



Transcript of IMF podcast:

Fintech Forward: Dong He on CBDCs

Dong He:

One important role that CBDC can play is to encourage competition, because CBDC can be made a legal tender, it can be used across different digital platforms, so that can help foster competition. I.

Dong He:

also think we have to design CBDC to make them very easy to use, very easy to access, particularly to lower income households, to people in the rural areas, so we have better financial inclusion.

Bruce Edwards:

Welcome to another episode of FinTech Forward, the IMF podcast series that focuses on financial technology and draws from the expertise of the IMF Monetary and Capital Markets department.

Tara Iyer:

Today we have the second episode of the series. We will focus on central bank digital currencies, or CBDCs for short.

Tara Iyer:

My name is Tara Iyer, and I'm an economist in the monetary and capital markets department. This episode features Dong He, deputy director of the IMF Monetary and Capital Markets department. Dong heads our work on digital money. Hi, Dong.

Dong He:

Hi, Tara. As you introduced me, I have oversight responsibilities for our digital money work. I myself, I'm a monetary economist, so this is a subject that's really very close to my heart.

Tara Iyer:

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To start with, could you please help us understand what CBDCs are and how they're related to physical cash? Also, if you don't mind, could you please tell us about why the majority of IMF member countries are evaluating or implementing them?

Dong He:

Thank you, Tara. Thank you for having me. It's really a pleasure. CBDC, what is it? Now, as you know that central banks play a very important role in the modern economy. The central bank's liability, that's central bank money, basically is the money that's the base of the monetary system. We transact with each other in currencies, in money, in bank deposits. We make transfers out of bank deposits, but the foundation of that is really the central bank money. Central bank money provides the unit of account, how we price things. We always price products here in the US against the dollar, which is the liability of the US Federal Reserve. And we use that as a medium of exchange and store of value. We keep some of our savings in bank deposits, so it starts the three functions of money.

Dong He:

At the moment, the central bank liabilities take two forms. One is currency- notes and coins, basically cash you and I hold in our wallets. I don't hold a lot of cash these days, but the other form of central bank money is reserves held by commercial banks. That's accessible only to commercial banks for the big institutions, not accessible to individuals. Now, central bank digital currency really provides a new form of central bank money. It has characteristics- it can be designed to have characteristics of both cash and reserves or deposits. Reserves are really deposits held by commercial banks with the central bank.

Dong He:

Central bank digital currency is a new form of central bank money. It's digitalized in the sense that it can be held on your mobile phones. That allows us ordinary citizens to have direct access to the central bank money in a very user-friendly way. This is really a reflection of the very fast progress in digital technology, the proliferation of mobile devices. We can hold our cash in an app or in a wallet on our mobile phones. And that can be, as I said, a combination of different features. For smaller balances, it can be anonymous, it can be transferred peer to peer without going through the intermediaries that's the central bank itself. And it has features that can be integrated with the digital economy. If we look far into the future, the internet of things is going to be a very exciting development.

Tara Iyer:

Thank you so much, Dong. That helps clarify a lot of these things which are quite opaque sometimes for all of us to understand. Just a follow-up question regarding that, in terms of credit cards and debit cards, when we pay by cards in supermarkets or anywhere else, the money goes directly from a bank account, what is going to be so different about CBDCs and how would CBDCs differ from either using physical

cash, one, and by using credit cards, two? How would they help ease the transactions? And we heard there are a lot of opaque things that go on behind the scenes, even though it might seem quite simple, if you could be, it'd really help us, if we would elaborate a bit more on that.

Dong He:

Yeah. Very good question, Tara. One way to think about this is that of course, from the user point of view, when you and I pay with a credit card or debit card, if you want to buy a coffee in the cafeteria, you swipe your card and it's done, and it's very cheap from your point of view, but merchants who are providing, who are accepting the payments, they typically have to pay quite a high fee to their banks. It's usually 1.5% at least, sometimes as high as four or 5%. That goes to the bank. So, that's why some merchants actually don't accept the credit cards. And that's a reflection also of the very complicated clearing and settlement structure behind settling a credit card transaction, right? So, it's multilayered. Particularly when you go to visit a foreign country, when you are a tourist, the expenses add up to quite a bit.

Dong He:

And if you want to make a cross border transfer, for some corridors involving lower income countries, you have to pay more than 10% of, let's say you want to send \$200 back home to your parents, \$20 of that would go to the service provider. Central bank digital currency certainly provide the potential that this cost will be drastically lowered to users. You don't feel the difference, but to a lot of merchants, that's a big thing. And for cross border payments, remittances for migrant workers, those will be much cheaper in the future. You certainly can envisage that.

Tara Iyer:

I see. So, it's going to reduce transaction costs significantly for cross border payments. And in today's world, it's increasingly globalized, cross border payments play a huge role in the international financial system.

Dong He:

Also of course, credit cards and debit cards, they have to be based on bank accounts. Exactly. You have to own a bank account. I should have started by saying that. One of the reasons why we think CBDC could help promote financial inclusion, because you can reach unbanked people. As you know, we have a lot of people in the world who don't have bank accounts and CBDC certainly provides possibility for them to access without only a bank account, with a much simpler onboarding processes as well.

Tara Iyer:

That's a huge, huge deal about CBDCs once they will be implemented. I believe that The Bahamas has recently launched a central bank digital currency called the Sand Dollar, and Nigeria has also similarly launched the eNaira, right? Do you see CBDs replacing cash in the future in many countries and especially in developing countries, as you mentioned, where financial inclusion is definitely a big problem today. How would that affect financial inclusion in some of our developing countries where there's an informal economy and agriculture is a huge part of people's livelihoods. How would it affect that and also the design of monetary policy?

Dong He:

Thank you. That's also important question. Actually, cash use has been declining, but I don't necessarily see that disappearing altogether. CBDC, to some extent, can replace cash, but I can see a future where all these forms of central bank money coexist. Cash will coexist with CBDC and with, of course, reserves held by institutions. Why do I say that?

Dong He:

Cash has particular features that are going to be very difficult to replicate. Cash is basically anonymous. When you and I pay each other in cash, it's settled instantaneously on the spot. From that point of view, it's very low cost. It's extremely efficient and it's completely anonymous. That has certain properties that will be very hard to replicate by CBDC because as you know, in the digital world, we always leave behind a digital footprint.

Tara Iyer:

Yes, of course.

Dong He:

Even though we have devices which can keep these transactions private and to a large extent anonymous, or you can make them pseudonymous in the sense that the real identity is not necessarily known.

Dong He:

It's not easy to replicate cash. And sometimes people just have preferences for cash. But the CBDCs will be popular in my view, particularly among the digitally connected, the younger population, because it's very easy to use on your phone, you can only carry a phone. In the future it's going to be easy, not only on phones, you can have wearables like your watches, your rings, even your clothes, they will be integrated with the wearables, and you can pass a gate and it's charged, you can make the payment, or you can wave your hand. And those wearables like wristbands, bracelets, they can all be carrying CBDCs.

Tara Iyer:

Wow, Don, that's absolutely fascinating, right? This is very futuristic. We can pay with our clothes or we can pay with devices that we wear on us. Just following up on that, how far away are we from entering a future where we walk into places, a groceries store, a supermarket, and we go in and out and pay via our devices, our variables. And second thing is that, Bitcoin and Ethereum and all these crypto assets, they operate on an anonymized blockchain, which does exhibit that similar property of anonymity as physical cash. How would CBDC fit into the picture of the blockchain as well?

Dong He:

Right. This is not too far away in the future, actually for example, during the Winter Olympics in Beijing, they already provided wrist bands and or bracelets that were used as wearable to carry e-CNY, that actually happened.

Tara Iyer:

Yeah, that's amazing.

Dong He:

So, we can envisage. I think you mentioned the examples of the send Dollar and the in eNaira. These have gone live, there are large scale pilots going on in China and of course in the Eastern Caribbean region, ECCU, and it's also a live pilot still, but it's nonetheless being adopted gradually. For major advanced economies, I think they are doing a lot of in-depth research. In five, 10 years time, I think there's... we can be confident that there are some important live CBDCs. But it's a process. I think there's going to be a process to test out different capacities and how it's going to evolve. But I think we can really envisage that future, very digitized economy using CBDC as a foundation, and a lot of apps and products and services which can be built on that foundation. And that helps the digital economy.

Dong He:

There are important policy considerations, as you mentioned, anonymity or pseudonymity in the blockchain world, can we strike a balance between having some good properties to provide privacy protection, at the same time, in certain circumstances, law enforcements and financial integrity agencies would want to know who are actually behind the transactions. But that can be a very well established process. Maybe you can only under court order, you can review the identities for a good reason, but normally we can protect our privacy.

Dong He:

The question is that, crypto assets, what's the relationship? Crypto assets of course have different kinds, right? Some of them are unbanked without any backing assets like Bitcoin, it has its own issuing rule.

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Others, Stablecoins have reserve assets. But one common thing is that there are a lot of innovative technology behind it, cryptography in the decentralized setting. So, to some extent, the official sector, central banks are drawing lessons from these technological developments. We can make use of some of the lessons learned from these technology developments to make central bank money itself very attractive, very easy to use in the digital age. It has some common roots in terms of technological development, but it has a much better foundation in terms of policy credibility and the trust that we need in money. That's a very important aspect of maintaining public confidence.

Tara Iyer:

Yes. Would it be fair to say that CBDCs are a better version of the crypto assets that we have today because crypto assets can be volatile, anonymous. We can think of them as speculative instruments, whereas CBDCs are the future. They will employ much of this advanced blockchain technology, some of them, and be based on trust so that people could feel comfortable using them.

Dong He:

When you say better, certainly from my point of view, yes. From a public policy point of view, yes, it is a better version.

Tara Iyer:

Right, right.

Dong He:

But of course we recognize there are people out there who believe in crypto assets, it's a alternative system. But for public institutions like the IMF, like central banks, we believe that it's important to provide a stable unit of account, a stable means for, as a medium exchange and a stable store of value. And we can also use monetary policy to adjust the supply of money or the price of money, like interest rates, in order to stabilize our economies through cycles. It's very important for the central bank to be able to still effectively conduct monetary policy in the digital age. And the forms of central bank of money certainly would need to evolve in order to maintain the effectiveness of our policies.

Tara Iyer:

Yeah, thank you. That makes a lot of sense. CBDCs would be an official money, whereas crypto assets, as you mentioned, a private forms of instruments. Speaking about that, how would you foresee just some couple of main points, how the monetary policy of the future in the digitalized age, how might that be different or more efficient, or how might that be affected using CBDCs instead of physical cash?

Dong He:

Yeah, that's also a very important question and that's... a lot of research is being done. One way to think about this is that we have a two tier monetary system in the modern economy in the sense that you can picture that as a inverted pyramid with the central bank at either the top or one of the three triangles, in the sense that the central bank really, really provides a base. And that provides the foundation for the private bank liabilities to serve as money, our checking accounts, in the balances, in the checking accounts, we write, make transfers out of that and that's how we make payments.

Dong He:

An important feature of that of course is parity between the liability of a commercial bank and the central bank in the sense that when you want to convert your deposit into cash, that's easily done and is guaranteed at one to one ratio.

Dong He:

That's a very important institutional guarantee for the transmission of monetary policy in the sense that when the central bank changes the price or the quantity of its own liabilities, that would be propagated through the system, through the commercial bank system. And that's also a very efficient way of thinking about the structure of the monetary system.

Dong He:

In the digital age, I think it makes a lot of sense to preserve this two tier structure, but it can be envisaged... it's not only commercial banks, which create money by making loans. The two sides of the balance sheets are connected, but there are also non-bank service providers, Big Techs that can also participate in providing payment services. The payment system can itself become more competitive and the services can cater to different groups of customers. That can be a very good potential improvement.

Dong He:

In terms of monetary policy, there is also a discussion whether central banks should use CPDC as an instrument, because if it carries interest, then the interest rate transmission can be more direct because households hold CBDCs and the interest rate will be immediately impacted, so that's a very efficient transmission.

Dong He:

On the other hand, there may be some downsides in the sense that if cash still exists, would that be an effective flaw on how much interest rate you can go into negative territory? Because one possibility some scholars have mentioned is that when we have a recession, and sometimes we think that negative policy interest rates might be necessary... can that be better implemented through CBDC? So, that's an area of active research.

Dong He:

So far, I think central banks have focused more on using CBDC as a efficient payment instrument that could help central banks still maintain the effectiveness or the trust of money in the digital age. And I think for a lot of emerging markets and the developing countries, in the IMF membership, this is an exciting opportunity. As I mentioned earlier, one advantage of CBDC is that you can reach directly to a lot of households who don't hold bank accounts. That can be a way for these economies to catch up and improve their payment systems without a lot of baggage of legacy systems, so that can be an advantage.

Tara Iyer:

In the cross border space, what potential... you spoke a lot before about how the huge potential that CBDC have in reducing transaction costs and cross border payments. What rule do you see for capital flow measures along with CBDCs in the cross border space?

Dong He:

Cross border payments is an area that needs a lot of improvement, in the sense that cross border payments are different from domestic payments. First of all, it's often involves a different currency, and then it involves banks which are located in different jurisdictions. I mean, the geography is different, their legal systems, regulatory systems are different. So, cross border payments at the moment are largely based on correspondent banking relationships. Its bilateral economic relationships is quite complex, that's why we have very long chains of payments for cross border payments. For one particular transaction to initiate and then to be completed in involves many steps, multilayers of bilateral relationships. So, that's why it takes time. It's not very transparent. It's quite costly. As I mentioned earlier, in some corridors, it's more than 10% for a \$200 remittance transaction let's say. In the future, one can imagine that the multilayered correspondent banking relationships can be simplified, so have a much flatter structure, much shorter payments chain connecting CBDCs for cross border payments to be made.

Dong He:

And a lot of experiments are being done among central banks, for example, in the BS innovation hubs, those experiments have been don. So far, the focus has been on, more on wholesale use of CBDC for cross border payments, but we can envisage that in the future that can be connected to retail CBDCs or to even to legacy payment systems. We can envisage that you and I, if we are located different countries, if we want to make payments with each other, behind our direct interfaces on the mobile phone, there are exchanges of CBDCs on platforms, and that can happen very quickly in real time. And foreign exchange markets will become larger and the spreads will become smaller, so it's going to be cheaper. Particularly for, as we mentioned, for migrant workers, that's a big deal. And we hope that will certainly help our developing country members. But it's going to take some time. It's not easy to

overcome some of the problems, legacy problems, and that's going to take some time, but we can see that future.

Tara Iyer:

Yes, absolutely. What an exciting future that is. Finally, we all want to know what the IMF is doing regarding CBDCs. What's on your work agenda for 2022. And what are some big issues that are watching in the CBDC universe?

Dong He:

Thank you, Tara. As the IMF has the mandate of maintaining global monetary and the financial stability. So, it's very important for us to understand the implications of these developments. One important task is for us to continue to do analytical and policy work to raise the right questions and analyze them, try to find the right answers for our members. That's one, certainly one important task we continue to do. And one of these, many of the new issues include, for example, implement capital flow management measures by striking a good balance between some capacity to protect financial systems, to mitigate risks of currency substitution while benefiting from the efficiency gains. That's one area. And of course there are still important design issues in the sense that how do we actually promote trading platforms, very efficient multilateral trading platforms for CBDCs? How do we promote interoperability to a large group of central bank digital currencies, not a small one. We don't want to see fragmentation. We want to see still a very unified global payment system.

Dong He:

These are some of the analytical issues where we are spending our effort. Of course, at the same time, we cannot wait until all the answers are answered, because members are already asking questions. So, we have to scale up our capacity building efforts. We are doing a lot of regional workshops, we are doing very in depth bilateral technical assistance if central banks ask for it. And in those conversations, they are typically behind the scenes. And we talk very frankly about the, some of the questions that they have on their mind. We share our views, we have experts who can explore certain areas in more in depth. The advantage of our technical assistance of course, is that we are a neutral international organization. We don't sell products. We don't have incentive to sell certain products. Because these central banks are often inundated with sales offers from vendors, right? So, we have to, we want to provide neutral advice. That's something we do actively.

Dong He:

Actually, we have received a lot of requests and we have to, in a way, allocate our resources so that we can cater to different kind of requests that's on technical assistance. Of course, the IMF also has a very important role of surveillance through regular Article IV consultations, our annual health checkups with member countries, and financial sector assessment programs that's run by our department. And we are

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coming up with guidance on how desk economists, country economists can have a meaningful conversation on digital money or central bank digital currencies. What are the questions to raise in these annual consultations? That's very much part of our work. That's how to strengthen surveillance or policy dialogue with our member countries in the area of digital money and finance.

Tara Iyer:

That sounds like a very huge and complex work agenda going on with a lot of products that have been released, soon to be released, surveillance, technical assistance. That's super exciting. It's the future of the international monetary system and digitalization. Thank you so much, Dong, for speaking with us during this podcast and sharing your thoughts. We have the next episode next time, but very much appreciate it.

Dong He:

Thank you very much for this opportunity. Thank you, Tara.

Bruce Edwards:

That was Tara Iyer speaking with Dong He, deputy director in the monetary and capital markets department. In the second episode of FinTech Forward, a new IMF podcast series with a focus on all things FinTech. Look for it and all the other IMF podcasts on Apple Podcasts or wherever you listen and hit that subscribe button if you like what you're hearing. I'm Bruce Edwards. Thanks for listening.