Transcript of Unleashing a Financially Inclusive Future: Cross-Border Payments Innovations: Tackling the Last Mile & Closing Remarks
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DAVE MILLS. Okay. So good afternoon, everyone. My name is Dave Mills, and I'm a Senior Associate Director in the Division of Reserve Bank Operations and Payment Systems here at the Federal Reserve Board. I want to thank everyone for joining us today. We are the last panel of the day. It's been a very fruitful day, hearing from various speakers as well as a lot of very interesting dialogue and good discussion along the panels. Today we're-- on our last panel of the day, I'm going to moderate a topic that will explore a lot of, an important area of intersection between payments and financial inclusion, in particular in the area of cross-border payments. Cross-border payments are a critical feature of the economic and financial integration of economies around the globe. And a particular part that's related to financial inclusion are remittances. The remittances are particularly important because they involve people in one country sending money, usually to relatives in another country. In 2024, global remittances reached $740 billion, representing the largest source of foreign income for many developing economies, even greater than official development assistance from developed economies. Remittances are also very fundamentally important to Americans as well, given that 20 percent of remittances are sent globally-- that are sent globally, originate from the United States. In 2020, the G20-- a lot of 20s there-- identified cross-border payments as a priority initiative. The Federal Reserve is committed to supporting this important work by engaging with other regulators and private sector actors across the world, both through the Financial Stability Board, or FSB, and the Committee on Payments and Market Infrastructure or the CPMI. The Financial Stability Board and the Committee on Payments and Market Infrastructure, and other global organizations are advancing work programs to address four key challenges associated with cross-

border payments. They are related to high costs, low speed, limited access, and insufficient transparency. The desire to expand financial inclusion in general and improve cross-border remittances in particular are often cited as key motivators of these programs. The Federal Reserve has actively contributed to and been supportive of this initiative at the G20 level since its inception. Board staff contribute to a number of international working groups exploring the potential opportunities and risks of digital innovations for cross-border payments, including stablecoin arrangements and infrastructure improvements. As part of that, I chair the CPMI Future of Payments Working Group, which includes examining newer technologies and developments that could improve cross-border payments over the longer run. The FSB and CPMI formed two industry task force to engage directly with private sector participants on cross-border payment technology and legal issues. Engagement with the private sector stakeholders through industry task forces has also been an essential part of the process, and these task force have made progress in helping identify ways that the industry can collaborate to take forward aspects of the various issues. Even with all this work going on to improve cross-border payments and remittances, there's still much to do. One part of remittances that continues to prove challenging is the so-called last mile. The last mile refers to the final stage of a remittance payment, transferring funds to the end beneficiary in their home country. We're going to hone in on the specific part of the transaction to see how innovations in regulation or infrastructure might mitigate some of the remaining issues. With me today to explore this topic are Harish Natarajan, Jess Cheng, and Gordon Liao, who have extensive on-the-ground experience for remittance recipients in emerging market economies, legal expertise across the private and public sectors, and research strategy and product development experience at the largest US-regulated stablecoin issuers, respectively. So to introduce them, first, I have Harish Natarajan. Harish leads a global

team working on financial inclusion, payments, and market infrastructures, digital finance, and credit infrastructure topics. He represents the World Bank on several international working groups on these topics. He and I have worked quite a bit extensively together over the years. He is a lead contributor to the IMF World Bank Bali FinTech agenda, co-led the Future of Finance flagship paper, and co-chaired the CPMI World Bank Task Force on Payments Aspects of Financial Inclusion. Prior to joining the World Bank, Harish worked in senior-level positions at Visa in Business Development Operations and Risk Management, and he holds an undergraduate degree in Electrical and Electronics Engineering from the Indian Institute of Technology Madras, India, and a post-graduate diploma from the Indian Institute of Management Calcutta, India, specializing in finance and systems. Next to Harish is Jess Cheng. Jess is a partner at Wilson Sonsini Goodrich & Rosati, where she advises fintech companies on sophisticated regulatory, transactional, and product development projects involving payments innovation. Her most recent projects include advising Circle on the launch of the Circle Payments Network, Chime on its recent IPO, and Stripe on its acquisition of stablecoin infrastructure provider Bridge. Before joining the firm, Jess served as senior counsel at the Federal Reserve Board of Governors, where she contributed to the Federal Reserve's policy analysis on digital assets and stablecoins. So we also have quite a history. Prior to that, Jess was counsel at the International Monetary Fund, where she advised on the strategic direction of the funds, fintech work agenda and provided technical assistance to advance law reform in central bank legislation and modernize financial sector regulation. Previously, as Deputy General Counsel at enterprise crypto company Ripple, Jess devised on a spectrum of legal and regulatory issues that impact innovative cross-border payment products. She also served as counsel and officer at the Federal Reserve Bank of New York and was previously an associate at the New York law firm Wachtell, Lipton, Rosen & Katz.

Jess holds a BA in economics from Yale University and a JD from Columbia Law School. Finally, on the screen, somewhat larger than life-- not too large, okay-- is Gordon Liao. Gordon is the chief economist and head of research at Circle, a leading financial services firm building payment infrastructure for the internet. He's also a research fellow at the Cornell Fintech Initiative and a co-chair of the National Association of Business Economics Finance Roundtable. Gordon's career has encompassed diverse areas within finance and technology, including fixed income relative value trading at the Harvard Endowment, machine learning and AI at Kensho, policy advising on short-term funding markets at the Federal Reserve Board of Governors, and leading research and development in decentralized finance and tokenization. His research contributions have been published in respected journals such as the Review of Financial Studies and the Journal of Financial Economics. His previous work has been featured in Bloomberg, Wall Street Journal, Barrons, PYMNTS, among others. Gordon holds a Ph.D. in Economics from Harvard University and received his bachelor's degree in applied mathematics from Harvard College. And of course, I couldn't-- I couldn't-- I'd be remiss without saying I also have previous work with Gordon as well. So thank you all three of you for being able to join this event. So now what I'm going to do is maybe open up the beginning of the panel with some initial questions. So to start out, I'd like to hear from each of our panelists about what you perceive as the biggest barriers to addressing the issues in cross-border payments that I just noted, namely around high costs, low speed, limited access, and insufficient transparency. And, Harish, I'm going to start with you, given your experience on the ground in many emerging markets and developing economies. What do you think seems to be the core problem in the last mile?

HARISH NATARAJAN. Thank you. Thank you, David, and it's a pleasure to be here. Well, the challenges on the last mile are largely due to the reliance on cash. And it's very clear

that digital-- end-to-end digital remittances are significantly cheaper than cash-based remittances. To put a figure to that, it's at least around 20 percent on average cheaper than digital-- than cash-based remittances. And the reason for the predominance of cash-based remittances on the receiving side, at least, it could be originated digitally, but the recipient, if the recipient is in cash, the reason for that is very closely tied to the financial inclusion challenges in the recipient countries. And many of the recipients do not have accounts or do not have accounts, or even if they have accounts, those accounts are not enabled for receiving international remittances, because in many countries because of regulatory reasons, when the mobile money products were introduced, they were to minimize the risk related to AML/CFT, they were not allowed to receive international remittances because that was seen as a high-risk transaction. So that is one clear reason. And the other is related to the distribution infrastructure, access to being able to easily convert from an account into cash, and so on. So the presence of infrastructure is a challenge. And then the other reason is also related to financial literacy, awareness, comfort with using the digital products. So those are the three main reasons, I would say. If you unpack that, what are the underlying reasons for all of that? I think it always comes back to regulations, infrastructure, and policy. And regulations here, I'm specifically referring to the account opening related regulations, related primarily to know your customer requirements. In many of the countries, of course, the penetration of official forms of ID is limited. And as I mentioned, if you want to receive international remittances into an account, then that is considered as a high-risk transaction. So it is typically the full-blown KYC requirement, which at the minimum requires an official ID. And then, there are also issues related to the entry of new entrants and new business models. The segment is typically not served by the large banks. So there are specialized providers going into the market, and in many countries, their regulatory structures are restrictive,

and many of these new entrants are unable to enter the market. And then even if they enter the market, they do not have access to the national payment systems, which makes it easier for them to remit directly into an account. So they still have to maintain all those bilateral linkages and all of that. So that's the way I would categorize it.

DAVE MILLS. Thanks. Jess.

JESS CHENG. Yes, and I would agree. I would say one interesting comparison point is looking at cross-border payments versus domestic payments. Now, in cross-border payments, the challenge is today we generally have siloed networks that don't talk well to each other. We usually see payments flow pretty freely when we're looking at domestic rails within a country. And that's even more so when the payor, the payee, the end users in a payment transaction, when those parties happen to have accounts with the same financial institution or within the same network. But the challenges come when we're looking at payments across networks, and that's where we see inefficiencies and frictions. So for cross-border payments, especially, they often have to flow through a long chain of banks or payment systems that eventually winds its way down to the recipient. If it reaches the recipient at all. That's the last mile challenge that David had mentioned. The result of this chain is that it's slow, unpredictable, and expensive, and again, limited in reach. And it's this connectivity problem that is one of the biggest barriers to cross-border payments. And by connectivity-- and I think this is building on what Harish had just set out-- by connectivity, it's both technical and legal. Unlike many domestic environments, where we have a central bank that serves as the network hub, a central bank that provides a legal and operational infrastructure that allows payment systems to interoperate safely and efficiently. When we look at the global level, cross-border payments often lack a comparable central coordinating function. So that's why, as a result, we see these transactions typically relying,

again, on that chain of correspondent relationships, each with its own legal, operational, and risk frameworks. And it's this fragmentation that creates delays, uncertainty, and cost, especially when payment systems just don't speak the same technical or legal language. And because correspondent banks tend to concentrate in the major corridors, their reach often just stops short of that last mile, which results in those gaps in access, precisely where payments tend to be most needed.

DAVE MILLS. Thanks, Jess. Gordon.

GORDON LIAO. Well, thanks so much. First of all, for inviting me here. Sorry, I cannot be in person with you all. I'm halfway around the world. But I think I very much agree with what Jess and Harish laid out. I think I would categorize under two large buckets in terms of the barriers. I'll speak from the innovator's perspective. The first barrier is just fragmented regulatory and compliance. So every country has its own unique AML, KYC licensing framework, and that repeats a compliance burden and limits access for especially non-traditional players. I mean, the type of innovations in the remittance space has been going on for, you know, decades now. People have tried to enter into the space. You have various firms who try to lower the costs for-- and solving that last mile problem. But I think if you dig into it deeper, a lot of it, it's the cost that's related to compliance through regulatory barriers. That makes it hard for these innovative firms to serve these underserved populations across the world because they have to repeat the KYC, repeat AML, especially in the correspondent banking type of relationships. And that actually ends up contributing to possibly de-risking of some of these corridors in terms of relationships. So you actually have a decline in correspondent banking links in certain regions, for instance, Sub-Saharan Africa. I think technology could be a response for that. And we will catch or touch on that a bit later. But the second barrier I want to highlight is just the legacy

infrastructure bottleneck. Payment systems, especially cross-border payment systems, are technologies that have been around for, you know, sometimes 50 years. It does depend on a very legacy type of financial infrastructure. That is, both the manual reconciliation that's involved, but also involving the messaging, using SWIFT, and Nostro and Vostro accounts. Part of it is infrastructure that's technology-based. Part of it is infrastructure that's more of a balance sheet constraint, given the liquidity needs that are necessary to fund these cross-border payments. So as an economist, I always think about, you know, if you remove aside all the legal considerations, are there still fictions? I would say absolutely yes. If you streamline the technology component, streamline the legal component, there's still the liquidity component of just how much liquidity each of the correspondent banks has to hold in between. And in the last mile problem, yes, that's-- I would say that's much more of the technology infrastructure and legal side, but then you still have to have a sufficient amount of liquidity even at those last mile end points for everything from conversion of FX to actually have the funds available for end users. And I would say that there's a lot we could do there in terms of, you know, solving that last mile problem, not only as I mentioned earlier on streamlining and reducing the fragmentation on the regulatory and compliance side, but also removing the barriers in terms of access for both banks and non-bank institutions to the core settlement systems. So enabling well-regulated non-bank institutions to access systems for settlement, such as Fedwire or the equivalent around the world, with an appropriate risk framework. I think that could also help with the last-mile delivery of funds to the recipients.

DAVE MILLS. Thank you, Gordon. So it's interesting, each of you had mentioned in some of your remarks on this first question, infrastructure. So I want to kind of talk a little bit or focus in a bit more on that. And, Harish, I'm going to start with you again. Many countries might

lack the digital infrastructure needed to benefit from fintech innovation. What foundational investments or partnerships are the most critical for progress? And what role do the public and private sectors play in the development of this infrastructure?

HARISH NATARAJAN. Thank you. Look, kind of building off what I mentioned in my remarks earlier, I think the foundational digital infrastructures, which are required, apart from, of course, the telecom connectivity and those infrastructures, is really related to the digital identification infrastructure and the modernization of the domestic payment systems. And, of course, currently everybody kind of interprets that as fast payment systems, right? So those are the benchmarks now for digital payment systems globally. So I think apart from the telecom infrastructure, digital ID, and fast payment systems, I would say are the very fundamental infrastructure investments which are required. Digital ID, to some extent, at least the core elements of enrollment and-- enrollment and giving the legal basis to that is the role of the government, very clearly, but the digital aspects of that could come from the private sector, and there are some models related to that. But in many countries, in particular the developing economies, the digital ID functionality completely is provided by the public sector. But clearly, as I said, there are models in which the enrollment is done by the public sector, but then the digital overlays on that can be provided by the private sector. And on the fast payments system side, again, the central banks and other financial sector regulators have a clear role in championing for it and leading the initiative. But the implementation and operationalization could be done in the private sector, and there are good models of that across the world, including in developing economies. But again, here, in some cases, it is still operated by the regulators in the public sector, primarily because of market failures. In particular, trying to bring banks and non-bank players onto a common infrastructure requires quite some effort. And because of that,

at least at the beginning, the public sector intervenes and operates that. So these two, I would say, are the key investments required. Now, of course, infrastructure is infrastructure. You need policies to enable the use of the infrastructure in an efficient manner. So digital ID without appropriate risk-based and proportionate KYC regulations is not helpful. So those will have to go hand in hand. And similarly, on the fast payment systems, the access of that infrastructure to fintech companies and maybe also to some of the international networks is also critical. So for example, if you have cash-based remittances currently, the way the model works is there is some international entity or money transfer operator, like say Western Union or MoneyGram, and they have to appoint agents all through the country for acting as outlets to disburse the remittances, and that clearly comes with the cost. And if you move digitally, then they will have to tie up with banks individually. If they do not have access to the payment system, either directly or through one financial institution who can then be their gateway into the domestic payment system. So either directly or through another financial institution, if they have access to the payment system, then through that one touch point, one interface, they're able to credit any account in the country instantaneously. And that significantly lowers the cost, at the minimum, one total cost goes away because of having to maintain the distribution network. So I would say these two are the key requirements, along with, of course, the policies to go with it.

DAVE MILLS. Thanks. So Jess, designing a robust cross-border payment infrastructure can be especially tricky because it requires ensuring compliance with laws that could potentially be in conflict across many jurisdictions. I think we've brought up some of this pain point already. So from a legal perspective, what do you see is, one, the most challenging difference to overcome, and two, the most urgent difference to overcome?

JESS CHENG. I would say from a legal perspective, on the first question, a challenging difference it's to build the legal architecture that would support interoperability. And this point goes to the very heart of trust and enforceability. So here's what I mean. Payments, they're not just technical transactions, they're also legal ones. And in the cross-border context, each link in the payment chain may be governed by different regulatory recognition, different standards for liability, could be different legal frameworks for how value is transferred or whether and when settlement finality has occurred. So without clarity and predictability in legal treatment, you can have even the most advanced technical infrastructure, you can have those infrastructures still introducing risks of uncertainty and unsafe payment offerings. For example, you might see in a cross-border transaction between Jurisdiction A to Jurisdiction B, you might see a question if settlement finality in Jurisdiction A, if it's recognized there, would it still be recognized as final in Jurisdiction B, where we have that cross-border payment offering. It gets even more complex the more links you add to the chain. You might also raise the question, who bears liability for a failed or a reverse transaction in a multi-leg chain? So these questions, they might have clear answers in the traditional correspondent banking model. But that legal architecture, it's not necessarily in place, or it may require bolstering or tailoring for emerging cross-border payment infrastructures. You can think of, perhaps stablecoin bridging models or DLT underpinning cross-border payment transactions. So this challenge, it's structural and it's a public-private sector effort, so a robust legal framework that's made up of statutory, regulatory, and commercial contracting rules. So it's this exercise of pulling all of this together where we collectively can create a robust legal foundation. And it's really these legal dimensions that are critical to supporting, I mentioned stablecoin payments as a bridging asset. You need to think about transferability, off-ramps, and on-ramps, especially for these emerging technologies. Now, on the

other question, the most urgent difference to overcome, I would say from a legal standpoint, one of the most urgent legal differences to address, it's the different or uncertain regulatory treatment of what are really functionally similar-- functionally similar activities or instruments across different jurisdictions. And this challenge is exacerbated when we have new technologies, again, like tokenization or stablecoins for cross-border payments. You might take, for example, a tokenized representation of a fiat-denominated digital asset. It can be classified as a deposit in one jurisdiction, a security in another, and possibly an unregulated digital asset in a third. And it's this variation that creates legal uncertainty. It creates compliance complexity. And in some ways, it can introduce a degree of operational risk. This is especially the case for cross-border payment providers who have to navigate multiple different regimes just to manage a single product. And the effect of this is to deter market entry. Instead, it tends to reinforce the dominance of a small number of global incumbents. And, of course, that in turn reduces competition. It limits innovation, and it also has the end outcome of raising the costs for the users, the end users who are relying on these cross-border payments, remittances, the most.

DAVE MILLS. Thanks, Jess. So then, Gordon, how can new or improved infrastructure help with the reach of financial services across borders? How do you situate stablecoins in the broader cross-border payments innovation landscape?

GORDON LIAO. Thanks so much. I think, you know, first, we have to recognize where the infrastructure is today and where we want to go in the future. I do think a blockchain-based or distributed ledger-based solution could make a lot of sense for just the global settlement of value. That is more 21st century, that's more internet-native. But I think, first, it's just recognizing that blockchain could add a lot of value because of the nature that it's operating globally, instantaneous settlement is by nature the design there. I'll touch on the settlement finality point in

a little bit, which is something that we need to improve on. But it's a core infrastructure that's already 24/7, it's already instantaneous, and already eliminates quite a bit of the intermediary frictions in between. I think also what's needed on top is you need better blockchain solutions. Today, you know, Jess mentioned the point about settlement finality from a legal standpoint, but I think even on the infrastructure side, from a technical perspective is still not entirely clear what is finality. The first generation of blockchain, think of Bitcoin, operated on probabilistic finality with proof of work. Things are never fully final. You always overturn it with enough energy resources that you can orchestrate a 51 percent attack on a network. Then later on, you have the evolution towards a more proof-of-stake concept, which is currently what Ethereum are built on. Theirs is a little bit better, but the finality is-- there's a concept of economic finality. The finality of these settlements rests on you have enough stake assets. So it really requires you to have quite a bit of value tied up in stake assets. Even then, it's hard to argue, you know, whether that's final in the sense of, can you overturn certain transactions because there could be forks down the road. So you really need the stake assets to support trillions of dollars of transactions, then the stake assets have to be proportionally large, and that just might not be feasible with securing, I would say, the crypto assets that are available today. Later versions of blockchain, today we're looking at blockchains that could offer deterministic finality, that is, truly finality that you can count on, as soon as transactions are confirmed on a block, that is hard to overturn from both a forking perspective as well as a real org of blockchain. So the technology is evolving really fast and is getting to a place where you can call it deterministic finality from a technology angle. Perhaps you could attach a legal language of that deterministic finality comes with also a legal guarantee if it is coupled with the appropriate issuance mechanism and appropriate asset on those chains. There's also an element of what are the applications on these blockchains that matter. Just

because you have a fast settlement rail that everyone aligns on, doesn't necessarily mean that you could have the frictions of cross-border payments resolved if you don't have, for instance, the appropriate conversion of foreign exchange or the appropriate off-ramping. So I do think these distributed ledgers or blockchain and tokenization solutions need to be coupled with applications on top that truly utilize the programmability of these blockchains. What do I mean by programmability? It means that you could actually program the if-then logic typically that you see directly embedded into money, into these blockchains, that could facilitate conversion of foreign exchange that do not necessarily involve intermediaries or at least traditional market-making type of firms. That could involve services such as temporarily escrowing funds for release until certain things are satisfied, such as identity checks and verifications. That could involve better identity solutions that connect more seamlessly with existing identity from traditional identity solutions involving using a technology such as zero-knowledge proof of having someone to attest that they have gone through a KYC check, but without necessarily disclosing all the KYC information to a third party. So that's more on the blockchain side, but you also asked about the stablecoin landscape. Well, I think the stablecoin space is very exciting because it is more of a value that you can tie to fiat value now, and that is still native to the blockchain. Now, the question is, can you ensure the one-to-one convertibility? So the Bank of International Settlements always has this concept of singleness of money that they point to as a criticism of stablecoin. Well, I think absolutely you could have that singleness of money as long as you have efficient access to the fiat conversion, the conversion with traditional bank money. So that goes back to the point about having that settlement system access. So in Europe, there is, I think, the ECB have opened up the target to the settlement system to non-banks. And I think in the other jurisdictions, there are similar type of setups already as well. And it is when you have

that connectivity of, say, fintechs and non-banks directly with central bank money or central bank settlement system, then you could achieve this one-to-one conversion without additional intermediaries in between. Today, you also have that one-to-one conversion in the primary market, but that comes with a certain amount of intermediation in between. And then, of course, you need to have better complementarity between the public and private sector innovations. I think we're past the CBDC discussion, at least on the US side, but I think there is also four areas to partner on tokenizing traditional assets, tokenizing, say, sovereign bonds on chains such that it could be used effectively as the reserve for possibly stablecoin, possibly other type of settlement instruments. Those are all emerging areas. I think it offers quite a bit of promise. And a point on interoperability is, you know, today, USDC, the stablecoin that is the most regulated and that Circle issues is already on, I think, 19 or 20 different blockchains. We do offer cross-chain solutions, that is effectively transferring value from one blockchain to another, almost instantaneously settling within from seconds to minutes. But I think that those technology will continue to build. The important thing is having these blockchain adoptions in place, in the first place, allows you to build on this greater ecosystem that's already in existence in which you have multiple ledgers, you have interoperability to some extent already, instead of building siloed DLT type of structures that cannot communicate with each other, that are only meant for a certain set of institutions and very exclusive in terms of access. That doesn't mean you have complete permissionlessness; you can still impose permission requirements at the validator level or perhaps even at the application level, just like the internet today has these controls in place, but yet, it has a permissionless nature to it. But I think that is the type of internet-based system of value exchange in which you could reap the benefits of interoperability, connectivity, at the same time have a sufficient amount of control for satisfying compliance and regulatory needs.

DAVE MILLS. Thanks. So you know, it seems like as we kind of think about some of the tensions here, there's some technological tensions, but ultimately a lot in the last-mile construct here involves the legal, regulatory, and the technical infrastructure within the home country, the jurisdiction, that, you know, I bring this up because part of a conversation we have internationally about new payments rails to sort of help facilitate remittance channels, a lot of that is like from the host to the home country. And those rails can be built, but we could build these sort of things or, you know, firms like Circle or others that are contemplating sort of infrastructure improvements could build these things, but the fundamental problems will still remain. Is that a fair assessment?

HARISH NATARAJAN. Yes, indeed. And I really hope Gordon solves the problem. Gordon and all the other colleagues working in the space really help solve the problem. But I think there are other sets of issues which need to be addressed for solutions like those to be more effective to address these problems. So let me illustrate a few points here. I think if you have stablecoins used as the mechanism for transmitting remittances, firstly, on the host country side, whether the senders are actually going to hold stablecoins or they're going to convert into stablecoins. So there's going to be a cost and access to that infrastructure. And then on the receiving side, due to various regulatory reasons and then also implications for financial stability, on the receiving side, they're not going to allow circulation of foreign currency-denominated stablecoins in the local economy. So there will be very-- there is strong pressure to convert it immediately into the local currency, either at the individual level or at the financial institution level which is coming in. And if it is a financial institution, then whether they are able to hold on to that is also based on the exchange control policies in the country because they would want to recognize the foreign currency in the reserves of the country, and they would not allow

stablecoins or reserves to build out-- build up. So there will be pressure to convert that. So a lot of the cost savings which can come will actually be eaten away because of all of this kind of ramping in and ramping out costs. And then the other issue is for the consumers themselves, for them to be able to interact digitally, all the other issues which we talked about will need to be addressed. And then there is a big issue related to access to correspondent banking services, so there is going to be, at least for the next 10 years or so, I presume, the correspondent banking model is going to have some relevance, while it may be diminishing relevance, but it's going to have some relevance. And the question is whether the financial institutions, which are going to participate in the cryptocurrency exchanges and hold stablecoins, what happens to the AML/CFT profile? Is it going to be seen as more risk, and hence more risk of losing the correspondent banking access? So I think there are those issues which need to be addressed as well. Thanks. Any thoughts on that, Jess? I would say from a technological perspective, there are interesting developments where we see technological innovations helping, it's by opening up the types of connections between financial institutions around the world. So think of DLT, stablecoins used in the context of cross-border payments, it can enable-- it can allow a larger number of parties to transact with each other in real time, or to offer specialized cross-border payment services without necessarily having to rely on traditional intermediaries like correspondent banks. So in essence, you can think of one area where these technological innovations could fit in the payments value chain in a way that supports financial inclusion. These technologies could serve as a way for more financial institutions in more jurisdictions around the world to establish trust and coordinate their actions vis-a-vis each other to effect a cross-border payment as an alternative to relying on central intermediaries like correspondent banks for clearing and settlement. And the effect of this is to bring that last mile closer and connect with the first legs of

the cross-border payment. What you could have is a global payment system where value flows more freely with more paths, more options to connect a payor and a payee. And we see other innovations like real-time settlement to linkages, standardized messaging formats, and other different ways to transact on a distributed ledger. That can help bridge a lot of gaps. But to go back to your question, David, I think technology alone, we have these infrastructures. We have these emerging technologies. But standing alone, they're not a silver bullet. They need to rest on a clear and predictable, among other things, legal foundation; need to have a shared understanding of what constitutes a valid payment instruction, final settlement, and ownership of funds. These are fundamentals, the foundation that a payment system needs to be built on. And without this clarity and trust, we see cross-border payments not only facing technical barriers, it's going to be legal uncertainty, chaos around settlement finality, liability allocation, and the enforceability of obligations, roles, and responsibilities, who does what? There would be a lack of clarity and predictability there. So in a sense, thinking through challenges to cross-border payments and the necessary layers beyond the technical infrastructure, if we want to expand safe and efficient access to cross-border payments, it isn't only just about building better or newer rails. The technological innovations that can help, those are the ones that also come with aligning, or sometimes it's creating that legal architecture to govern them. -- challenges remain. We're already seeing quite a bit of progress with the technology solutions. You know, for instance, USDC's circulation, it's already reaching many, many countries. It's already processing billions of dollars in volume monthly. You can access it in over 100 countries. And we are partnered with local, regional fintechs and regional virtual asset service providers that would follow local requirements for holding of stablecoin or cashing out to local currency or converting into local currency stablecoin, which I think is an interesting development. I think there are

going to be a fortune of activities in local versions, as not dollar-denominated stablecoin. And we would offer the EURC product for euro-based stablecoin has been growing quite a bit as well. And in terms of working with existing frameworks of last-mile solution providers, the Circle Payment Network, which I know, Jess, you mentioned that you also worked on that. It's something that already is orchestrating the-- it's bringing quite a bit of, I would say, competition in the last-mile payment provider space, because what it is, it is a marketplace, it's the orchestration service that connects the senders and the receivers, most importantly in the middle piece, the originating institution and the benefiting institution, receiving institution, but it's a marketplace for doing so. So today, one could also already send USDC, you know, from the US, for instance, to the Philippines, but also do the last-mile conversion through these remittance companies, through these virtual asset service off-ramps. And the network structure that at least Circle Payment Network and others are bringing are allowing that to be a flourishing place in which competition does exist. You're not-- instead of bilateral relationships in which you had to-- this set of payment service providers are matched up with the other set of payment service providers or everyone's under the common umbrella of a single payment service provider that serves global customers, you have more of this matching service that's going on, matching and competitive bidding service for, you know, how much could you off-ramp this, say, stablecoin into local currency with the proper KYC and proper controls in place. That already brings quite a bit of competition into the last-mile space that previously was harder to achieve because you didn't have a marketplace or a technology-driven market in place. But I think there are more work to be done on the policy, on the regulatory side. But I think the technology, as Jess mentioned, technology could be truly the driver there in terms of spurring additional regulatory and policy changes.

DAVE MILLS. Thanks. I want to come back to Jess here. So we talk a lot about making things more accessible. And some of the constraints that are in place are very, you know, important constraints for a reason from regulatory policy. So I want to think about how do you balance innovation and inclusion in the remittance space with concerns around BSA and AML, consumer protection, and broader financial stability issues that may accompany cross-border payments infrastructure.

JESS CHENG. I think a principle to keep in mind here about striking the right balance, it's being clear-eyed about what we're trying to optimize for. Innovation and inclusion, they don't necessarily have to be at odds, in tension with BSA, AML, consumer protection, and financial stability. In a lot of ways, they depend on each other. When we see innovation that undermines trust in the system, that's not sustainable. And on the other hand, when we see regulation that stifles innovation or cuts off access, that also fails the public interest. The challenge is ensuring-- I think the previous panel used the phrase right-sized, risk-based proportionate frameworks that are applied in ways that support safe and inclusive payments innovation. And I think this is especially necessary in cross-border payments, where we can see gaps or overlaps in coverage emerging. And I also think what we've seen play out over the years is that what innovation needs is guardrails and not carveouts. So tokenized money, programmable payments, these new settlement models, they could improve transparency and efficiency, but they still have to sit within a regulatory perimeter to make sure that the obligations are clear, that rights are enforceable, and there's regulatory oversight. So the goal shouldn't be to exempt these tools from regulatory compliance. It's really to retool what regulatory compliance means so that it functions effectively in these newer contexts. And I think along those lines, the pending GENIUS Act is to me promising because it reflects a recognition in Congress of that. Advancing payments,

including cross-border payments, it requires not just technological innovation. It also requires legal and regulatory frameworks that support interoperability, inclusion, and innovation in a way that doesn't also compromise these core safeguards that we've developed over the years around AML and consumer protection.

DAVE MILLS. Harish, do you want to?

HARISH NATARAJAN. You know, I think, I agree with Jess that these are not necessarily at odds. And creative thinking can really bring about how to square all of these together. The point is about technology provides new ways of meeting the same regulatory obligations in a different way. And I think those should be really harnessed. And also, new providers will bring in new approaches to do things. But I think if you really look in a very careful way, at the end of the day, it might not necessarily be bringing new risks. It is just a different way of doing things. And I think if you can ensure that the regulations allow you to kind of adhere to the spirit of the law, but not necessarily at the letter of the law, then I think the law needs perhaps to be changed, no, to kind of focus on the spirit rather than the letter. So I think that's the way to look at it, yeah. Thanks. Gordon, do you have any thoughts on this? Yeah, I think I'm just echoing what everyone said here. Like, certainly, you do want a proper regulatory framework. I think the current regulatory framework for BSA and KYC needs to also evolve, needs to leverage the technology that's available, right? In some ways, there's a lot more transparency, and you could actually introduce quite a bit of deterrence effect with blockchain. I just released a paper not too long ago on just looking at the blockchain transactions. The vast majority of transactions are-- effectively sits within-- wallets are very easily identifiable because they are directly linked to exchanges, to centralized crypto exchanges. With the proper requirement for-- whereby seeing for these exchanges and proper requirements for monitoring,

you could easily identify these bullets if necessary. So I think it's the question do you, you know, think about how the technology only introduces risk, rather I think it's a very fruitful area to explore of how do you actually leverage a programmability and the transparency, and, you know, the forever nature of blockchain transactions to introduce both effective ways of curtailing bad activities through active mechanism, but also just through deterrence alone, because the data sits there and it could be curried up on later on.

DAVE MILLS. Thanks. So now I want to turn a little bit to some solutions. And how do we think a little bit about, you know, making the last mile, a half mile, or something, something a little bit shorter. So Harish, through your work with the central banks and the payment system providers on the ground in emerging market economies, what models have shown the most promise for delivering these low-cost, inclusive cross-border payments in low- and middle-income countries?

HARISH NATARAJAN. Before I respond to that question, David, kind of since there's been a lot of focus on the last mile, I wanted to also note that there are problems in the first mile and the middle mile as well. And in particular, for remittances, in some of these sending countries, the originators of the remittances are not able to necessarily participate in the financial system, or at least in that part of the financial system which allows them to use efficient payment services. So I think we need to acknowledge that there is a first-mile problem. And the middle mile, I would say, broadly speaking, is the infrastructure which is connecting both sides. And within that, there is a big part of the foreign exchange conversion fees which come in. And if you look at the trend of the price of remittances, if you use that as an indicator for efficiency, which we monitored at the World Bank kind of over the last decade or so. We noticed that the foreign exchange part of the remittances price has been very sticky. It has not really budged for the last

10 years. Whatever reduction has been there is for the fees. Fees have come down, but not the foreign exchange costs. So I think we need to not lose focus on the first and the middle mile as well. Now, in terms of what solutions have helped, we have seen, in addition to the points I made earlier, related to digital ID and fast payment systems and giving access, we have also seen that there's a big element of transparency, which is also required here. So sometimes you have competition, but competition without adequate transparency is perhaps not effective, you know, because the recipients of remittances and the senders are not able to distinguish between the different service providers, and they're not able to understand the benefit of switching to a new provider. So I think transparency is the additional point I wanted to make to what I said earlier. And then there is also the broader point related to the financial stability, macroeconomic policy of the country. In some receiving countries, the exchange rate management policies are not sound, and you have different rates coming in between the official rate and the street rate, and that automatically pushes the remittances to go towards informal networks rather than come through the official channels. So whatever improvements you make in the official delivery of remittances, there's a tendency to use informal because of the sheer macroeconomic management policies. But I think the most impactful reform we have seen, subject to all the points I made is really about connecting the remittance service providers, whatever form, be it stablecoin operators or the traditional money transfer networks or the new age providers like Wise to the domestic payment systems, and giving them access to that, either directly or indirectly. And we have seen that really having a direct impact on the cost of remittances.

DAVE MILLS. Thanks. Gordon, how can stablecoins promote financial inclusion while still offering the safeguards and insurances that accompany the traditional regulatory financial--regulated financial system?

GORDON LIAO. Yeah. Thanks for that. I think, you know, certainly stablecoin is the foundation layer, right? If you think about how RTGS systems are built, you don't necessarily ask the RTGS provider or even the-- even operators what's going on in the network, but there needs to be layers on top that provide the guarantee for, you know, both insurers, the transfers are safe and secure, but also ensure that they are compliant. And I think that largely rests on the regulatory side to have more compliance in order to set a global standard, so some coordination is needed. The technology solutions are there. The technology solutions are not too difficult to build, but adoption, I think, requires a bit of regulatory guidance on what is appropriate. And then there is also an element of financial stability, which is a bigger question. And, Harish, you mentioned earlier about, you know, perhaps in certain geographies you would need merely $1 stablecoin to overtake your local currency or economy. And that's absolutely a fair point. And there, I think it's about complying to local capital control rules, local rules regarding holding a foreign currency, but it's also about providing solutions, competing solutions, competing solutions, both from a technology standpoint of perhaps local stablecoin or local, you know, tokenized money of some sort that could operate just as effectively and also offer foreign investors to be able to access that local tokenized asset through the local money, tokenized money. And is also about leveling the playing field so that you could actually have the competition with perhaps some of the incumbent players that have been slower moving, that have been relying on regulatory capture and relying on quite a bit of the fees. Let's not forget that for every, you know, dollar of friction that exists in remittance and the slowness and ineffectiveness of cross-border movements of value, it's also a dollar of profit for someone in the value chain. So it is difficult re-architecturing that ultimately would benefit end users, but it would disrupt some part of the value chain. But I don't think that's necessarily, you know, bad for

intermediation risk, in some ways, relying less on centralized intermediation is a way of delivering balance sheet. If you think about what stablecoins do and what tokenization does overall for finance, I think it is about-- if I can summarize in one word, it's about leveraging centralized intermediaries' balance sheet-- or one phrase, not one word. And that has a side benefit of actually strengthening financial stability because you're actually going to be able to reduce concentrated risk on some of the balance sheets. So that goes for all the correspondent banks in between. That goes for large institutions that perhaps today are less regulated because they're in a euro-dollar space, providing dollar loans in local economies already, but they don't have as much transparency. So in some ways, you could actually bring a lot more transparency through tokenization because today the global payment space is very dollar-heavy, and a lot of the activities are not in the open because it's already in the US dollar banking space. And having adoption of technology could actually bring out into clarity what those type of, not only payment activities but also lending activities are for dollar-denominated loans that's not within the US.

DAVE MILLS. Thanks. And then, Jess, is it possible at all to reduce the cost associated with BSA/AML compliance without compromising on compliance? And if so what would it take?

JESS CHENG. And I think that's a great follow-on to Gordon's intervention just now. And I think the goal here should be to modernize and streamline compliance in ways that keep its effectiveness, but still reduce unnecessary duplication, manual reviews, and jurisdictional uncertainties, especially in the cross-border context. And you can think, for example, regulatory frameworks, they should reinforce, again, that risk-based approach with clear guidance so that institutions can devote resources where the risks are actually highest. And when you think about cross-border payments, you would compare remittances, which are high-frequency, small-dollar

value transactions, often between individuals, to perhaps the riskier wholesale flows, which are multi-million-dollar transactions. And I think too often firms tend to default to a one-size-fits-all compliance model out of fear of inconsistent enforcement. I think another example could be continuing to enable responsible innovation in compliance technologies. So this could be AI-driven transaction monitoring, for example, or privacy-preserving technologies. They can help reduce manual costs, operational burden while still reinforcing effectiveness. And it's really, I think, from legal clarity and also regulatory adoption acceptance that this can take off. And ultimately, I think reducing compliance costs without, at the same time, weakening safeguards. That's possible, but it requires coordinated legal, technological, and policy modernization with a focus on making compliance smarter and not softer. All right.

DAVE MILLS. Thanks, Jess. Now, we're almost at the time where I will open it up for questions from the audience. But before we do that, I have a couple of maybe more abstract kinds of questions for the panelists. So the first one is, when you imagine a cross-border payments landscape 10 years from now, what is the biggest difference maker for financial inclusion? What could have happened to stop this future? And what more will need to be done? I'll start with Harish.

HARISH NATARAJAN. I'll, again, I'll respond in the abstract here, without going--being very specific. But of course, I'll be specific on some numbers. But I would expect that the share of digital in remittances would be substantially higher. So currently, it is estimated to be about 50 percent by value, both on the sending and the receiving side. I would expect it to go towards 90, before 100 percent. And by volume, it is currently around 20 percent. I would expect that also to rise to very high levels. And I alluded to the foreign exchange costs earlier, the foreign exchange margins. I would expect that to come down significantly from current levels of

two-- between 2 percent and 3 percent, to perhaps 1 percent. And what could constrain really is, I think, the technological developments are making what I'm proposing, what I'm mentioning possible. I think it is if the policies do not keep pace with those developments, I think that will be the real constraint. And the other point is really about the foreign exchange markets do not materially change. And I think it is possible that all the technological developments take root, but the foreign exchange markets in particular, on the retail side, if that does not change, I think the reduction of the cost is not going to happen. Not going to be easy to bring about.

DAVE MILLS. Thanks. Jess?

JESS CHENG. And I think along those lines, thinking through costs, a bigger picture, I think, thinking through the biggest difference maker, maybe from a financial inclusion standpoint, thinking through whether we're aligned on economic incentives, and we have a supportive legal framework to underpin that. I think on the topic of costs in FX, you know, too many providers are often just priced out of low-margin corridors or FX spreads, and it's not because the technology doesn't exist. It's because of legal compliance burdens, they can undercut the business case to serve those corridors. And if we want to extend meaningful access, and especially if we're focused on underserved populations, jurisdictions, I think what we need to do is think of ways to reduce legal fragmentation and give providers greater regulatory clarity so that participation is-- it's both legally viable and also economically feasible.

DAVE MILLS. And Gordon?

GORDON LIAO. Yeah, I think the single biggest difference maker in the next 10 years will be the adoption of blockchain and programmable ledgers that could really solve, fundamentally at least, the technology challenges. I think including FX, FX is an area in which

you do require the market makers to be there, but institution-level FX is much better than retail. But if anything, if you look at the decentralized finance space, it has demonstrated that it's actually not that difficult to provide liquidity to thinly traded, thinly liquid type of assets. So it should be without question that we should be able to, at least from a technology standpoint and from a financial balance sheet standpoint, to solve that liquidity problem in some of the emerging market currency pairs if you actually adopt the technology from the programmability of ledgers. The single biggest factor in the barriers to achieve that, of course, I think we already highlighted, is just if there are-- the policy cannot keep up and you don't end up adopting this from a supportive policy angle, from, you know, recognizing and treating tokenized money in some sense as good as the treatment of the cash today, the cash equivalence nature of cash, of today's digital money.

DAVE MILLS. And now, maybe the last abstract question here. Most of the discussion has been forward-looking. So let's imagine instead that we could scrap the current infrastructure and start from scratch with financial inclusion in mind. What principal feature or infrastructure would you base your system on? I'll start with Jess.

JESS CHENG. Thank you, David. I would say the foundational principle that I would focus on is interoperability. To me, the biggest structural challenges in payments, it's that success depends on ubiquity. If a system isn't widely adopted, so if payors can't use a system to reach a payee, that system just doesn't create value. It's not a payment system for users. So what happens, what we see is that network effects become this barrier. It reinforces concentration and, as a result, this fragmentation that we've seen, that we've talked about in cross-border payments. So if we were to start completely from scratch with financial inclusion in mind, I think I would be more deliberate in building open, neutral infrastructures that are really designed to connect

across borders, institutions, and technologies. I'm optimistic because I think we're starting to see that today with blockchain and stablecoins, as Gordon had mentioned with Circle. I'm very optimistic about that. And I think bigger picture, you know, if we could turn back time, start again, making that a priority so that that's what we see in traditional payments today, rather than these isolated systems that scale individually but may not necessarily reach that last mile. And I think, with keeping interoperability in mind, again looking backwards but perhaps as a principle looking ahead, it's really how we fight this gravitational pull of network effects. And we can create a system where inclusion is really a deliberate outcome of how the system works.

DAVE MILLS. Thanks. Gordon?

GORDON LIAO. Yeah, I absolutely agree with that point. Interoperability is key to actually solving the cross-border issue. I think also just open access to systems, like having neutral systems that's not just captured by one single party. And certainly, I think if you look at the development in the blockchain space, there seems to be a trend for decentralization. That's why a lot of these-- is actually a quite competitive industry at every single level, whether it is at a stablecoin issuance level or a blockchain level, as far as the flourishing of activities. So not only you can swap in and out these different players to ensure that there's a sufficient amount of competition when capturing, but also that there's escape files in place that you don't get trapped into one single technology, you don't end up getting trapped into one single system of value capture, that people could freely migrate to another platform, which is very similar to how we've seen the development and the issues in the traditional large tech space, right? You don't want to have single platforms that capture all the value, that's vertically integrated, that's hard to migrate out of, and that requires quite a bit of trust that allows you to resolve. You want systems that are resilient that people could build on, people could migrate out of, if the value capture is too large,

and that could be interoperable as well. And I think it's also a question of not just designing, you know, if we think about redesign of even just large, or current tech infrastructure, I would probably offer the same type of answer of having a certain amount of decentralization and portability.

HARISH NATARAJAN. Thanks. And Harish. So David, you framed your question very carefully. So you said specifically infrastructure. You did not open the door to the monetary system and others. So I will stick to the point about infrastructure. And then I broadly agree with what Jess and Gordon were saying, but I will perhaps frame it more in terms of features rather than the underlying technology. So I think one of the things would be globally interoperable and digitally verifiable credentials. And I think currently, all the digital IDs and ID developments are more interoperable domestically, not globally. I think if you have globally interoperable, digitally verifiable credentials, then that can reduce the friction significantly. And then also system-enforced rules and policies, both the global policies related to AMS safety, but also domestic policies related to, say, the capital controls and so on. All of them enforced through system-based controls. And then also globally addressable and reachable payment credentials. So I think those are the features which could be achieved through different technologies, but I think that could fundamentally re-architect the way we look at cross-border payments. Thank you.

DAVE MILLS. Thank you. So now we can open it up for questions.

AUDIENCE. Thank you. My question is about interoperability, but also diving into the robust legal authority or framework that might sit over that, thinking about how NACHA was formed in the United States and how regional ACH rules rolled into a national set, and whereby those rules are open-source-based where if you are going to opt into the ACH network, they automatically apply to you as a financial institution. But then yet, there's the operating circulars

that the Federal Reserve has and other layers to the governance structure and, of course, you know, federal and state laws and consumer protections. So my question is, thinking about how that might work in an interoperable type of way, who would be the ideal authority to oversee global interoperability and standards, even if that's someone or an authority that doesn't exist today?

JESS CHENG. I think that's a great question, big picture in looking ahead. And I think the reference to NACHA and ACH is a great one because I think a part of this exercise is looking ahead, looking to these new infrastructures, possibly new forms of money, I would not want to reinvent the wheel. I think there are time-tested principles and approaches. I think the challenge, though, is looking at the global level, where it's different jurisdictions at play, and not a clear single governmental authority that there might otherwise be in a domestic environment. And for that, I think there's still tools, there are still frameworks, so that we're not reinventing the wheel or starting from scratch. For me, I would look to international organizations that have published principles. The CPMI, the Committee on Payments and Market Infrastructures at the BIS, has publications decades ago that I think still hold true today, looking at payment system efficiency and safety, and governance as well. I think it's a principle, actually, if not two, in the PFMI, the Principles for Financial Market Infrastructures. So looking ahead, I think in a digital environment where, in some ways, it's clean snow, I would think-- I would look back to the fundamentals, leverage the principles around payment systems into your question governance that we've built already as a global community, and build from there.

HARISH NATARAJAN. Maybe too, just to add, I think if you look at the infrastructures like NACHA, globally, there are a lot of things which are common, but of course, there are some specificities. And there is some emerging experience coming from-- there have been a BIS's

innovation hub where they're looking at how to integrate fast payment systems, and they came up with an approach which is called Nexus, and that is about looking at creating templates of what are the rules in both jurisdictions, and have a mechanism to actually verify a particular transaction against both the templates in real-time, and making it available to both sides at a transaction level to ensure that it is complying with both sides. So I think that could be one way to approach it. Of course, some degree of harmonization and then allowing for specificities, which can then be addressed through this real-time discovery of the rules on both sides. And then there are existing examples of global infrastructures like Swift and CLS Bank. And there's an approach of having a college of supervisors to collectively oversee such institutions. So I think trying to create a global body or a supernational authority to oversee global payments, perhaps, is not the way to go. It's more to leverage the domestic institutions, but create a collaborative structure around it, that might be the way to go. Thank you.

DAVE MILLS. Gordon, do you have any thoughts?

GORDON LIAO. Yeah, I think there's also a bit of whoever's leading in regulatory space gets to set the kind of global standard, right? In some sense, the Europeans came out first with their MiCA framework for at least the crypto-digital asset space, the USAs, right? I think it's getting closer, hopefully, so to have a set of rules related to stablecoin. But I think it is a matter of you do need not just the coordination bodies, such as CPMI, that set the standards, but actually have the detailed implementation in place. And that depends on major jurisdictions to come up with rules. And at least in the stable coin space, I know that various jurisdictions, large jurisdictions, either have rules in place or are drafting rules. And I think there is a lead effect if you are able to first lead with major rules, and others could follow.

AUDIENCE. Yes. The Dodd-Frank Act added consumer protection for foreign remittance transfers. But that law was enacted in 2010 before the adoption of DLT and stablecoin. If those digital currencies were used for foreign remittance transfers, as we heard from the panel today, would that require a whole new legal framework to address these technologies?

JESS CHENG. I'm personally not too sure about that. And I think the Dodd-Frank Act and the Remittance Transfer Rule, the principles underpinning that would still benefit, I think, users, recipients of remittances, even where we're talking about new technologies. And actually, I think new technologies, including stablecoins, DLT, as an example, that we've been discussing today, could actually help with compliance with the Remittance Transfer Rule. Part of that rule requires disclosures upfront with respect to fees and FX rates. That can be challenging where you have a long chain of correspondence and a lack of visibility for the payor's financial institution into what are downstream institutions, the fees that they charge, and the FX rates that might apply. We can see technologies that enhance transparency. We can see technologies that also might bring that last leg closer, again, that bridging aspect that we talked about. And that can help actually with conveying information, making sure that critical information reaches on the payor. In a way that's very much, I think in the spirit of the Remittance Transfer Rule.

HARISH NATARAJAN. Nothing specific to add. I think the lawyer gave a very good answer.

GORDON LIAO. The same thing here. I believe just you have the best answer.

AUDIENCE. Okay. Maybe I had a question. You all spoke about sort of the issues about regulatory and legal fragmentation across jurisdictions about being a kind of a key problem to cross-border payments. Gordon, you alluded to, you know, stablecoin legislation and rules that

are being put in place across the world. Are you concerned, and other panel's concerned, that there could be differences in regulatory regimes internationally for digital assets, for stablecoins, for things like redemption requirements or reserve requirements that could kind of reduce some of the global nature that they have had now and potentially inhibit their capabilities to improve cross-border payments?

GORDON LIAO. I can start. I mean, absolutely, that's a concern. I think there is kind of common-- common sense type of regulation that says stablecoin obviously should have full reserve backing, should have a high-quality liquid asset as backing, not too much maturity or liquidity mismatch or credit exposure. They should have on-par redemption for users in a short amount of time. I think those are common-sense things that would make sense to implement across the board, but there are original differences when it comes down to the details, and sometimes it could be conflicting. You know, for instance, the European MiCA rules have a certain amount of credit institution exposure, which will kind of go directly contrary to what currently is in the GENIUS Act related to, you know, perhaps not having as much exposure to a certain type of risks. So I think that requires harmonization. I think it also requires an understanding of the passportability of rules, so that you can recognize that if the home jurisdiction of the potential issuer has a strong set of regulations, you could recognize and take that set of rules and allow the operations of those instruments across the world with a common understanding that is regulated in the home jurisdiction. Once you break down those sort of fragmentations, I think it could have global acceptance. But I don't think we want to end up in a place where you have local liquidity ringfencing rules and every single country have local reserve requirements, because that does defeat the point of having these blockchain-native or internet-native type of money. But also, a great place of the issues that we've seen in the past

with liquidity ringfencing in the banking space, in which it caused a lot of issues in the past financial crisis, because there are local rules regarding liquidity. And if you have a very strong set of common standards regarding the backing of stablecoin, regarding redemption rights, then I don't think it's necessary to have other local nuances to be emphasized, whether I think you could have rules that are passportable.

JESS CHENG. I would agree that I think uniformity across jurisdictions is unlikely, too. That's not the goal or a realistic outcome. The problem actually, so the problem situation is where we have laws that just directly conflict with each other or don't work. And I tend to see that more in the data usage privacy space with data localization than on the payments side. I think there will be different regulatory approaches across different jurisdictions. And what you might see is just for global companies, just defaulting to the most strict and applying that broadly as we do in privacy with GDPR, for example. I do think one interesting area to keep an eye on is the work that's being done at the Hague Convention on Private International Law. I'm in touch with folks there, and they're looking at interesting questions around conflict of laws, choice of law, and this new digital money, digital payments on context. So that's where I think some of the questions around home jurisdiction, contractual provisions, how that could resolve the waterfall of choices might be relevant.

HARISH NATARAJAN. Just to add one quick point, I noticed that we need to wind up. In addition to the points made by Jess and Gordon, I think there are some second-order issues related to what about how are the treatment of the institutions holding stablecoin assets, what is the potential treatment of that, and there could be significant variations of that across the world, and that could also have an implication. Great. Well, I think we are just about out of time here for

the panel. So I'd just like to thank our panelists for a very thoughtful discussion on this topic. Thank you. [Applause]

ERIC BELSKY. Thank you, David. I'm going to make just some closing remarks, and then you'll get some directions about what happens after my closing remarks are done from someone else. So let me just start by thanking everyone for taking the time to spend with us. I'm fond of saying how you spend your time says a lot about what you think is important and a priority, and it's wonderful to see so many people here for the day who are interested in financial inclusion, the topic which I think we all know is really very important to so many people in the country. So I want to thank you. It was certainly a full day and one that I hoped helped to inform your thinking and understanding about financial inclusion and how best to foster it. Perhaps it sparked an idea for you or even better, a conversation with somebody else in the room, that's something that you may choose to work on moving forward as you think of ways yourselves to help build better access to financial services and safe, fair, affordable financial services. We had a lot of aims, obviously in convening the conference, but the main aim was to bring speakers to you who could provide insight into several aspects of building better access. And as I said, I hope it illuminated for you some of the key innovations in financial services and products, serving the needs of low- and moderate-income families and communities. For example, there's a lengthy discussion, and obviously a timely discussion of generative AI, agentic AI, which when I first read, I wasn't sure how to pronounce the first word, but now I know, and digital identity. And it's also important to think holistically about the needs of low- and moderate-income communities. And obviously, a lot of the non-technological challenges that people face, and the primary one is stretching their incomes to cover their costs. And there was, I thought, a very interesting discussion about the importance, like so many things, of your first introduction to the financial

system and whether that puts you on a path towards a sustainable interaction with the financial system and one that is likely to enhance your financial health and your overall well-being, and one that doesn't quite turn out that way for you, which is one of the reasons there was such a focus on bank accounts and the nature and types of products that people interact with through their bank accounts. We also hope that it eliminated the challenges, but also the opportunities associated with mission-driven organizations, and the importance of these organizations and the way they work with other financial institutions and in their committees to get things done. There was, I think, a particularly interesting discussion there of the challenge in balancing the need to be high-touch and very personal with the need to be high-tech and scaling that tech. It brought to light emerging initiatives and technologies intended to ease some of the frictions and accessibility and affordability, and cross-border remittances. We underscored the importance of bank accounts, as I said, as a cornerstone of access to financial services and faster payments to give those struggling to make ends meet, which is really what a lot of this has been about, more control over the timing of their payments and quicker access to their income and transfers that when you're living at the margins, those things take on an outsized kind of importance that a lot of people who are fortunate enough not to live in those situations really just don't think much about or have to worry much about, but many, many people do. We tried to make space, and I think we succeeded, to discuss the potential for insights gleaned from behavioral economics and experiments to better serve consumers. And we know that many businesses are already putting these into action, and many of them have been developed with businesses who are out to do their best to serve their customers. We also highlighted the potential for the proliferation of alternative data and more advanced machine learning models to better tailor products to customer needs, as well as to identify credit-worthy applicants that previously would have been assessed as having a

higher risk than they actually posed or did not have enough of a record to qualify for credit at all. So while the use of alternative data like cash flow data isn't new in some industries, the speed at which it's become available and is being used in this area is very significant. And we heard about the importance of ensuring these innovations are offered in compliance with consumer laws and regulations, and conform to essential model risk management practices, so that we get to this goal of responsible, safe, and fair innovation. I think it's fair to say we covered a lot in the course of the day, and I know when I go to conferences like this and take that time away from my other activities, it just is enormously energizing and beneficial, and we're going to continue, I think, through a reception to give you opportunities to speak with one another. These are no doubt topics we're going to be in conversation about over the years ahead. We also welcome any contributions you have in this continuing conversation with us. So please send feedback to, and I will read this out and spell it out, cca- -- hyphen, that's like in the middle-- at the bottom -- context@frb.gov. So cca-context@frb.gov. It's a mailbox that we monitor. And, you know, another thing you learn in life, particularly in the kind of position that I have with lots of people I work with, the value of crowdsourcing ideas can absolutely not be overstated. So help us crowdsource ideas. All of this has left me excited for the future and the prospects of what's ahead, and about the level of energy behind the work that we saw on display and that you bring to this all the time, every day. We heard it from think tanks, from industry, from regulators, a really wide range of stakeholders. It's also made me grateful for all the good work of the people who went into making this conference a success. So before I close, I'd like to thank a few of those people. There literally are too many to mention, but I'll mention some of the key folks. Kirsten Noland, Jennifer Fernandez and Emma Cronenweth, Evan LaFlore, Ria Sonawane-- did I get that right? I hope I did. And Tommy Hadeed. And then these were people who really

developed the program and the thoughts and the ideas and helped facilitate the panels, and really had the intellectual architecture of this thing built. And it was really an impressive set of speakers and a great architecture. And then to the people who really helped put this on, if you see Shalyce Fryer, you almost certainly will at the reception, and you kept seeing you're sitting at that desk as a stalwart. We have Trisha here also. They really helped put on the conference for us. Shalyce is our main events organizer, our lead organizer. Emily Hirschman, who was primarily responsible for marketing and communications around this event, which I thought were outstanding. And then our entire IT team, because, you know, we had to have the AV right, and this was a virtual conference, although it may not have appeared that way to you. It did to the people who were looking at this online. And, you know, the success of an event is how, in the background, all of this seems. And I'm just in debt of all the people who make that possible and happen. For all of us, it will continue in our reception. But with that, I turn it, I think, Jennifer, to you to talk about.