South African Reserve Bank

Opening remarks by Francois Groepe,
Deputy Governor of the South African Reserve Bank,
at the launch of the Project Khokha report

Sandton Convention Centre, Johannesburg
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Good afternoon, ladies and gentlemen.

On behalf of the South African Reserve Bank (SARB), I would like to extend a sincere and warm welcome to everyone here today on the occasion of the launch of the report on Project Khokha, which had as its scope the trial of interbank wholesale settlement using distributed ledger technology (DLT). This was our first DLT initiative; its aim was to contribute to the global initiatives that assess the application and use case for DLT.

I am pleased to confirm that Project Khokha was successful in that it proved that the typical daily volume of the South African payments system could be processed in less than two hours with full confidentiality of transactions and settlement finality. This was done using ISO[1] 20022 standard messages within two seconds across a network of distributed nodes and with the requisite resilient distributed consensus.

The SARB is pleased that so many of you have taken the time out of your busy schedules to join us today. We appreciate that there is great interest in this work, both locally and from abroad.

[1] International Organization for Standardization

I will make brief introductory remarks and then hand over to the Governor of the SARB, Mr Lesetja Kganyago, to deliver the keynote address.

My remarks centre around three observations.

Barely six months ago, I could not have imagined that we would successfully trial the use of DLT to process high-value transactions. This was in part because I am acutely aware of the challenges involved in building wholesale payments capabilities and appreciate that, and proofs of concept can be both complex and take time to develop. As an example, the requirements for such an endeavour need to be carefully defined, prioritised, and mapped into functional and technical specifications. Furthermore, the coding, development and testing required is an intense and laborious exercise. Add to that the challenge of integration between multiple participants one comes to an appreciation why such initiatives are often multi-year projects.

The design, building and delivery of Project Khokha happened in less than three months. This is a noteworthy achievement. It is evident that the pace of innovation and technological development requires a shift to this new ‘agile design approach’ which demands fast turnaround. After all, the mantra of financial technology, or ‘fintech’, is ‘design flexibly, fail fast and succeed sooner’. This rapid prototyping and agile process to trial new ways of innovating in financial services is rapidly becoming the norm. As regulators, we are keenly aware that the days of playing catch-up with often long lags are no longer appropriate as such an approach may allow for systemic risk to build and for market conduct failures to go unchecked.

Project Khokha is therefore significant as it has demonstrated that regulatory institutions are indeed capable of responding to the rapidly changing environment with agility, flexibility and speed. The insights gained will also be beneficial in other areas of the SARB’s activity which extend beyond fintech initiatives.

My second observation is that the success of complex projects is built on strong collaboration – even in the trial or prototyping phase. This goes beyond the collaboration between participants; this also involves connecting with experts on ongoing unresolved challenges. For example, reaching settlement finality on DLT was a major issue not long ago. With the speed of change and a dedicated global effort, issues such as these are addressed over shorter timeframes as compared to the past.

I am proud to announce that Project Khokha has contributed to the global DLT body of knowledge as it is thought that this was the first time that the Istanbul Byzantine Fault Tolerance consensus mechanism and the Pedersen commitments for confidentiality had been used with Quorum. This helped to ensure that the tokenised rand remained a legitimate transaction during transfer, and it assisted with the honouring of participants' privacy and confidentiality requirements.

It is evident that, in this new digital economy with potentially decentralised architecture, progress is made by gradually crossing new frontiers and by extending concepts and solutions. There is little doubt that DLT has huge potential, but that it equally has a substantial road ahead before large-scale adoption across multiple interconnected systems can be considered. Much more work is required, and collaboration is of vital importance as it deepens the collective knowledge base in an area where there is great variability in understanding due to the speed at which the technology is changing.

There is huge expectation among the broader financial services community around emerging exponential technologies such as blockchains and distributed ledgers. Multiple trials across many different industries across the globe are taking place. As South Africans, we should be active participants in leveraging innovation and technology to drive efficiencies within our financial system in order to reduce frictions. We furthermore should leverage the immense social and welfare benefits that these developments may deliver while ensuring that financial stability is not compromised.

Finally, while contributing to these efforts, we should be careful not to treat emerging technologies as a panacea for every problem. Whereas rapid prototyping brings the benefit of gaining practical insights and a deeper understanding, critically reflecting on what works and what doesn't is an important aspect of the journey. Complex networked ecosystems encompass multiple dimensions: policy, legislation, economics, process, governance, business and, of course, legacy. The economists will remind us of the 'stickiness' and integrated nature of path-dependent systems. I would thus encourage all of us to continue to trial new approaches with vigour, but equally to be frank about the applicability and appropriateness of new emerging architectures.

Finally, let me take this opportunity to thank the Project Khokha team that has led this effort. Many thanks to the banking participants, the ConsenSys and PwC[2] teams, and of course the numerous SARB colleagues and departments that have been actively involved. Special thanks to Mr Edward Leach, the business owner, and to Dr Arif Ismail, Mr Gerhard van Deventer and Mr Anrich Daseman of the FinTech Unit.

With that, I would like to hand over to Governor Kganyago to reflect on the advent of the Fourth Industrial Revolution, the emergence of fintech, as well as the SARB's role amidst all these changes. The team will then take us through specific detail on Project Khokha, its main findings and potential future work.

Thank you.

[2] PricewaterhouseCoopers Inc