

**Transcript of Payments Innovation Conference:
Bridging traditional finance with the digital asset ecosystem
October 21, 2025**

SUSAN FOLEY. So, our first panel will be bridging traditional finance with the digital asset ecosystem in their conversation.

Our moderator is Rebecca Rettig, and she will be leading us through this first topic. Rebecca is the Chief Legal Officer at Jito Labs, a software company that builds critical blockchain infrastructure and DeFi applications for the Solana network. I will now turn it to Rebecca to start us off. Thank you.

REBECCA RETTIG. Thanks so much. Good morning, thanks to everyone for being here. It's my privilege to kick off today's conference with a panel about the convergence of our traditional financial system with a new system called Decentralized Finance or DeFi.

Before we jump into substance, I want to thank Governor Waller, Sunayna, Alex, Ria, and everyone at the Fed for convening us to discuss the evolution of our payment system. This type of forward-thinking collaborative event allows us to ensure a cutting edge and safe financial system and to ensure that the U.S. economy remains competitive. Starting the day with the DeFi panel is brave. It shows a willingness to engage with one of the thorniest questions on innovation, whether and how traditional financial institutions and traditional financial services will and can evolve with the advent of an intermediary-less technological system.

Although there's not a universal definition of DeFi, in fact, regulators, policymakers, and industry cannot agree on one, I'll provide a brief definition for purposes of today's panel. DeFi is a software system that runs on permissionless blockchains and allows individuals and institutions to engage in economic transactions without an intermediary. There has been a lot of talk over the

years about whether this new intermediary-less system can or will disrupt or replace TradFi. Very recently, ICE Chairman Jeff Sprecher spoke of his rationale for a recent investment in and partnership with a company building a widely used DeFi application called Polymarket. Mr. Sprecher said that ICE made the investment so, we don't get disintermediated.

Two important things on this. First, unless you're really in the crypto industry, you're unlikely to even know that Polymarket is DeFi or even that it's built on a blockchain. Second, as of today, the total value locked in all DeFi applications comprises about 4 percent of the total crypto market and significantly less than 1 percent of GDP. In other words, there's an acknowledgement that DeFi has great potential to bring new disruptive features to traditional payments and financial services, but there is also a very long road to go.

This road is paved with new technology. To that end, today we'll discuss the current state of DeFi technology, whether and how TradFi can use and integrate with it and where we'll go in the future. This panel will also tackle the incredibly important questions relating to stablecoins' critical role in the DeFi ecosystem and examine tokenized deposits as well as DeFi's potential future role in bank liquidity provisioning and liquidity services. The DeFi-TradFi disruption question is unlikely to have a singular answer and instead will, as the title of this panel notes, require bridges. Governor Waller said it well in his recent remarks at Sibos on the next frontier of payment innovation. He said, innovation is not an issue of TradFi versus DeFi but rather poses an opportunity to harness the complementary strengths each has to offer, especially at a time where we are seeing increased convergence between the two. Today's panelists are at the forefront of this convergence and I'm looking forward to facilitating the discussion among them and letting them introduce themselves now and then we will jump into questions. Sergey, do you want to kick off?

SERGEY NAZAROV. Yeah, sure. Hi, everyone. Good to see many. Sorry. Hi, everyone. Good to see many of you again. Chainlink on the topic of DeFi powers approximately 70 percent of DeFi globally and over 85 percent of DeFi on top chains like Ethereum, providing data and other key services to make sure that the infrastructure underpinning the transactions and operations of DeFi are correctly executed. We also have a lot of experience working with stablecoins, powering their proper execution, basically. We're the largest provider of proof of reserves, which is the technology that stops over minting events and incorrect minting of stablecoins, which I think will be particularly valuable, in this new stablecoin environment. We're also the most reliable provider of bridging technology for the capital markets, working with large organizations like SWIFT, the DDCC, JP Morgan, UBS and others. So we cover the gamut of both powering the DeFi community and now well along into powering the capital markets transition into the, you know, there's like five different names, the digital asset, the digital asset, new revolutionary thing. So yeah, that's what we do.

REBECCA RETTIG. Jackie.

JACKIE RESES. Hi everyone, I'm Jackie Reses. I'm the co-founder and CEO of Lead Bank. We have bank in our name because we own an FDIC-insured bank in Kansas City, Missouri. I started the company in 2022 after leaving Block where I ran financial services. So all the regulated products there and have also been involved with the Federal Reserve for 10 plus years. So I know a lot of the folks in this room, first through San Francisco. Lead is an infrastructure provider. We build infrastructure for FinTech crypto consumer companies and e-commerce companies, many of whom are the largest companies in the world and all names that many of you know. We're an underlying infrastructure provider. We don't really have a consumer brand. And so as much as we power a lot of the products that you all interact with, you would

only really see us show up through disclosures or through an announcement. And that might be Stripe. I know someone from Stripe is in the room. It might be Revolut. It might be Ramp. It might be Affirm. It might be Walmart. And so we work with a lot of different types of companies to provide their underlying infrastructure. And I'm very happy to be here.

MICHAEL SHAULOV. Thank you for having us. So my name is Michael Shaulov. I'm the CEO and co-founder of Fireblocks. We provide infrastructure, digital asset infrastructure for financial institutions, basically technology as a service. Our main customers are bank, fintechs, and other financial intermediaries that are involved in digital assets, stablecoins, and crypto. Been doing that for the last seven years. We are servicing over 2,500 financial institutions today. And essentially the infrastructure has two components. One is basically what you would call wallet or custody infrastructure. So we help folks like Bank of New York Mellon, others to create the custody technology for them to store digital assets. We also have the Fireblocks network that helps people to coordinate the settlements over 100 blockchains that we support. So through this infrastructure this year, there will be more than \$5 trillion worth of digital asset value that is going to be transferred. With regards to DeFi, among the category of the different institutional wallets, custodians, and basically that broad category, we were the first one that created an offering back in 2020 to interact with various DeFi protocols. And along the way we basically were helping with the challenge that traditional financial institutions and regulated entities have in terms of accessing DeFi. So I think we have a lot of experience in discussing about the topic we're going to chat about today, thank you.

JENNIFER BARKER. Good morning, everyone, I'm Jennifer Barker. I lead two businesses for BNY. I lead the Treasury Services business and I lead the Depository Receipts business. And first I'd like to thank Governor Waller for bringing us here today. And the rest of

the Federal Reserve, this is a really important topic and the discussion is timely. We are at a really unique and extraordinary juncture. We have breakthroughs in distributed ledgers, tokenized assets, artificial intelligence, all of which are reshaping the payments industry, not only here but across the globe. And these technologies, they promise payments that are faster, more secure, and more inclusive than ever before. But traditional services and traditional service providers still provide scale and regulatory standards and expertise that underpins every transaction. So today's shift isn't about blockchain technology immediately replacing traditional systems, it's about the two coexisting. And that's really where true transformation lies and getting those networks to interconnect. So our task is to unite these strengths as they complement one another. Layering digital asset innovation onto proven financial systems will unlock greater efficiency, liquidity, transparency, security, and financial inclusion. Key tenets here are important to resolving delivery around real-time payments, data-rich payments, and modernizing for resiliency, security, and industry collaboration. So success will depend on the close collaboration amongst all of us, banks, fintechs, service providers, regulators, to build clear standards, resilient infrastructure, and responsible risk frameworks. So at BNY, we are committed to innovating by investing deeply in research, modernizing our infrastructure, and championing clear, adaptable frameworks that encourage responsible innovation.

REBECCA RETTIG. Okay, great. So now we'll jump into it. As you could hear from everybody's introductions, obviously infrastructure and the technology itself is really the critically important part. So we're going to really try to delve deep a little bit on the technology to start. And we're going to start with the question of interoperability, which means the ability for various computer and software systems to share data and make use of it across different systems.

Sergey, we'll kick off with you, because obviously interoperability is key to what Chainlink has built. They've built the Cross-Chain Interoperability Protocol, or CCIP, which is software that allows users to provide information across various different blockchain networks, so Ethereum, Solana, and many others. But how is CCIP currently being used, and you alluded to this a little bit in your introduction, by traditional financial services firms who are integrating digital assets into their offerings?

SERGEY NAZAROV. Yeah, sure. So, I can't seem to get that right.

[Laughter]

I'm not good at this. [Inaudible]. I wouldn't last long at the Fed. I can't even get this right.

Yeah, so there's like two dimensions to interoperability in the TradFi world, because of the existing investment in systems. So the first level of interoperability is getting the existing systems to work with chains. The existing data sources, the existing backend systems, the existing messaging standards, such as Swift, all of these existing systems need to become synchronized. And this is where you hear terms like digital twin and fund tokenization and other areas. So there's one level of problems where you have to synchronize existing data, existing backends, existing messaging standards with the chains, right, for basic operations. And our position is that those existing systems are not going to be going away. There's a huge investment in them. They're highly regulated. They meet legal requirements. They meet a lot of very key requirements. So the challenge there is synchronizing them.

This is the work we've done with Swift, the DDCC, and other groups that power those systems in big ways. The second level of interoperability is the cross-chain level. And that's because you have a lot of fragmentation. And that's happening because the cost of generating a

chain is becoming lower and lower. So as the cost of generating a chain is cheaper, and as it's easier and easier for more institutions to make chains, there will be more chains. Also, there's various fee dynamics and other benefits to having your own chain. And there's also more and more public chains as long as VCs can make money from flipping a public blockchain coin. So as long as VCs can fund a public blockchain coin, and as long as that public blockchain coin can return a large amount of capital to them as a result of their initial investment, you can expect more public chains as well, because that's a very attractive, financially attractive business model for many people.

So there's more chains. More chains create siloed capital. Siloed capital creates risk and creates limitations to market growth. So you need standards. You need standardized ways to synchronize the existing systems and to synchronize the chains as they grow in amount and fragmentation. So that's what we have a lot of experience with. One of the main challenges that we found in working on that, different from doing it in the DeFi community, doing it in the capital markets community, is there's a lot of requirements around compliance. There's a lot of requirements around accounting books and records and all these different requirements that a transaction has. So the challenge in the capital markets with interoperability is not just connecting two systems, whether they're an existing system to a chain or whether it's a chain to another chain. It's getting the connection to result in a transaction that meets the books and records requirements, that meets the compliance requirements, and that meets whatever other requirements the regulator or the counterparties may have from the transaction. So that's the challenging thing, really, is making the transaction actually happen against all of those accounting, compliance, identity, regulatory requirements.

I'm really thrilled to see events like this. I'm really thrilled about the SEC's new direction and the CFTC's upcoming direction because that'll simplify that problem. But there'll be a period of one to, not one, probably two to five years where you have to create a kind of hybrid system where the old requirements through the old systems still need to be met, but the new system needs to meet them. So that is kind of the challenging thing for transactions, I would say, in the next two-to-five-year period that are interoperable in the senses that I described. Makes sense.

REBECCA RETTIG. Jackie, and actually my questions go down the line, but I didn't know the way we were going to sit. But do you think that the banking system can actually, just to turn this question a little on its head, can the banking system manage the fragmentation of all of these chains that Sergey was alluding to? And how does the technology need to evolve from the digital asset side to be able to be used by banks and traditional financial services firms?

JACKIE RESES. Yeah, well, I'd say in listening to that, it actually sounded like the banking system, and so I laughed in the back of my head as I was listening to this idea of extreme fragmentation, siloing, and the need to actually do compliance. That sounds eerily familiar as someone who owns a bank. But I think, today, the banking system is not at all ready for it. Like you have two banks represented here. Like we're probably one of the biggest infrastructure banks in the U.S. that deals with crypto and stablecoins, and Bank of New York is certainly one of the largest institutions that's like the gold standard for holding reserves and managing the crypto industry. And so you probably have two of like 10, I would say.

Having said that, there's a bunch of things that banks have to deal with that I think are probably the most likely use cases to hit banks at first. One is wallets, and that's consumer-related wallets. The second is infrastructure. I think on the infrastructure side, you're seeing that evolve today, and that's infrastructure of dealing with bin sponsorship, moving money, storing

money, and kind of the overall management of on-ramps and off-ramps. And I think that infrastructure has actually been established by players and operates quite well within the system today. I know we work with over 150 plus crypto companies, hundreds of accounts, billions of, tens of billions of dollars of money that flows through on a fairly regular basis. That happens very fluidly following all the KYC rules that are required and all of the institutional knowledge that we've had for 90 years of developing a banking system in the United States around like core banking law. So that exists today.

On the consumer wallet side, I'd say that's probably the least sophisticated where, and I don't actually see like a use case today for like stablecoins in consumer wallets. No one is sitting there going, I'm going to use my \$25 worth of stablecoin at Starbucks. Like that kind of, it's a nice theory, but I don't actually see any transaction volume that's happening on the consumer side. Where you're going to see it though is institutions that have moved their infrastructure, and over time it'll become more prevalent as banks adopt stablecoin wallets, most likely through their core providers like Fiserv, Jack Henry, and FIS, who will enable it so that you could have interoperability between crypto companies, fintech companies, and core financial services. And so those wallets will be onboarded probably within the next year or two by these companies who have been watching GENIUS Act. But those are the two more likely use cases for where it happens.

And I think on the stablecoin infrastructure side, you won't really notice it as a consumer, it'll just happen in your payment devices. And those rails will start to get moved first by multinational payments, and then second through more domestic payments, largely because the infrastructure has started to move over those rails, if, and I say if, there's an advantage in terms of actual cost and speed versus theoretical cost and speed, because we also are having this

intersection of FedNow, which is a 24-7, 365 payment rail that actually works today. And so users could send a significant amount of money, adoption isn't that great, but that actually does exist. And so big institutional users are going to debate which rail is actually more economically advantaged in which to send money.

REBECCA RETTIG. Michael, I want to get to custody and wallet infrastructure in a second, but because of how Sergey teed things off, Jennifer, I'm actually going to ask you, so what liability counterparty and settlement finality issues emerge when you're bridging these open smart contract systems that DeFi is built on with these regulated banking systems? No, for you, Michael's coming in a second.

JENNIFER BARKER. Sorry, I thought you said both of us. I think that's a very interesting question, right, because you have the question of an auditable chain and figuring out, and as you mentioned, Sergey, all of the data has to travel with that. So you have the question of finality, and you have the question of revocability, right? And so on chain, things are final, but there also probably needs to be a revocable process, just like you have today with wires and other payment systems. So I think it's a really interesting question of, is it final on chain, but what is the process to really have it be revocable if needed off chain and through the regulatory environment?

REBECCA RETTIG. Oh, that's very interesting, because I mean, the whole point is for it not to be revocable in many ways, although certain, obviously, stablecoin issuers are, I think, thinking about revocability.

Okay, so to move to a different part of the infrastructure, but that is just as equally important, as you said, Fireblocks builds wallet infrastructure. And Michael, talk about how the

custody broker approach today in traditional financial services contrasts with wallet infrastructure and sort of other digital asset technology, just to set the stage, and then I, of course, have a number of questions.

MICHAEL SHAULOV. Yeah, so I think that, first of all, when people think about custody, I think what they have in mind is either how banks used to have safes, and they would basically store bare assets in those safes, or maybe like the entire books and records, right, that currently exists in terms of some kind of tree that at the top level, you have something like DTCC, and then kind of propagates to the various intermediaries that are creating a hierarchy of subaccounts. The reality is that, actually, that function in blockchain and crypto is actually provided by the blockchains themselves, by the L1s. That's kind of the books and records.

And what you do as a custodian or as a wallet provider or basically the safekeeping element is actually storing the password, right, storing the private key that is the instruction to move either an asset from one wallet to another or operate a smart contract on behalf of that account. So conceptually, it's a bit different. On top of it, unlike, I would say, in the traditional space that, okay, there is basically one safe, right, you can actually operate much more sophisticated and improved mechanisms to increase the security, right?

So instead of having, for example, one private key, one of the things that Fireblocks and a few other folks have built over the last couple of years is this concept of multi-signature or threshold signatures or multi-party computation, but essentially, it's a virtual system that distributes the ownership over a wallet, right? So you need multiple parties to actually sign a transaction simultaneously to instruct the movement. And that creates like a much larger or much greater resiliency, right, from both the cybersecurity standpoint, counterparty risk standpoint, operational risk standpoint, compared to most that you have in the traditional space.

So that's kind of one important element that it's quite interesting to bring. I mean, it's actually now, nowadays when you look at all the crypto and fintech players, they all have adopted it. Also, in terms of most of the retail wallets, they've adopted it. And also, I think that the banks that have partnered with us, they have also adopted it. But generally speaking, every time that we do talk with bank, especially like, you know, bank IT, it is a fairly complex journey to get them think about how they can enhance their resiliency in that regard.

By the way, you know, that type of technology actually proven itself over the last couple of years to prevent quite a lot of disastrous situations in terms of theft in the crypto space. And I think that part of what we are working on right now with the regulators globally, and I think that the more exciting thing is that we now have the opportunity to work with the regulators in the United States, is to actually bring frameworks, right? Similar to what you have in Europe, like DORA, to bring similar frameworks into the U.S. that will help regulators and traditional financial institutions with scoping and understanding how to implement those models and make sure that as we build or embed those capabilities within the traditional space, we are doing it in a secure and safe way because it's true, I think, like, you know, Jackie kind of alluded to that, there is sort of a hub, right, that's also been our experience working with some of our partners over here, is that there is actually a pretty significant effort that goes not actually in implementing the wild infrastructure and the custody technology per se, but actually integrating it into the traditional systems. And it's not only integrating in the traditional systems, like just connecting those APIs, it's actually also to evolve the processes and the procedures and how IT is actually going to consume that within the bank.

And the reality is, probably you won't be surprised, right, that most of the banks, whether they develop their core banking systems internally or they're using providers like the providers

that were mentioned over here, those providers and those systems that were built in the 70s, 80s, and the 90s, they're not really equipped to deal with it, not only on the level of, you know, the fact that they're doing batch processing once a day, but actually even change management that sometimes expected to take weeks or months, right?

You now have a situation that there is a fork on the Ethereum blockchain, and you need to update all your nodes to the fork, right? And you need to do it in the next 60 minutes. And if you're not going to do it in the next 60 minutes, you're going to be disconnected from the main ledger, right? So those processes, those IT processes, they also need to be evolved within those financial institutions to actually deal with this technology.

REBECCA RETTIG. I was going to ask you, as a follow-up, what current banking practices need to evolve to be able to, but you already answered it. So, Jennifer, we'll go down the line from you, but what's the biggest technological obstacle in having traditional financial services or banking firms plug into DeFi itself today? So applications like Uniswap, which allows for permissionless swapping of assets, or Aave, which allows for lending-type activity. And then if you can each say what you're doing from your particular vantage point to try to move past these technological obstacles, that would be great.

JENNIFER BARKER. Sure. I think the reality is you have to have expertise in both traditional systems as well as digital asset systems to understand how to integrate them and how they can best work together. So I'll start with some of the work that we're doing on the traditional systems. We were one of the leaders with real-time payments. We actually were the first bank to send a payment. When the credit limit increased, we were the first bank to send a payment there. We were one of the first banks on FedNow. The power of immediate payments is so important in this economy, and we continue to work with our clients. And the 9,000-ish banks, Jackie, you

mentioned adoption, we still have more work to do, right? And so getting those consumers and those communities access to immediate payments is a really first important step.

Second is being able to move dollars 24-7. That is a big use case, particularly from our bank and our corporate clients who want to be with inside the walls of BNY able to settle dollars 24-7. So that's a really, and by the way, not a lot of banks can do that, which is why the digital asset structure really can potentially leapfrog some of the bank legacy infrastructure, but we've done both to make sure that we're ready. And the third is AI. We are heavy users of AI, particularly in the payment space, whether it's payment efficiencies and the operations, whether anomaly detection, fraud control, AI is going to really help us get more efficient and provide safer and faster payments.

But then also across the industry broadly, ISO 20022 is really important because as we've talked about today, it's about setting standards. And that's why ISO is so important and we've led in so heavily, we've tested with clients, we've worked with Swift, we do a lot of speaking on it. So it's really important to continue to control and really go out into the market and think about standards. And then there's lots of folks in the industry thinking about it. I know CHIPS and Fed are also exploring expanded settlement windows. So all of these things work together to make the traditional infrastructure more efficient. But there's still gaps, right? There's 90 plus immediate payment systems around the world. There's hundreds and hundreds of clearing systems around the world. We see that illustrated sometimes in cross-border payments with the different formatting. So there are still some efficiency that the digital asset ecosystem can really help us solve.

And if you think about, you mentioned digital asset custody, we launched that several years ago. We are heavily researching and working on both. And so we launched digital asset

custody and we have actually already integrated the traditional and the digital asset rails together in one application. So expand that to then stablecoin and some of the on and off ramps that you have between fiat and digital asset. We do that today for many clients and many of you in the room. And we work very, very closely with many digital asset providers, just even providing traditional banking services. So I think that's a really important part of learning that as well.

But the interesting thing about BNY is, we touch about 20 percent of the world's investable assets. We clear two and a half trillion dollars of payments every day. So we have an obligation and an opportunity to really work together across the industry to continue to really set these standards. And whether that's through Agora or Swift or Guardian and all the other projects that are going on, we're doing both of these things in parallel because ultimately, they have to be able to work together.

REBECCA RETTIG. Michael, I mean, how are you bridging the biggest technological gap between bringing DeFi and TradFi together?

MICHAEL SHAULOV. Yeah, so I think that we've started at what, 2021 when we did Aave Arc together, when you were at Aave. And I think that at the end of the day, the journey that we started back then, so Aave Arc was, I would say, the first project around DeFi back in 2021 that was really catered into the institutional client. And what we identified at that point in time is that for anyone, any intermediary that basically has some license obligations, whether money transmission, trust, banking, the compliance element and the permissionless nature of DeFi were not really resolved, right? And we've created basically a permission level on top of permissionless DeFi that solved that.

Now kind of fast forward to today, we have a bunch of projects in flight that are integrating DeFi and also providing the compliance level for, layer for DeFi, targeting the institutional market. I would say that the main appetite right now over there is coming from the large fintechs, like the names that were mentioned here before, that there are, whether it's like the Stripes, the Revolut of the world, et cetera, that they're already digital ready. I mean, they already have wallets, they already have like sizable amount of users in the tens of millions of users that own crypto assets and specifically stablecoins.

And they want to figure out how are they now leveraging Aave, Morpho, Uniswap, all those things to basically give their clients better, more robust access to those markets. The way that we do it is basically twofold. The first one is really creating adopters and infrastructure for them that allows them to interact with those markets through a secure API. So something that we didn't talk about over here is actually the security element of accessing DeFi.

Some of the questions over there is like, how do you know that you are accessing the right DeFi smart contract? How do you know that you're sending the right transaction? How do you have the right permission level and all the approvals that are needed to send the transaction? So we basically solve all that for them. We call it the native DeFi solution. So it gives them all the security that we were able to figure out for them for their DeFi interactions. And the second element, which is actually still in the works and I think that this is where a lot of collaboration is happening right now with the regulators, is really solidifying the approach around the compliance and how do we KYC and how do we making sure that there is no illicit financial activity within those protocols, which is basically if I'm now doing a swap on Uniswap, how do I know that the counterparty on the other side is not from North Korea, right? Or some kind of OFAC sanctioned entity that if I own MTLs, e-money license trust, that will be a huge issue.

So for that, there are a few approaches. There are some of the traditional approaches that we've taken like whitelisting. And now we actually have a team that is working on kind of the next iteration of that that is using on-chain identity. And we think that on-chain identity, that is just like a much broader component within the regulatory landscape that is now being looked at across pretty much like every regulator globally, bounded into that utility is going to actually unlock this for both retail, institutional, and probably will solve that in the most elegant and technologically native way.

REBECCA RETTIG. One quick anecdote before I turn it over to you, just about Aave Arc, which is from a compliance perspective back five years ago now, we used one of the blockchain analytics companies to do an analysis of the smart contract pool of all the assets that were in the pool and to see what the connection was to any wallets that were associated with illicit finance. It was very, very low.

And so we were able to sort of put that out there. And I just went back to the same blockchain analytics company maybe a month ago to ask about it. And the guy that I know there very well said, you know, you were the only people to ask for something like this five years ago. And now all we get is banks asking for the same type of analysis. So, you know, everything old is new again. And, you know, Aave Arc was a bit before its time. But Jackie, tell us about technological...

JACKIE RESES. I don't think that technology is holding people back today. I think it's knowledge and ability to execute around building. And so on the knowledge side, I'd say core teams of financial services are not geared to have the insight and judgment to understand what's being built on a blockchain and how the products work. And so it's hard to both regulate or oversee something as a financial institution when you truly don't understand it. And so the

knowledge gap, I'd say is pretty extreme. And I, you know, we've been doing crypto for years. And I think one of the things our regulators felt comfortable with is that we understood the products that were on our rails. And so when people were claiming they were being debanked, you could come to lead bank and we were able to work with you because we actually understood the products and had the confidence of the FDIC and the Fed.

I'd say the second issue around ability to execute, I mean, Michael made the reference about the velocity of the way things are being built and executed on chain. You have to be able to build and execute with engineers that can work in real time and have very quick sprint cycles in order to be able to operate in this dynamic environment. And I'd say a lot of financial institutions don't have that. And scale doesn't matter. Sometimes you can do more with five engineers than you can 10,000. And so it's more an issue of how do companies run in financial services where you have 50 percent of the market cap plus being 50 years older and more. And so a lot of these companies are going to have to reorient around velocity.

And so the only real technical issue I've seen in the last few years is that around 24-7-365, which Jennifer referenced. But having said that, you could adjust around that so that you could manage it and be able to execute within an institution so that you actually could send and release within an institution 24-7-365. And so that's existed. It's just something that an institution had to build against until you were actually able to use Fed windows that are 24-7-365, which you can today. And I also think now most companies are quite comfortable with the windows that exist. It's not optimal. So I'd say like that would be the one tweak I would make to make sure that the liquidity is able to be managed and all the counterparties are able to be managed across a dynamic perspective of what 24-7 looks like. You don't have consistency in all the counterparties that exist today.

And I'd say companies like IntraFi is an example or the institutions that federate bank deposits or even on the flip side, core providers, which aren't 24-7 oriented in their mindset of how they do things. And so my summary would be there isn't a technological problem today. It's a capability, not a technology.

REBECCA RETTIG. I love that, Sergey.

SERGEY NAZAROV. Sure. So I heavily echo what Michael described. We are in similar situations with a lot of users and I think there is a big hurdle to clear there in the traditional institutional world of integrating their existing systems with the chains. I think there's really three problems to solve. There's that first problem of the correct integration of the existing systems for books and records purposes, compliance purposes, key management purposes, all these different purposes with the chain so that the large existing tech investment that was made by the, you know, like there's all these jokes about how banks still run on COBOL.

Yeah, that's true. They're still going to run on all this stuff. So you have to make all of that compatible and you have to make it compatible in an open standard. So you have to make it compatible in a way where, you know, to Jackie's point, you can get five engineers to do it successfully themselves. Then the next problem really is how does the transaction actually work? So, okay, I've synchronized my internal books and records requirements systems, accounting system, whatever system, and now I have to do a transaction. How's that transaction going to work? How does that operate? What information does it carry along? What does it prove to regulators and so on?

And then the final point where we started mentioning Aave, the new version of Arc is Aave Horizon, which Chainlink is actually the main technology provider for, powering it for

cross-chain compliance and a whole bunch of other things. That's where you have a model similar to what you have in banking, where the destination is responsible for making sure that things are a certain way, for making sure that they're not dealing with certain parties, that the liquidity pools work in a certain way.

So then the third problem is how do you get this DeFi community that historically has been completely disconnected from any regulatory anything to meet regulatory standards? And the answer to that is smart contracts, right? So you write smart contracts, which automate compliance. You write smart contracts that automate the proving of things to the counterparty as well as to the regulator, as well as to the DeFi team. And so that third problem requires a set of on-chain smart contract standards for compliance, for cross-chain connectivity and for data into that cross-chain and compliance set of contracts.

And then all of that will have to work together where you'll have to have the existing systems properly synchronized with chains to meet their requirements. You'll have to have the transaction that goes across chains to be properly formed and convey the right information to the receiving chain and to store the right information and all kinds of places that regulators and counterparties need to look to be sure that their transaction is correct and reliable. And then you need the destination of the transaction. In this case, the DeFi protocols to have what's called regulated DeFi variant. So the reason you have like Aave and Aave Horizon is because you're not going to make Aave work this way. You need to make a separate version. And so all the DeFi folks need to make these separate parallel versions that are able to interact with all this regulated capital. That's called regulated DeFi.

Seems to be that what we're discussing here which is kind of amazing. You know, a year ago, I wouldn't have imagined. If you told me a year ago, you're going to be at the Fed discussing regulated DeFi, I'd be -- right, Michael? It's crazy idea, isn't it?

MICHAEL SHAULOV. So -- I remember what we discussed two years ago, a year ago.

SERGEY NAZAROV. A year ago, right? Two years ago, maybe, who knows? But sorry, it's a good thing. It's my way of saying it's a good thing, thank you. So you have to get all three of those things to work. You have to get all three of them to happen. And then it'll all be lots of fun and a blast.

And DeFi gets you 8 percent to 15 percent on the U.S. dollar. So I can almost guarantee you that when you open the floodgates for people to get that type of yield on the U.S. dollar in a compliant regulated way, I mean, the yield will go down, but it'll still be high. So -- It'll still be very high.

REBECCA RETTIG. It's good that I'm a moderator, not a panelist, because I'm not sure I believe that there should be parallel DeFi systems, but we can talk about that off stage. Because I also think, to your point, it will take away a lot of the benefits of DeFi, including the yield and things like that. I think there are other, both technological and compliant solutions we can be thinking about and putting into place.

But before we move on to the concept of stablecoins and tokenized deposits, which are actually critically important in DeFi, in all good symbiotic relationships, people give a little bit. It's rarely 50-50. And so the question I have for everybody, and this is just like a quick, which is, does DeFi need to come 90 and TradFi comes 10? What's the give and take that we expect to see? Jackie, do you want to?

JACKIE RESES. I'll start. We've worked with a lot of digital asset companies for a few years. And I'd say the one thing that has evolved, but still needs more sophistication around it, is that willingness to actually follow U.S. banking law. And so, like a lot of companies that were debanked, there's different qualities of what they were willing to do. Some of them were just young and they worked with a bank that had no financial experience. And so they decided to pull back from the digital asset space. Like that's legit, if you don't have the team that's able to do it.

But there are a lot of companies that are young and developing that if you actually had to go through the filings that are legally required as a U.S. bank, they are somewhere on one end of the spectrum, which is grossly negligent, or on the other end of the spectrum, just unsophisticated and evolving. And that's not everybody. It's just a group of companies that are just young, developing, trying to grow as fast as possible. And they're just less willing to do what needs to be done in order to operate within the system. And so I have seen an evolution in the last few years where there was this incredible libertarian perspective around how people were going to operate in the DeFi world. And that has evolved, thankfully, where people have understood. And it was probably with the failures around Signature and Silvergate that crypto companies actually said like, oh my God, we're like reliant on the banking system. Like our money markets are relying, our liquidity flows are reliant.

So we have to step up our game. And I do think they made incredible strides. And there are some amazing companies in the space that are rock stars in compliance and everything they're supposed to do. But when you have an ecosystem of startups that is highly geared to growth, they hopefully will like hire consultants and go get people who can help them build the bridges in order to onboard appropriately into the financial system. And I think that's probably

the thing that requires the most work. And people are largely, not everyone is, but people are largely receptive to it.

REBECCA RETTIG. And as a transition, that was a good transition into this concept of stablecoins and tokenized deposits. And I know there's a separate stablecoin panel, but stablecoins are so critically important in DeFi because most traditional digital assets are very volatile. They don't always have a stable price. There can be large movements, as we've seen even over the last couple of weeks. And stablecoins usually are used as collateral for a lot of borrowing transactions on things like Aave and the like. And so you can't ignore how important stablecoins are and what Jackie was talking about. Even with Signature and Silvergate, you were talking about centralized digital asset companies. But even when you have something like a depeg of a stablecoin, it can have pretty significant ramifications cascading through these permissionless systems as well.

But Jennifer, to start, and I think this is really important because there are a lot of misconceptions on it. What are the benefits of tokenized deposits versus stablecoins? So that's the first part of the question. I'd say, what are the main differences? And then how do you see tokenized deposits being used for payments in a permissionless system, if possible?

JENNIFER BARKER. Absolutely. So tokenized deposit, we think of that as cash in the bank, right? So it is a digital representation of a bank deposit. And so that stays at the bank. And so that stays within the walls of BNY, as an example. And so the benefits of that are certainly cost efficiency, speed, but also liquidity optimization. Still one of the biggest problem statements that exist today in the payments industry is around optimizing your liquidity and reducing trapped cash and really reducing settlement risk. And so the tokenized deposits really help you do those things inside the wall of a bank.

But then you have a stablecoin. So stablecoin is, think of that as cash outside the bank. It is backed by some form of collateral, cash, T-bills, what have you. But that can traverse across multiple chains and multiple systems. So we would see that existing alongside other forms of fiat and other forms of existing currency today. So there's a number of use cases. I think both are equally important, but they do different things.

REBECCA RETTIG. That makes sense. So, Sergey, obviously what Chainlink does in terms of pulling data and feeding it into, I'd say, the majority of the DeFi ecosystem makes sense from a stablecoin perspective, but how do you think about doing data feeds for tokenized deposits, especially when the deposits are sitting at different banks?

SERGEY NAZAROV. So Chainlink tries to aggregate data from multiple sources whenever possible. It's one of the reasons the system now secures approximately 100 billion in U.S. dollars and some of the bigger users have tens of billions of dollars. It's because the data is aggregated from multiple sources in various fault-tolerant ways. With tokenized deposits and these types of things and proof of reserves, you often only have one source of the data. So you can't aggregate across multiple sources. You can create some additional checks. You can do something called securement where once data proves that the reserves are there, you can decide if something should be minted or not. And this stops cases of over-minting completely. Just that becomes impossible because the contract itself is responsible for checking whether or not the reserves exist.

It's not a people-driven process anymore. It's a smart contract-driven check. But the data is often only as good as the sources that you can get. And in the case of tokenized deposits, stablecoins, in the cases of more and more real-world assets, the data is often coming from a single source. And so people need to understand the risks that they're taking. There are risk

frameworks like the Digital Asset Security Control Principles. Let's say that five times faster. DASC, so that's an interesting risk framework where you're considering all the different aspects of risk the on-chain contract risk, the Oracle risk, the data source risk. But generally speaking, I think what's going to be the most useful is that when there's a stablecoin or a tokenized deposit or a real-world asset, there's a way to create transparency for the market. So the market knows this tokenized deposit is guaranteed by this bank or this custodian in this class of account with this data source being the only data source. And we already provide that information about our proof of reserves for stablecoins. And then the market can make their own risk decisions.

So the best version of this is actually when you can provide what we call proof of liabilities, proof of solvency, other proofs of the status of the underlying banking partner or banking system. And I think personally that the more information that you provide about an underlying tokenized deposit, stablecoin, real-world asset, and once you provide that to a market that's sufficiently developed where people are assessing risk because there's enough value in there to care about risk.

Well, then the stablecoins and the tokenized deposits and the real-world asset that prove things at a higher level and are actually built in a more de-risked way will be more attractive. So that's the blanket assumption we have. And so our goal is to build systems that just like blockchains create transparencies within the block, we want to create transparency of all the corresponding systems that put the information into the block such as the data source in this example.

REBECCA RETTIG. Makes sense. A few different questions and I want to make sure there are really good audience questions that are coming in through the sliders. So I'm definitely going to save time for those. But Jackie, two different pieces. One, can we ever use tokenized

deposits as collateral in DeFi? And two, can you ever see banks plugging into DeFi for liquidity provision services?

JACKIE RESES. I think there's always an always. I think tokenized deposits, just in the way that ACH is a messaging protocol that was started 50 plus years ago, tokenized deposits will be a messaging protocol for storing banks. It's as simple as that, like money is largely digital today. Like the definition even of what Fintech is, is largely blurred today because it's a digital manifestation of money and the movement storage of money.

And so as it relates to tokenized deposits, it's really just advancing digital technology around what a deposit is and adding modern technology around messaging, identity and programmability around the idea of a deposit. And so I think it's a technology that's going to be used. I think we started to see it, BlackRock when they launched their ETF was probably not tokenized deposits, but you could see the train coming down the line when you started to see asset classes get tokenized.

And so it's just a matter of turning any kind of asset class into a digital messaging protocol. And so I think banks are going to use it broadly as a technology. How long that takes, say is a massive question just because they don't have engineers and they'll probably start with outsourced technology of other infrastructure providers.

REBECCA RETTIG. And I was going to say, Michael, you probably have something to say about how to bring this all together too.

MICHAEL SHAULOV. I actually have some maybe slightly controversial observation on all this. We've been engaged with both stablecoins and tokenized deposits for the last couple of years. Currently 10 percent of all USDC and USDT is actually going through Fireblocks, so we

have pretty good statistics, but we've also been engaged with quite a few banks on tokenized deposit projects since 2022, for example, with ANZ and the National Australian Bank in Australia.

The main issue that I see with tokenized deposits on public blockchains, there are successful projects on private blockchains like the JPMorgan coin. And back, back, back in the days, there was the Signature that was also a tokenized deposit. On public blockchains, it's actually unclear what happens when it's not, when it goes from first party to third party, and what is the liability of a bank? It's actually not being established, and that killed, from what I've seen, every project or every bank project that was trying to do tokenized deposit on a public blockchain.

Now, this is not a technological issue, it's a regulatory question that no one knows how to answer today, and that actually, I think, basically puts the limitation, the true limitation of how tokenized deposits can interact with the DeFi primitives that we have today.

REBECCA RETTIG. I agree, as a lawyer, the regulatory sirens were going off when I thought about how could we use tokenized deposits in DeFi. Okay, so to make sure we have time for these few questions that we've gotten, which are great, I just want to finish off going down the panel as quickly and concisely as you can say it, what are your recommendations for the Fed to prepare for the payments landscape as it evolves to converge with DeFi?

SERGEY NAZAROV. So I would make the existing Fed infrastructure compatible with the stablecoin tokenized deposit and other payments infrastructure. I would make sure -- not I, I would ask the Fed to think about making the guidance very clear on what the risks are in relation to stablecoins, tokenized deposits, and these things, so that the payment landscape can grow,

because the payment landscape represents, essentially, the buy side of the digital asset economy, and then the buy side makes the sell side, the issuance side that makes the tokenized funds more attracted, right?

So I would look to make your existing infrastructure compatible, and I would look to create clear guidance that manages risk appropriately to make sure that the stablecoin and tokenized deposit, the payment side of the digital asset economy, can grow successfully, and can grow successfully out of the United States more than anywhere else.

JACKIE RESES. I would actually tread carefully, and watch and iterate as we go over the next few years. Two reasons, one, the intersection of AI, fraud, reversibility. We are at a moment in time with AI, where we don't actually know what is going to happen from a fraud point of view, and I think the reversibility and the opportunity for fraud vectors is rather extreme, and so I think it's always going to be great until the moment when, on a wide-scale spectrum, like everybody's grandma was just defrauded because of deepfakes, and so I think this intersection of trying to be super innovative, enabling crypto, and new payments technologies, and AI, is worthy of just being incredibly, incredibly cautious, and I know that's very like nanny moment for everyone in the room, since we're at an innovation conference. I just think the better strategy is slower and steady, and watching it, as opposed to trying to explosively change everything, and not having managed this intersection of AI, which I think is still largely untested, unknown, and asymmetric risk into the system.

MICHAEL SHAULOV. I tend to agree with both observations. The only thing that I would say is that there is still an economic question that comes quite a lot, especially in discussions with banks, that it's a question around how, well, the Federal Reserve eventually is responsible for the banking system in the United States, and at the end of the day, there is an

economic question that comes pretty often with central banks around how stablecoins can impact the credit in the overall system, and I think that this question also needs to be kind of further researched, and that there will be a clear guidance and opinion on how this all going to play out, because clearly, it may or may not have big business model implications for banks.

JENNIFER BARKER. I would agree with everything you said. I think four things. First is just continuing to upgrade the existing infrastructure 24-7, et cetera. The second is standards, and setting standards across formatting, just continuing that work, I think is really important as you look to integrate. I think third, Jackie, you said it is on fraud. Faster payments result, banks have to, and everybody else in the market has to adjust more quickly to assess fraud and to make fraud decisions, so I think continuing to really lean into the fraud topic is very, very important. And then I think finally, and we talked a little bit about this earlier, is faster payments and stablecoins and tokenized deposits, you can access liquidity faster, but then you have to have the associated kind of standards around stablecoin redemption, as well as liquidity policy to support that.

REBECCA RETTIG. Amazing, okay, there's actually one question for everybody, and we have a little over five minutes left, so concise answers, but everybody gets a last question. So this question is from Congressman Foster for Sergey. Your internal Oracle syncing network does not use permissionless blockchain. Does this make you a trusted third party and single point of failure?

SERGEY NAZAROV. Our system uses multiple independent nodes just like blockchains do, and it does work with public chains as well as private chains. Generally speaking, those nodes can be configured into groups for a specific network that meets the requirements of a private user or a public user. So for example, if the Fed needed an Oracle network to do

something specific, the Fed could choose the nodes and the conditions under which the nodes operate for the Fed-specific Oracle network, and that would be the risk that they choose in configuring that Oracle network.

The public Oracle networks are configured similarly to how public chains are configured with many, many node operators. Many of the node operators of Chainlink Oracle networks are also the node operators of any public chain nodes. So the Oracle network, there's over 1,000 Oracle networks running in the Chainlink standard, so you can configure an Oracle network to meet your requirements for compliance, location of the nodes, and these different requirements.

REBECCA RETTIG. Okay. Jennifer, this question is for you. How would a revocable mechanism realistically work without undermining the decentralized, trustless nature of blockchain networks? This is an easy one just to –

JENNIFER BARKER. Right, so no problem. I mean, that's exactly the question. I mean, technically, Fed chips are final, but you can, in fact, revoke them if there's an issue, you can call the bank, et cetera. And so there is a process that exists to protect consumers and to protect banks and corporations around that, and we're just going to have to continue to partner in the industry to think about how we answer this exact question in the digital asset infrastructure.

REBECCA RETTIG. Makes sense. Although I find reversing bank transactions is not as easy as just calling your bank. Okay. Jackie, this is for you. In TradFi, settlement finality depends on trust in institutions. And in DeFi, it depends on trust in code. As they converge, who should provide the trust anchors?

JACKIE RESES. I love that.

REBECCA RETTIG. I love this question.

JACKIE RESES. I feel like we should have Camus in the room to answer some of these questions. So, I mean, trust is trust, and I think every institution is responsible for their own code, regardless of whether they're theoretically supposed to be a traditional financial institution or a modern digital asset company. I don't think there's any difference. Like, and I think over time, this distinction will go away. I made the comment earlier, like, what is an ACH? What is any kind of money movement? It's digital money movement that's sent through messaging systems.

And so this distinction is largely going to disappear as digital asset regulation gets instilled into the U.S. economy and U.S. financial institutions, because it will have a different, but somewhat comparable set of regulations, and it'll operate with KYC. It'll operate with a lot of the same trust dynamics that are established. Now, hopefully, the biggest change will be using modern systems, like modern identification systems and modern technologies that we have today. I think that's still a problem, just because so many institutions, like it took 10 years to be able to use DocuSign at so many institutions. And like when you get those red emails from banks that say this email is from external, like stuff like that as an emblematic kind of funny example will have to evolve so that identity can be deployed in a modern way. I mean, it exists today, and we have CEOs in this room who are experts at identity.

And so it's up to institutions today to be able to adopt those rules. And I also find that anyone who says, oh, I can't do that because it's not compliant, it's a crock. It's like a total crock. When you actually go push on financial institutions' compliance teams, you're like, show me that law. Show it to me. It's not true. And somehow nobody edited out the garbage to deal with modern systems of today. And so I think when people edit and put in modern identity, you're going to be able to have modern versions of trust.

REBECCA RETTIG. Great. Whenever people use compliant, when we're talking about DeFi, I was like, compliant with what? Like, just tell me with what.

Okay, Michael, last question. What are practical strategies that you've seen that will close the gap between legacy payment systems, tech, and processes with digital assets?

MICHAEL SHAULOV. In one minute. [Laughter].

REBECCA RETTIG. Yeah, in one minute. Very simple. Also a simple question to close it out.

MICHAEL SHAULOV. Okay. It's definitely like a five-hour seminar. But look, at the end of the day, I think that the truth is that there is just a lot of education that needs to go to the teams that are currently working on that in the traditional financial space. And I think that there are a bunch of enterprise-grade partners, providers, vendors, however you want to call us, whether it's like us, Chainlink, Chain Analysis, a lot of folks that have built this muscle over the years, worked with institutions, and invested just hours over hours over hours to basically bring the operations team, the compliance team, the technology teams, all those folks, and educate them on that.

And it's also extremely important to bring the executive team on board in those organizations to understand it. I would actually argue that, in most cases, the final blocker is basically getting the CFO, the Chief Risk Officer, those guys over the line. And by the way, the most important thing is actually to give them, that's what I actually tell now all the people, download the wallet, download the MetaMask on your phone, and then I send them USDC, and then I tell them to send me back the USDC, and that's, I think, where the light bulbs go.

REBECCA RETTIG. It's a reversible transaction [inaudible].

MICHAEL SHAULOV. It is a reversible transaction, yeah.

REBECCA RETTIG. Well, thank you very much again to the Fed and Governor Waller, and everyone here who put this together. Thank you to these amazing panelists who are clearly experts in everything they're working on and creating the bridges that we need to bring TradFi and DeFi together. So a big thank you.

[Applause]