

Bill Cohen: Good day all, my name is Bill Cohen, and I'm a member of the Toronto Centre's board of directors. I have the real pleasure of moderating today's panel discussion on payment systems, financial supervision and inclusion in the digital age. I also have the distinct pleasure to welcome our two guest speakers today. Ms. Tara Rice, the head of the Committee on Payments and Markets Infrastructures, the CPMI.

I've known Tara for many years when I was in Basel. Tara and I worked together in Basel. Let me also welcome Governor Reza Baqir and thank him for not only joining us for today's event but to also recognize his support of the Toronto Centre. Governor, you and the State Bank of Pakistan have been good friends of the Toronto Centre, and we very much appreciate it.

And Governor, you've been a strong leader in the central banking community, especially during the disruption we've seen that's been caused by the COVID-19 pandemic. And the world's changed dramatically since the global financial crisis through the pandemic and up until today. This includes an impact on financial institutions, the markets in which they operate and the role of central banks.

Traditionally central banks focused largely on price stability. Today, there's a growing public sentiment that central banks should take greater consideration of ESG concerns. So Governor, let me start with you. And let me ask you, what are your views on how the role of central banks has changed over time?

Reza Baqir: Thank you Bill, for this invitation to be part of this conversation. It's a really great pleasure to be with you today and to be here with Tara. And we can [inaudible 00:02:22] on the Centre for its support to the State Bank of Pakistan, and its partnership we very much appreciate our ongoing relationship.

Then we also very much appreciate the very exciting, very high-quality work being done by the BIS, including in central bank digital currencies and its annual report, and I'm sure we'll get into that. I'm going to answer your question about the evolving role of central banks, particularly in an ESG context, from a bit of a personal note.

And as you may know, I spent 18 years working for the IMF since 2000, before I quit the IMF about two years ago and I joined the State Bank of Pakistan. In my journey in the IMF, I have seen the role of central banks evolve. The IMF is a central bank to the world's central banks. And then I joined in about the year 2000.

When I look back, I have to say central banking then seemed quite boring. The most exciting thing going around was inflation targeting. And the most exciting flavour of that for inflation targeting for emerging markets was the so-called emerging marketing light. That's about as much as it got. And you saw the same story.

To me, the first bit of innovation for central banking came during the global financial crisis after the collapse of [inaudible 00:03:44]. And suddenly, there was a lot of awareness of Macroprudential tools that need to be complimented. And there was a

growing awareness of quantitative tools, again, to complement simple interest rate decisions. And we saw, I think, some innovation.

But if the global financial crisis started the innovation in how central banks should see the Coronavirus pandemic, I can give it a tremendous boost. And when I look back, who would have thought that it would take a virus to really push central banks to innovate? Central banks around the world, I think, innovated, they deployed new tools, and certainly, the State Bank was no exception.

In a country, the fifth largest country in the world, a country where poverty is quite high, a country where there's a lot of urbanization with people living in congested places, a country where public health facilities are not the best in the world, when COVID started, we could have been hammered by it. We had all the conditions where it could have been a catastrophe.

Faced with that, we had to innovate. And when I look back, there are three lessons that I take away from the Central Bank of Pakistan's experience. I think first, Bill, is the importance of having a wide arsenal for a central bank, a wide set of tools to combat such crises. In the case of the Central Bank of Pakistan, we made full use of a facility called a refinance facility, which is essentially a facility that allows us to lend to banks, which on-lend to the private sector.

Now, when we look back and look at the total support we provided during COVID, it comes to around 5% of GDP. That's purely the support from the central bank. The point I want to make is that fourth, fifths of that support comes from non-interest rate measures, including our refinance facilities that we rolled out, various ways in which we were able to directly pump liquidity into the system. So, that's the first point that I want to mention.

The second point that I want to mention is that for a country like Pakistan, one of the lessons that I take from the COVID experience is that the S in the ESG is very important. Three letters, all of them are very important, but given where Pakistan is, in social and economic development, the S is particularly important. And I want to tell you how we try to incorporate the social dimension for goals.

We introduced a scheme that was directly targeted at preventing layoffs. You can always argue that even interest rate cuts, even the other measures are going to support businesses and therefore prevent layoffs. But we rolled out a refinance scheme where the banks could only lend money at concessional rates to businesses if the business is committed to not lay off workers.

And we could check that, either because a lot of banks were handing the salary disbursement of the businesses, or we would require affidavits from the private sector given to the bank to demonstrate that they would use this money for not laying off people. And that's one example.

Another example is the refinance facility that we rolled out directly targeted to provide capital for those businesses seeking to build hospitals and importing ventilators or setting up medical facilities to combat COVID. In our history, we have not used such direct social targeting of measures, but we did. And we did because we realized that we have some tools, we have some potent tools in our toolkit, and we can be creative in having a targeted use of such tools.

And the last point I want to make Bill, and the last lessons that the State Bank of Pakistan and I took away, is that it has become imperative for central banks to innovate. We had to innovate during COVID. If it had been business as usual, and we had only cut interest rates and then done nothing else, yeah, I'm pretty sure that the economy of Pakistan would not be recovering in the manner that it is right now.

And as I mentioned, only about one-fifth of our total liquidity injection into the system was due to reducing interest rates, which eased the cash flows, particularly of debtors. Four-fifths was these new and innovative, direct liquidity injection measures, which in hindsight saved a lot of bankruptcies and saved a lot of layoffs.

And between myself and my deputy governors, during the take of COVID, the standing instructions to all our colleagues were, go and think of something new. It doesn't matter if what you think of doesn't survive our internal scrutiny, but one out of a few ideas may work, and all the measures that we rolled out, Bill, during COVID, were measures that our colleagues came up with when they were given the instructions to innovate and think of new ways to support the economy during the pandemic.

Bill Cohen: Thank you very much, Governor. I like how you start out by saying there was a period of time where central banking was boring, and I'm sure most people on this call, central bankers, supervisors, and those who have oversight responsibilities, I think most people would agree that, yeah, boring is not bad, but there's nothing like some stress in the system and in a financial crisis to spur creativity and ingenuity as you've done within the State Bank of Pakistan. Thank you for that.

Tara, let me turn to you and maybe extending this point that Governor Baqir has made. We've seen this really rapid but steady pace of technological innovation over the past several years. And it's not going to end. There's certainly the potential for more disruption. And I have to say, despite my closeness, my affinity for prudential rules at the bank level, really what's attracting all the attention these days, payment systems, it's the top of policymakers agenda.

The BIS and the central banking community really have taken a leading role in shaping policy makers' response to this, what some people call disruption. I like to call it innovation. So here's my question, how was the digital innovation shaping the CPMI's agenda? What are the early lessons from these, in some cases, experimental projects by central banks and financial institutions?

Tara Rice: Thanks very much, Bill, and it's an honour and a pleasure to be here today. So thank you for the invitation. So just to add to the central bank is "boring" line, we used to say at

CPMI that we're the plumbers of the financial system, which people tend to think of as a boring job, so to speak, but all of a sudden the plumbing has become the new cool. So, yes, payments have certainly risen to the top of the policy agenda.

And it is in part because of the G20 cross-border payments program, which I'll talk a little bit about. Yeah, it's true that innovations in payments are really gaining pace, both in the public sector and the private sector, which is causing a little bit of tension there. And as the Governor noted, the pandemic has led to even greater interest in digital payment methods.

If you think about we needed to shop online or just change the way we paid or not pay with cash potentially. And so it's created greater interest in both digital payment methods, also CBDCs or Central Bank Digital Currencies and stable coin arrangements.

But these innovations could offer solutions to challenges that are not so easy to address through just improving our existing systems, but many of these innovations haven't been implemented broadly. Some are still in their design phase. Certainly, the BIS innovation hub is doing a ton of innovation designs, blueprints, prototypes, and the idea is just really to test a lot of different types of ideas and projects and see what could possibly be successful. And I'll talk about that in a minute.

In the G20 cross-border payments program, we have one focus area, one out of five focuses areas that are just dedicated to examining how these new payment systems can potentially address the challenges that cross-border payments face. And the three particular areas are multilateral platforms, global stablecoin arrangements and central bank digital currencies.

Let me distribute the work quickly in the first two, and I'll talk later about CBDCs. On stablecoins, which is building block 18 in the cross-border payments program, I'm very excited to share that the CPMI and [inaudible 00:14:00] have been working very hard for about the past year to develop guidance on the application of our standards, the Principles for Financial Market Infrastructures, or the PFMI to stablecoin arrangements.

We'll publish a consultative report in October. One thing to note, it's really important we feel to have an internationally coordinated approach on stablecoins; without that, we could end up with very fragmented systems.

The other area I wanted to briefly raise was multilateral platforms. These are payment systems that are at the outset intended for payments between payers and payees in different jurisdictions. Domestic payments aren't created... payment systems aren't created for cross-border payments. This is just basically focused on payees, payers in different jurisdictions.

We're doing a stock take right now of multilateral platforms, both proposed and those in operation. There's more than you'd think out there, particularly one in the Arab region that is of particular interest in recently launched. Once we've finished that, we're going to assess the cost and benefits of such platforms.

And then finally, let me just close with three early lessons that I've seen from experimental projects by central banks and financial institutions. The first is that not all projects are going to succeed. Failure is the secret to innovation. Of course, it's not the objective to fail, but if we want to be at the cutting edge, we need to recognize that simply not all projects are going to succeed.

But the interesting thing about this concept Bill is that it's really at odds with central bank culture. Central banks are quite conservative, carefully watch their budgets, and they don't seek to fail, so to speak. The second lesson is that we need to think early on about possible scenarios and their outcomes with regard to these new payment systems and arrangements, even if some of those scenarios seem at the moment unlikely.

So why? Because tech disruption is moving so quickly that I think we need to stay nimble and be prepared for outcomes that don't seem likely now but which could have significant financial stability and macroeconomic implications. So we want to meet in a sense. We need to try and keep ahead of the game there with our policy thinking.

And then the third lesson is that international coordination and cooperation are really essential. I know we hear that a lot, and it's easy to say, but failure to have that international coordination and cooperation, it could risk significant fragmentation of the financial system and lack of interoperability between countries in terms of not just at the technical payment systems, but also in policy terms. So this is one area where we're really thinking early on about all of these newer innovations. So back to you, Bill. Thanks.

Bill Cohen: That's good, Tara. Thank you very much. Plumbing may be the new cool, but it's also so incredibly important, and it's really... I particularly like what you had to say about the cross border, the multilateral platform approach, the international cooperation. So important. Thanks for that.

Governor Baqir, let me come back to you. And again, it's staying within this theme of innovation. Under your leadership, Pakistan has made considerable progress in the digitization of payments, especially against the backdrop, the global backdrop of a rapidly evolving technological landscape.

Last November, you launched the National Payment System Strategy, the NPSS, as one of the tactical objectives for the State Bank of Pakistan's vision 2020. You've also recently confirmed that the state bank is studying central bank-issued digital currency, CBDCs. Could you elaborate on these developments, tell us a little bit more about your activities there?

Reza Baqir: Absolutely, Bill. Let me begin with a little bit of context because it is important, I think, for the viewers of today's session to understand where as far as where I'm coming from. And the first point I want to make is that Pakistan is a very underbanked country. The credit in percent of GDP is one of the lowest in emerging markets.

In financial inclusion, we have a very, very long way to go. And particularly when you talk about the underserved areas in the system, women, the agricultural sector, SMEs. I mentioned Pakistan is the world's fifth-largest country by way of population. There are only about 180,000 SME accounts in the entire banking system.

It's a strong illustration of how much we need to persevere on the agenda of financial inclusion. So this is the context of the Pakistani financial system. Now, for us, all the work that we're doing is driven by our goals. And our goals, I think the BIS put it very nicely in its recent annual report piece on Central Bank Digital Currencies, is to have an open, safe and competitive monetary system.

And they're working on all three areas, and the work that we're doing on studying Central Bank Digital Currencies fits as part of that. Now, a couple of years ago, we launched the National Payment Strategy. I'd like to appreciate the role of the World Bank that helped us with it.

And one of the key landmarks in this strategy is the rollout of a faster payment system called Raast. Raast is an Urdu word. It means... it comes from an expression, *rahir ast*, which means the direct way. It also has connotations of something that is simple and easy.

And we're extremely excited about the launch of Raast. We have already started the bulk-to-individual payments and are now working on the person-to-person payments. And our goal with Raast is that it will give a jolt to our agenda on financial inclusion, that it will also get some fintechs that were in the space of reaching out to all of these areas that are currently underserved by our banking system.

Our first goal right now, Bill, is to roll out Raast very quickly and in a manner where everybody is fully integrated, and we're also doing all the cyber security type work that has to be a prerequisite. In parallel, we're studying the pros and cons of Central Bank Digital Currencies.

Pakistan is a country where certain basic things that are taken for granted in the West are a struggle, such as the literacy rate, such as a very large rural population with struggles even to have a bank branch nearby. So it's quite difficult to think that cash is going to no longer be needed in particular sections of society. It will always be needed.

But I see an evolution where the State Bank of Pakistan continues to innovate and push, Raast is one such step, then study Central Bank Digital Currencies, and particularly with the perspective, as I mentioned earlier, whether there is room for us to innovate there without compromising on other key objectives that we have.

So we are very closely studying what other central banks are doing on Central Bank Digital Currencies. I myself follow the BIS publications very closely. But our number one goal right now is to complete the rollout of Raast and particularly the person-to-person part of the payments, which we think will give a jolt.

Maybe I do want to mention a couple of other very important initiatives that we've made, all in the spirit of digitizing payments. One is remote onboarding of customers' events. That's done because of not a very high penetration of bank branches and for other reasons. Deposit creation and getting people into the banking system have been a challenge.

We're just about to launch remote biometric verification, which is an app, an API being developed with our central identity card database, NADRA, that will allow the five pilot banks, which are in this program to be able to remotely onboard bank customers, by being able to go to peri-urban areas, even rural areas and using this app, which can be used on a cell phone or an iPad type device to do the biometrics. Very excited about that.

We've already done one initiative to remotely onboard overseas Pakistanis into our banking system. This is called the Roshan Digital Account. Roshan is an Urdu word that means light or bright. And to signify that Pakistan's economic future, we believe, is bright. We want our overseas Pakistanis to participate in our banking system, through the banking system and not through the informal ways such as [inaudible 00:24:13] and Hawala.

Roshan digital accounts made it possible for the first time for us to remotely onboard overseas Pakistanis. The same identity verification is done through video capture, through scanning of passport and identity cards, all of which are verified by another database. And in a period of about 11 months, we have been able to remotely onboard 200,000 overseas Pakistanis, who have proceeded to spend about \$2 billion through this bank in China.

Now imagine, a lot of this money may have been coming in through other informal ways. A lot of it is new money. And so, it serves our goals of using digitization to contribute towards a brighter economic future for Pakistan. The last bit I'll mention is the work we're doing on regulations to make it easier for people to use digital forms of payments, [inaudible 00:25:20] sale machines, QR codes. We recently announced that we are moving toward the single standard for QR codes, which we think will help.

Bill Cohen: I think I will... Governor Becky had mentioned earlier that this was a possibility. So I will take the opportunity, Tara. I'm going to... We seem to be having a bit of technical difficulty at the moment with Dr. Baqir. Tara, let me certainly stay on this subject of digitization and CBDC, Central Bank Digital Currencies. I'd like to stay on that topic.

You mentioned earlier the importance of working together in a cross border basis and how that really has the potential to increase the efficiency of the payment systems. And I believe you were echoing the main conclusion of a joint report that was released last month by your committee, the CPMI to BIS innovation hub, the IMF and the World Bank.

Can I ask you to elaborate on the challenges, the opportunities that are posed by CBDCs? So the challenges, the opportunities to the financial system, and how that could

really help us achieve more transparent, more inclusive payment services, particularly cross-border payment services.

Tara Rice: Thanks, Bill. Many thanks. I'm very happy to talk about that report. It was an example of a great collaboration. There were a number of authors, as you noted, the hub, CPMI, IMF and the World Bank, which really allowed us to bring in a variety of views and to think, early thinking on international or multi-currency CBDCs.

So we've said before that today's cross-border payments have four primary challenges. They're costly. They can take up to a number of days. They're not very traceable or transparent and, in some cases, not widely accessible. And so, CBDCs are seen by many central banks as an opportunity to address some of these frictions.

So the frictions, as I noted earlier, are really rooted in differences in domestic payment systems, which were not designed to be interoperable. So we think about differences in operating hours, in technical standards, even data requirements make it very difficult to have interoperable systems.

But as we think about developing a brand new payment system, we can actually, if we do it right at the offset, we can start with what we like to call it, clean slate. So we can take that international dementia into account when we design domestic CBCs. Now the report doesn't have anything to say about whether jurisdiction should or should not issue a CBDC, that's really not up to us to determine, but rather individual jurisdictions are going to do their cost-benefit analysis, make that assessment.

But rather, we want to add to the conversation by thinking about, okay, what can we do to commit to interoperability, foster consistent standards, to coordinate on CBDC designs. And when we can do that, we really can start with a system that could be at the offset interoperable.

Now there's a number of different models of interoperability, so to speak. And in the report, we outlined three, ranging from just simple, basic compatibility between individual CBDCs to, if you think at one end of the spectrum, to the establishment of one single multi CBDCs system.

There's no right or wrong answer, they're just different models and different ways to consider them. And as I noted, as these are really under-development, some of these ideas are really theoretical. We don't really know what the right answer is; we have a lot of work to do on this, and we'll be doing more work on CBDCs.

So the other focus of the July report, and I'll just add one more point here, was to consider the range of macro-financial implications of the international use of CBDCs. So what happens if there's a widespread use of one currency CBDC, and there are potential currency substitutes? Well, it could affect other countries' monetary policy independence, it could increase inflation volatility, it could undermine central banks' lender of last resort function.

So while there's a lot of benefits to multi-CBDC arrangements, it also comes with a number of considerations that we need to think of at the outset. So, the main point of the report is really to outline that careful design of CBDCs could really help mitigate potentially adverse macro input financial implications. It could start with a clean slate, but we need to, again, start with that coordinated approach of the global level so that we can meet the needs of all countries and that we can adopt these yet, in a wide manner.

And let me just add, if I may, I have a question for the Governor because I found all of the innovation going on in Pakistan is really interesting. I mean, you guys are really doing a lot of fascinating things. And no central bank has an unlimited budget; there's trade-offs everywhere. And so, I'm just curious how you're thinking about the trade-offs between establishing new systems and thinking about CBDC versus, for example, rolling out your fast payment system.

Reza Baqir: Tara, you've hit the nail on the head. These are the trade-offs we're running against every single day. [inaudible 00:31:29] are reminded of the first concept that I learned in economics, which is about the constraints and having a constraint objective function, and we're hitting against these constraints every day.

That's why I mentioned that in terms of our prioritization, the number one goal is to roll out a Raast successfully and [inaudible 00:31:56] to begin with, set us back because of the problems with the vendors who could not visit Pakistan and the associated delays in the shipment of some of the hardware that was needed. In parallel, we're studying CBDCs, and on this stage, a lot of the work on CBDCs is conversations, targeted conversations.

With a few central banks around the world, I have to appreciate some very good conversations with the monetary authority of Singapore, I want to appreciate the good work being done by the BIS and then a few other contacts that we have around the world. A related point I want to make is the human resources.

For a central bank, we need officers that are not only savvy or knowledgeable about the payment systems aspect of it, for instance, officers working in commercial banks, but we need officers with the central bank to help. And despite what I said at the beginning, officers and colleagues and staff who are going to put their head down and feel excited in doing boring things, because central banking remains what to some would be boring, say to commercial bankers, it may appear boring, but the perspective number one has to be that of safety and has to be to ensure that the trust element of an essential bank never, ever is compromised.

So, also looking for the right staff is a challenge. I want to share that we have within the organization of the central bank, elevated the structure of the digital financial services part of the state bank and created additional senior-level positions, as well as new positions across the whole chain, and we're in the market to recruit people, but getting people with the right balance, the knowledge, the technical knowledge, but also a central bank perspective of keeping your head down, you're never in the limelight, but

making sure that whatever you do, the system doesn't fail the trust of the public. Finding such people is also not easy.

Bill Cohen: Yeah. Thank you. Thanks for that. Tara, thanks for that question to Governor Baqir, It was a good one. I could stay here all day and ask both of you questions. This is really a fascinating set of topics, and given your positions, this feedback is fascinating. But we do have quite a number of people on this webinar, and a lot of questions are starting to come in.

There are two in particular that have caught my eye. And this is any discussion about financial, the technological innovation. We hear a lot about cyber security, and this is, of course, no new issue. There have been a number of instances, ongoing instances about breaches. Can I ask either one of you, so that's one issue, the cybersecurity issue?

The other is about crypto assets. Some people call them cryptocurrencies. I know the BIS continues to refer to them as crypto assets because they don't meet the true definition of currency. Tara, if I may, let me start with you. Can you share your views on... for me, a payment, a market infrastructure perspective. When I say, when I point to cybersecurity or when I mention crypto assets, what comes to mind? What would you like to share?

Tara Rice: Two very different topics, both starting with the same letter. So cyber is really critical... it's a cornerstone to all of the work that we do in CPMI and in central banking, any payment system. We do have a work program in cybersecurity. It's one of the areas which we call just addressing and monitoring those always present risks.

This isn't going to go away. It's not going to be a work program that we're going to work on for a little while and let it go or finish it up. We currently have a group that is doing three different reports, it's working with the industry to assess cybersecurity in a number of different elements, and we continue to monitor and share information among CPMI members. If there are any breaches or incidents, we do share that with the central bank community because we can all learn from it.

One of the biggest events over the last several years was the Bangladesh bank fraud. And what resulted from that was actually a multi-year, multi-dimensional work program trying to improve wholesome payments endpoint security. Now, that's a mouthful.

But it's not just... when you're talking about endpoints, it means you need to make sure that both of those ends are secure. We can do that as CPMI members. We've got our standards or guidance and our policy and our guidelines now, but if one endpoint is secure and the other is not, then you still have an opportunity or an option for a breach there.

So we're also trying to reach out to non-CPMI members to share this information. So, like I said, it's super important. It's an ongoing priority for us, and we'll continue to move forward on that. We also, in 2016, published some cyber guidance that has become a standard, I should say, in the field and that it continues to be cited and referenced.

On crypto assets... I've talked a lot on cyber. I won't talk much on crypto. I don't see crypto as a means of payment, and I'm really struggling in the policy space to think about how we separate crypto from stablecoins, where we have stablecoins that are actually backed by a stable asset. And by the way, I don't think that stablecoins backed by crypto are stable, just to be clear.

So, in the policy space, we've got a lot of thinking to do here, where we want to draw that regulatory perimeter and then how we consider a means of payments, whether that crypto or where that line is. So let me stop there and turn back to you, Bill.

Bill Cohen: Thank you, Tara. Governor, can I ask your perspective? Tara mentioned the Bangladesh affair of a couple of years ago. This has got to be a cyber security threat... it has to be a major issue for you in the State Bank of Pakistan. What are you doing about... how do you address this?

Reza Baqir: I could not agree more with what Tara shared, and thank you, Bill, for raising this. I get this question all the time when I talk about digitization that, "Governor, if you are doing all of these things, aren't you going to expose us to cyber risks?" And my answer is, it always begins with the following observation, that cyber risks are going to be with us. And if anything, they will become more pronounced as we go towards digitization. It is a fact.

Therefore, we have to put in more resources towards that, and it is a shared goal between the regulator as well as the end-user. Cyber risks take all forms from a very plain-vanilla form where you get text messages on your cell phone, telling you that your ATM card has been blocked, you have to call this number immediately to get it unblocked.

We are right now running dedicated TV commercials with some famous TV personalities to bring awareness to this issue in a very, very basic mundane manner that something like this is a red light, is an alarm, then giving these messages that a regulator will never ask you, call you and ask you for your ID card number or your bank account number. So these are some very, very simple examples of the effort that we are doing to try to create awareness.

And the reason this is important is that it takes two ends. The customer awareness part of it, that responsibility is critically important. And when I mentioned about the deliberate posture towards studying CBDCs, i.e. taking our time. I worry about the fact that a lot of people not being very literate. If they are operating digital modes of payments and accounts, will they be able to exercise the amount of care and precautions that somebody who's a lot more educated and literate maybe be able to do so?

So my first point is about the shared aspect of this, that we have to educate the customers, the end-users, as much as we have to invest of our own accord in strengthening the systems. I want to make two other points. Pakistan, in a way, is a bit fortunate that because of being in a FATF action plan, we have been in the greatest. And

because of having a plan with the Asia-Pacific group through our mutual evaluation report, we have had to do a tremendous amount of work in strengthening the control and risk functions of banks and associated regulations from the central bank.

Where this has helped us in the cyber security agenda is the emphasis that this has placed in the controlled risk in cyber parts of commercial banks, as well as the resources that we have invested in it, Bill, as well as the fact that because we know we are going to be questioned by the assessors, the FATF and APG, the amount of awareness and work that we've already had to do. That's been a good thing of something that otherwise has been a challenge to Pakistan, to deal with all the work that was required as part of these action plans.

The second point I want to make has to do with some standard operating procedures that we are deploying. I mentioned the remote onboarding of customers. Now, onboarding account holders is for a financial institution, but the threat, whether it's in or cyber, some things also starts from onboarding the wrong type of customer or having a bank doing the onboarding, the systems of which are not very strong.

So when we launched Roshan Digital Accounts for overseas Pakistanis, we did not allow all commercial banks in Pakistan to participate in that initiative. Banks, if they wanted to participate first, had to demonstrate that their technological systems are advanced enough that we would allow them to participate in this initiative.

And out of all the banks in Pakistan, we currently have only 12 times offering banking services for overseas Pakistanis because these are the banks whose IT systems, in our assessment, are of a level where we consider that of all the banks, they are better addressing cybersecurity risks than others.

Similarly, when I mentioned remote onboarding of customers locally in Pakistan through the API to our NADRA database. We have five pilot banks right now. And again, these are banks whose existing IT systems are run, which our regulators in the cyber part of our regulatory department have assessed to have the security features which would be needed.

I wanted to illustrate just with a few examples, what we are already doing, the fact that through our FATF and APG work, we've already, I feel, had been able to bring a lot of attention to these aspects. And the first point that I mentioned about cyber being a shared responsibility between the regulator, the banks and the end customer and the role of public awareness as being critical to that.

Bill Cohen: Yeah. I appreciate that. So it's really a matter of, from a supervisory and a central bank perspective, effective communications, raising awareness, and that's really the starting point. If you don't mind, just only because you mentioned AML, the Financial Action Task Force, we've had a couple of questions that came in on that matter, on the AML issue. Can you say a few words about the extent to which the state bank is making use of distributed ledger technology, blockchain technology to address AML KYC concerns?

Reza Baqir: Can I maybe start a bit broadly first because I want to put this in context? Pakistan has had an action plan for methods here for some time now, and it was a 27 point plan. And as you may know, when the assessors come, they put you in a band of three categories, whether a particular recommendation has been fully met, partially met or not met.

And right now, out of the 27, 26 have been fully met, and one out of 27 is partially met. And that is simply what I hope your viewers will take away a statement about the extent of our commitment to this agenda. And in fact, in some other cases that I'm aware of, when there are FATF action plans, and you have completed so many, you are already considered having moved out of the gray list.

But we are determined to tick off the last boxes there. Bill, we have an agenda with the Asia-Pacific group that's largely focused on AML, and a lot of these things don't have as much to do with distributed ledger technology as much with a lot more plain-vanilla types of money laundering risks. So I'll just give you some examples.

In Pakistan, real estate investment has been a typical way in which money is laundered because you're able to basically use the proceeds from that to bring them into the banking system. So, a lot of the emphasis of our is on such plain vanilla things rather than what distributed ledger technology, which even most is not as much of an issue as some very basic things.

Bill Cohen: Thank you very much.

Tara Rice: Bill, could I add just one comment to that?

Bill Cohen: By all means. Thanks, Tara.

Tara Rice: We wrote a research paper last year. It's a quarterly review article that came out in March 2020. And actually, it supports what Governor Baqir just said about the importance of these FATF action plans, the importance of these mutual reviews. So what we did in this paper is that we looked at the swift correspondent banking data back 11 years, and we put that data to the gray list, as the Governor said, to the FATF list of countries that needed to improve their AML CFT compliance.

We also put in some indicators for countries that could be seen as tax havens. And we used a number of different variables to pick out what countries needed to improve, essentially, improve their compliance regime. What was really interesting was our finding that if you were not high on the list of good compliance, that you've lost more correspondent banking relationships, the cross country relationships than other countries, all else equal.

What's equally interesting about our results was that if you were on their list for just a short amount of time, if you got yourself off the list by improving your compliance regimes, you were able to re re-establish those correspondent banking relationships. So, in other words, one of the takeaways I have taken from that is, and I see, the Governor would like to add something. One of the takeaways is that these regimes that we have, I

know that they are costly, and I know that there are downsides, but there are some intended consequences of that. And that is that the countries that need to improve their compliance regimes do have that motivation to do so. I'll stop there.

Bill Cohen: Interesting. Governor, please. Yes.

Reza Baqir: Yeah. Thank you, Tara, for making that point. And it's glad to see that some of our experience fits in with the international experience that you have pointed out. Can I just point out some issues, what I could call collateral damage associated with the work that we are committed to doing on the FATF action plan and the AML work? And that is not to say that that undermines in any way our commitment, but just for us to be collectively conscious of this and things that you may not be aware of.

One of our big agendas in Pakistan is to promote the financial inclusion of women to reduce the gender gap that exists in banking services. And there was an astonishing point that came out. And this is an example of where we have to pay particular attention in our work on AML and CFT. It turned out that a lot of the bad guys who were using the banking system for purposes of either terrorism, financing of terrorism or money laundering often would open a bank account in the name of their wife to hide their own identity.

Then we cracked down as the regulator of banks, and banks discovered that a lot of these accounts tended to be so-called housewife accounts. Guess what they have done. They have now made it very difficult for a housewife or a woman who perhaps may not have a job to go and open a bank account. And it's running into now our goal of promoting financial inclusion for women. It's an illustration of things that we may not think of.

Another example I want to give is a lot of the challenges related to the work on financing... to counter the financing of terrorism and to curtail money laundering has to do with cross-border payments, where we have required that commercial banks become extremely careful in having in place the technology to check when transactions trigger certain internal red flags.

One downside of that is e-commerce. It's become very hard. I get this feedback, people saying to me, "Governor, great that you've done, and the country is doing all this work to get us off the gray list, but it's become extremely hard to send money in or out of Pakistan, even using normal things because banks typically ask so many questions and often they will reject inward remittances as well.

A simple example, a simple example. It so happened that a lot of the problem accounts we had were for these so-called nonprofit organizations or nongovernment organizations because some of these were funding criminal or terrorist activities. But when we clamped down on this sector, a lot of good NGOs or non-profit organizations got roped in as well.

And banks, because they are so afraid of the fines that we are imposing as a regulator when they end up accepting an inward remittance where they haven't done the due diligence on the receiving entity, are also preventing money to reach good causes. One case is convent... we have a lot of schools in Pakistan, which are trusts, charities.

And I remember in particular one case that came to my level because the person happened to know me and said that, "Look, I used to be able to send money to the convent of Jesus and Mary, a very, very well-known school in Lahore, Pakistan. And as you may know, because of our history with... when Pakistan was colonized by the UK, a lot of the schools from that time are providing tremendously valuable educational services.

But this school that I know personally, it's been around for eons, also could not get inward remittances because the officers in the banks were so nervous about receiving inward remittances. So I just wanted to point out that in the efforts that we remain fully committed to, and I'm sure the schools for many other countries as well. We as regulators, have tried to have an obligation to try to figure out how the good does not get roped in with the measures that are designed to curtail the bad.

Bill Cohen: Governor, I appreciate you raising this issue of financial inclusion. This is something I was going to ask you. And I know you personally have spoken publicly about the issue, and I know the State Bank of Pakistan has been quite active in promoting financial inclusion. So thank you very much for raising that. I'm acutely conscious of time, and I wish we could go on for longer than we've got scheduled.

Tara, let me ask one final question to. Despite all the work that's been done to promote, to improve the efficiency of cross-border payments, what work still is needed? Any final words of advice or any final thoughts about what simple bankers, what supervisors could do to address these shortcomings?

Tara Rice: All right. We have two minutes. How about if I take one and let the Governor for the last minute? I would say, simply, look, we've got a very, very comprehensive program. We've got 19 building blocks over five focus areas. We hadn't made a lot of progress on improving cross-border payments before because we tried to tackle this topic by topic.

This G20 cross-border payments agenda is enormous. It's comprehensive. It's job security for me, joking aside. But what we've done in the first year is really stock takes and what we like to call groundling. Now it's time to build, and the building part is the hard part. As we've heard from the Governor, with all the initiatives going on in these central banks, this is now concrete actions and heavy work costing not just resources in terms of money but also people's time.

My point, where I really want to focus our attention is, we have to keep up in momentum, both the private sector and the public sector. Without this commitment, this political commitment coming from the top, coming from the governors to keep those resources flowing, so to speak, to improve payments. We're just not going to have the success that we seek. That's my last word. And let me turn it over.

Bill Cohen: Tara, thank you very much. And for those who would like to find out more about TPPI's work and a lot of the work that's been done in this space, they could visit [bis.org](http://bis.org) and look at CPMI's webpage. Governor, your final thoughts?

Reza Baqir: Yeah. Final thoughts. Look, I want to illustrate the exciting opportunity that digitization presents with a couple of numbers, and I want to illustrate how digitization and our agenda ultimately, and right now in big part, is really about pushing financial inclusion. In Pakistan, right now, there are about 82 million unique accounts. In Pakistan, right now, there are 182 million mobile subscribers. There are 100 million people out there that have a mobile phone but don't have a bank account.

To us, this is an opportunity to use technology, and mobile users are just one example of advancing our financial inclusion agenda. But it gets better. A big part of our agenda is also to reduce the gender gap. Of all of these accounts that I mentioned, 82 million, only one-fourth are accounts held by women. But when you look at mobile subscribers, about 40% of those mobile subscribers are women.

So when we use digitization for banking purposes, we hit both goals. We improve and raise the use of the banking system for transactions, and we proportionally are able to reach out more to the underserved segments of our society. And in this example, I gave women. So that's an example of why we are so excited in Pakistan about the work we are doing on digital financial services. And thank you really, Bill, and thank you, Tara. It was extremely useful and informative to be part of this panel.

Bill Cohen: Thank you, Governor. That's an excellent way to conclude this session. Again, I wish we had more time. This has been very interesting. Let me thank both of you, Tara and Dr. Baqir on behalf of the Toronto Centre, but also personally, thank you very much for your time today. Your participation in this, I thought it was fascinating and really educational. So thank you both. And thank you all for participating.

Tara Rice: Bye.

Reza Baqir: Thank you and bye.

Bill Cohen: See you again.