Breaking down wholesale CBDC developments with G+D

Tue, Oct 22, 2024 4:57PM 26:52

00:00

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.

00:26

Hello and welcome to the OMFIF podcast. My name is Lewis McClellan. I'm the editor of the digital monetary Institute here at OMFIF, and I'm delighted to be joined today by Abbas albacha from GND. Great to have you, Abbas, can you tell us a little bit about what you do at g&d? Thank you, Lewis, it's a great pleasure meeting you today. So my name is Abbas bacha. I'm Senior strategy consultant at the affiliate team in cbdc. We work across different jurisdictions with central banks in identifying their cbdc roadmap, in mapping out their national payment systems to identify the gaps or the deficiencies whereby cbdc could be effecting, alleviating such drawbacks, and perhaps in enhancing the efficiencies of the payment system, enhancing financial inclusion and other policy objectives of the respective central banks. Fantastic. And today, Jean de been guest on our podcast quite a few times, often talking about cbdc, but usually it's retail cbdc. Today we're going to be focusing on wholesale cbdc and what that can change about how the payments infrastructure in countries operates, and Gene D certainly has plenty of experience on the wholesale side. I believe you've had projects in Thailand, Ghana, Eswatini, and your home country of Germany as well. Is that right? Exactly. Louis, so our main solution was, is Philia, and still is philia in the retail cbdc domain, coupled with strong offline capabilities. So it also allows dual consecutive offline transactions, and it's a situation where both the payer and PE are offline, yet they are still capable of engaging in digital payments and transfers, not only this, so that the recipient can immediately engage in a subsequent offline transaction while still in the offline mode, which is quite powerful. But as you mentioned, this is not the topic of today's session, and wholesale cbdc, we started working on it since end of last year, and we expanded this offering. And the way we look at it, at G and D is two false. So the first aspect is that wholesale cbdc is a prerequisite for retail cbdc distribution model. Sorry. Let me just stop you there. Let's just, let's start off with defining some terms. So, cbdc, everyone knows, Central Bank, digital currency, wholesale for institutional use. Can you give us a little bit of clarity on how that differs from the present situation? I mean, we already have central bank reserves. These are already in digital format. So when we say wholesale, cbdc, what, what are we actually talking about in and how does it differ from from the status quo? Sure, this is a very important question. So for the case of the current status quo, is that you have an RTGS system, which is already a digital form of central bank money, and it's accessible for financial

institutions that hold reserves, reserve balances at the respective central bank. However, the system is account based, so that it requires the central bank to validate and to bookkeep the transactions of settlements that are taking place across the RTD system. In the case of wholesale cbdc, it's a token version of reserves, and hence it would enable the possibility that the system validates such transaction. And moving from an account based system into a token based system, where you have wallets instead of account balances, this opens up a whole new spectrum of possibilities for use cases, especially in the domains of programmability, atomic settlements, and also given that we are now in the context of an evolving tokenized ecosystem, we are seeing more and more use cases for tokenized securities, tokenized deposits. Now you have more regulated stable coins and reserve backed stable coins. And hence the importance of having also a tokenized version of wholesale central bank money to enable the efficiencies and the interoperability and also to instill trust in this evolving ecosystem. Yeah, yeah. No, absolutely. That makes sense, and we're seeing in some countries that are experimenting with wholesale cbdc, their tokenized asset ecosystem is really springing to life with that support. I cut you off, though, when you were about to say why wholesale cbdc is a prerequisite or a precondition for retail cbdc, do you want to come back to that point? Yes. Thank you very much for this.

05:00

Yeah. So as the cbdc domain has been evolving, we saw that different central banks across different jurisdictions focused on different elements. So central some central banks focused on the retail side of it, some on the wholesale side of it, and which somehow created a form of confusion that you might be dealing with two distinct environments, or two distinct tokens as being wholesale and retail. The way we look at it in GND is that it's the same cbdc token, except that it's differentiated across the system that it's operating. So at the initiation, at the initial stage, first of all, we also that the that central banks across jurisdictions are still adamant in preserving the two tier financial architecture, so that cbdc distribution will take place only through financial institutions, so that you maintain financial stability and also the stability of the existing national payment system and stakeholders. And hence, the starting point of cbdc access is at the RTGS level, so that commercial banks having reserve balances at the RTGS will exchange some of the reserve balances to cbdc. Such operation is wholesale by nature, and hence such cbdc is wholesale. Cbdc Now once the FSPs continue the distribution channel and extends cbdc to merchants and users in exchange for their bank balances and cash, then it's retail cbdc. And hence, this progression is quite important in differentiating the life cycle of the cbdc from issuance to distribution to the different use cases. Now, if we stop at the wholesale level, whereby we are only enabling financial institutions to engage in settlement use cases, then it's wholesale cbdc.

06:53

If we are talking about cbdc, that it's at the retail level, where we are looking into peer to peer transfers, merchant payments and different retail level use cases than its retail cbdc, however, we look at it as a unified ecosystem, whereby the flow identifies this differentiation, which is important also from a regulatory prospect. For instance, when you look at the wholesale cbdc, it's less regulatory demanding in terms of a central bank moving forward in the experimentation and also in enabling the possibility of settlements using wholesale cbdc, because here we are talking about an environment which is constrained or limited to financial

institutions and only for the purpose of settlements. However, if you move into the retail side, you will need further discussion and moderation, public consultations and alignment with the different national payment stakeholders to ensure that you would reduce the possibilities of any shocks or any unintended negative impact on the stability of the national payment system. We see again and again, many papers still published on the possibility of bank disintermediation, although we look at it from the prospect of design, because remuneration of cbdc can in can create such risk in terms of this determination, it's just to wrap up that wholesale retail, also from the angle of regulation, also makes sense in this differentiation, right? Yeah, no, absolutely. I think you probably covered the answer to this question. But just in case there's anything you want to make clearer, you've mentioned RTGS a few times, and that's kind of the base level here. And many central banks, Bank of England and others, are working on upgrading their RTGS systems.

08:42

Can you differentiate like, what do you get from a wholesale cbdc that you wouldn't get from the types of RTGS upgrades that some segments are contemplating? That's a very important question. It comes at the heart of the current discussions and experimentations across different jurisdictions. The current RTGS system is intraday. It has a limited settlement cycles. And if you extend this to the different time zones and the different operating hours, and you know, in different jurisdictions, you have different weekdays and weekends, it really perpetuates this frictions and difficulties in settlements, especially if you bring in also the cross border element, which is quite important. That's why we see that the first wave of wholesale cbdc explorations were focused on the cross border domain. We saw this in projects Jasper, urban project aber, in Dunbar Jura, and they looked into this prospect because it's an it's it's one of the current deficiencies of the current RTGS systems. Now there has been initiatives to enhance the performance of the current RTGS system, to modernize them, to interlink different RTGS across different jurisdictions. But it comes.

10:00

With a number of challenges and difficulties in terms of harmonizing regulation, in terms of harmonizing the requirements for operating a 24/7

10:11

RTGS system. That's why the prospect of wholesale cbdc came into play, because it enables overcoming this deficiencies or this drawbacks of the current RTGS system in a way that it's less extensive as compared to the RTGS modernization projects, which can be contested still, because there are still some risks that are to be explored and validated in terms of the efficiencies that the health and cbdc can offer vis a vis the existing RTGS systems, I see, yeah, okay, that makes sense. So I want to let's talk about some of the features that people are looking for when they look towards a cbdc, wholesale or otherwise. And I think one of the big ones you mentioned earlier, you know, connecting to the tokenized asset ecosystem, a means of settling the cash leg of securities transactions in a tokenized ecosystem, and what the crypto asset industry has given us to expect as the standard is instant settlement, atomic settlement, where you where you entirely remove counterparty risk.

11:22

Do you see that as a key part of what wholesale cbdc should deliver? And I think, I guess part of the question is about, you know, a lot of our financial markets work on the basis of netting, so they're not pre funded, and so instant settlement, if you transition to that model, it changes how we think about the liquidity that's required for financial markets. So yeah, where do you kind of sit on wholesale cbdc and the incident settlement as a sort of desirable feature of that?

11:55

This is indeed a big topic which is still under discussion, and it's the motivation of many of the experimentations that are currently taking place across different jurisdictions. The way we look into the topic of tokenization is that it's multi layered, so it has different benefits that it offers for the financial markets when we look at the tokenization of securities, for example. So one element is the settlement aspect of enabling more efficient settlements, but also it goes beyond that in terms of expanding the outreach, enhancing performance of the issuance of securities, and also the sourcing of funds in this in this domain, and also the visibility the secondary market operations in terms of extending it to retail users in the future. So it has many benefits. Now, one of them is the settlement there, which is the wholesale cbdc part, and how it can enable the atomicity of settlement. Now we have to take into consideration that the automlty of settlement by itself, it has also two components, the simultaneous aspect of it and the instantaneous part of it so the simultaneously is guaranteed by the exchanging of secrets locks so that the hash can be changed and used as a passcode to validate the transaction within a certain timeframe. That's why it's hash time locked contract, for example, as one of the mechanisms to enable the automic of transactions, and then you have the instantaneously, meaning having the settlement to happen at the at the same time. Now this is contested. You have areas where this would generate benefits more than the current RTGS, in a way that, in fact, would reduce liquidity risk, while in other areas, it might exaggerate or increase liquidity risk, and still, it's part of the experimentation to see if we can apply the liquidity saving mechanisms that are currently adopted in current RTGS systems in a wholesale cbdc environment. For example, to my knowledge, the Bank of France attempted to to experiment some of this LSMS, such as recycling and instantaneous collateralization on a wholesale cbdc environment operating on a DLT. So it's still a domain of research.

14:15

I see, yeah, no, it's a really interesting question. And I suppose the answer of whether it's valuable or not will depend on the asset class or the use case. It might be different depending on how the currency of the asset is being used.

14:32

So we've talked about some big concepts. Let's talk about some of the projects that are under development at the moment. A lot of our listeners, I'm sure, will have heard about Project agora, Project ensemble in Hong Kong, maybe the regulated liability network as well. All of

these are tokenization of money projects, and one of the things that they have in common is that they preserve this idea of two tiers, where you've got a tier of central bank money.

15:00

A for final settlement, and underneath that, or above that, depending on which way up your diagram, is a tier of private money, you know, where tokenized versions of that can be exchanged between participants. Can you talk a little bit about the role of wholesale cbdc, you know, providing the final settlement there? And if you know maybe how these projects differ or what they have in common.

15:25

Indeed, Project agora is one of the largest cbdc, or tokenization projects that is led by the BIS innovation hub. It involves seven central banks across different jurisdictions, representing the five major currencies, and also 40 private entities are engaging in this project. So it's huge in terms of its scope, in terms of its geographical coverage, in terms of the scale of the currencies that are engaged. And they are looking into what you exactly described as looking into how commercial banks moving forward in their projects of tokenized deposits, or commercial bank money token plus wholesale cbdc, so it's also looking into the unified ledger aspect. So how can we also enhance the performance of corresponding banks in the international transaction domain?

16:19

The same what we saw, also in project in the regulated liability network projects, and also in project in sample in Hong Kong. So they are all looking into preserving this two tier model. As you well know, the cbdc projects are slow

16:36

because it's understandable. Central Banks are still requiring more time to explore the different dimensions, requirements, regulatory aspect, compliance and it's okay. However, the private sector is relatively moving faster in the direction of issuing private version of tokenized money, which is tokenized deposits and regulated stablecoin. As you know, Mika came into effect end of last June, and now we see more and more Euro denominated stable coin issuers coming forward with their stable coin and also commercial banks are moving in the direction of issuing tokenized deposits, most prominently the group of German banks here in Germany, where the cbmt working group involving leading commercial banks and corporates engaged in identifying the use cases which might be useful in utilizing cbmt or stable coin as a token for settlement and a token for B to B payments. However, you still need wholesale cbdc as the interbank settlement link, because in such an environment you have different commercial banks, different private issuers, deploying their tokens across different chains. So you will have the first layer of settlement, which is involving the private tokens in question. But then you would also need an interbank settlement layer, and this is more applicable in the tokenized deposit as compared to stablecoin, where you don't need that. And these projects, Project agora and

project ensemble in Hong Kong, are exactly looking into that. How can we validate the efficiencies of commercial bank, money token or tokenized deposit use cases, while we also have wholesale cbdc for the interbank settlement layer, and this is quite important. You need to have wholesale cbdc to materialize the efficiency gains from a tokenized ecosystem, and for the use cases that are being explored in such experimentations, namely in the cross border domain and the tokenized securities settlement domain and other use cases involving other tokenized assets, like we saw in rln, for example, tokenized reward assets like real estate, for example, yeah, yeah. It's going to be really exciting to see how that unfolds, yeah, some really ambitious projects. And I guess you know, tokenization has been around for a good few years, but it's interesting to see the official sector really, putting its weight behind this as the, the next big thing for how they're going to bring down the cost in correspondent banking and cross border payments generally. So obviously one, one rationale for them is, is, you know, efficiency savings and improving the efficacy of the payments network generally, um, financial inclusion, that sort of thing. Um, I want to talk to you about another one that we've heard recently. Some central bankers express something that the Bank of England seems to be seems to care about, and that is the risk of payments migrating away from central bank money, I guess, particularly in institutional payments, that that's something that they are concerned about that's something that they see as a potential risk to financial stability. Can you talk a little bit about about why that is? And I guess, cbdc as a as a defense against that, right? Obviously, we're getting this private sector innovation, as you just mentioned, but important to have a public option,

19:57

indeed, if we look at use cases that.

20:00

Require B to B settlements in a tokenized form of money. For example, if you look at the case of CTC or the corporate treasury center, whereby a multinational organization which has subsidiaries across different jurisdiction, they intend to pool funds or excess cash for the purpose of centralized investment, then you have the prospect of a stable con or or a tokenized deposit being the nominated candidate to enable such efficiencies in this use case. And if the time extends whereby the central banks are relatively slower than the private sector in advancing cbdc, then you will see more and more

20:43

usage of private form of tokenized money in such settlement requirements,

20:50

whether it is in the cross border domain or in the local domestic sphere. However, we should take into consideration the following aspect, commercial banks, which hold reserves at Central Banks. Will continue to use central bank money for settlement no matter what, even if that I mean, even if they move forward and faster in the in the domain of tokenizing securities and other form of assets and also engaging in tokenized settlements, central bank money will still

be useful for defining settlements of interbank operations. And this we saw by extending an API interlinkage for the RTGS in case they are using a DLT based platform for the deployment of such tokenized forms of assets and monies. Yet when we look at the corporate sector in the B to B domain, then yes, it might be the case that more corporates will tend towards the usage of other forms of money, which increases the risk. Yet it's still a market which is evolving. It's still a market to monitor and see how quickly it moves in the domains of tokenized assets, tokenized securities and other forms of tokenized financial market instruments, and hence the utilization of private forms of tokenized money for the settlement of such tokenized assets, which is still a question and which is still to be explored. However, central banks by moving forward in the experimentations and iterative approach of developing their wholesale cbdc capabilities, you know, the institutional capacity, they strategically position themselves in a favorable way so that they can part of this market developments, be part of this evolving, tokenized ecosystem, so that they move in parallel with the ongoing developments in the In the private sector, because Central Bank's role will be central, or, you know, critical, in driving this innovative trajectory. Yeah. Well, that's yeah, it's good to hear. And I guess you would hope that it they'll remain at the center of it. And it does seem that they're that only happens if they put the work in, though, I guess, right? Well, as you say, certain types of payments that won't migrate, but they they certainly do need to keep innovating to ensure they keep up. Yeah, let's talk about some of the technical challenges, some of the some of the areas that that innovation is going to be is going to be needed. That's something that we've talked a lot with, with your colleagues at G and D in the past, on the on the retail side, on offline payments, on privacy, that kind of thing. Can you talk a little bit about the requirements for a wholesale cbdc, and what are the obviously, it's very different to what people expect from a retail cbdc, but I guess there are still some some challenging features, or, yeah, some challenging capacity to deliver

23:42

exactly, and this is part of the ongoing experimentations that are taking place. I mean, we we briefly touched upon the the challenge or the risk of liquidity and liquidity management operations that would be needed to ensure that the system is resilient and that the system is offering the expected benefits to its participants. I think some of the technical aspects that would need to be tackled is,

24:11

you know, different central banks across different jurisdictions, they look into different architectures or

24:18

different mechanisms through which they enable wholesale cbdc, some move in the direction of DLT, so interoperability, standardization will be quite important in moving forward in this endeavor, and to ensure the security is of prime importance. This is a critical market infrastructure, and it would need to offer the highest level of security and the highest level of resilience and performance, given its central role in the financial market infrastructure, and also to offer the future proof aspect in enabling programmability and different possibilities of innovative use cases that will benefit its part.

25:00

Disciplines in this evolving tokenized ecosystem, and how to enable different forms of settlement use cases across different asset classes, but also across jurisdictions in the cross border domain.

25:15

So this, this would be the focal point of

25:19

interest for central banks as they move forward in wholesale. Cbdc, fantastic. All right, yeah, certainly, yeah. A lot a lot of work for them to do, a lot of material for them to get their teeth into. And it'd be very interesting to see how that develops over the next few years, or maybe even less, with these projects underway. I think we'll have to leave it there. Abbas, it's a fantastic topic, and moving very quickly at the moment. So really great to get, get your insights from someone right at the heart of it. But yeah, thanks for thanks for joining us today. Thank you for the opportunity. Great pleasure. And thank you to our listeners for for tuning in today. Do make sure you check out our website for for all the upcoming events that we're running, our reports, our commentaries, other podcasts and our social media, LinkedIn and Twitter. You can follow us there to keep abreast. If you want to hear more on this topic, we've got our future payments report, which we'll be covering, Project agora, among other things, which is being launched on November 26 so please do register for that and join us on the launch. Thanks again. Goodbye. Thank you.

26:25

Thank you for joining us for this edition of the OMFIF 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 of the latest developments by following us on our LinkedIn page. OMFIF, digital monetary Institute.