



DIGITAL DOLLAR LIVE

An online discussion between private and public sector thought leaders on the opportunities for Central bank digital currency (CBDC).

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Speakers:

- [Chris Giancarlo](#), Chairman Emeritus, US Commodity Futures Trading Commission, Senior Counsel, Willkie Farr & Gallagher LLP
- [Bob Bench](#), Assistant Vice President, Federal Reserve Bank of Boston
- [Chris Brummer](#), Agnes N. Williams Research Professor and Faculty Director of Georgetown's Institute of International Economic Law
- [Jason Brett](#), Forbes.com Contributor and Founder and CEO of the Value Technology Foundation
- [Tom Jessop](#), President of Fidelity Digital Assets
- [David Treat](#), Senior Managing Director, Global Blockchain & Multiparty Systems Lead & Global Technology Lead for Capital Markets, Accenture
- [Sharon Bowen](#), Former Commissioner of the CFTC, and currently serves on the Board of Directors for Intercontinental Exchange and Neuberger Berman
- [Sheila Warren](#), Head of Blockchain and Data Policy, Member of the Executive Committee, World Economic Forum
- [Danielle Martell](#), Managing Director, Financial Services, Accenture
- [Daniel Gorfine](#), Founder and CEO of Gattaca Horizons LLC, Adjunct Professor of Law at the Georgetown University Law Center, Former Chief Innovation Officer of CFTC

INTRODUCTION:

Danielle Martell [00:00:12] Good afternoon, everyone, and welcome to Digital Dollar Live. We have a great agenda today, and I'm very excited to be kicking off today's discussion about a U.S. central bank digital currency. My name is Danielle Martell. I'm a managing director at Accenture. Focus on strategy and innovation. And I'm also leading our Accenture team that is partnering with the Digital Dollar Foundation on the Digital Dollar Project, which launched earlier this year. Accenture has been working with central banks around the world for the past five plus years to explore central bank digital currency. We've worked with most of the G20 and G40 countries and I've done some more publicly in the recent year. A couple of our most notable recent engagements are with the Riksbank of Sweden on its Corona pilot project, which the country initiated as a response to the decline of cash and with Bank de France, where the central bank has supported this innovation and called on private entities to participate in shaping pilots. So much analysis on CBDC has been done globally. We are still at the beginning of the innovation cycle. It is important for the US to play a role and leverage both public and private expertise to shape the future digital dollar. We need to be very thoughtful about doing this right versus fast, and it is

about understanding the right policy and social decisions that will inform the functionality of a U.S. CBDC and in turn inform the technology required to support it. The objective of our recently published white paper titled Exploring a US CBDC is to initiate and advance the dialogue. After the launch of the paper, Chris Giancarlo, Director of the Digital Dollar Foundation and chair emeritus of the CFTC was invited to provide testimony in two congressional hearings on the topic, and we've had several public and private stakeholders approach us to learn more and to share their thinking. We planned today's event to further engage a broad audience and continue the dialogue. We appreciate all the questions received from today's registrants regarding what's on your mind, and we have used that to shape the content for each of today's segments. So, with that, let me outline what you can expect from the next 90 minutes. First, we'll start with a briefing on the project on the white paper, and then we'll have three discussion segments. First, a panel focused on CBDC policy and design choices, followed by a fireside chat between current and former regulator and then a panel on technology, design choices and benefits of tokenization before we close with final remarks. Very excited to be kicking off and let me now hand it over to Daniel Gorfine for the GDP overview.

DIGITAL DOLLAR PROJECT OVERVIEW:

Daniel Gorfine [00:02:51] Great. Thank you so much, Danielle, and glad to have all of you joining us virtually. My name is Daniel Gorfine and I am a co-founder and director of the Digital Dollar Project. I previously had the opportunity to serve as a chief innovation officer and Director of Labs CFTC at the U.S. Commodity Futures Trading Commission, largely under former chairman Chris Giancarlo, as well as former Commissioner Sharon Bowen, who will be joining us today as well. I left the agency last summer and launched a fintech advisory and consulting firm. So, I'm going to pick up now where Danielle left off and share a little bit more color and context to some of the thinking that helped drive the launch of the digital dollar project. Last summer, after Chris and I left the agency, we started having conversations, including with his brother Charlie Giancarlo, about the potential impact that technology and more specifically tokenization was likely to have on the U.S. dollar. The three of us shared a very strong conviction that if there is one thing that comes out of this period of time that's focused on crypto and tokenization and blockchain. It's the basic idea that there are better technologies today, better systems and infrastructure that can power our financial markets and the delivery of financial services. So, for example, you know, a lot of this is just driven by the Internet, which connects computers. We know we can send information via email halfway around the world with relatively few intermediaries at very low cost and with very little friction. And we would argue that what tokenization represents today is that we can now send information about value and information about specific and unique ownership of value halfway around the world with relatively few intermediaries and at low cost. And so this dynamic is going to ultimately impact how we transact all types of financial instruments and assets, including money. So given this conviction, last fall, Chris and I published an op ed in The Wall Street Journal on this topic saying it's time for the United States to really fully explore the impact of tokenization on the U.S. dollar. We kind of thought of that as a bit of a call to action in following the op ed. We got a lot of inbound from interested in likeminded parties, including David Treat, managing director of the blockchain group at Accenture. And as you just heard from Danielle, Danielle and David's teams have been actively working on a number of global CBDC projects. So, when we sat down together and thought, what is it that we can do to now catalyze action? We've issued a call to action. But how do we actually catalyze activity? That was the thinking and the impetus for the launch of the Digital Dollar Project, which is this nonprofit platform that we pulled together earlier this year. You see the mission of the digital dollar project posted. But to summarize, it's all about exploring tokenization of the U.S. dollar. Thinking about

design choices, tradeoffs, and ultimately offering a champion model that we should be, that we think should be the one primarily explored on a go forward basis. Now, in order to explore a champion model, we think it's very important to get together the best and brightest minds coming from diverse stakeholder groups and bringing different perspectives, whether that be banking, financial, inclusion, privacy, security, technology, all of these different kind of stakeholder groups and disciplines need to come together to help inform an ultimate champion model. So, as you can see, what we've done is convened an incredible group of individuals on the Digital Dollar Project Advisory Board. You're going to actually hear from a number of those individual members during the panels and discussions today. As Danielle also mentioned, just a number of weeks ago, the digital dollar project published our initial white paper, which really lays out the tenets of the champion model. I know you can see that up on your screen, but I'll just quickly summarize. Some of those key tenants, the first one is that we believe the champion model of the US CBDC should explore tokenization as compared to an accounts-based system. So much like physical cash represents a token. And it's a claim on the central bank. We believe a digital dollar represented in a tokenized form would similarly mean or be a claim on the central bank or a central bank liability. A second key design feature is that we think distribution of digital dollars should flow through the existing two-tiered banking system. So that would include banks as well as regulated intermediaries, potentially money transmitters or other types of fintechs that come within that legal structure. A third key element that we're continuing to explore is the balance between privacy and the importance of privacy norms and law and jurisprudence in the United States balanced with appropriate regulatory interests, including things like the Bank Secrecy Act and combat and financial crimes. We also strongly believe that whatever framework or rails we deploy should be technology neutral, but likely inspired or informed by a blockchain based system. We think that that can pose certain resiliency benefits that I'm sure the panelists will talk about today. A final point to make in terms of key tenants is that we do not believe that a digital dollar is antithetical to further private sector innovation. In fact, we view the digital dollar as a public good in public infrastructure upon which the private sector can continue to innovate. So, given that, where are we now? We published the white paper. We're about to have a great conversation with a number of experts representing different viewpoints and perspectives. But we are now arguing that it's the time for real world piloting and testing. And so, we think that real world pilots that measure the purported benefits at the CBDC should be pursued in a number of different areas, including retail payments application, wholesale, as well as international contexts. So that's one of the things that will hopefully flesh out further in the discussion today. But with that, let me turn it over to the real celebrities and the real stars. I'm going to ask Jason Brett, who's going to be largely moderating many of the discussions today to kick us off with Professor Chris Brummer. So, thank you all for joining.

CBDC POLICY AND DESIGN CHOICES:

Jason Brett [00:08:54] Thank you very much, Daniel. Today, we have Chris Brummer, the Agnes and Williams Research Professor and Faculty Director of Georgetown's Institute of International Economic Law. Host of the FinTech Beat podcast. And the organizer of the DC FinTech Week, which I went to last year and is amazing. And this year will be in virtual form. Chris, how are you today? Welcome. I think I can't hear you.

Chris Brummer [00:09:30] Well, one of the rare instances when that happens, but it's a pleasure. It's a pleasure to be here. And thanks so much for having me.

Jason Brett [00:09:36] Absolutely. So, Chris, you know, there's so many questions right now. There's so many changes happening in the world of money. What do we define money as? Many other countries around the world are looking at a central bank, digital currency. You know, we're finally talking here about digital dollars. How is COVID working to influence the conversation on digital dollars, especially when it comes to financial inclusion?

Chris Brummer [00:10:04] Thanks for that question. It's obviously a very apt question as we're communicating and using digital rails to really flesh out a conversation about our digital payment rails. I think that most of the people watching us right now can agree that COVID has really highlighted in many instances the importance to get to Dan's earlier point of resilience. We've become aware at times painfully so, of the importance of critical government infrastructures, those infrastructures, including our money, including our payment rails. And at the same time, we're also being made much more aware of the need for innovation in some of those critical government infrastructures and indeed innovations in money in both its form and its utility. And what I find really important about this conversation and really what COVID has done is to force parallel conversations about financial inclusion. I mean, the very same time that we're having a conversation about payment rails and about technological upgrades, we're also having very real and increasingly frank and honest discussions about financial inclusion and the degree to which our legacy financial market infrastructures have and have not served those who are at the margins of our economy.

Jason Brett [00:11:40] When you talk about payment rails, you know, I think that's interesting because with cash, you know, actual physical dollars, I think for most people they don't even think about that. Right. It's just a matter of it goes from your wallet to hand to the person to pay for whatever you're paying. So how do payment rails play a part of this new conversation when we talk about a digital dollar, as well as attempting to be, you know, an exact replica of what we have in the dollar today, digital form.

Chris Brummer [00:12:07] You know, I think people are now interestingly enough, I think you're right. People haven't really thought about sort of where cash comes from and how cash moves. Although now people are becoming much, much more aware of that. Right. I mean, when you think about sort of the governmental response to whether or not the PPP loans or whether or not it be getting government stimulus checks or reimbursements or and the like to small businesses who were needing that cash in order to keep themselves afloat. I mean, just you many of us can understand. I mean, if you're waiting now on a paper check. I mean, that seems highly antiquated, you know, to wait several days in the mail, perhaps a week to get that paper check, you know, then it comes to your house. You know, you try to leave it in the corner of your house for one to three days hoping that the, you know, COVID germs dissipate or another. And then you put on your hazmat suit because, you know, you have to cash the check. Right? And so, you wrap yourself in Saran Wrap and then you walk yourself over to, you know, your local bank and you hold your breath long enough to put in your credit card or your or your debit card to cash that check. And then you have to wait a week for that cash to clear. And, you know, people have understood, particularly when you need that money to meet your rent in order to make your payroll, in order to get your groceries. People have become very much more aware of the fact that payment rails, payment infrastructure matters and that the efficiency and the effectiveness of those payment rails have a direct impact on everyday people's lives.

I think when you talk up the actual question of the payment rail, what I find very interesting is that it's also sort of pushing on how we conceive of money. Right. Because all you see that we're kind of dividing the world up into two spheres. We have on the one hand, the people who maybe think about money as a means of making a payment, a medium of exchange, and then many of the technocrats sort of involved in today's conversation and listening think about money as a form of infrastructure in and of itself to help move value from one part to another. But it is interesting precisely because of some of the technological innovations. And again, this is speaking to this larger conversation of inclusion that we're thinking in even a bigger sense and sometimes even more fundamentally about what money means and what it should mean again, for everyone, whether or not you're a merchant or whether or not you're again someone who's not been adequately served by the legacy and prevailing market infrastructure.

Jason Brett [00:15:02] You've written a lot about the digital dollar lately. As you know, there've been hearings on the Hill and discussions about possibly the United States post office being involved in this realm of digital dollars. I usually think of just buying stamps, and you don't really think of the post office as a place where I can go get money except maybe a money order. And of course, that would be to like to buy your latest book, you know. And really, what I think we found, too, is like of all the things are happening, we also have this this coin shortage. Right. So, let's say where to try to go buy your book for twenty-eight dollars and a penny. And but I don't have twenty-nine digital dollars or twenty-nine dollars and I don't have the exact change, you know, what does that mean. So, I'm just wondering, your take on the post office is sort of a physical structure that could help enable this moving forward.

Chris Brummer [00:15:51] So, you know, I think that it's what's great about that conversation and thinking about the post office is that people are trying to think creatively and seriously about the fact that we have banking deserts even in a country with the resources of the United States. There are people who cannot access easily, particularly from a geographic standpoint, banks. And that's, quite frankly, that says a lot about how much further we need to go to make sure that all the innovation that is being generated in this country is, frankly, more widely distributed and that people have access to basic financial services. And from that standpoint, I think it is critical and it is important, and some of the conversations about postal banking that are also allied with our conversation on digital banking and thinking through, OK, can a post office also sort... Can it be bootstrapped to a kind of digital dollar project? I think that's certainly important. And it gets to certain questions that we'll be talking about for, I think in the other sessions, about what is the adequate structure or design of a of a digital dollar project. I would say and this is something that I've written about. I think that it is a time to think big. And no matter what and how people come out on what a digital dollar should look like. It is important to ask ourselves very basic questions about money. If we're just going to be thinking about money even as a payment rail, it doesn't necessarily get to the questions of whether or not we can use money and the platform that money provides, that the payment rails can, in effect, double as a kind of platform. And to ask ourselves to what degree can we use that kind of possibility to operate and run the kinds of services that also serve as stumbling blocks for people looking to access financial services. You know, can we create a public infrastructure that helps people to generate the kind of data that would be needed to create better credit scoring models for them?

I mean, a lot of the times of credit scoring, it's a question of your transaction history and whether or not you're spending money and how exactly cash is moving in and out of your accounts. Can we bootstrap the possibilities of a digital payment infrastructure to other

very closely aligned services that can help people who have been at the margins? You know, to crack open that door to financial services that has been closed. And, you know, when you're comparing and contrasting the different kinds of models and I think there are benefits and tradeoffs to each and every one of them. One thing that I would encourage everyone to do in the course of this conversation and in the course of other conversations to come is to always ask yourself, are we creating and thinking about a model where we are holding ourselves to the expectation that we are going to strive to achieve the same level and sophistication and cutting edge advantages to those who have been left on the margins that we are providing for people who, you know, have more means. Right. And sometimes when I think about the conversation about the different kinds of models in retail or wholesale or postal banking or the like. I'm always asking myself personally, is the model that you're that you're striving for, is that the same kind of model, the same kind of service, the same kind of functionality that you would be having in mind when you're thinking about, you know, more well-to-do people? And if the answer is no, then we're losing a bit of an opportunity. Right. And that's why I tend to think a little bit bigger about these things. I think about things like platform money. Now I understand network effects and scale and the like. And so, I'm trying to figure out. And I think it's worthwhile for other people far smarter than myself to think about, you know, if we're going to build out an infrastructure and we're going to have certain kinds of economies of scale and we're going to have certain kinds of efficiencies. Does that lead us to the kind of CBDC design? Right. If we're looking to service sort of the traditionally excluded people, you know, does it lead to certain kinds of institutional designs and formats? I like postal banking; I think it's great. I mean, certainly compared to what we have right now. Does it have tradeoffs? Sure. I mean, do I, or you know, when I think conceptually about people in a long line in a poor area waiting to use an A.T.M., you know, in today's world, when I think, You know, it does cause certain kinds of questions. Certainly, the Philadelphia Fed will have much more technological sort of questions depending on the design of the CBDC and about the fragility and the robustness of the commercial banking sector. And those are all very, very important questions. But when you're getting through the question of in, you know, inclusively. Right, you know, whatever your model is, you know, you have to ask yourself, is this the model of the future? Right. It's not just is it a model that takes care of today, but given the pace of technological progress, is this the kind of infrastructure that's going to allow people to not only get into the financial system and to get into certain kinds of banking services for which they've been traditionally excluded? But also, is this the kind of infrastructure that will allow them to stay in the financial system and to actually enjoy a future technological process or progress? Right. And I think it's important that as we talk about upgrading our financial system and as we talk about everything from, you know, wealth inequalities, racial inequalities, financial inclusion like that, that that convert those to conversations take place at the same time. And that that the solution building has to be part of a process where you're thinking about those populations and you're thinking about what is my upgrade? And can I secure a means to put those people in that upgrade securely? So that as different, well, we have a base layer of an infrastructure, and as these new layers of our infrastructure get built out to those people who are now in, you know, entering into that system, can enjoy sort of an elevator up, you know, that they can enjoy the fruits of the upside of the kind of infrastructure that we're building. And I think that that's something that is key to this project and for others.

Jason Brett [00:23:02] Well, Chris, thank you so much. Thank you for joining us today. I know you have to run. We really appreciate your time. By the way, I forgot to say at the beginning: These are the views of Chris Brummer individually, it doesn't represent who is with. And now we'll go to our next two panelists again. Thank you so much, Chris. Really appreciate it.

Jason Brett [00:23:17] So one of our next two guests that are going to be on the panel with us is Sharon Bowen. She's the former Commissioner of the CFTC, currently serves on the Board of Directors for the Internet Intercontinental Exchange and Neuberger Berman and Box. And she is a partner at Seneca Women. Our other guest is Sheila Warren. Sheila is the head of Blockchain and Digital Assets and Data Policy, a member of the Executive Committee of the World Economic Forum. She's also on the Board of Directors of the ACLU of Northern California, as well as the Equal Justice Society and on the Bretton Woods Committee. Again, both of our guests, these are going to be their own personal opinions. So, Sharon, I'd like to start with you if I could, and just get an idea as a sort of as a former regulator. What are some key regulatory and policy considerations and some best practices you would have as far as regulators start to look at the potential of a central bank, digital currency, a digital dollar in the United States?

Sharon Bowen [00:24:31] Yes. Thank you, Jason. Really happy to join the discussion today, although it's hard to follow my good friend, Professor Brummer, who just gave us a tutorial on this subject. You know, clearly as a former regulator, the kinds of things that I think about and I think we should be thinking about in this context, really sort of four areas. One is we want to make sure that we maintain the financial stability and the safety and soundness of our financial system. More important to me also is to make sure that our consumers are protected against fraud and any kind of privacy or data issues. And I think Chris, you know, talked about a little bit, but I think we want to make sure that there's equal access, transparency and fairness. And the fourth thing I would say is to do an appropriate cost benefit analysis. When I think about financial stability, I'm reminded today as the 10th anniversary of the signing of Dodd-Frank, and we know that the financial crisis heightened the need to ensure that our banks and credit providers exchanges, the financial markets are resilient to protect against emerging risk, and that those risks are properly priced and adequately addressed. And I think we need that same kind of discipline and the same kind of transparency that that we looked at, and, you know, applying and implementing Dodd-Frank, when we talk about CBDC. To that end, you know, I think it's really important that we decide how that technology would operate alongside our existing and future financial systems. I mean, we have a huge infrastructure that's in place and we're going to hopefully talk about that a little bit more. But we need to make sure that these markets are free from operational risk in system averages and, you know, to make sure that we continue to have a resilient financial system. Obviously, you know, one of the things we care about in this project is we want to make sure that we maintain the dollar's prominence as a currency and our global economy. And I think, frankly, we're a little bit behind in this respect when you look at what other sovereign nations have done. I've seen no sovereign nation that wants to have a future policy dictated by others. At the same time, we don't want to have technology that could potentially threaten monetary policy or monetary supply. So I also think, you know, we must give serious cross-border considerations in thinking about the design of a CBDC. And to that end, I would encourage all of us to bring all of the multiple stakeholders to the table. I know recently Federal Reserve Chairman Powell stated that the idea of a digital dollar, it's something that should design and it's not something that private entities should do because the Fed is involved in trading on money supply. I hope that was not intended to stifle innovation or prevent other important stakeholders from having a seat at the table. As Chris pointed out, so rightly so. I think it's really important for us to have a diverse and diverse perspectives at the table when we look at this. I can go into more if you want. We talk about consumer protection, that part of it as well.

Jason Brett [00:28:09] Let's get to consumer protection in a minute. That's great. I want to turn to Sheila to really pick up on something that I was struck, you know, as you were

sharing one of the things I'm thinking about. And Sheila, if you could perhaps give us your sort of international lens on sort of where other countries are with their central bank digital currencies. So, is the United States, quote unquote, behind? Most importantly to me, the fact that Sharon and others were even having this conversation is progress. Like the fact that we're here today, that the digital dollar project has started this conversation. Because this is a very complicated choice with numerous angles. But the fact that we're actually talking about it as a country, whereas a year ago it wasn't really even on the agenda. Could you help explain that and also, you know, what you're seeing in other countries?

Shelila [00:29:02] Absolutely. Thanks, Jason. You know, I don't think there's any question that the U.S. was late to the game. Whether we are still behind is a separate question. And I think you have to kind of analyze that question in terms of what is the problem that we're trying to solve with the digital dollar issuance. And I think one of the reasons we saw a lot more activity, innovation in frontier economies, in developing nations is simply because they were able to realize benefits, could leapfrog certain things. They didn't have some of the same risk that Sharon's been talking about. They weren't setting the table for the entire global economy. And so there was an opportunity to be, I think, more innovative in exploring use cases and use cases were different. I also think one of the reasons we saw some of the developed economies focusing mostly on use cases like interbank settlement payments, for example, is because there are very well-established systems and infrastructure there. And the first exploration was going to be very naturally how to make those systems more efficient, particularly because that was something that was seen as a core element of the problem. And to be fair, the technology was in a much earlier stage. So big experiments were probably ill advised at that point in time. But again, I will repeat, I do think the U.S. was rather late to the game here in terms of the attention that we were willing to publicly pay to these issues and to the notion of a CBDC. Now, I also think it's important to note that when we talk about financial inclusion to kind of Chris's earlier point, and Sharon's, we often assume that what we're talking about is the granting of access to the traditional financial system. But there are a lot of other things to be considered there. Is that the right approach? Is the right answer? Certainly, as we think about, you know, we kind of have this sort of, I would say, somewhat juvenile almost notion of financial growth where we begin kind of ... I have young children. Right. So now we're teaching them about saving, the piggy bank. This kind of thing. And as you grow, you learn about investment in capital markets and, you know, whatever it might be. But in some places, that isn't actually necessarily the right answer. And the creation almost of a parallel with on ramps and off ramps where necessary to access the parts of traditional banking system that would be most relevant to helping with some of this leapfrogging, I think are critically important as well. So, in my mind, the issue of interoperability, which I haven't really heard discussed, is one that's really critical. And we think about the creation of digital fiat money. I think we have to think about how is there a parallel to this system that we could actually look into engaging that might provide more opportunities. And the last thing I'll say is I do think it's extremely important to ensure that the tech discussion does not lead, that we really start with an assessment of what are the problems in priority order that we are trying to solve. Which of those problems is an immediate short-term scope, medium long term? What's. Out of scope. Be really, really clear about that. So, we're having the same conversation. And that, I think, is what is the most challenging part. The build will then largely follow. And I should also note that the technology particularly blockchain in this space is still undergoing rapid transformation. It's getting more and more secure and robust. You know, month to month. So, I would just want to make the point very strongly that this is this is not a situation where the tech should be driving. It should very much follow the other really critical conversations that Sharon mentioned.

Jason Brett [00:32:36] Absolutely. And turning back to you, Sharon, with this. You know, one thing we think about is really not just the future of money, but how money is pictured. You know, who's represented on the dollar bills we have today. You know, I had a chance to ask Chris Giancarlo sort of which president he might picture, you know, on this digital dollar. So, you know, what part of policy considerations might we consider in terms of what's pictured on this digital dollar? And you had mentioned consumer protections. I know for me, if I lose my regular wallet, I've lost my 40 bucks and I'm probably can't get it back. And because it's important to have other people in the conversation, it's not just a digital dollar wallet. Right? We're talking about a digital dollar purse or handbag or whatever that might be. You know, what kind of consumer protections are you thinking about when it comes to digital cash? And what should this digital cash look like?

Sharon Bowen [00:33:30] Absolutely. I would say a couple of things in that respect, which is why the design really would make a big difference in terms of what kind of, you know, blockchain technology we're talking about. If we're talking about a real open system, then obviously that poses all kinds of risk of theft and hacking. You want to also make sure that the consumers, you know, financial data and privacy concerns are addressed and that, you know, I can see this becoming a problem. If there is this sort of in the big data that's out there that we don't control as a government. We find ourselves facing that today, frankly. Can you imagine facing that with your money someplace where you don't have the confidence that it's being protected? And so I think we have to make sure that the everyday citizen, you know, has trust in our financial system and they have trust that their funds are protected, not subject to theft, the data's not going to be misused and more importantly, that there won't be another future government bailout using their taxpayer dollars in that respect. I'm surprised Sheila didn't mention I do want to tell you, I would look at best practices that the World Economic Forum has a policy maker toolkit, and Sheila I know you play a big role in this, which I think is an excellent resource in addressing some of the issues and considering our CBDC. But I also want to tell, you know, the regulatory sandboxes and innovation labs, we did when I was at the CFTC with Commissioner Giancarlo, and I think it's important that we encourage that type of collaboration among all stakeholders. And so these types of public forums and roundtable discussions, we need more of those. We need more public programs. But I think most importantly, I think any regulatory response I think needs to be principals based. You don't want to stifle innovation, but at the same time, we don't want to pick winners and losers in this game. So, I think that, you know, the structure of this design is really important that we consider all of that very carefully. Jason you're on mute.

Jason Brett [00:35:51] Sorry, we're running out of time, of course, because all good things must come to an end. But Sheila, if you could please answer that same question. And if you don't mind, also expanding just a little bit on the digital identity piece. Right. Because if it is a digital wallet or digital purse or whatever that might be, know, how do we connect?

Shelila [00:36:10] Thanks, Sharon first of all, for the kind remarks about policy makers toolkit. We're very proud of it. And in part because it does represent the coming together of various stakeholders in this space, you know, geographically, but also technologists and others who were thinking about this topic. And so I do agree with you that that approach is essential. It's just absolutely critical to consider the views of the broadest community possible, including those, when we talk about financial inclusion, those who are going to be affected by decisions that we make there as well. But, Jason, to your question of digital identity you know, I think that there is a lot of new opportunity that opens up. And so when I'm pressed to say, people often ask me, you know, why hasn't block chain really scaled? Why hasn't blown up adoption? And the answer to that, I think, is complicated. But one of

the key pieces is digital identity, is the fact that we haven't settled really yet on some standards in this space or even the mechanism for doing this. And I think what's really interesting is thinking about KYC, AML, CFT considerations and how does the identity help move some of that forward kind of help us approach in a different way. The one thing I think that gets lost in the conversation is the distinction between identity of the person and indeed the account. Identity of the account is something we can do now. Basically, the point being there, you can track that, and account activity is the same account from place to place to place and from different protocol to protocol, these structural kinds of things. It's the identity of the person that I think is where it gets really challenging because not everyone's comfortable with the standard biometric kind of usage. Are we really going to be asking people to provide biometrics to get access to a bank account to get access to money? It's a very interesting question when it comes to fiat currency. I think it's challenging and it's not obvious to me what the answer there should be. So until we get a little further along with that, I think we're going to be in a place where digital identity does remain a kind of barrier, if you will, to the broad adoption of these kinds of opportunities.

Jason Brett [00:38:08] Excellent. Thank you both so much for joining us today. Lots of lots to discuss. Thank you. Thank you. Danielle, back to you.

FIRESIDE CHAT - REGULATORS

Danielle Martell [00:38:18] Well, that was a great discussion. We're out of time for audience questions. But it was great to hear from the panel around key challenges in our current infrastructure, the potential for the CBDC to close the gap for those who are financially excluded. Regulatory considerations, what others are doing. And lastly, that identity interplay with the CBDC. So very exciting panel there. I know we're running tight on time, so let's jump right into our next discussion, which is a fireside chat. So I'd now like to hand it off to Chris Giancarlo, Digital Dollar Foundation Director, Senior Counsel to Wilkie Farr & Gallagher and former Chairman of the US Commodity Futures Trading Commission.

Chris Giancarlo [00:38:59] Thank you, Danielle. It's great to be with you. And thank you for teeing us off today and getting us started. I'm really looking forward to the next few minutes that I'm going to have with Bob Bench. Bob is Assistant Vice President in charge of payment systems at the Boston Fed. Before going there, he was Chief Compliance Officer, Assistant General Counsel at CIRCLE. He spent some time at the Office of the Comptroller of the Currency as an examiner earlier in his life. He's a graduate of Boston College and North-Eastern Law School. And Bob, Bob and I share something in common, and that is that Bob's current regulator, I'm a former regulator. When you're in that in that role, you really realize that the challenge that we have in all walks of life. But I think it's particularly acute between focusing on the day to day and yet keeping your eye on the long-term vision of what you're trying to do, and what you're trying to build is really a challenge. And, Bob, is this, I think, standing up to that challenge, doing some really interesting work in the area of digital payments, digital currency, distributed ledger technology, building a really amazing team up there. And I think people are gonna be very interested to hear. Bob, tell us a little bit about what he's doing at the Boston Fed in this area. And so, Bob, really glad to have you say thank you and tell us all about the work you're doing.

Bob Bench [00:40:19] Well, thanks for having me, Chris. Thanks, Accenture, for hosting first, as a regulator, I have to say that everything I am saying here today does not represent the Federal Reserve Bank of Boston or the Federal Reserve System. And are

my opinions only. I think to get right to it, Chris, we have a great opportunity at the Federal Reserve Bank of Boston and within the Federal Reserve System to bring a lot of light to a lot of work that's been happening for a long time. I know one of the early panelists discussed that the US has not been out front in public about the work. But to be sure, when I came into the Federal Reserve from the technology community, I was frankly amazed at how much work had been done, particularly the policy sides of identifying issues that in some ways were waiting for the right technologies to come along to better enable them to maybe fulfill and improve our system. And so what I came to do and the team on building at the Federal Reserve Bank of Boston is doing is working with our partners across the our Federal Reserve system to understand how to apply these emerging technologies to these issues that have been in the system for some time. Well understood by our experts of the Federal Reserve System. But mainly even, the right technologies haven't been there to solve them. And so what we're doing is we're a product based team. We are a startup style team focusing on understanding these technologies, testing these technologies and working with the best and brightest from the private sector in the university sector to understand how we can solve these collective problems.

Chris Giancarlo [00:41:56] That's great, Bob, you know, when I came out of the CFTC a year ago, we'd start thinking about this along with Daniel Gorfine and my brother and others, it seemed as if it was an area that it was just on the periphery of thinking. When people thought about our financial market infrastructure. But boy, oh, boy, one year has the as the as the conversation really started to center, on the need for consideration of a central bank digital currency. If just congressional hearings or any way to go by tomorrow, I'll be attending my third one. Bob, you have been looking at this now for some time. You must feel as if suddenly you're in the limelight after sort of beavering away there up in Boston. Tell us a little bit about how you perceive a growing consensus around this area. What does it mean for the work you're doing?

Bob Bench [00:42:44] Well, I think, as I said earlier, I think experts from the Federal Reserve System have understood that there are challenges that we can overcome. And I think the consensus is a much larger understanding of the technological tools that are out there to solve them. And most importantly, understanding what are the and really bring to light the policy of choosing the public on the public scale, whether its issues discussed like cross, you know, cross border settlement, whether it's financial inclusion, whether it's privacy. These issues are really coming to the fore. And I think what we're starting to have is a much more honest conversation of what technologies can and cannot do. And then understanding, as Ms. Warren spoke earlier, what are the priorities? Right. I think that's just as important as there's a lot of things you can do with new technologies. And there are a lot of people willing to sell new technologies. But what can you do to solve the problems and how do you prioritize these problems? And so I think there's a consensus that there's a lot of improvement that can be done. There's a lot of interesting technologies out there that could solve them. And now it's up to the technology community, the private sector or the public sector and the university sector to come together and start making a priority list and better understanding the tools that can help policymakers improve our system. And I think that's what it's all about.

Chris Giancarlo [00:44:11] And what do you see as the biggest challenges to that coming together and making progress in this area?

Bob Bench [00:44:17] Yeah, I think the challenges are... I look at three big challenges. And when I look at challenge, I think about if we're trying to solve something and I usually focus on general purpose, central bank digital currencies. So it's actually a cash alternative

as opposed to what's more commonly been researched by other central banks, which is wholesale settlement. No, you have to understand what problem you're looking to solve. So the first problem or the first thing that has to be solved if anyone is going to use a general purpose, central bank digital currency is throughput. Right. Will this payment system be better than, say, credit cards? For most Americans, understanding the financial inclusion is still a major problem. The credit card works pretty good, right? And since COVID has come out, you know, the use of, say, you know, contactless payments has risen significantly. So can you build an architecture that moves faster than credit cards? And can you future proof it has been discussed earlier. Can this handle future volumes that may be under other things, other payment systems. That can happen right now. We know relational databases can do this. Chris, you know, you and Miss Bowen were the CFTC. High frequency traders are as good as they come with moving data really fast. So, you know, that's challenge #1. Challenge #2 is cybersecurity and resiliency. Right. And this is where some of these new technologies start to emerge. You know, if you look at Bitcoin, for example, there's about one hundred twenty-five billion dollars' worth of Bitcoin out there. It's yet to be hacked. So if you think about it, that's one hundred and twenty five billion dollar bug bounty that's out there, open source. So can we learn something about an open source technology that has yet to be hacked? That's something that we can look to, to say, can we make a digital dollar more secure or digital pound more secure? So understanding, resiliency and in security really start bringing those new technologies. And third, and I think the most interesting challenge is the question of privacy. And this is the one that gets technologists most excited. The first note of transactional speeds, we know relational databases can do that and do that well. Cybersecurity and resiliency. We think that DLT systems may add some benefits, but certainly at the cost of throughput. But finally, that question of privacy that is such so critical for our policymakers to be able to give them the full spectrum of understanding. It's very difficult designing any system to build privacy in after the fact. And so I think a very important conversation for policymakers across the world is understanding at what point you start thinking about privacy, what data that network collects and how you may use that for the benefit the economy and how much the users of that technology may not be comfortable with it. Certainly, some countries are very clear that they have very high privacy expectations like Germany, Japan, and so they're probably going to lean towards a more private model in their experimentation. I think that's still an ongoing conversation here in our country. And I think a lot of a lot of good conversations need to be had about that. So a technologist, as Miss Warren spoke about, can go back to the workshop and start designing alternatives. And that's the most important thing our team does, is give policymakers as many alternatives as possible, once they come to a consensus on what they'd like to build.

Chris Giancarlo [00:47:31] Yeah, you know, it's fascinating. Sheila Warren spoke about the difference between accounts-based identity and individual identity, and that's a very important dichotomy to focus on as we think about privacy. Another dichotomy is as you think about digital money, tokenized forms of digital money as opposed to accounts-based forms. And how do you think about the relationship between the two, as you would advise policymakers at the Fed?

Bob Bench [00:48:01] So, you know, our team technology standpoint is fairly agnostic towards that question on a technology basis. And this is why, as far as the data networks are concerned, you can build a tokenized network on relational databases and you can build an account network based on DLT data. The better question for us from token and account is what does the current intermediary stack look like between a central bank and a final user? How will identities be preserved or not preserved? And what type of changes to that intermediary stack are being considered from a policy standpoint? And I think that's a

very critical question. And to be sure, our model currently is based upon the central banks providing institutions, central bank money, and that's the institution providing retail uses their money. That works pretty well. There are certainly challenges to work it out, but it works pretty well. So we need to understand on that token, or account model, how could that change? And what would the cost benefit of any type of change like that be? Because our model being that as it is now, any kind of change, that must undergo pretty strict scrutiny. So for us, I think technologically there isn't a significant difference. But the real important difference that people way above my pay grade who must answer the question is the level of intermediaries. And then also who may also be allowed in that stack. Right now, for example, the People's Bank of China brought in Alipay, and WeChat into central bank reserves. And that effectively created direct central bank money on Alipay and WeChat. The Bank of England has allowed payment service providers to have direct accounts, which is enabled really interesting technological developments there. We need to learn from our peers in the central bank community and understand all the technology options so that policymakers can have those conversations and understand what's the best model for us moving forward five years, 10 years and 15 years, because that's a really important conversation to have.

Chris Giancarlo [00:50:01] Bob, you know, you referenced those other initiatives are taking place around the world. Some of them put emphasis on the retail element. Some put emphasis on wholesale, some put emphasis on international. Those are at least three areas that where there are both challenges and opportunities. As you think about those three areas, how would you assess the challenges and opportunities as we think about implementation of a U.S. dollar, the CBDC environment?

Bob Bench [00:50:28] So I think, you know, from a technology standpoint, the wholesale side is fairly, fairly clean in the sense that you're dealing with institutions. And by their nature, institutions generally are known entities. Institutions don't necessarily have the same type of privacy expectations. And so you're really thinking about security and throughput. And that is a model that's fairly well understood. And so then you're looking at questions like interoperability, transaction speeds and understanding what intermediaries currently exist in that wholesale settlement stack, the value they add to the system. The current regulatory model around those intermediaries. And what would it look like if there was any change to that system. When it comes to retail? Again, I what I need to go back to that question of privacy, because how you identify final users of a general purpose, central bank, digital currency is very interesting. You've done a fantastic job and a lot using the moon landing as a metaphor for digital currencies. And I think that's an excellent example of how private and public sectors came together with universities to accomplish a major goal for the country. Another one we also like to use is the development of the Internet. It started right around when the moon landing happened, where the private sector, the public sector, the universities came together with DARPA to exchange information. Later and led to develop the web. And this is something we think about a lot. Is, in the late 90s, there was an opportunity for payments to be brought into Web natively. Right. And that was ... Marc Andreessen calls it the original sin of the Internet, whereby the parties couldn't come together to create new debt payments and a gap was created, a 404 error if you will. And so what existed is the exchange of data for money. Where we need be very careful on the retail side is how does any user of a retail general purpose CBDC, how is their data used? Who gets their data? And how is that public good enable them to remain private? That's something that we think is the hardest question, both from the technology standpoint and a policy standpoint and is why we're spending so much our time there. I think other central banks have done fantastic work on the wholesale question. And to be sure, other parts of the Federal Reserve are asking that same question. But the general-purpose question,

with the privacy factor on top of it, we find it the most interesting and requires significant research on our part.

Chris Giancarlo [00:52:58] You know, Bob, since we launched a digital dollar project, we have just been we've received so much incoming requests for opportunities to partner firms that are doing really interesting technological work on the private sector side, seeing that they can partner. There are no lab environments in place right now by the Federal Reserve for free in input. You yourself have brought that in from your private sector experience. But opportunities for ongoing public private partnerships, how do you, what do you see as perhaps the possibility going forward for the private sector to bring their expertise and technological capability in support of a national effort to realize a CBDC?

Bob Bench [00:53:42] Yeah, I think I think you bring a great point; our partners and other central banks have had a fantastic run over the last several years, working most particularly in the wholesale settlement question. Whether it's the Bank of Canada, HKMA, Singapore, they've done fantastic work on intra central bank interoperability. And they've worked well with some of the best enterprise blockchain groups and the best consulting firms. I think one thing the Federal Reserve doesn't speak a lot about but has been doing as long as I've been in the private sector, has been having in-depth conversations with the leading private sector technologists and thinkers on these questions. So to be sure, we are talking to everyone and we are learning. Our job is to learn from the best and brightest, from all sources that we can get, whether it's universities, private sector or within the Federal Reserve System itself, which has its own deep cadre of experts in the payment space. But I think the question of at least with our team, with general purpose CBDC's, I think a lot of those questions remain unsolved. And so we look to look, you know, I think the question of a formal pilot partnership is above my pay grade. And I think a lot of very smart people are asking those questions. But the most important thing is the Federal Reserve continues to learn along with these private sector entities, because that is the private sector is the engine of the American economy. And we're very fortunate to have the most robust private sector in the world. And it is our job to learn from them. And, you know, I'm very fortunate to have time in the federal survey and time the private sector. And I think while we're not as public about it, we are certainly learning a significant amount from our private sector partners.

Chris Giancarlo [00:55:25] Really glad to have you there, bringing in your private sector experience and performing this public service. We're delighted to have you. Thank you so much. Thanks for giving us sometime today. Look forward to continuing the dialogue. Thank you.

Bob Bench [00:55:36] Thank you for doing this, Chris.

Danielle Martell [00:55:41] OK. You did great. Thank you. So that was a great discussion. And Bob, great to hear from you around what your team is doing at the Boston Fed and your perspectives to share. And also a theme that we've seen throughout around how we think about public and private partnership. So with that, it's time to move on to our last panel on technology. So let me hand it back to Jason to moderate our final discussion.

TECHNOLOGY DESIGN & TOKENIZATION BENEFITS

Jason Brett [00:56:06] Great. Thank you, Danielle. So this is now the technological panel, the final panel. And we are going to have David Treat with us, who's the Senior Managing Director and Global Blockchain and Multiparty Systems Lead and Global Technology Lead

for Capital Markets at Accenture. David, welcome. And Tom Jessop, the President of Fidelity Digital Assets. Tom, how are you today? Wonderful. Great. Great. So before we get started, I just want to help everyone watching understand how important the technological design of something like this is. So if we go back to the late 18th century, you can see here a stable coin. It was actually done by the miners to help pass out pennies to folks in England because they didn't have enough circulation. King George came up with what is made fun of is called the cartwheel token. It's twice as heavy as the stable coin. Twice as big. And didn't actually work because it was worth two pennies. And people still had to pay for loaves of bread and half pence and one pence. So the technological design in seventeen ninety seven United Kingdom failed. And then of course, they went back to the drawing board and came up with some things. So as we get into understanding a little bit more, if you could help us all understand the difference. The important technological difference between account based and token-based concepts when we talk about digital money and why you think today we need to make sure we're very careful about how we design this new digital dollar.

David Treat [00:57:50] Sure. I'll start then maybe Tom pile in. I think some of the previous speakers have done a great job to talk about the fundamental difference between token and account based, maybe if I repeat some of the language and extend it. The notion, as you know, you're holding the coin or, I'm holding a dollar and I want to give it to Tom, right? The physical token has worked very well for us in the physical world. In the digital world that we've created, that we are relying upon; if I want to move money to Tom, I have to instruct... It may look like - through my app - that I've executed it in a single motion, and it's done from my end-user perspective. But behind the scenes, I've instructed my bank to instruct Tom's bank to update a balance. And so it's based on messaging and reconciliation and an infrastructure behind the scene. And so that if we were to start from scratch today and think about today's available technology as to how we would move value, I'm incredibly encouraged by the conversations that are that are ongoing, and the notion of a token model. And I think Bob was spot on in that there are multiple architectural patterns that can deliver a token-based model. But I think the clarity around needing to have that simplicity of a transaction in the digital world that mirrors the simplicity of the transaction that we have in the physical world is just incredibly important. And the good news is that the technology's now here and configurable to meet that demand.

Jason Brett [00:59:29] Thank you, Tom. If you have any comment on that.

Tom Jessop [00:59:33] Look, I agree with David and the other previous panelists that we have an account-based system today when we send money around, as David mentioned, is we're instructing financial institutions to move money between the accounts of counterparties. And so the real novel invention here is this concept of a digital bearer instrument truly replicating cash on a blockchain, which potentially has a number of benefits in terms of lowering the cost of financial transactions and mass improving the immediacy of transactions. And I think that is the, you know, the value of the technology we're exploring. And I think that if the goal is a digital bearer instrument, I think some form of tokenization-based model is perhaps the only thing that makes sense at scale.

Jason Brett [01:00:14] Miss Warren had shared a little bit about interoperability, particularly with the current account-based model. From your vantage point in the private sector, at Fidelity, Digital Assets, you know, we have private sector banks working right now. So we obviously need the private sector to be part of this conversation on my opinion. But how do we? Is interoperability a possibility? How do we work as we transition maybe from the platform we have now to a new platform, or do they interoperate?

Tom Jessop [01:00:43] Yeah, it's an awesome question. And I think there may be two ways to think about this. One might be interoperability at a technical level, making networks talk to one another. I tend to think another way to get at this problem is perhaps that the parallel here is the way we see the evolution of the digital asset business at Fidelity, which is at some level of maturity of this industry where there are lots of types of value sitting on block chains. Our clients who are predominantly consumers and traditional institutional investors. They're just going to want to see everything in a single view. They're going to want to look at a single account and see their publicly listed securities, their private assets, their bitcoin, their CBDC. And this idea that all of that needs to be on one system I think is perhaps a bit of an abstraction. I think it's important and incumbent upon financial services providers, whether your Fidelity or a bank to kind of obfuscate the plumbing in the back end. Right. So in the context of a consumer focused central bank digital currency, I can envision when I logged into my Chase account, a screen that says this is your digital dollar balance and your account base balance and you can move freely between the two. Perhaps you use a hosted wallet from the financial service provider or perhaps move those coins into a wallet that you self custody. But I still know that my bank balance is X, even though there's a lot of technology in the background. So I think if we're talking about interoperability in the context of making things good for the consumer or user, I don't necessarily think we need deep technical infrastructure to do that. I think you probably need financial institutions and other intermediaries who have the ability to integrate those back end technologies in a way that's seamless to the consumer.

Jason Brett [01:02:26] That's great, David I don't know if you have any further comment on that and also from your perspective at Accenture, in terms of the international perspective, you know, working with different countries as they're looking at that question of interoperability and also how different countries might interoperate with each other, central bank, digital currency at a retail level.

David Treat [01:02:47] Yeah, it's funny. Interoperability is one of those words I wish we didn't use. We don't do ourselves any favors in the tech innovation space around our language. And too often we talk past each other because we mean different things. But I agree with everything that Tom said. And let me take a different facet on, you know, if we ended up with one hundred and, -you know I just had to Google it - we have one hundred and ninety-five countries. Right. If we ended up with one hundred and ninety-five different solutions, for the future of money in the digital world – intuitively - a disaster, right? So if I avoid the word interoperability and say when we think about the global financial infrastructure and the notion of cross-border payments and the notion of movement and the notion of all of the policy choices around sovereignty, you know, data sovereignty and monetary policy and the like. I think it's very important to talk about it more specifically. So how do we? If we take the current state: for me to clear U.S. dollars, if I'm a foreign bank, you know, a foreign bank or foreign entity, I need a U.S. holding company structure in the United States through which I can do that dollar clearing. And or the notion of the central bank, the central bank relationships that exist around the world against that context, that ability to thread the needle on the domestic policy choices around digital money and policy. Well, I'm sure we'll talk about privacy, financial crime laws and regulations. The architectures that are emerging, thankfully, are all taking that into consideration. And so there's a base case structure architecture that says, look, you're going to have a domestic, network architecture and platform by which the central bank digital currency can move and adhere to those policy choices. And instead of having a U.S. holding company as an example, you have a foreign banks wallet sitting on that infrastructure and that wallet integration between two domestic architectures. It's that kind of a really interesting design

thinking that's underway right now. And so I think it's a given that we need to think through this, the viability in that the design choices to have a thriving global financial ecosystem. And so the more global dialogue we have, the more we base this on common standards, the more we use open source componentry, for the benefit of all the individual efforts, the better.

Jason Brett [01:05:41] Great to turn a little bit to the idea of privacy, as you talked about in some of the laws around AML, know your customer laws that we have. There's also this question of the digital identity and what kind of digital identity is needed for a tokenized digital dollar. And also, the concept that we're familiar from sort of the cryptocurrency realm is this concept of anonymity. Can you help explain a little bit about how anonymity might play in the design and how that might be different than privacy?

David Treat [01:06:11] Sure, yes and maybe if I extend the question to this, this all gets to the heart of who operates the system. And so at the core, and I think Sharon, and I think Chris and others referenced the notion of this being public good infrastructure, if you will. You know, the critical aspect of that is that it does have, as Sharon said, the safety soundness, the security of systemically important financial infrastructure. It has to have that degree of reliability and confidence, and so the operator in it, the operator of this system. And then - I think Bob referenced it - if I tie together some of his comments, the operator will have both a massive responsibility and a massive privilege. And so there's that at one end of the spectrum. We've seen that the dynamics of commercially driven construct, commercially driven operators of platforms in the digital world and the different choices different countries make around their comfort of how they harvest and apply the information that they glean from being the operator of the network. Chris has been very eloquent in talking about - there is some real interesting dynamic of having the U.S. Fed Treasury - having a government entity be the operator of the system, because there in the U.S. context, they're limited then by the Constitution as to what they can use that data for and how they can access it. I think there's a really interesting conversation that will, that obviously is underway around the operate part of it. I think against that backdrop, if you had a Fed Treasury operator, you can have all the benefits of what we've gleaned from the blockchain distributed ledger world of, a large node infrastructure for the safety, for the resilience and the redundancy and the security. But you have a known set of operators. You have the certainty as to who fixes it when it goes wrong. You have the certainty of when it's time to upgrade, all nodes upgrade together. You the operational control constructs that are available. Again, this is too long winded, but this is all a tee up to say that in that context, with the limits that the federal government would have on being the operator, you then have the ability to code in the law. If it was today's law, ten thousand and below, totally anonymous. No one with - short of a court order - can see it. Don't know who did it. You protect the ... have the anonymity. At ten thousand above the business logic gets triggered and now suddenly it's under the scrutiny of AML KYC and other laws and regulations. So it requires that specificity of who's operating it. Therefore, what protections you have through the logic and the like. And these are all incredibly important policy choices first, that then can lead to the technical build against them.

Tom Jessop [01:09:16] That was incredibly well said and I have nothing to add.

David Treat [01:09:21] I take that as hugely high praise.

Jason Brett [01:09:23] Talking to Tom, we heard the, you know, the B word mentioned right, blockchain distributed ledger technology. You know, we've heard Chris Giancarlo testify, talking about a potentially informed by this technology in terms of creating this.

What role should blockchain play in terms of looking at what parts of blockchain do we want to look at when we develop the digital dollar? We obviously saw the birth of Bitcoin and other cryptocurrency with thousand 2008 2009 that I think, at least for me, seems to have hit upon the double spend problem or how we could actually exchange money over the Internet. So, what do we have to learn from blockchain? And if you could also both answer the question of this idea of policy first and tech second, I think sometimes people almost at least from the blockchain industry, insist that blockchain be part of the solution. So, you know, how do we draw that line between sort of where we rate policy and then how we come up with the technology?

Tom Jessop [01:10:23] Yeah, I mean, maybe starting with the technical side first. And I think some of the other speakers today have spoken about this. But, you know, blockchain is an interesting technical choice. And I think it's one that that should be looked at seriously and carefully for a number of reasons. One is the ability to forestall this double spend problem. The fact that it's a distributed network and presumably in some type of central bank digital currency deployment, the financial institutions themselves would be running nodes. You've got some resiliency. There's no central point of failure. I think depending on the protocols used, the possibility is that it can scale to large number of fairly instantaneous transactions, which is not something that the public block chain does right now because of the premium for cryptographic security assurance around transaction completeness, so you have latency in the network. But you know, my observation and Dave can jump in is that there's been so much work behind the scenes since the advent. Certainly, the dawning of this technology in financial services, which was a couple of years following the white paper. But so much work done and trying to figure out how to adapt these technologies to what I would call traditional use cases. I you know, I don't think that on a long enough time horizon, there are any significant limitations to the ability, some type of blockchain technology to power this type of use case. I mean, technology rarely goes backwards. I mean, I know there probably a lot of young people in the audience. You know, I think that for those that are a bit older or think back to the days of dial up modems and the screaming little boxes in the corner of your office to where we are today. And so I think that I've given a long enough time horizon and the right amount of thoughtfulness. I think it could be fit for purpose.

Jason Brett [01:12:11] David, did you want to add on blockchain?

David Treat [01:12:16] I fully agree. Again, as we've as we've started to build, we've gone through the cycle in other countries, in other contexts of a lot of the upfront strategy work, in the policy work. And maybe the for the second part of your question, you know, our entire approach with the digital dollar project is that what you can see from the white paper, was to leave the tech out of it by and large, where, it's incredibly important to surface the strategy and the policy conversations, has now been said multiple times. So against that backdrop, having gone through some of that cycle with other countries and now starting on the build process, completely agree with Tom that there are a number of architectural patterns that are possible, we keep coming back to: that a DLT based system just has more advantages than not, through work like we've done a couple of years ago with the DTCC on performance assessment of the use case into the entirety of U.S. clearing, and what platforms could support that kind of a use case and throughput. And that was two years ago. The types of architectures that can be put in place in this kind of a permission construct can be horizontally, scalable. And as soon as you can be horizontally scalable, then that is not the limiting factor at this point, where we've been able to really overcome that. And it's getting better and better with every month, I think, as was said earlier. So we do intentionally take this whole notion of a champion challenge or model

and a champion model, not just for the strategy and the policy and the and the design, but also for the technology. And we at Accenture, we fiercely defend our tech independence, right, we always want to be able to work with the leading platform and technology providers and, you know, and pick and choose the ones that best fit the right situations. And so we'll keep working with our partners and the testing and the proof points, but I guess I'm incredibly encouraged that the tech is now configurable and advanced enough to meet, I think, the outcomes of whatever the policy discussions are. And then I want to just underscore, Chris, lastly, just Chris Brummer's comment about it. Also, he's spot on that it can't be a lesser standard for those that are unbanked or under banked and that that end of the spectrum. So we have this interesting situation that we've got, you know, core capital markets working on how to apply it, to securities clearing. And we've got the need at the other end of the spectrum, for, you know, easier, cheaper, better on ramps for those that are unbanked and under banked. And I'm incredibly encouraged that the technology patterns and architectural patterns that are emerging can actually do both without that lesser standard. So incredibly, incredibly optimistic and enthusiastic and looking forward to more and more dialogue just like this.

Jason Brett [01:15:12] Great. Let's look to see maybe if there's a couple of questions from the audience. But before I lose my opportunity to ask you what I think is a fairly important question, that strikes me as we sort of have the development of stable coins. You mentioned the younger audience, but I'll go out on a limb and think both of you probably are on Facebook. So, we've all heard about Libra last year and how they want to get involved in the crypto market. We know what's sort of happening in China and the development of Alipay, 10 cent. So, you know, we've seen this trend of sort of the social media platform that the privatized platform of stable coins. Right. Ever since we found the crypto currencies could be used in a way and managed in a way to represent, you know, one U.S. dollar. One thing that's I think it's important is to understand that this isn't truly a quote unquote, digital dollar and that it's not from the U.S. government. Right. I mean, I was a former regulator during the financial crisis in 08 and 09. If I have just JP Morgan Chase, as you know, digital dollars and something happens, J.P. Morgan Chase. That's a very different conversation than just having it simply as a straight up cash. So, you know, what would you say as far as your thoughts about what I think about as this worries me a little bit, it's just the trust that's in the hands of those who are designing this technologically, because all you need is one little thing to go wrong. Right? Whether it's the Iowa special elections or whatever, you know, Iowa caucus. Excuse me. You know, everyone loses trust very quickly. So how do you how do you bear that responsibility as you design something of such importance? You know, that there's any flaws from the outset immediately take heat.

Tom Jessop [01:16:51] You know, the first thing I'd say, about stable coins is I think that, you know, writ large the use cases right now that exist and are revolving around that are probably indicative of the value of a digitized central bank digital currency. Right. So you think about how stable coins are used today, predominantly to settle and to move in and out of crypto related transactions. Right. So, an easy way to convert digital assets to some form of cash or proxy for cash. There are folks that are actually looking to now extend that to various forms of instantaneous, payments or more broad commercial applicability outside of the crypto sphere. But you raise a very good point. I mean, your claim in owning a stable coin is not against the government of the United States. It's against a service provider who has a relationship with a financial institution somewhere. And so, you know, getting to the place where we can have stable value on the block chain, where it can be transacted in isolation or against other types of digital assets, native or not, I think is a very powerful concept. Having said that, stable coins are effectively the only way for folks that

need that capacity today to do that. And that's why you've seen this sort of intermediary model as opposed to the full faith and credit of the U.S. government backing a digital asset.

David Treat [01:18:10] That's right. And I would say that some of the current stable coin efforts are phenomenal leaps ahead from an innovation perspective to use what could be place older tech for when a CBDC is available. Right. And that's kind of one category. But I think more importantly, again, I think it was Bob who talked about the narrow scope, narrow functional scope or simplicity - I can't remember what word he used for the CBDC - and keeping it, more focused and pure to the logic and policy choices of the Federal Reserve in a fiat currency. I think then designating the innovation frontier where the programable nature of money and the ability to do interesting special things, you know, with that capability of it and the interplay between the two, I think it sets a phenomenal structure of a core foundational capability in a CBDC and an innovation frontier where private enterprise can flourish in the notion of adding business logic to tokens. So, I think the interplay between the two is going to be incredibly important as we move forward.

Jason Brett [01:19:19] Absolutely. And, you know, when I mentioned the banks in terms of this understanding, it's in no way saying that stable coins don't have a purpose. They have a very huge purpose in this, and it could be really any bank. It's me with when I think of my regulators hat, just think of any large bank or small bank; if you hold something against that you know, what does that mean? What is the FDIC insurance? But that's been great. It's really great talking to both of you. I know this represented your personal beliefs, not necessarily the organizations you represent. And Danielle, if we have any audience questions, I think that would be great.

Danielle Martell [01:19:50] Yeah. Thanks, Jason. So, we've had it had a ton of audience questions come through and we obviously won't have time to answer them all, but one that we kind of touched on in this show. We've been several questions coming around policy and specifically asking around design and policy decisions need to be pre-determined when defining the digital dollar or if there's flexibility to accommodate for future policy changes. Dave, you touched on this a little bit. Maybe you can talk more around how the technology can be architected in that flexible way to support those evolving policy decisions and how CBDC is really another tool to support policy.

David Treat [01:20:26] The short, short version is that if you have the right "operate structure" and you have that right, you have to have as part of the how you operate this ecosystem and platform dynamic, the ability to modernize. There is zero chance we get it right the first time perfectly. It will, you know, there will be versions two, three, four as you move as with any digital system. And so, architecting in from that operate and modernize perspective, that ability to upgrade and evolve according to how policy will naturally evolve is core to the design from the start has to be there.

Danielle Martell [01:20:59] Great, great, thanks. I think we're just about ready to wrap up. I think that was a great panel to hear around this technology, what it can enable and all the different factors at play there. So, thank you for that. And then with that, I'll hand it back to Chris, to wrap this up over the last six or seven minutes here.

Chris Giancarlo [01:21:20] Thank you, Danielle and I'll ask David and Daniel to join me in thanking our participants today, our members of the advisory group, both on the program and that have been behind the scenes working with us on all of our work streams that we've accomplished. You know, when we started this six months ago, we really set out as

a as a non-for-profit operation initiative in trying to serve the public good and something that we thought was very important. And we set out really with fairly simple objectives. Our first one was simply to kick off a national conversation about the importance of a US CBDC and what benefits and what challenges that might present. And then our second goal was to really advocate for doing that exploration through a series of pilot programs. Our feeling was that this is something too important to be cobbled together in some weekend drafting session. This needed to be done thoughtfully, thoroughly, in the same way the space program or the Internet was developed in a combination of public and private partnerships. And then lastly, we sought to play a role in helping in that exploration through those pilot programs. Well, here we are six months later, and I'm pleased to see the national conversation about a US CBDC is certainly underway to judge by comments from senior officials at the Federal Reserve and elsewhere in the federal government. But also just judging by Congress's interest, tomorrow will be the third of a series of hearings in both the House and the Senate on this very topic. So certainly, both the legislative and the executive branch are increasingly looking at this. And I think that's in part in perhaps in small part, but in part by the work of the digital dollar project. And then secondly, in terms of pilot programs, my testimony tomorrow will outline areas we think the program should look at. Everything from financial inclusion all the way to U.S. monetary policy and how a digital dollar can help those areas and also privacy, which we've discussed at great length today. And then further, we are able to see pilot programs launched. And I very much hope we will see them in the next several years. We look to play a role in helping to advise them and bring both that combination of private sector and public sector interest to bear. So with that, I thank all of the goodwill we've received from members of the public, our advisory board for their support for this effort that we pretty much believe is in the public interest of long term interest, not just for our generation, for our for our children and our grandchildren, long time to come. And with that, I'll pass over to my colleagues, Daniel and David, for a few closing remarks.

Daniel Gorfine [01:24:04] Sure. So maybe I'll follow you up there, Chris, because I'm just going to emphasize a few points that I think you just made. First of all, thank you all for joining us virtually. And thank you to all of our excellent speakers. I do think that one of the things that this discussion has unlocked or unveiled for us is just how many large, outstanding, important questions and areas there are for us to work through. I mean, we heard a lot on access and inclusion. We talked about different types of technology rails. We talked about privacy. We talked about the underlying technology standards. Each one of those could be the subject of multiple days of discussion. For my part, you know, I hear all of this and it makes me think it's time to roll up our sleeves and so let's have the rubber hit the road. Let's start doing real world testing so that we're not just talking about the theoretical, but we start to actually understand what are the merits, what are the benefits, where are the risks and challenges? It's the right way in terms of, you know, pressure testing, a champion model. You know, I thank, Bob, for his comments, knowing that we have teams, you know, like Bob's and others within the Federal Reserve System working on these issues, I think is very heartening. And again, thinking about past analogies of whether it was moon landings or the development of the Internet and really thinking about how do we leverage private sector innovation, ingenuity, dynamism under the leadership. And there is a bit of a collective action issue here when you talk about a large project like US, central bank digital currency, and definitely the need for that leadership at the governmental level as well. So, thank you all very much. And I'll turn it to David for final comments.

David Treat [01:25:44] Great, then just piling on the thanks to everyone. Jason, thanks for moderating, and Danielle and to all of our speakers and all of our participants, we logged

well over 80 plus - actually, it keeps going up - we're well over with a significant number of questions. And this is a start of a dialogue. We went heads down to create the paper with our advisory board, collected, worked with as many as we could to form those initial views, but they were that. They were the beginning of a conversation and so this event really mark's the acceleration towards an even wider public discourse and we welcome, welcome everyone's feedback. We welcome you to future Digital Dollar live events and we will do our best to address all of the questions that we've received, and we really appreciate all of the engagement. So, again, thank you, Jason and Danielle. Thank you to all of our speakers. Thank you, Chris and Daniel and your brother Charlie, to the phenomenal partnership and thanks to everyone. So, hope you enjoyed it. We will see you again very soon.