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I'm almost tempted to say, John that the biggest challenge are not technical. I would rather say it's regulation, legal framework on a national and international level. public acceptance and trust also, most important citizen, need to be educated about what CBD seeds are, more importantly, what they are not. There's a lot of misconceptions circulating that CBC is a surveillance tool that the government's will determine what you can do with it. So definitely education is essential. There needs to be a close knit collaboration between the public and private sector participants, government bodies, financial institutions, technology providers, and even the end user. Many central banks are We're taking the steps of initiating public consultations. So my opinion, there is no reason for central banks to shy away for new technologies. They handle the supply chain for cash and are familiar with currency management systems. They are used to drive innovations in high tech products, namely banknotes as well as digital payments, like in Europe tips, the instant payment infrastructure or fed now. So technology is not the argument, but how to create in the most impact and create an effective and efficient ecosystem should be driving the agenda. Yeah,



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we often hear from central banks, we talked to that. Education is one of the key elements to adoption. As far as the technical challenges. What are the technical challenges, though? volve rep, as opposed to the as opposed to the social and political regulatory ones?



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Yeah, thank you, John, for insisting because you're, of course, you're right. There are technical challenges. Since designing and implementing a cbdc requires robust and secure protocols, and also, reliable systems into ability with existing systems will be essential to achieve seamless transactions to enable common standards will be crucial as well. We want to maximum use of existing infrastructure without having to make too many compromises. So fortunately, offline payments is no longer challenge. We even go one step further, and offer a new solution called fear and plucked that can be added to any digital payments, even as an offline component. We're currently exploring how that can be integrated into an instant payment platform, for example. But altogether, I would summarize that we have learned what we had to learn from various pilot projects. Now we are mature to go live.



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Yeah, and I've I've heard you talking about those pilot products at our work together at the World Bank meetings and so on. Another topic that comes up in those settings typically is DPI a digital public infrastructure, of which cbdc would be a part. So instant payment systems, like UPI in India, for example, have transformed the digital payments space by enabling real time transactions between different banks using mobile phones, for example. And this has been one of the key success factors for India's DPI I would say, what's your viewpoint on this fall from how important is cbdc in terms of initiatives to strengthen digital public infrastructure?



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Yeah, I truly believe that digital public infrastructure will be part of modern ecosystems and also drive the financial system into a future vision. A public instant payment system like UPI, which is also part of digital public infrastructure is rather limited to payments, but doesn't offer the added value of a cbdc, such as special purpose payments, or programmable payments. Furthermore, account to account based systems such as instant payment systems like UPI, do not facilitate offline transactions and require bank accounts use so a large part of the population is excluded. So unless we equip it with other functionality or capabilities, it's rather limited. Yes.



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In other words, its payment systems cover over your partial aspect of the scope of central bank digital currency.



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Yeah, indeed. And here said cbdc is the larger option and wider option, as a core platform. It's provided by central banks can close the gap in existing financial ecosystems, such as lack of interoperability between the various payment schemes, outreach limitations and offline scenarios. So CDC is not a standalone project, but rather a key enabling component at the larger digital public infrastructure.



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So summing up now evolved from what would you say the next steps are to ensure public and private collaboration sounds nice. In theory, we often see it's rather complex and delicate in practice. Tell us how it's going to go forward.



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Now, that's the important question to ask, since the situation in every country is almost different, and I think the most important aspect is for each scenario where to draw the line between private and public engagement, we need to establish a clear regulatory framework. This includes defining roles, responsibilities and rights for all in both parties. collaborative environment is crucial for dialogue, sharing of ideas and feedback and joint development of cbdc infrastructure. So I will We'd like to see us more moving into agile development. I'd like to see more pilot programs, and then to have continuous feedback and iterations even after synthesis systems are launched.



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Yeah and people talking about getting MVP in the market and then iterating. From there it

...and people talking about getting into the market and then holding. From there, it sounds sensible. We'd certainly for a while Wolfram, as you and I saw things progress very quickly, certainly after the announcement of Libra. At the moment, the feeling is that central banks are not in quite such a rush for various reasons. What do you think about this?

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Well, central banks are contentious. They always want to do things, right. They say they don't need to be fast. However, I think many banks are observing what the larger us dictions are doing. So they will look at what the results is doing. And eventually the US. But in my opinion, we shouldn't waste too much time, in the continuous world wide rush towards digital transformation. There's no place where the speed of innovation is more critical than in the payment sector. So in the digital world, to be right means at the same time to be fast. You I think

 21:14

that's right boyfriend, certainly I got that feeling from our recent digital money Summit, where I hope that central banks got that message. Loud and clear. There's quite a lot hanging on these developments, also with derivative products, as you've touched on a number of times. So thank you very much for talking to us today. Thank you also for collaborating with us on this important report. I look forward to speaking to you again, very soon. It's great to have you with us.

 21:43

Thank you, John.

 21:46

Thank you for joining us for this edition of The ONVIF podcast. If you found today's conversation engaging. Make sure to stay tuned for additional thought provoking discussions on artificial intelligence, Central Bank, digital currencies and digitalization of finance by subscribing to our channel. Stay connected have the latest developments by following us on our LinkedIn page on Fifth digital monetary Institute.