FinTech – Harnessing its Power, Managing its Risks

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FinTech is fundamentally transforming the financial industry.

- The smartphone is becoming our bank.
- Computer programmes are offering investment advice.
- People can now lend directly to one another online.

Technology will replace many jobs in finance but will also create exciting new jobs

- Calls for new and different skill sets – understanding technology and the ability to work with and harness the power of machines and algorithms
- As someone in Silicon Valley put it, *"the geek shall inherit the earth"*.

Unregulated FinTech companies are now providing many financial services. They will challenge traditional financial institutions (FIs), disrupt and even displace some of them but will not replace them.

- Banks and insurance companies have something that unregulated entities do not have – *trust*. Trust based on a track record of performance.
- FIs are not sitting still.
  - They are actively harnessing technology to enhance product offerings and improve efficiency.
  - They are setting up in-house FinTech units to replicate the start-up mentality. Many global banks have set up "innovation labs" in S'pore: Citibank, StanChart, UBS, HSBC, to name a few. And insurance companies too: Aviva, Aeon, AXA, Allianz, MetLife.
  - They are also collaborating with or buying over FinTech companies to tap their technologies.

Financial technology, or FinTech, may well be the best hope for the future of finance

- The financial industry is facing many headwinds
  - slower economic growth, narrower margins, tighter regulation, and greater competition from outside.
- FinTech can potentially help the financial industry regain its dynamism and at the same time purposefully serve the economy and the people.

But the FinTech phenomenon is not without risk.

- The rapid pace of innovation and adoption throw up many questions for the industry and financial regulators.
- *What should be the policy approach?* Will speak from the perspective of MAS.

First – take a differentiated approach to different technologies and their applications.

FinTech encompasses a wide range of technologies: we cannot take a "one-size-fits-all" approach.

The nature of technologies, their benefits, and risks are very different.

- Digital payments, digital currencies – they pose issues of authentication, identity
- P2P lending platforms, crowdfunding – there are implications for consumer protection and fraud risk
- Cloud computing, big data – there is the issue of cyber security
- E-trading platforms, algorithmic trading – there are implications for market functioning, both good and bad.
- Blockchains and distributed ledgers systems (DLS) – this is potentially the most transformative innovation, at least until artificial intelligence comes along in a big way.

Many new technologies intelligently used can help to ***reduce*** risk. Take for example DLS.

- Decentralisation reduces concentration risk. A cyber attack cannot bring down the entire system because every player has a copy of the ledger.
- Speed of transaction verification reduces counterparty risk. This could potentially translate to lower collateral requirements, better capital optimisation.
- Imagine clearing and settlement in seconds rather than days.
- But mind you, these are still at proof-of-concept stage. There is still no scalable market-wide solution in place.

But contrary to what DLS advocates proclaim, it is not without risk and may even introduce new ones.

- The public DLS is susceptible to malewares being uploaded into the system. Blockchains are not hack-proof.
- And as all data are replicated to very node in the system, there is a risk of compromise of privacy.

So, each technology must be evaluated on its own merits.

- And we must also consider which financial activity it is being applied to
  - blockchains in clearing and settlement systems are very different from blockchains in trade finance or e-KYC.

Second – adopt a risk-based approach to FinTech innovation in the unregulated sector.

Regulation must not front-run innovation.

- Introducing regulation prematurely may stifle innovation and potentially derail the adoption of useful technology

MAS applies a *materiality* and *proportionality* test.

- This means when the risk posed by new technology becomes material, then regulation comes in.
- And the regulation must be proportionate to the risk posed.

Take for example internet-based payments or P2P lending that takes place outside regulated banks.

- We regulate banks chiefly because they take deposits.
  - When they get into trouble, they have systemic consequences.
  - So, we supervise their lending activity and their payments systems.
- We do not regulate P2P lending platforms – as long as they do not take deposits.
  - But if they get very large and pose macroprudential concerns, then we may consider regulation.
- Likewise, a payment service through the Internet will not automatically attract regulation
  - These are typically small payments, often in connection with e-commerce.
  - Only larger, more significant players that cross the materiality and other thresholds are regulated.
  - Even then, we do not regulate them as banks and throw at them the whole kitchen sink of capital and liquidity requirements under the Banking Act.
  - We regulate them under the Payment Systems Oversight Act or the Remittance Agents Act – modular regulation customised to address the specific risks or concerns they pose.
  - But I must acknowledge we do not have ready-made regulations for all new technology solutions; often we must improvise the use of existing legislation, even as we draw up new ones.

Third – actively promote the FinTech ecosystem and seek to harness its potential for good.

While regulation must not front-run innovation, regulators must run *alongside* innovation

- We must know what's going on and be ready: either to promote or to restrain.

There are three ways in which MAS does this.

<u>One</u>, we actively engage FinTech firms to better understand emerging innovations and help them design their solutions for financial services.

Take for example cloud computing.

- Our traditional approach was to deal only with regulated FIs, not their service providers
  - But with cloud solutions proliferating, we changed tack
  - Many of these solutions offered strong efficiencies and cost savings but not all models met our regulatory requirements for data integrity and protection.
- So we engaged in dialogue directly with cloud service providers to explain our concerns and at the same time understand the technology
  - The service providers then came up with solutions that met our concerns
  - And we modified our requirements to take account of new business models and technological capabilities.

<u>Two</u>, we allow our FIs to experiment with new technologies in a safe environment.

FIs do not have to seek MAS' permission to try new things.

- Responsibility lies with boards and management to assess the risks and put in place adequate safeguards
- But with many innovations, it is not always possible to anticipate every vulnerability or whether there is a risk of breaching regulation.
- Sometimes, as Nike puts it, you have to *"just do it"*.

MAS will therefore introduce a *"regulatory sandbox"* approach that aims to give FIs more confidence to experiment and launch their innovative products or services within controlled boundaries.

- The idea is not to remove all risk. Failure is an inherent part of innovation.
- Rather, we want to create an environment where if an experiment fails, it fails safely and cheaply, without larger adverse consequences.
- MAS will soon issue guidelines for public consultation on how the regulatory sandbox will work.

Three, we promote greater inter-operability within the industry to harness the full potential of technology.

An innovative environment proliferates a wide range of technologies and solutions.

- But if the solutions cannot interact with one another, we sub-optimise efficiency gains or customer experience.
- While we should allow a hundred flowers to bloom, we should also take care we create a garden.

Greater inter-operability across data systems is therefore a key priority. Let me give two examples of what MAS is doing together with the industry.

- One, common standards for payments systems to realise more seamless payments across a range of platforms.
  - We are working towards a *unified Point of Sales (POS) terminal* – a single terminal that can read all kinds of cards at retail and hospitality outlets.
  - We are also exploring an *"all-in-one" addressing system*, that will enable us to pay someone electronically using the payee's mobile number, email address,

social network account, or other proxies. No need to know the payee's bank account number.

- Two, seamless data sharing through publication of open *Application Programming Interfaces, or APIs.*
  - ➢ We just had a two-day API conference earlier this week, where industry players shared their views on how we can take the API strategy forward.
  - ➢ MAS is working with FIs to leverage on new technologies to share aggregated data to improve market and risk analyses, forecasts and projections.

We are committed to building a Smart Financial Centre, where innovation is pervasive and technology is used widely to:

- Increase efficiency
- Manage risks better
- Create new opportunities
- Improve people's lives