



Executive Panel: The Rise of AI: Transforming Financial Markets and Supervision

Opening Remarks:

The Honourable Ahmed Hussen

Minister of International Development, Global Affairs Canada

Panelists:

The Honourable John Rwangombwa

Governor, National Bank of Rwanda

Fundi Tshazibana

Deputy Governor and CEO: Prudential Authority, South African Reserve Bank; Vice-Chair, Network for Greening the Financial System

Stefan Ingves

Chair, Toronto Centre; Former Governor, Sveriges Riksbank (Central Bank of Sweden)

Moderator:

Jennifer Elliott

Assistant Director, Monetary and Capital Markets Department, IMF; Board Member, Toronto Centre

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Transcript:

Babak Abbaszadeh:

Welcome, everyone. I am Babak Abbaszadeh, CEO of Toronto Centre. Welcome to "The Rise of AI: Transforming Financial Markets and Supervision." I think we all have been touched by the power and the potential of AI and have that nagging feeling about, "What does this all mean for all of us?" And there's a lot of issues, empowerment, but also with it has to come trust, integrity, fairness, and accountability. To help us through this complex set of issues, we have assembled a distinguished panel to help us navigate these challenges. I'm going to introduce them, the Honorable John Rwangombwa, the Governor of the National Bank of Rwanda, Ms. Fundi Tshazibana, Deputy Governor and CEO of the South African Reserve Bank. She's also the Vice-Chair for the Network for Greening the Financial System, a coalition of more than 140 central banks involved in climate change and the financial system. Also, we're honored to have



our Chair, former Governor Stefan Ingves, of the Central Bank of Sweden, and the former chair of the Basel Committee on Banking Supervision. This session is moderated by a Toronto Centre board member, Jennifer Elliott, who also happens to work at the IMF and MCM. You've seen their bios.

Our mission is supported by Global Affairs Canada, Swedish International Development Cooperation Agency (SIDA), the IMF, and other international valued partners. At this time, I have a nice surprise for us and hopefully for you. It is my absolute pleasure to introduce Canada's Minister of International Development, the Honorable Ahmed Hussen, who has graciously agreed to deliver brief, opening remarks for us. Before I cede the

microphone to him, I want to say just a few words about him. He has made a name for himself in Canada as an accomplished lawyer, community organizer, and a staunch advocate for social justice, diversity, and inclusion. Minister Hussen has served in the Canadian Ministry since 2017. In July 2023 he became Minister of International Development. This is his fourth cabinet portfolio under Prime Minister Trudeau.

He and I have a few things in common. I mentioned them at the Marrakech Annual Meetings, but I would like to bring them back here again. One is that we both live in Toronto when we don't travel in Washington and other places. The other is that we both fled violence of our countries of birth. Each of us was sent as teenagers, without parents, to North America. I don't know that either of us though would have known that one day we'll be here at the World Bank and IMF Annual meetings, working on behalf of Canadians to help lift people in developing countries out of poverty and working to uphold democracy and human rights. At this point, Minister, I'd like to turn the podium to you. Thank you.

The Honourable Ahmed Hussen:

Thank you so much, Babak, for that kind and generous introduction. It has been a pleasure to get to know you and to see you again. Good morning, everyone, bonjour, tout le monde, and welcome to all the panelists. Thank you for joining us, and I look forward to your discussion. From pandemics, ladies and gentlemen, to climate disasters, to devastating conflicts around the world, we're seeing a lot of instability. We're seeing a lot of rapid change and adverse impacts, particularly from climate. We know that countries will only be able to manage these persistent

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**The Honourable
Ahmed Hussen**
Global Affairs
Canada



challenges, year in, year out, if their financial systems are strong, if they're stable, and if they include everyone.

Despite the incredible progress that has been made over the last decade, 1.4 billion adults worldwide are still not included in our financial system. They're excluded from formal financial services, and more than half of that 1.4 billion people who are excluded, more than half of them are women. Women continue to be less likely than men to have access to financial institutions. They're less likely to have their own bank account, and this really disadvantages them and perpetuates ongoing cycles of poverty. These barriers limit women and other marginalized people from accessing education, healthcare, and entrepreneurship opportunities. They're less likely to be able to start businesses if they can't even have a bank account. So, it's very simple. People around the world need to have a safe place to save their money. They need to be able to make and receive payments conveniently and safely, and they need to access credit and capital.

When women have access, equal access to financial services, it can change not only their lives, but it can change the entire community, and it enables them to save money more securely. It allows them to get much needed financing for the micro businesses that they'd like to start and grow. It enables them to invest in their education, to invest in better health outcomes, and to respond effectively to climate change. Women and Indigenous groups and other marginalized groups are on the front lines of the climate emergency. For more than 25 years this organization, the Toronto Centre, has been promoting strong and inclusive financial systems around the world. They're tackling exactly the challenges that I've just described. They've delivered training programs to financial sector, professionals in emerging markets and developing countries. In fact, they've trained over 28,000 officials in more than 190 countries. Think of that multiplier effect. Their work has helped to reduce poverty, to reduce inequality, while promoting inclusive economic growth and empowering women and marginalized communities.

Since their inception, our government, the Government of Canada, has been a proud partner of the Toronto Centre. You can't say you're a proud partner if you don't bring new goods to the table. So, today I'm announcing that our government, the Government of Canada is contributing an additional \$20 million to support your efforts, Toronto Centre.

(announcement in French)

Babak, if you keep inviting me back, we'll keep bringing more cheques. But this funding will help train even more financial regulators and bankers in developing countries. It will help expand the geographical reach of Toronto Centre so that they can do more of their work and reach more people around the world. It will enable them to sharpen their focus on key issues, including gender equality and climate change, two of the biggest challenges facing humanity today.

The Toronto Centre has always been forward-looking when it comes to ensuring that financial sector supervision and regulation take into account global realities. We've seen this in their earlier work, preparing financial systems for disrupting disruptive elements of climate change,



including its effects on industry, on food security, and on women and girls. We've also seen Toronto Centre embrace new technologies and investing in digital transformation initiatives, including making sure that AI is used responsibly to drive innovation and improve decision-making, something you'll hear more about after my speech from the panel.

The Toronto Centre is really helping to reshape the future of finance, create opportunities by unleashing the power of people who've been excluded from the system to access basic financial services and loans so that they can have inclusive economic growth, not only for themselves, but for their communities, and by extension, their countries. In that regard Canada will continue, not only to be your partner, Babak, but

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will continue to be a strong supporter of the work that you are doing around the world. We thank you for your leadership and the leadership of your team for focusing on the elements of the financial services sector that really need to take into consideration the reality of the exclusion of marginalized people, who given the equal chance to others, will actually enable us to see that, not only can they succeed as much as the next person, but actually lift the entire communities out of poverty. Thank you very much, merci beaucoup.

Babak Abbaszadeh:

If you want to see someone make a grown man blush, this would be the moment. And Minister, thank you so much. We really appreciate your staunch support of our mission, and we will continue delivering and not disappoint you. I'm glad some of my board members are here to have heard what you said, and you said if we invite you... what are you doing next spring? Jennifer, without further delay I'm going to ask you to please continue. Sorry that we compressed your time, but this was an important moment. Thank you.

Jennifer Elliott:

All right, thanks, Babak. Good morning, everybody, and thanks to the panelists for joining us. Let's jump right into it. The Minister set a high bar for all the things that the financial sector is experiencing, what's going on, what the future looks like, and the Toronto Centre's leadership in that. We're going to talk this morning about one of the biggest issues on the plate, which is artificial intelligence. We hear so much about it, we hear it's going to change the world, we're all going to lose a job and then we hear, no, it's nothing more than a high school intern in your pocket. So, we brought together a fantastic panel here to give their thoughts on what AI means, specifically in the financial sector: what's going on now, and what can we think about for the future?



I'm going to start with you, Governor Ingves. Governor Ingves, given your very long history of work on the global level, we hope that you will bring to us this morning a little bit about how you see AI impacting global financial stability.

Stefan Ingves:

Well, as if I would know, technology shifts are always interesting in their own right, and that's why we have this hype about AI. But at the same time, to bring things down to earth a bit, technology shifts do not change the inherent nature of asset liabilities and money. And that is actually sometimes forgotten. It's not that AI or any other new technology is going to change the basics of things, but at the same time things do change, and maybe in the future it already has actually happened. You have machines trading with machines, and it's hard to judge what really the outcome of that is. One thing is for sure though, when it comes to the outcome, and that is that potentially things can happen much faster in the future than in the past, and that remains an issue.

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Stefan Ingves
Toronto
Centre

But at the same time, it's not the technology itself which is either a positive or a negative. It's really what financial assets do or do not do, and the age-old issue, AI or no AI, is to figure out if there is too much leverage somewhere in the system, and then you have to go and chase that leverage and go and find it before it's too late. And that remains a kind of a perennial issue. But with new technologies, we certainly will have a faster dissemination of information, and that will affect everybody. And that is not a happy outcome if the information is false and people are actually trading on false information.

The requirements, the data requirements, and things like that will actually go up so that you feel confident that what you are observing mostly on a screen nowadays is actually backed by data that can sort of verify that this is actually happening, this is not in some sense fake. That means that data issues will remain with us, and also given this pace that these things happen, it could potentially lead to herd behavior and herd behavior where it's going to be harder than in the past to stop the herd.

Jennifer Elliott:

Okay, maybe we'll come back to you, and we'll shift now from financial stability to inclusion. So, the minister raised the bar on the discussion about financial inclusion. Governor Rwangombwa, maybe you could tell us a little bit, your thoughts on financial inclusion and the possibilities of AI?

The Honourable John Rwangombwa:

Thank you. Good morning, everyone. Financial inclusion, if you'll allow me to use the case of Rwanda to demonstrate what that means. In Rwanda, way back when we did our first survey in 2008, financial inclusion was just at 21%, and the government had to devise ways to improve on this, because it was really a challenge to have a population, as the Minister said, without a



stable and inclusive financial system, you can't think of poverty reduction and all that. So, there are a lot of initiatives we're taking and fast-forward to last year, the last time we did our survey, released this year, formal financial services had moved to 92%. Out of this, when you look at every four years when we do these surveys, 21% by 2012 had moved to 42%, by 2020 we were at 77%, and now we are at 92% formal financial inclusion. This is mainly attributed to mobile financial services, because 86% of the adult population are using mobile money services.

But there are still limitations, though.

There's really good improvement in access, but the quality of this access, how people really benefit from the success. Most of the inclusion is facilitated by money transfers using the mobile money channels. But how do people use this benefit from this success to improve on savings, to improve on credit, and insurance? Now, this is what we are thinking of: how do we really deepen the benefit, how the financial sector benefits, the population that now has this really high access rate?

As a central bank, part of the challenges we have with the lack of use of financial products is financial literacy. We've been carrying out campaigns, fiscal meetings, town hall meetings, and we educate the population about financial services.

John Rwangombwa
National Bank of Rwanda

I'll talk about support. One way is supporting access and use of financial products: our biggest bank has used AI and has now made it easy for people to open accounts. In fact, while access is at 92%, only 36% that banked. The majority are using just mobile financial services. But with technology and with AI it's now easy for people to open bank accounts. Our biggest bank has introduced an AI solution where you can open a bank account using your mobile phone. The mobile phone takes a picture of your face and links it to the ID data that is available, and it's easy to authenticate that you are the owner of the ID. And so, it has easily and immediately resolved the issue of know your client (KYC) and they're easy to open up accounts.

The other use of AI technology today is there's a non-deposit taking financial institution, just around since in 2023, and now they're using AI technology and logarithms to assess the credit worthiness of their clients. And they use it to approve loans in a matter of minutes, not weeks as it used to be with the financial institutions. That is going to help ease access to loans. Like today, in fact, when you look at the last three years, on a weekly basis we monitor the loans approved by banks. Now 92% of the loans approved by banks on a weekly basis are digital loans. These are small loans that most of the beneficiaries were originally excluded from using financial services or from getting access to banks. But now using this technology and AI, they easily assess the credit worthiness of their clients, and we are able to see many more people benefiting from this technology.

The other is, as a central bank, part of the challenges we have with the lack of use of financial products is financial literacy. We've been carrying out campaigns, fiscal meetings, town hall



meetings, and we educate the population about financial services. Now, we are developing an AI-powered platform where clients of financial institutions or the population can interact with these chatbots, ask questions and you get immediate answer wherever you are just using your phone or using your computer on internet. That is also going to ease financial education across the country.

And we, through our sandbox, we've just approved an AI-powered remittance service that also helps to ease movement of money within the country but also across borders. I would say a lot was achieved already with existing technology, but with AI, we see even bigger achievements in terms of the quality of the access, the use of the different financial products, but also, we have confidence that the target of the government of Rwanda to achieve 100% access to financial services will be much easier to achieve with AI than it was before.

We are seeing the prevalence of AI-powered chatbots that are assisting customers in terms of frontline service and virtual assistance and the creation of personalized product offerings.

Fundi Tshazibana
South African Reserve Bank

Jennifer Elliott:

That's so interesting, because Governor Ingves mentioned the need for good data and something you mentioned here was the flip side of that, which is the opportunity that AI can jump over some data gaps or use alternative data, which is super interesting. We'll come back in the next round to how you see the risks of some of this as well. But let's shift to South Africa. Deputy Governor, you're responsible for overseeing the banking system in South Africa, a big job. Maybe you'd like to tell us a little bit about how the banks are using AI and what you guys are seeing in your market?

Fundi Tshazibana:

South African banks were among the first movers in the AI space, but there is a spectrum, of course. What a lot of us are talking about now is GenAI, but I'm learning that there are different segments of AI. So, a lot more machine learning experience, use of chatbots, and use of more robotic processes, automation processes. That's what we see more of, and those parts of AI, I think, have progressed for probably the last 10 years and they've evolved. But in terms of GenAI, we're still at our infancy. The use cases, the Governor has mentioned some of them, are very similar in customer service and support. We are seeing the prevalence of AI-powered chatbots that are assisting customers in terms of frontline service and virtual assistance and the creation of personalized product offerings. We're seeing more and more of that happening.

Fraud detection and prevention: we are seeing an increasing use of AI algorithms to help to track, in real time, certain patterns related to fraud, and that are assisting banks with fraud



prevention. There are banks that are starting to use AI with their AML/CFT mapping to see, well, where are related activities, and we are seeing that also taking off. Credit scoring: we now have firm credit scoring and risk management that utilizes AI to assess creditworthiness of clients. We are also seeing in the wealth and investment management space, which is new for us, that there is now an initiation of the use of AI to customize.

I do oversee insurers as well, Jen, and what I've found interesting on the insurance side is that there is use of AI now to assist with claims processing, for things like funeral policies, and also, I was told about the actuarial functions that are using AI to verify the authenticity of how an accident might have happened using that picture technology. But it certainly has streamlined on the KYC side, and before we've had digital IDs, we are able to link up to the information of the home office, which is the picture verification. "Here is Fundi, she looks like this." But we can link up with the home office's database to say, "This is Fundi, does their address match? Does the picture match? Does the country ID number match?" And that certainly has been helpful for financial institutions.

Jennifer Elliott:

Just a little follow-up question, what's the reaction of customers to that? To using chatbots... is it positive, having face verification?

Fundi Tshazibana:

We see different practices. The larger banks have streamlined, they use the chatbots to streamline who's got to talk to humans and what is it that you need. Because they are finding that for certain types of clients, they do have a need to chat to a human. They don't keep you too long, if you are not comfortable interacting with a chatbot, you can exit a lot faster than what I've seen elsewhere, and it is a sifting process, so a lot more voice prompts in terms of what you have to do, and it certainly has streamlined how customer service is done. The training of the chatbots is improving exponentially I have to say. A lot more customization for the client base of a particular institution, so that training of chatbots has enhanced the consumer experience.

Jennifer Elliott:

Let's talk a little bit more now about humans and what we're expected to do in this environment, because we heard lots of opportunity. This is very interesting in both Rwanda and South Africa, efficiency gains, speed can be a good thing. It's an efficiency issue, reducing redundancies, making up for credit information that's missing, which is something we struggle with in developing countries, helping access to finance in that way. But Stefan, back to the humans, what role do central banks and supervisors have in AI? I mean, AI is, this is only the financial sector, AI is a much bigger issue facing society. Where do central banks and supervisors fit in?

Stefan Ingves:

AI will be everywhere in one form or the other, so essentially what we're talking about here is adapting to new technologies and understanding when they do good things and when they



maybe do not do very good things. And that of course will take some learning by doing, and we've heard some excellent examples here. But basically, it's about trying to understand as best as you can what is going on and combine that with a good understanding of what are the public good aspects of these phenomena. Because that is ultimately what determines what central bank regulators are there for and what they're expected to do, and if there are negative consequences, you have to deal with that in one way or the other.

But it's, of course, difficult to translate what I just said, because these are general statements to sort of say, "Okay, I like, we can live with that way of doing things, but we cannot live with that way of doing things." And that is really the hard part. This will also actually, I think, raise many different legal issues. Not that we haven't had all sorts of legal issues in the past, but it brings new legal things to the fore. And essentially, a lot of this is really about in a very basic way, who owns what, when, and why, and the "why" is actually about AML. When you get to that point, you also need to be able to answer the question, "Who is responsible for what?"

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Stefan Ingves
Toronto
Centre

Let me make up one example where this is actually going to come back again and again: suppose you buy from an AI provider, AI services, and your AI happens to hallucinate, and then that particular hallucination goes into, given my Basel committee background, into your calculation of risk weights, so that the risk weights are actually crazy. Then that of course raises the issue, who's responsible? Do I understand what the system is doing? How do I deal with that, and how do I pass judgment so that it's just not just a black box? And that's when it gets really, really tricky. What this also means is that things will change, for example, when it comes to third-party IT providers. And just to answer the question, which is not an AI issue, where is the cloud?

Jennifer Elliott:

This is really a challenge for some businesses.

Stefan Ingves:

And how do you deal with that? In other fora lately that I have participated in, we have talked about these things among supervisors from various parts of the world. My conclusion from those conversations is that we are moving into a new and different world. If you are on the supervisory side where it used to be that you dealt with risk weights, you dealt with down performing loans



and all this sort of usual stuff, if I call it, when you supervise banks. But now you also have to learn and understand the IT aspects of what is going on, and most supervisors just don't come from that profession. That means that all over the world, if you're on the supervisory side, on the central banking side, you're going to have to add these competences to what you already do in order to pass judgment on what others do. That is definitely, in my view a structural shift in terms of what competences is that you actually need in the central bank or on the, if supervision is outside the central bank within the supervisory authority. Then, what happens there is that, of course, there isn't an infinite supply of these individuals who actually understand what is going on, and a good number of them actually will make a better career and making more money at least being in the private sector.

Jennifer Elliott:

Which is perpetual issue.

Stefan Ingves:

Yes, a competitive issue, and how do you do that? How do you find the right expertise, and how do you create that expertise in such a way that when you talk to your counterparts on the private sector side, they respectfully draw the conclusion that these people actually know what they're talking about, so I better behave.

Jennifer Elliott:

My biggest takeaway is you've just put economists out of jobs. That's what I heard. Central banks are going to need to think more about skill sets around IT, but not just IT technology, really technologists, okay. Well, then that takes us to you, Governor. How are you handling specific challenges and risks of AI? What do you see? You talked about, for example, you talked about using a different way, AI to do a different way of credit assessment. And so, how do you handle, what do you see as risks of some of that and then how do you handle that? One thing I wanted to ask both you and Fundi is, how do you see fraud and scams, and do you think this makes life worse or better? And how are customers seeing that as well? Are customers able to see what's credible and what's not? Is there a lot of confusion? Are they happy? What are the risks? There's a lot.

The Honourable John Rwangombwa:

I think maybe touching your last question first is, the risks of fraud and scam have been there and are always there, but as we advance in technology, the scammers also are advancing in their ways of how they can penetrate these systems and cause havoc, so we need to remain ahead of the curve in terms of the IT security. That's something that is critical. But talking about the risks associated with AI, I think there are two ways. One is, okay, it's there, it has big potential but are we ready to tap into that potential and use it for the benefit of the development

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Jennifer Elliott
International
Monetary Fund



of the financial sector and access to financial services, as I said earlier. So, there's that challenge to tap into the full potential that AI offers, or any other technological advancement.

But also, now there's the bigger challenge is the responsible use of these systems. Back in Rwanda, the Minister of ICT together with the Industrial Revolution Secretariat did an AI readiness and maturity framework for the country. They identified maybe three or four challenges. One was the capacity of the staff to use these technological skills, in terms of the skillset of different staff members of different institutions.

One, of course, was data issues, data availability, quality, privacy. Then the infrastructure constraints, these are things that need really heavy infrastructure. Then, there's still reluctance from the private sector and investing heavily in these new technologies.

We as a central bank mandate financial institutions to implement comprehensive cybersecurity measures, including strong encryption protocols, multi-factor authentication, and advanced intrusion detection systems.

**John
Rwangombwa**

National Bank
of Rwanda

On the data quality, now focusing on the financial sector, taking it from this framework, we as the National Bank of Rwanda just developed a roadmap aimed at implementing open finance within the country. This initiative seeks to establish a structured framework that enables secure consent-based data sharing between financial institutions, FinTech companies and other stakeholders. We just completed that framework. We gave ourselves a period of two years to implement that. When we speak about data ownership, the framework emphasizes consumer data ownership, granting individual greater control of their data, but also creates ways of institutions sharing this data in a secure way. So, it allows interoperability, it allows data storage and treatment with the utilization to ensure the consumer information is used responsibly and ethically to support innovation. There's that balance between data privacy and the need to use data for innovation. So, this framework creates ways in which data can be stored, data can be used and how it is shared, but with the consent of the customer, protecting customer privacy. Mainly, most of this data will be used at an aggregate level, not really going into individual details.

The other thing, as I said, and as you said, is about the cybersecurity challenges. We as a central bank mandate financial institutions to implement comprehensive cybersecurity measures, including strong encryption protocols, multi-factor authentication, and advanced intrusion detection systems. At least there's that framework we put up, or regulation, on cybersecurity.

But as I said, in another session we had with the Toronto Centre yesterday, we've also implemented the financial sector operation center, like an umbrella of IT security around the financial institutions. This is linked to a national cyber-operation center that is able to identify risk



ahead of time, or able to share risks that is seen in one area. So, there is what we've required the financial institution to do themselves, but then there's this layer that we've built above the financial institution to support them in terms of identifying risks ahead of time, but also timely sharing of this information.

That's what I would say, there are challenges, yes, but we are trying to put up frameworks that will allow responsible use of data and building on our data protection law. Again, how do we assess, how do we provide the required data to allow innovation in the financial sector?

Jennifer Elliott:

It's also interesting, and one of the criticisms of large language models is that you're not controlling the information in there, it hallucinates and so on. But what you're suggesting is a set of data that the AI can work on that provides a credibility in that sense, which is very interesting, but then runs you up against the tricky issues of data privacy and innovation and competition, which is, this is a super interesting approach. Then of course, cyber security, which is with us, no matter what. All right, so Fundi for you, Deputy Governor, how are you guys doing it at SARB in South Africa? How are you incorporating AI into your supervision and regulation?

Fundi Tshazibana:

First by recognizing that we'll never be the tech specialists, we are supervisors, and so we've gone back to first principles in terms of strengthening overall supervision and recognizing that we have to focus on the governance part. There is work that we're doing related to data governance, making sure that the data governance frameworks work within financial institutions. We don't yet have a national data center like Rwanda does, so, we want to make sure that financial institutions on their own get the hygiene factors right and they have the right accountability mechanisms within the institutions so that everyone understands what it is that the AI is doing. Again, it takes me back to the humans. The boards themselves have to know if the banks are operating utilizing AI, what are the risk exposures and what's going on, what are potential biases? That's where the supervisory elements have been important, and also ensuring you have got end-to-end governance. In some institutions you find that the board doesn't have sufficient oversight, but sometimes even executive management doesn't know what's in the black box. It's important to ensure that it's not just the tech people who know, because the AI is basically making decisions or informing decisions that the institution is making.

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Fundi Tshazibana
South African Reserve Bank

The second area was, of course, to develop a framework for IT and cyber risk, which is there to



assist the sector. We've got an IT and cybersecurity standard, which is a strong standard that we have with the conduct authority in South Africa. That's what we've found has been helpful in the engagement. But as a first principle for us, it's been important to strengthen the governance. We're having conversations with boards about board capability in terms of what they are doing there, but we are seeing some differences between institutions.

If you bring on board a tech expert onto a bank board or an insurance board and the bulk of the conversations are about things that they don't understand, that's not necessarily always helpful for the bank board. So, we need to have a combination of skills or people who have skills that are able to understand what the core business of the entity is. Because AI is a means to an end. It's the means to providing a better service. It is the means to streamlining to have a better reach on the client side. So, trying to make sure that you can marry the two things that that need to happen in the financial institution. That is what we're doing. We've had to have a different group of people, of course, that is doing the IT and ops risk work, and we're spending a lot more time on the operational issues, which are non-financial, as you were saying. That we have supervisors that are traditionally trained on working on risk weights, on working on projects where you know where the data is going to come from.

But the new areas of supervision, the fastest growing areas of supervision are in the non-financial risk space where you've got to understand the business of the entity a lot more, asking them questions on, "What is it that you're intending to achieve with your use of AI?" We've had some unfortunate experience in the AML/CFT space, where through automated transaction monitoring we have got an algorithmic program that is supposed to help financial institutions, but a human has to tell the algorithm, "The rules have changed, we now have a new standard that we have to comply to." If the humans don't do and assist that interface, then the entity does find itself in trouble and it has to be sanctioned at the end of the day. So, it is important to have that interaction between the humans and the AI as we move along and as the goalposts are changing, because that's what we are experiencing and finding on the supervisory side.

Jennifer Elliott:

That's so interesting. So, you've deepened Stefan's point, that you have to recruit people who understand, but you need dot connectors, you need people who can translate from one to the other, which is difficult, and that needs to be on the board, which was a very important point, I think, and a bit daunting.

We've covered a really broad range of issues related to AI and we've heard some great examples from Rwanda and South Africa, very concrete, which is nice, because we often find AI is up there in the clouds. So, it's time for questions from the audience. I always have many, many questions myself, so if you don't put up your hand now ... There's a hand back here and then here.

Audience Member:

Thank you very much for your very insightful comments. I have one question, and that's to do



with AI: it presents opportunities as well as risks. I want to touch on how it impacts authentication given the possibility that you can have voice cloning and facial cloning? Thank you.

Jennifer Elliott:

Who wants to take that? Mister Ingves.

Stefan Ingves:

I mean, when things change, you have to change yourself and over time you have to learn these things. And others have, and we have discussed here this morning, we talked about fraud. It's obvious today that what fraud is like today or potentially like today is a completely

different thing compared to 20 years ago or 30 years ago. And then one has to do as best that you can to understand that. Unfortunately, bad people are smart as well. And then you have to learn from that and that will be an issue in the future, there's no question about that. In my corner of the world, we have some pretty bad examples when it comes to fraud in the IT space. It's very difficult to deal with, because essentially some of those fraud cases are of such a nature that those who actually do the bad things, they're not located domestically, they are in a completely different part of the world, and then it becomes very hard to go and chase the bad guys.

It's obvious today that what fraud is like today or potentially like today is a completely different thing compared to 20 years ago or 30 years ago. And then one has to do as best that you can to understand that.

Stefan Ingves

Toronto
Centre

Jennifer Elliott:

And I agree, the Governor said that fraud is with us, it's been with us, it will still be, but the problem now is speed.

Fundi Tshazibana:

So, multi-factor authentication certainly helps. What we've seen with our banks and how they're using AI to help them with fraud detection is, not only is it your ID, knowing your account number, it's your voice modeling, but it's also having random questions that they ask you including, "Where are you? Where in the world are you right now?" and they can triangulate different information that you've provided to your bank already around your card usage and where was the last point at which different things were being done. Or they'll ask you about some random grocery purchase. And that's how AI is doing this: it can randomize, more than we can as humans in terms of being able to predict, "Well, they're going to ask me these five standard questions and I can skip over that." I think that is maybe one opportunity, and that, of course, I recognize, holds true, until the scammer itself is AI, and maybe that then becomes a bigger problem.



Jennifer Elliott:

That's so interesting. We had a question here.

Audience Member:

Oh, thanks a lot, Jennifer. Very nicely moderated. Great panel. I have a question specifically for the Honorable Governor. I'm a bit aware about all the nice things Rwanda is doing in the financial sector, and I think if all goes well Rwanda might have a financial center, I'm told. The question is that the way I see for a durable, sustainable adaptation of AI in all dimensions in the financial sector, perhaps three or four essentials are needed. And this is not just for Rwanda, but for all of the markets under development. There is a problem of financial literacy, there is a problem of financial skills, there is a problem of financial infrastructure, and then there is the question of not having full access yet to society in terms of inclusiveness. This is where third-party vendors and providers are walking into the AI space and the digital space the way we are seeing it or I'm seeing it, in a very massive quantity all over the place and especially in markets like yours and even South Africa, Deputy Governor.

The question I have is that, how are you sort of trying to balance this, adapting all these things with these four limitations? Because to build and overcome these four limitations, they will take time. Whereas the adaptation of technology is very quick and swift, and there is a mismatch, there's a time inconsistency problem here, which then for me becomes a very big source of financial instability. And it's never been clear to me that as a policymaker, how do you go about saying, "Hang on, I need to say decide the pace at which I'll do it." I just want to put this on the table, because this comes up very often, and I hope many in the room may want to know exactly how you're approaching it. Thank you.

The Honourable John Rwangombwa:

Thank you. You put the question to me, but I'm sure my colleague will also come in here. As you say, I think I touched on it in my comments on the challenges or the limitations we have to take full advantage of the AI potential, why it's a challenge that we have the need for that you said, which had also highlighted, but also an opportunity to use this technology. I talked of how we are trying to use AI to make it easy for the population to access financial education, instead of waiting for the town hall meeting that we've been doing or radio programs, they can do it on their phone and all that. So, I see it as an opportunity that we're using these AI channels, and we can reach many people in a very short period of time and try to address some of the challenges you're seeing.

Same with infrastructure. Of course, we can't have full use of this technology if we are not invested in infrastructure. Maybe, we as Rwanda, I would say we have an advantage, because we're small country, so it's very easy to reach all corners of the country with the reasonable investment in infrastructure. At least we have laid fiber optic across the country. Connectivity is almost 95% everywhere in the country. In terms of infrastructure, I think there's a lot of achievements there. What remains is really the stability of this infrastructure.



But I think the biggest challenge, as we said, is building skills. We in the National Bank of Rwanda, again, I was saying this yesterday, we've just completed a digital transformation strategy, because we looked where we are today and where we are heading. Our staff needs to be more versed in digital services, so we have just completed this. What do we need to do in terms of our processes, in terms of what kind of technology do we bring on board, but how do we upskill and upskill our staff?

Part of the strategy is to do the skills audit of our staff. What do we need to do to match the demands of the future? It's a process, I would say. But these technologies are a challenge, but an opportunity as it were to leapfrog most of these challenges that we have. Maybe my colleague Fundi would want to add on.

The biggest challenge is building skills. We in the National Bank of Rwanda, just completed a digital transformation strategy, because we looked where we are today and where we are heading. Our staff needs to be more versed in digital services.

**John
Rwangombwa**
National Bank
of Rwanda

Fundi Tshazibana:

Okay, so let me talk about third-party risk, and thank you very much for bringing us back to that. I think that we are seeing a lot of partnerships as the financial sector institutions are using more digital platforms. The cloud was one, it's the elephant in the room. We are not talking about the cloud, but we are. But the cloud was one example of how on a large scale you suddenly had big chunks of data that were not sitting in a country, and you had to think through as a supervisor what to do. But AI, I think that we have got very few service providers globally, and we know that there is going to be a concentration. Yes, it's a race, there already are a few now, but we don't know how many will survive by a certain point. That does bring with it a certain number of risks. If all of us will be having similar AI apps and sourcing from similar data sources, we don't know if we choose to go the GenAI route, do you end up with certain concentration risks? Do you end up with synchronized behaviors among banks that take you in a direction?

And I think that that does bring with it financial stability risks, and this is something that we have to be thinking about, what does that mean and what do we do? We heard earlier from the former governor on the speed, if you don't have the luxury of time and you've got synchronized risks, what does a financial crisis look like in country and potentially globally? So, these are big questions that we have to be engaging with.

There is work in the Financial Services Board that has started just looking at who the critical service providers are and how do we think about critical service providers. How do we stress test? If you're stress testing the banks, you're stress testing the insurers, but they are executing their business through digital platforms. We're not stress testing those companies, and we don't know what's going on there. We've just had the CrowdStrike event, and it was a patch for some companies. It's there to help us with cyber risk. That's not necessarily an AI risk, but it's about



the channels of risk and what they might look like. We do need to understand a lot more about these third-party transmission issues. I'll stop there, but I'm happy to chat afterwards.

Jennifer Elliott:

Before you come in, because I think you might be going to the same place. But this very nicely takes us to what can the international community do more of. I want to hear your thoughts, Governor Ingves.

Stefan Ingves:

It's particularly in small open economies and most economies are actually small and open, we'll have to learn how to deal with the issue, which is not a technical one at all. Who do you trust and who are your friends? They won't be at home; they will be elsewhere. That requires cooperation and it requires understanding, both on the private sector side and particularly on the public sector side. That's hard to do and hard to deal with, because all public sector representatives have a national mandate. Then all of a sudden, regardless of their national mandate, they're forced to sit down and talk to others and come to certain agreements on how to deal with this. This is particularly acute in small countries.

I think the best thing is to identify the real issue, what is the possible change that could affect financial stability. Otherwise, fear could just totally stifle innovation and create problems.

John Rwangombwa
National Bank of Rwanda

Jennifer Elliott:

But you have sort of a cross-border concentration risk to put them together, the third party. But even in large language models you have this as well. It's a cross-border model, in some cases what's being relied on you don't have access. There's that, and then there's the speed at which money leaves the country, which is another cross-border issue. So, what's more, I mean the FSB, the Financial Stability Board is doing some work, there's lots of international work on cybersecurity. There's work on third party and cloud. But what more could we do internationally? I feel compelled as the International Monetary Fund to ask this question to help small countries, because your bargaining power with some large private sector institutions is limited. So, what more?

The Honourable John Rwangombwa:

No, I think as I said earlier, with these technological advancements, there are risks. But I think the opportunities and the benefits in most cases are worth the risk. Take an example, mobile money. When it started, the main regulators were not willing to allow it. There was talk of threats to the banking industry. There was a lot of fear around mobile money in financial services. But see what has been achieved in terms of financial access and efficiency in financial institutions.



So, I think at the end of the day the good thing, as you say, is today at the global level we are able to bring our heads together, our brains together. I think the best thing is to identify the real issue, what is the possible change that could affect financial stability. Otherwise, fear could just totally stifle innovation and create problems.

I think as you say, at the global level, I remember five years ago or so, when I attended Basel meetings, there was total negative talk about these crypto assets and all that. It's like it'll never happen. But because it persistently kept on happening, now the talk is, "How do we regulate these assets?" So, it changes completely. I think we as regulators need to be ready to accept innovation and really do what is required to avoid havoc in the financial system. It's not easy to balance, but it is our core.

We need to remember, we can always say risk, risk, risk, but we have to balance that with innovation.

Jennifer Elliott
International
Monetary Fund

Jennifer Elliott:

That's a very nice way to put that. We need to remember, we can always say risk, risk, risk, but we have to balance that with innovation. One more question, fantastic, from the very back.

Audience Member:

Thank you so much for such a great session. I'm coming from the academic side working in tech, and we're trying to see how to make large language models (LLM) very, very good beyond English. I'm curious whether you're seeing any challenges because there's a lot of diversity in South Africa. I know in many countries as well, in Tanzania across Africa. As we tend to rely on GenAI more, are you seeing some challenges? Have you tried out some things? Do you have any advice for those of us who are also working in that space? Thank you.

Jennifer Elliott:

We were just discussing this in the green room. Fantastic question. This is a limitation. I'm the only person who doesn't speak another language, so embarrassing for me. But to all of you do, so what have you learned?

Stefan Ingves:

It becomes a limitation, because particularly if you come from a small language area and you deal with let's say the economics, with a fairly high likelihood, a good number of the English words that you use in the field of economics do not exist in your own language. That of course becomes then an issue if people want to speak their own language, whichever language that happens to be. So, in some instances one probably will have to take out the first L in LLM and live with the limitations that follow from that. Or as a minimum you need to understand the



differences between your own language and what exists in the English language.

Jennifer Elliott:

Deputy Governor?

Fundi Tshazibana:

So, we're not there yet in South Africa. As I said, we are starting, but what we see in terms of language is that there are limitations, because we've got double meanings, we've got triple meanings of the same word. It depends on where the word is in the sentence. And I think that's going to be a challenge for us as we are training the large language models. I think I remember having a conversation with IBM and they were talking about this, the training that goes into the AI, and there are nuances that are there, but the bulk of the investment is around English-based language models.

Jennifer Elliott:

Governor, we give you the last word. Thoughts on language?

The Honourable John Rwangombwa:

I think I subscribe to what they said.

Jennifer Elliott:

Okay. Well, thank you all three of you. This has been a fantastically concrete look at AI in the financial sector, and we only scratched the surface, so we'll do it again, for sure. Thank you.