FinTech for Financial Inclusion:

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10 YEARS OF BRINGING SMART POLICIES TO LIFE

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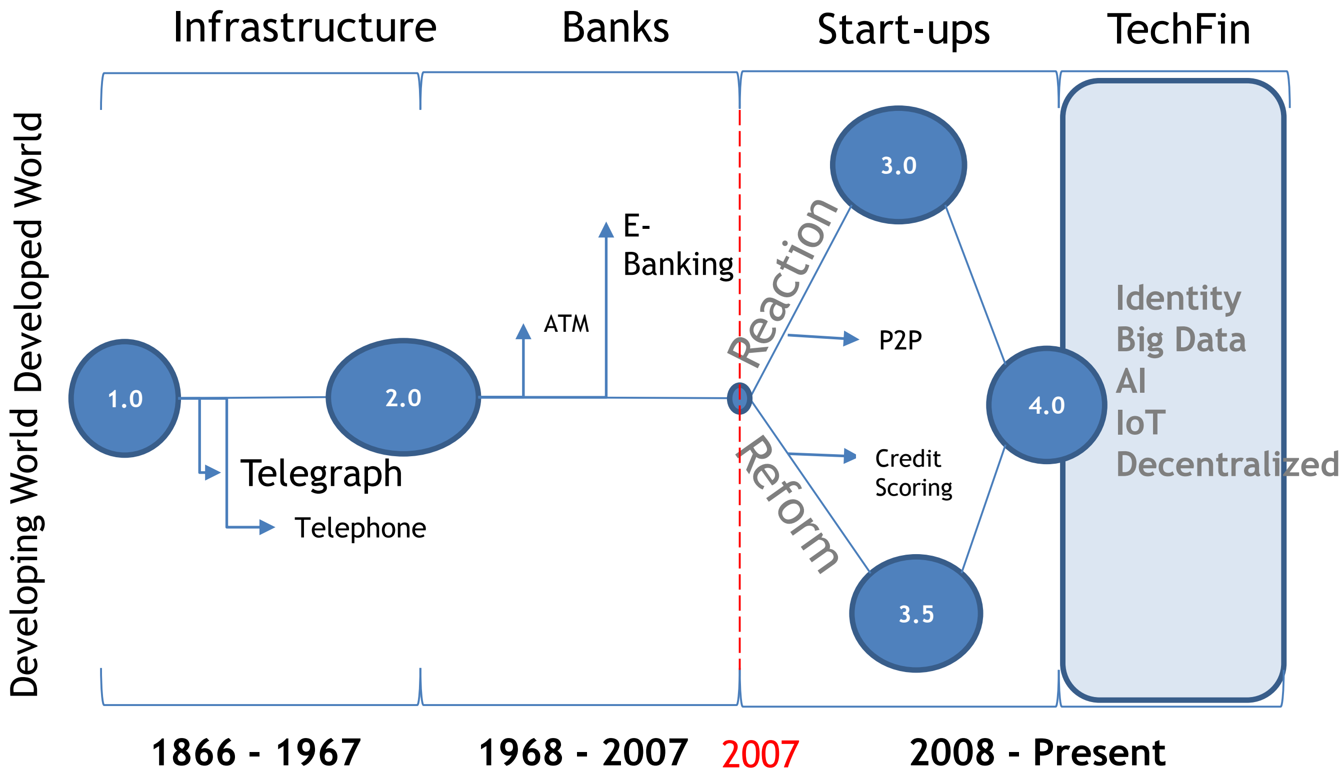
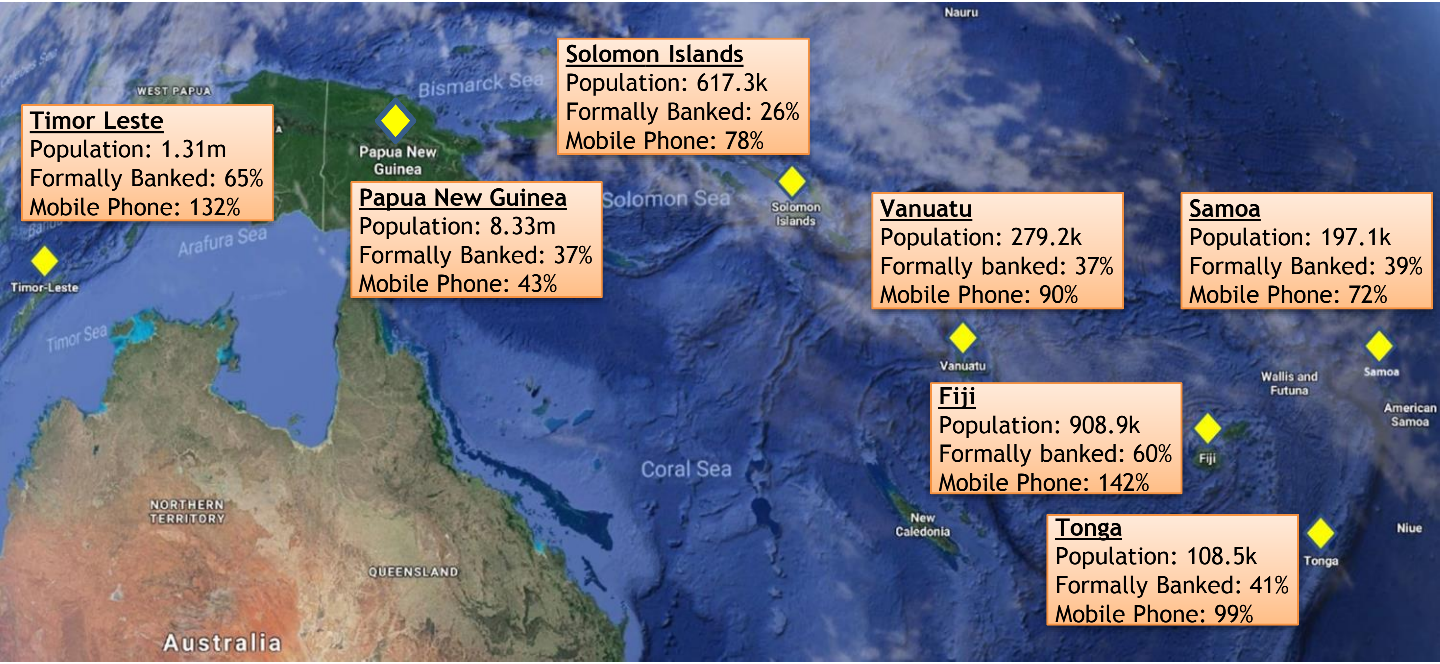

Infrastructure
Banks
Start-ups
TechFin
Developing World Developed World
1.0
2.0
Telegraph
Telephone
ATM
E-
Banking
Reaction
Reform
3.0
P2P
Credit
Scoring
3.5
4.0
Identity
Big Data
AI
IoT
Decentralized
1866 - 1967
1968 - 2007
2007
2008 - Present

Mobile vs Banking Penetration

Within developing parts of the Pacific region and Southeast Asia, mobile phone ownership is more wide-spread than Bank account registration:



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G24-AFI Study: FinTech for Financial Inclusion

- Assessing FinTech's relevance to solving key challenges for financial inclusion (e.g. digital identity for the financially excluded)
- Analyzing key policy and regulatory implications emerging out of FinTech based services/business model innovations
- Proposing policy and regulatory responses to manage and mitigate risks related to FinTech for financial inclusion without stifling its growth.

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Designing financial infrastructure

- Objectives: financial inclusion, economic growth, financial stability, market integrity
- Pillar I: Digital ID / eKYC
- Pillar II: electronic payments / open API
- Pillar III: account opening / gov’t electronic payments
- Pillar IV: digital financial infrastructure

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Case Study: India Stack

VISION

Presence-Less

Unique digital biometric identity

Paper-Less

Electronic documentation protected by digital signature and storage

Cash-Less

Single interface to all interconnected payments platform

Consent

Consent-enabled data sharing framework

IMPACT

1,000% Efficiency Gain for end-to-end account creation:

	Bank	Prepaid Card Issuer
Days	14- 30 days	1 - 2 days
Time	70 - 91 min	6 - 20 min
Costs (USD)	US$ 5.2 - 8.7	US$ 0.34 - 1.6

Re-aligns economic viability of financial inclusion delivery

Case Study: EU Big Bang II

- PSD 2: Payment Services Directive 2 - open API banking
- MiFID 2: Markets in Financial Instruments Directive 2 – transparency across markets
- GDPR: General Data Protection Regulation

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Pillar I: Digital ID / eKYC

- Base ID
- KYC
- Suitability?

- Local / foreign / non-physically present
- Individual / corporate

- Challenges: domestic context, security

- Sovereign / Monopoly / Open

- Regulation
- Equivalence

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Pillar II: Electronic payments / open API

- Traditional
- New entrants / technologies
- Regulation
- Example: Gates Level One
- Related benefits: ecommerce, empowerment / entrepreneurship

Pillar III: Account strategy

- Pillar I / II
- Strategy: access + savings + efficiencies
- Government salaries / benefits / pensions
- Requirement?

- Related benefits: leakage / taxation / formalisation / market integrity

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Pillar IV: Access to finance

- Pillar I, II, III: Payments, transactions, savings
- Infrastructure for traditional and non-traditional access to finance
- Credit: credit analysis, cashflow (SMEs)
- Investment: clearing / settlement / trading, national pensions, debt markets, equity markets, roboadvisory
- Insurance
- Early stage and other financing: building better systems?

Looking Forward

- International / regional cooperation
- TechFin
- Cybersecurity
- Digital ID / eKYC
- ICOs

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Building financial infrastructure

- Clearing / settlement
- Payment
- Cryptocurrencies
- Data storage / transfer / protection
- Finance (ICOs)

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Blockchain: DLT + cryptography + smart contracts

- Centralised / networked / distributed
- Permissioned / permissionless
- Trust solution: security / transparency / permanence

Distributed Ledger Technology and Distributed Liability: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3018214

RegTech+ : Smart Regulation

- Systems design
- Digitisation
- Datification

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TechFin

- Network effects
- Competition
- Regulation
- Non-traditional infrastructure

Cybersecurity

- Bangladesh
- Equifax
- EDGAR
- Startups, incumbents, TechFins, infrastructure, regulators …
- Data storage: centralisation, decentralisation, segregation …

ICOs

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3072298

- ICOs = Blockchain + crowdfunding
- Typology: charity, reward, currency/payment, equity / securities
- Responses
- Potential

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Regulatory vs industry sandboxes

- A **regulatory sandbox**
  - Creates a ‘safe space’ for businesses
  - Developed by the regulator for the industry
  - ‘On-market’ – businesses interact with consumers/clients
- An [industry sandbox]
  - Creates a ‘safe space’ for businesses
  - Developed by the industry for the industry
  - ‘Off-market’ – businesses do not interact with consumers/clients (aka ‘virtual sandbox’)
    - Testing based on firm’s own, third party or publicly available data

Regulatory sandbox models

Sandbox umbrella – establishment of an authorised not-for-profit company to act as a sandbox umbrella that allows unauthorised innovators to offer their services under its shelter

- Benefits
  - Eliminates the need for individual firms to obtain authorisation
  - Can be set up by the industry
  - Faster implementation compared to legislative change
- Challenges
  - Could be complex to set up
  - May have limited scope
  - Reduced regulatory oversight over individual firm innovations
  - May obscure deficiencies of tested solutions

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Regulatory sandbox models

New regulated activity – a special and more flexible legal regime established by regulators in addition to existing legal framework

- Benefits
  - Flexibility (regulators design their own approaches)
  - Sandbox “message” attracts investors
  - Absence of restrictions may be attractive
- Challenges
  - Regulator’s flexibility may be limited by laws /international rules
  - Changes to regulations can take time

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Regulatory sandbox models

'Pseudo-sandbox' – disguising regular approach using sandbox terminology (eg class waivers or regulators' powers to issue individual relief)

- Benefits
  - Does not require a special 'sandbox' regime
  - Can provide a lot of flexibility for regulators
  - Class waivers do not require regulators to assess the degree of innovation of each project
- Challenges
  - Class waivers can be very limited in scope
  - Class waivers are less interactive (no knowledge exchange)
  - Usefulness of individual relief depends on the regulator's efficiency and experience – slow processing times may stifle innovation

Typical elements of a sandbox framework

- **Eligibility requirements**
- Unauthorised firms – test their model before authorisation
- Authorised firms – obtain clarity before testing new products

- **Application process**
- Application requirements
- Completed application is reviewed by the regulator

- **Testing parameters**
    - Duration
    - Success/failure criteria and Exit strategy
    - Transition plan for product deployment outside the sandbox

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Typical elements of a sandbox framework

- Regulatory flexibility
    - **Individual guidance** – providing interpretation of relevant rules in connection with a specific solution
    - **Waivers or modifications of own rules** – providing individual relief if certain requirements are too burdensome for a particular project
    - **No enforcement action letters** – providing comfort to applicants and assurance no action will be taken, provided testing parameters are complied with

Typical elements of a sandbox framework

- **Scheduled exit** from sandbox
- Automatic upon reaching the maximum duration (generally varies between 6 and 24 months and can be extended)
- Firm submits the final report
- Key outcomes, KPIs
- Incident reports and resolution of customer complaints
- Lessons learned from the test
- Regulator reviews the report and decides whether to approve the deployment of the new solution
- Firm decides whether to launch the new solution

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Typical elements

- **Early termination** of sandbox privileges
    - Failure to carry out the agreed safeguards
    - Submitting false, misleading or inaccurate information
    - Breach of applicable domestic law
    - Going into liquidation
    - Breach of mandatory rules (eg on data security)
    - Doing business in a manner detrimental to customers or the public
    - Failure to address major technical defects giving rise to recurring service disruptions or fraud incidents
    - Non-compliance with the agreed schedule/process
    - Discovery of a major flaw posing major risks to customers or financial system that cannot be resolved within the duration of the sandbox
    - Firm's voluntary exit

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Case study: Sierra Leone

- Regulator: Bank of Sierra Leone (BSL)
- Launched: April 2018
- Duration: 12 months (can be extended by BSL)
  - Applicants are charged an application fee of SLL 100,000, and
  - Participants are charged a participation fee to cover BSL's costs (amount to be specified by BSL from time to time)
  - Participants may be excluded from the sandbox for the reasons expressly stated in the sandbox guidelines and also "for any other reason determined by the BSL and notified to the Participant"

Case study: Sierra Leone

- BSL notes: “Equally important, the Sandbox Pilot Program is intended to facilitate BSL’s understanding of emerging technologies and support”
- First cohort:
  - “Noory” – allows third parties to build products using mobile money platforms
  - “icommit” – mobile money system allowing farmers to save money during harvest season by making purchases for the next season
  - “InvestED” – mobile educational app allowing those who complete training to apply for loans using digital credit rating
  - “MyPay” – mobile money platform integrated with money transfer services

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Case study: Sierra Leone

Competition: 'FinTech Challenge 2017'

- Funding:
- BSL - £7,200 in seed funding
- FSD Africa – up to £22,800 to finalists, followed by up to $100,000 (grant or debt or equity) to the winner
- UNCDF – up to $5,000 to finalists, followed by up to $100,000 (grant) to the winner
- Selection by 2 panels
  - Panel A (70%): UNCDF, FSD Africa and Bank of Sierra Leone
  - Panel B (30%): consumer group representatives
- Selection criteria
  - Project feasibility
  - Relevance for the people/businesses in Sierra Leone
  - Impact and potential of the idea

Case study: Sierra Leone

- **Project feasibility** (40% of the assessment result)
    - Convincing business case / Experienced team
    - A good understanding of risks involved
- **Project relevance** (30% of the assessment result)
    - Evidence of value generated to the target clients
    - Compliance with key objectives set by government/central bank
- **Impact potential** (30% of the assessment result)
    - Disruptive effects of the new product
    - Potential for a large client base
    - How will the product reach people in need / people/businesses in key economic areas in SL / (energy, fisheries, tourism, agriculture) and at least one of the following: (i) the unbanked, (ii) the poor, (iii) women, (iv) young people

Case study: Sierra Leone

- 20 applications received (85% from Sierra Leone, others from Ghana, Kenya)

- Each of the 3 finalists receives
  - Up to USD 13,000 seed capital
  - Access to the Regulatory Sandbox

- 3 finalists
  - Data Pool – credit reference services to non-bank lenders
  - Ace Ltd – an app for MSMEs to track finances (bookkeeping tool)
  - Salone Microfinance & InvestED – a platform for free phone-based training for low-income entrepreneurs
    - » Users who successfully complete the training, qualify to apply for microloans (via e-money)

Case study: Malaysia

- Regulator: Bank Negara Malaysia (BNM)
- Model: new regulated activity
- Launched: October 2016
- Duration: 12 months (can be extended by BNM after application)

Case study: Malaysia

- Sandbox is open for:
    - Financial institutions
    - Fintech companies collaborating with a financial institution
    - Fintech companies intending to carry out authorised financial activities

- ‘Informal Steer’ function of the sandbox:
    - Provides guidance and advice to entities engaging in activities that are already addressed under the law
    - Helps entities modify their business model to align with the existing law

Case study: Malaysia

- Eligibility criteria:
    - Genuine innovation with *clear potential* to
        - Improve accessibility/efficiency/security/quality of financial services
        - Enhance efficiency of Malaysian financial institutions’ risk management
        - Address gaps in financing/investment in Malaysian economy
    - Applicant has conducted risk/usefulness/functionality assessment
    - Applicant has necessary resources to support testing in the sandbox
    - Realistic business plan sustainable commercially after exit
    - Activity is incompatible (wholly or in part) with existing laws and regulations
    - Applicant is led and management by persons ‘with credibility and integrity’
- Extra benefit if:
    - Applicant may contribute to creation of high value added jobs in Malaysia

Case study: Malaysia

- Possible restrictions on firms in the sandbox (flexibility):
  - Disclosure of risks and the need to obtain risk acknowledgment from prospective clients
  - Limits on the number of clients and value/frequency of transactions
  - Limiting the scope of activities to a certain segment/profile of clients
  - Limiting the duration of sandbox regime
  - Providing certain consumer redress mechanisms
  - Committing adequate and competent resources to the testing/risk management

Case study: Malaysia

- Ongoing disclosure
  - Interim reports (progress update) – frequency/details to be agreed between BNM and the applicant on a case by case basis
    - Target KPI, key milestones, statistical information
    - Key issues concerning fraud and operational incidents and actions taken to address them
  - Final report – within 30 days after expiry of the testing period
    - Key outcomes, actual KPI and findings
    - Full account of all incident reports and resolution of customer complaints
    - (if failed) lessons learned from the test

Case study: Malaysia

- Reasons for early termination
    - Failure to implement required restrictions
    - Submitting false, misleading or inaccurate information
    - Breaching applicable Malaysian laws
    - Breaching *foreign law, if this affects firm's reputation in Malaysia*
    - Firm's liquidation or liquidation proceedings
    - Breaches of data security/confidentiality requirements
    - Carrying on business '*in a manner detrimental to customers or the public at large*'
    - Failure to address technical flaws that gives rise to '*recurring service disruptions or fraud incidents*'

Case study: Indonesia

- Regulator: Bank Indonesia (BI)
- Model: new regulated activity
- Launched: December 2017
- Duration: limited (to be specified by BI, but no decision has been made)
    - Following the expiration of the term, BI will assess whether to grant a licence/approval to the relevant business (pursuant to standard licensing rules)

Case study: Indonesia

- Eligibility criteria
    - Development of innovative technology
    - Potential to disrupt/affect existing financial products, services, technologies and/or financial business models
    - Benefit to customers
    - Capacity for widespread use
    - Other criteria that BI may set

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Case study: Indonesia

- Registration procedure
  - Need to register with BI *online* to participate in the sandbox (from 30 December 2017)
    - Except for already licensed businesses and entities regulated by the Financial Services Authority
    - Already registered entities need to provide the same information/documents
  - Registered entities will be listed on BI website
  - Registered entities are subject to ongoing disclosure requirements
    - FinTech transactions – monthly (1st week each month)
    - Business model update, financial status, management and ownership – (i) annually (January) and (ii) 10 days after change
    - Other information – as determined by BI (to be clarified by BI)

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Thank you.

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