



UNLOCKING FINANCIAL INCLUSION

Selection of medium-term recommendations and policy options

November 2020

CONFIDENTIALITY

Our clients' industries are extremely competitive, and the maintenance of confidentiality with respect to our clients' plans and data is critical. Oliver Wyman rigorously applies internal confidentiality practices to protect the confidentiality of all client information.

Similarly, our industry is very competitive. We view our approaches and insights as proprietary and therefore look to our clients to protect our interests in our proposals, presentations, methodologies, and analytical techniques. Under no circumstances should this material be shared with any third party without the prior written consent of Oliver Wyman.

© Oliver Wyman

BACKGROUND

Promoting resilience, innovation and inclusion of the financial system in Latin America and the Caribbean in light of the COVID-19 crisis

Overview

- Economic outlook has changed significantly in the last few months. The effects caused by the spread of COVID-19 and containment measures had substantial impacts in the functioning of the economy, financial firms and the financial and non-financial infrastructure in Latin America and The Caribbean
- The financial sector plays a major role in navigating the COVID-19 crisis, not only as a contributor to countries' gross domestic product, but also as an enabler of economic activity
- The Association of Supervisors of Banks of the Americas (ASBA), in collaboration with Oliver Wyman, the Governance and Financial Inclusion (GIF) project and Inter-American Development Bank (IDB) Lab, worked on three reports to identify lines of actions and measures that could limit the impact of COVID-19 on the wider economy



Contents

01

Safeguarding Critical Functions of the Financial System

- Identifies financial and banking services that are critical for the functioning of the economy and financial stability and then
- Puts forward action plans to increase the resilience and preparedness of the financial system

02

Building up Immunity of the Financial system

- Outlines policy actions to address rising credit risk and preserve financial stability, considering the particularities of the COVID-19 crisis
- Introduces recommendations to deal with an overleveraged economy

03

Unlocking Financial Inclusion

- Analyses a selection of medium-term recommendations based on conversations with relevant stakeholders, both the public and private sector across the region
- Outlines policy options and provides case studies for each recommendations to illustrate best practices and shortfalls






Focus of this document

EXECUTIVE SUMMARY

- The COVID-19 crisis will likely have a transformative impact on the way societies conduct business and interact. There is potential for governments and private sector to leverage momentum and foster inclusion, innovation and resilience of the financial sector
- Our work provides a collection of recommendations based on discussions with relevant stakeholders across the region of the public and private sector
- On the theme of **Promoting electronic payments and banking services**:
 - Facilitating verification of identity and customer onboarding through **simplified / digital KYC** – KYC regulatory requirements can become a significant barrier preventing lower-income segment to access financial services
 - Promoting **competition** across the **payments value-chain** - The payment industry exhibits characteristics that can result in anticompetitive practices. Eliminating barriers can contribute to innovation, lower costs, increased access and enhanced stability of the payment system
 - Easing adoption of **mobile wallets / e-payments** infrastructure: Development of robust and efficient payment systems is key to drive financial inclusion, as payments are the gateway to other financial services. Mobile money services are a powerful tool for moving away from cash
- On the theme on **Fostering access to credit**:
 - Preserving and expanding access to **funding for micro-finance lending** - Microfinance institutions specialize in providing access to financial services to micro/small enterprises and low-income households. They play a key role in financial inclusion and are often constrained by access to funding
 - Ensuring quality of and access to **credit risk assessment data** - Insufficient and asymmetrical information on borrowers is a key obstacle for the provision of credit, as it prevents lenders from adequately assessing creditworthiness of borrowers
 - Leveraging suite of **tools available to development banks** to facilitate access to credit - Government intervention in credit markets through Development Banks can play an important role in fostering development and promoting financial inclusion in the presence of market failures
- On the theme of **Leveraging digitalization**:
 - Developing **digital infrastructure** and fostering **digitalization** of internal processes - Digital infrastructure is a critical enabler for access to financial services, while digitalization of internal processes can improve efficiency enabling scale-up and increasing outreach. Governments and regulators should champion development of digital infrastructure, while at the same time ensure policy is suitable to the country's technological reality
 - Foster innovation in **financial technology** (Fintech) sector - Financial technology (Fintech) has the potential to provide greater financial inclusion, higher efficiency and safety, and enhanced transparency. Regulators and policy-makers need to be proactive in responding to this fast-moving environment and actively promote activities around innovation and adoption of innovative technology
- These recommendations, and corresponding policy options, should not be seen as isolated or mutually exclusive – on the contrary, they often complement each other and can be jointly implemented

WE IDENTIFIED A SET OF KEY MEDIUM-TERM RECOMMENDATIONS TO FURTHER IMPROVE MATURITY, INCLUSION & RESILIENCE OF THE FINANCIAL SYSTEM

Selected medium-term recommendations

| | | | |
|--|----|---|---|
| <i>Access to electronic payment and banking services</i> | 01 |  | Facilitate verification of identity and customer onboarding through simplified / digital KYC |
| | 02 |  | Promote competition and reduce entry barriers across payments value-chain |
| | 03 |  | Ease adoption of mobile wallets / e-payments infrastructure |
| <i>Access to lending</i> | 04 |  | Preserve and expand access to funding for micro-finance lending |
| | 05 |  | Ensure quality of and access to credit risk assessment data |
| | 06 |  | Leverage suite of tools available to development banks to facilitate access to credit |
| <i>Promotion of digitalization</i> | 07 |  | Develop digital infrastructure and foster digitalization of internal processes |
| | 08 |  | Foster innovation in financial technology (Fintech) sector |

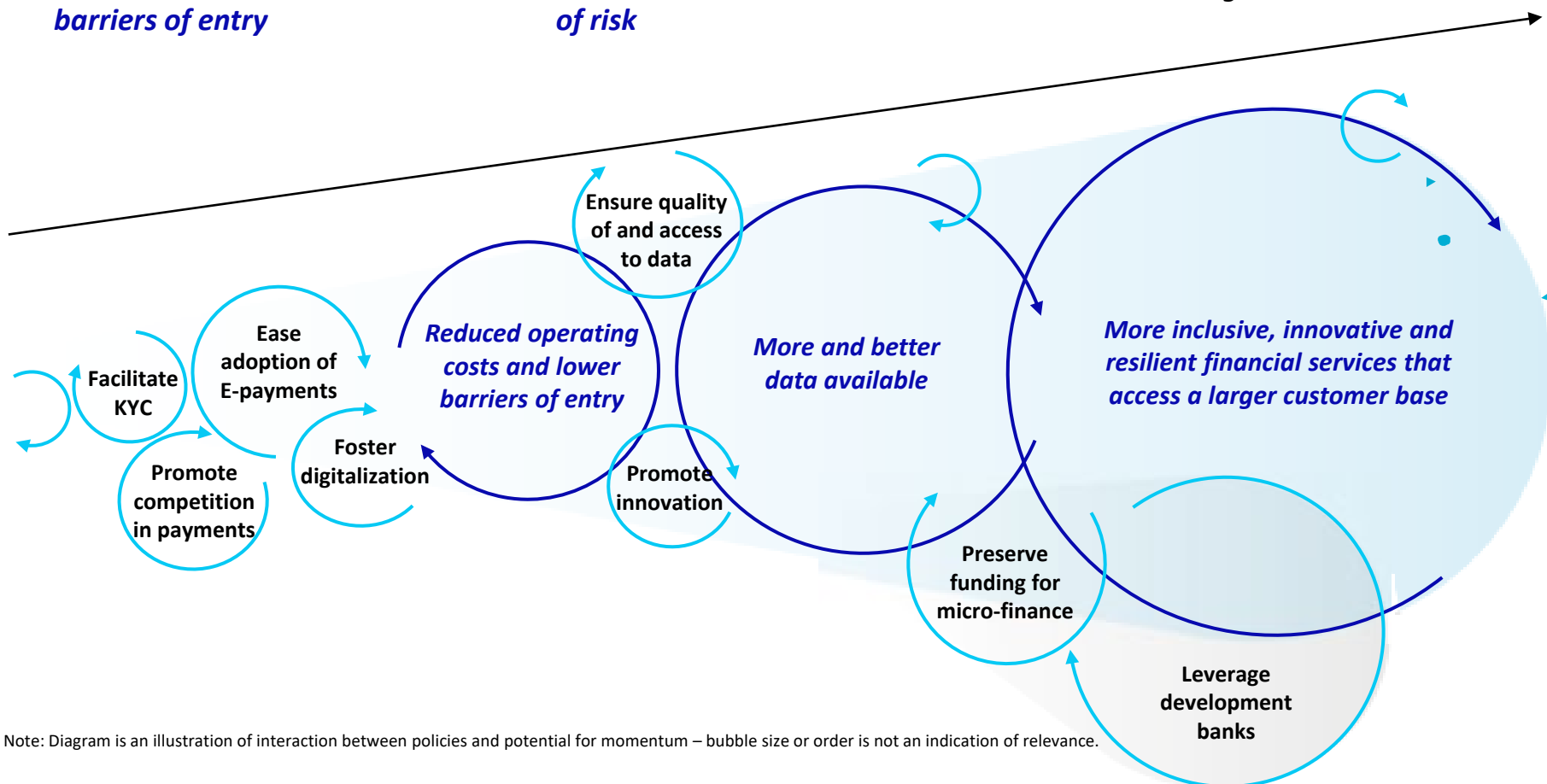
These recommendations, and corresponding policy options, should not be seen as isolated or mutually exclusive – on the contrary, they often complement each other and can be jointly implemented

SYNERGIES BETWEEN RECOMMENDATIONS COULD GENERATE FLYWHEEL MOMENTUM

Facilitating access to payment and banking solutions and promoting digitization **decreases operational costs** and **debunks barriers of entry**

Greater uptake of financial services allows to generate data, **reducing information asymmetry** and enabling **better estimation of cost of risk**

Attractive returns and innovative approaches ensure **resources are deployed efficiently**, fostering economic growth



Note: Diagram is an illustration of interaction between policies and potential for momentum – bubble size or order is not an indication of relevance.

EACH RECOMMENDATION INCLUDES A DETAILED OVERVIEW, OUTLINE OF KEY POLICY OPTIONS AND A SET OF CASE STUDIES

Approach & Deliverables

I Overview of recommendation

- Description of why the recommendation is **relevant** to resilience, inclusion and innovation, and what have been the typical **challenges** for implementation
- Overview of **key concepts** and **background information** relevant to the recommendation

II Outline of policy options

- Outline of **possible policy options**, including **operational considerations** (e.g. key stakeholders, key enablers, potential risks)
- Overview of **key enablers** to provide a sense of **feasibility** for each option
- For selected policy options, **roadmap with design considerations** is included

III Selection of case studies

- International examples of policy options provided for **illustrative purposes**
- Description of case studies including program overview and Impact
- **Best practices** and **shortfalls** derived based on the experience of each case study

01

Facilitate verification of identity and customer onboarding through simplified / digital KYC

Why is this important?

- KYC (i.e. customer identification, verification and due diligence) is a key process to manage risks of financial system and prevent fraud
- However, KYC regulatory requirements can become a significant barrier preventing lower-income segments to access financial services
- **Supply-side:** Expedient customer identification procedures make low-income customers verifiable, counteracting one of the overall pain of market
- **Demand-side:** Simplified and streamlined processes can deter potential customers from signing up for mobile money services and bank accounts
- Implementing effective and efficient procedures can address constraints, and ultimately enable unbanked to become part of the financial system
- **Supply side:** Reduce compliance cost for financial service providers, making it profitable to serve low-income segments
- **Demand side:** Accelerate and facilitate account opening, increasing uptake

What are typical challenges for implementation?

- **Lack of strong digital ID systems:**
 - Lack of reliable digital ID means is a key barrier to implement effective digital KYC processes that do not rely on physical presence and paper
 - In the Latin America & Caribbean region, problems lie less about coverage of the ID system but about the underlying technical capabilities (e.g. biometric data) and enabling convenient third-party access
- **Lack of automation and digitization:**
 - Many organizations – although regulatory requirements – still rely on paper-based and manual processes, which are inefficient and lead to higher cost of onboarding and ongoing service provision
- **Insufficient coordination between relevant stakeholders:**
 - Limited collaboration and coordination between relevant stakeholders (e.g. financial and relevant regulators) is needed to develop comprehensive frameworks and policies

POLICY OPTIONS: OPTIONS AVAILABLE RANGE FROM ADOPTING A RISK-BASED KYC APPROACH TO ENCOURAGING DEVELOPMENT OF SHARED KYC UTILITY

1. Adopt risk-based approach with flexible tiered KYC requirements

2. Allow KYC portability across products and providers

3. Allow customer to share KYC information

4. Implement and enable digital network ID system as primary basis for KYC

5. Encourage development of shared KYC platform / utility

Description

- **1:** Flexible requirements (e.g. tiered KYC, document requirements, etc.)
- **2:** Allow use of KYC information for customer onboarding (e.g. SIM and registration information for mobile money)
- **3:** Customer can share KYC information (e.g. biometric, face recognition, etc.)
- **4:** Allow use of network ID system (e.g. biometric, etc.)
- **5:** Encourage development of shared KYC platform / utility

Rationale

- **1:** Facilitate onboarding of accounts that cater to lower-income segment at lower operational cost
- **2:** Encourage digitization of identity and reduce amount of physical ID required
- **3:** Lower barrier to entry
- **4:** Central bank / Supervisor
- **5:** Central bank / Supervisor

Key stakeholders

- Central bank / Supervisor
- Other stakeholders
- Financial institutions
- Other stakeholders

Key enablers

- Understanding of KYC risks and requirements
- Understanding of risk appetite
- Proven earlier buy-in
- Clear sharing of information
- Regulatory framework to govern requirements, responsibilities and data protection issues
- High levels of national ID coverage
- Technical capabilities
- Financial institutions
- Other stakeholders

Potential risks

- Lack of interoperability between regulatory requirements
- Potential compliance / legal challenges to share KYC information
- Lack of incentives to implement
- Potential reputational and security risks of sharing KYC information
- Data privacy concerns
- Cyber threats

CASE STUDY: IMPLEMENTATION OF TIERED KYC REQUIREMENTS IN MEXICO

Practical example of how regulators can implement risk-based KYC requirements to allow for simpler accounts and drive adoption among low-income population segments

Program overview

In 2013, Mexican government introduced a tiered risk-based KYC system, simplifying account opening requirements that were previously based on account functionality

| Step | Deposited requirements | Opening | Other requirements / restrictions |
|------|------------------------|---------|---|
| 1 | USD 250 | Remote | "Anonymous" account, credit/debit on credit card |
| 2 | USD 250 | Remote | "Basic" account, 16 monthly gross salary to perform KYC |
| 3 | USD 1,500 | Remote | Need to update self-declared info against public database |
| 4 | USD 1,500 | Branch | Additional info regarding e.g. occupation, credit data |
| 5 | N/A | Branch | Fully fledged bank account, need to keep physical records |

Outlets to tiered deposits (after their balance and withdrawal) leading room to design both payments and savings vehicles

- Monthly deposit caps set just above average monthly income of lower-income segments
- **Additional safeguards were implemented** to further reduce risk of money laundering / terrorism financing, including:
 - Accounts must be based on transactions to ensure traceability and suitability
 - Accounts are monitored for suspicious use patterns

Program impact

14% Increase in number of bank accounts 3 years post reform (to 1 billion accounts)

77% Of new openings were simplified due-diligence accounts (i.e. Tier 1, 2 & 3) – 200 million Tier 1

BEST PRACTICES

- Mexican closely collaborated with financial stakeholders during design
- Market players to identify potential challenges and path forward
- AAM guidelines to better understand risk appetite
- Regulatory needs were robust
- Business incentives to ensure
- Capacity building efforts to ensure the digital delivery system could be used and maintained (AM, Central Bank)

SHORTFALLS & CHALLENGES

- Insufficient buy-in from private sector
- Lack of interoperability between regulatory requirements to enable effective tiered deposits and other services
- Challenges regarding specific technical activities

+15 interviews with private and public sector stakeholders complemented the analysis

01

Facilitate verification of identity and customer onboarding through simplified / digital KYC

Why is this important?

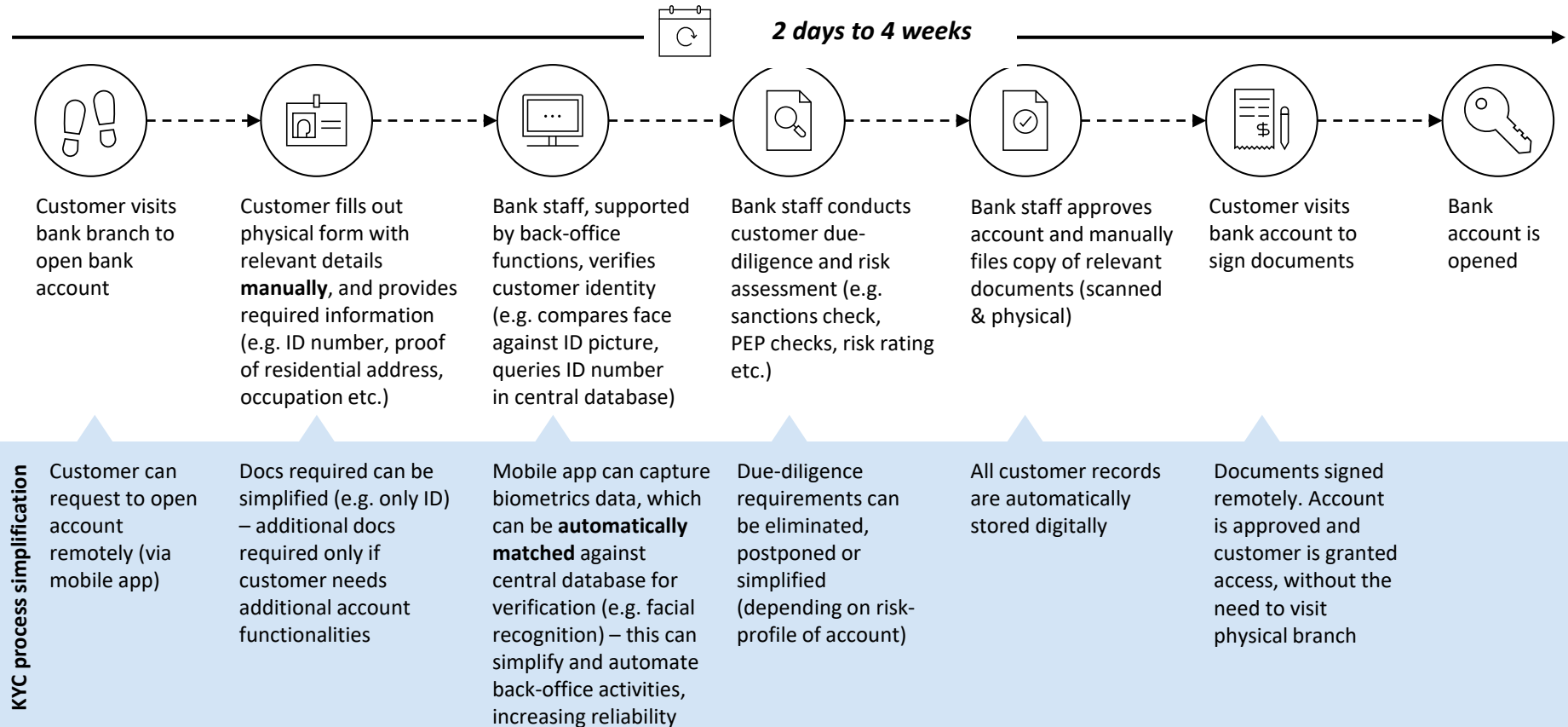
- KYC (i.e. customer identification, verification and due-diligence) is a **key process to manage integrity risks in the financial system** and prevent fraud
- However, KYC regulatory requirements can become one of the **barriers preventing low-income segment**, including irregular migrants, to access financial services:
 - **Supply-side:** Expensive customer identification procedures make low-income customers unprofitable, constraining size of the overall market
 - **Demand-side:** Lengthy and inconvenient processes can deter potential customers from signing up for mobile money services and bank accounts, particularly when if financial education is limited
- Implementing effective and efficient procedures can address constraints, and ultimately **enable unbanked to become part of the financial system:**
 - **Supply side:** Reduce compliance cost for financial service providers
 - **Demand side:** Accelerate and facilitate account opening, increasing uptake

What are typical challenges for implementation?

- **Lack of strong digital ID system:**
 - Lack of reliable digital ID means is a key barrier to implement effective digital KYC processes that do not rely on physical presence and paper
 - In Latin America the issue generally lies on developing further developing technical capabilities (e.g. biometric data) and enabling convenient third-party access
- **Lack of automation and digitalization:**
 - Many organizations – also per regulatory requirements – still rely on paper-based and manual processes, which are inefficient and lead to higher cost of onboarding and ongoing service provision
- **Insufficient incentives between relevant stakeholders:**
 - Limited collaboration and coordination between relevant stakeholders (e.g. financial and telecom regulators) needed to develop comprehensive frameworks and policies
 - Perception that “portable” KYC could decrease switching costs for customers can hinder collaboration between financial institutions

OVERVIEW: TYPICAL KYC AND ONBOARDING PROCESSES HAVE ROOM FOR SIMPLIFICATION

Traditional KYC and onboarding process (regular bank account)



Simplifications and enhancements to KYC requirements can reduce duration of onboarding process significantly, **from weeks to minutes** – regulators should aim to take a risk-based approach

POLICY OPTIONS: FOCUS ON FACILITATING ONBOARDING AND REDUCING DUPLICITIES

– SHIFT TO AUTOMATED SOLUTIONS INCREASES RELEVANCE OF CYBERSECURITY

| | A | B | C | D | E |
|-------------------------------|---|--|---|--|---|
| | Implement and enable digital national ID system as primary basis for e-KYC | Allow solutions leveraging alternative verification approaches | Adopt risk-based approach with flexible / tiered KYC requirements | Allow KYC portability across products and providers | Encourage development of shared KYC platform / utility |
| Description | <ul style="list-style-type: none"> Develop technical capabilities of national ID system (e.g. biometrics), and establish legal and operational means to allow the framework to be used for KYC by non-govt | <ul style="list-style-type: none"> Allow alternative identity verification approaches and onboarding (e.g. biometrics, remote onboarding, foreign passports for migrants, etc.) | <ul style="list-style-type: none"> Establish requirements (e.g. level of assurance, documentation etc.) proportional to functionality of accounts (e.g. balance, transaction frequency etc.) | <ul style="list-style-type: none"> Allow re-use of information from other services for customer onboarding (e.g. SIM card registration information for mobile money onboarding) | <ul style="list-style-type: none"> Promote the set-up of a platform centralizing KYC functions across financial service providers, reducing duplicities |
| Rationale | <ul style="list-style-type: none"> Acts as key enabler for automated & remote KYC processes while leveraging government policy and infrastructure | <ul style="list-style-type: none"> Creates alternatives to an effective universal digital national ID system | <ul style="list-style-type: none"> Enables creation of simple accounts that cater to lower-income segments at lower operational cost | <ul style="list-style-type: none"> Eliminates duplication of efforts and improves efficiency (time & cost) Lowers hurdle to entry | <ul style="list-style-type: none"> Achieve cost efficiencies and standardization Improve CX by reducing volume of info requested |
| Key stakeholders | <ul style="list-style-type: none"> Central government | <ul style="list-style-type: none"> Ministry of Finance / Central Bank / Supervisor | <ul style="list-style-type: none"> Central Bank / Supervisor | <ul style="list-style-type: none"> Central bank / Supervisor Other regulators | <ul style="list-style-type: none"> Government Private players |
| Key enablers | <ul style="list-style-type: none"> High levels of national ID coverage Technical capabilities | <ul style="list-style-type: none"> Availability & accessibility of alternative data sources Private sector buy-in & capabilities | <ul style="list-style-type: none"> Understanding of KYC / AML risks and complexities Understanding of risk appetite Private sector buy-in | <ul style="list-style-type: none"> Data sharing infrastructure Legislative framework to govern requirements, responsibilities and data protection issues | <ul style="list-style-type: none"> Private sector buy-in & capabilities |
| Potential risks / constraints | <ul style="list-style-type: none"> Data privacy concerns Cyber threats | <ul style="list-style-type: none"> Potential inaccuracy and unreliability of alternative sources with the risk of increase in fraud | <ul style="list-style-type: none"> Lack of clear regulatory guidance on requirements may create confusion, perceived complexity Design challenges to strike balance between inclusion and AML risk mitigation | <ul style="list-style-type: none"> Lack of interagency coordination (e.g. financial regulators collaboration with telecom regulators) Lack of incentives to implement | <ul style="list-style-type: none"> Misaligned incentives & objectives Technical and operational implementation challenges Unclear articulation of R&Rs |

E ROADMAP: KYC UTILITIES LEVERAGE INDUSTRY COLLABORATION TO ADDRESS INEFFICIENCIES IN CURRENT KYC PROCESSES

Policy enablers

- Developing **strong national ID systems** to support unique and verifiable identities
- Establishing clear guidance on **standardization of processes and policies** across KYC value chain to set minimum risk appetite thresholds
 - **Data collection:** e.g. standard application forms, list of data required
 - **Customer screening:** e.g. homogenous thresholds to trigger enhanced customer due-diligence
 - **Maintenance:** e.g. homogenous frequency of ongoing (re)assessments, standard reporting template
- Adopting **risk-based KYC approach** (e.g. tiered KYC) – key to optimize costs
- Allowing **collaboration and data sharing** between financial institutions
- Fostering **cross-border harmonization** – key for building regional / global utilities

Design considerations

| Dimension | Design principles |
|----------------------------|---|
| Ownership structure | <ul style="list-style-type: none"> • Striking balance between achieving necessary scale vs. facilitating decision-making / consensus • Several models observed: <ul style="list-style-type: none"> – Private industry collaboration vs. government-owned vs. hybrid – Centralized (database within single entity – security concerns) vs. decentralized (collaboration-based, data queried without actual transfer – increases transparency and flexibility) |
| Governance | <ul style="list-style-type: none"> • Scalable governance structure that facilitates consensus building (e.g. diluting impact of individual firms) • Clearly articulated roles and responsibilities, including liability delineation between utility vs. members vs. other users • Strong checks and balances to protect integrity and reliability of utility |
| Data sharing | <ul style="list-style-type: none"> • Robust framework to ensure data privacy and security • Clear data ownership rules / policies (e.g. at point of entry vs. at exit) • Defined liability for incomplete or incorrect info. provided to utility • Considerations for cross-border interoperability |
| Revenue model | <ul style="list-style-type: none"> • Payment for data use (e.g. flat fee, variable fee) • Remuneration for data inclusion (e.g. based on volume, inflow freq.) |

Industry collaboration and technical capabilities (e.g. automated processes, APIs) are cornerstone

A CASE STUDY: DIGITAL ID SYSTEM ENABLING E-KYC IN INDIA

Example of the difficult balance policymakers must strike when balancing the usability of digital ID systems as a catalyst for financial inclusion against data security and privacy concerns

Program overview



- In 2010, India launched a **unique digital identity program** (“Aadhaar”), originally aimed at reducing leakage and fraud in government subsidy program by removing “ghost beneficiaries”
 - Aadhaar identity is comprised of physical card and number associated with unique biometrics (fingerprint and iris data) and demographic information
 - Wide adoption of system (90% population), yet challenges among rural areas and disabled pop.
- Government developed a **collection of open APIs called India Stack** to quickly expand use of digital ID system to other areas – one of the APIs enabled financial institutions to develop **Aadhaar-based electronic verification** (in parallel, e-KYC was approved by Reserve Bank of India in 2016)
- But the use of Aadhaar-based KYC also **raised privacy concerns** – system provided financial institutions access to additional information about customers
- In 2018, India’s Supreme Court prohibited private entities from using Aadhaar numbers to verify customer identity – which **prevented financial providers from conducting e-KYC** (despite significant investment of some players in building the required infrastructure)
- The situation today **remains uncertain** – financial providers are lobbying and searching for workarounds, e.g. using a paper card with QR code that encodes individual personal data stored in the UIDAI database w/o including Aadhaar number, allowing voluntary use of Aadhaar based KYC

Program impact (of Aadhaar-based e-KYC, before Supreme Court ruling):

| | | |
|--|--|---|
| \$15 → \$0.50 | 5 days → seconds | 17% |
| reduction in average cost of verifying customers | reduction in in time spent by providers on verifying customers | Of new accounts opened between 2014-17 (out of 300M) used biometric-enabled e-KYC |

Key takeaways

BEST PRACTICES

- Innovative and bold ambition to develop national digital ID system, with strong government support
- Effective open-architecture technology platform to enable third-party access and development of applications

SHORTFALLS & CHALLENGES

- Need to balance privacy concerns more effectively during design:
 - Where possible, ID systems should provide yes/no answer to queries without providing access to underlying information
 - Invest in strong cybersecurity measures (given centralized nature)
- Need for establishing a legal framework for third-party access / use of digital ID data – lack of framework initially spurred innovation early-on, yet ultimately created significant risk and uncertainty for financial service providers

Source: Pisa (2019): “Overcoming the KYC Hurdle with e-KYC”; GSM Association (2019): “Overcoming the KYC hurdle: Innovative solutions for the mobile money sector”; Expert interviews; OW analysis

C CASE STUDY: IMPLEMENTATION OF TIERED KYC REQUIREMENTS IN MEXICO

Practical example of how regulators can implement risk-based KYC requirements to allow for simpler accounts and drive adoption among low-income population segments

Program overview



- In 2011 Mexican government introduced a **5-tiered risk-based KYC system**, simplifying account opening requirements that increase progressively based on account functionality:

| Tier | Deposit cap/month | Opening | Other requirements / restrictions |
|------|-------------------|---------|---|
| 1 | USD 285 | Remote | "Anonymous" account, restrictions on mobile transactions |
| 2 | USD 570 | Remote | "Named" account, 24-month grace period to perform KYC |
| 3 | USD 1,140 | Remote | Need to validate self-declared info against public database |
| 4 | USD 3,800 | Branch | Additional info required (e.g. occupation, valid ID doc.) |
| 5 | n/a | Branch | Fully-fledged bank account, need to keep physical records |

- Opted to **limit deposits** (rather than balance and withdrawals), leaving room to design both **payments and savings** products
 - Monthly deposit caps set just above **average monthly income** of lower-income segments
- Additional safeguards were implemented** to further reduce risk of money laundering / terrorism financing, including:
 - Receipts must be issued for all transactions to ensure **traceability** and **auditability**
 - Accounts are **monitored for suspicious use-patterns**

Program impact

14%

Increase in number of bank accounts 2 years post-reform (9.1 million accounts)

77%

Of new openings were simplified due-diligence accounts (i.e. Tier 1, 2 or 3) – 50% were Tier 1

Key takeaways

BEST PRACTICES

- Regulator closely collaborated with relevant stakeholders during design:
 - Market players to identify potential obstacles and get buy-in
 - AML guideline settlers to better understand risk mitigation
 - Regulators world-wide to draw lessons from other countries
- Carefully assessed trade-offs to strike the right balance between market needs and maintaining AML controls (both considered top priority)

SHORTFALLS & CHALLENGES

- Insufficient buy-in from private sector due to perceived higher compliance risks
 - regulatory policy needs to explicitly allow for tiered approach and affirm its adequacy
- Challenges regarding specific threshold definitions

Source: CGAP (2011): "A Bold Move Toward Simplifying AML/CFT: Lessons from Mexico"; Expert interviews; OW analysis

02

***Promote competition
and reduce entry barriers
across payments value-
chain***

Why is this important?

- The payment industry traditionally relies on multiple players performing a series of functions:
 - **Issuers:** equip customers with non-cash payment methods (e.g. credit card, QR code)
 - **Acquirers:** provide merchants with required infrastructure to accept non-cash payment methods (e.g. POS machines)
 - **Payment network and processors:** supply electronic network that allow players to communicate and process transactions
- The payment industry exhibits several characteristics that can result in **anticompetitive practices and market structures**:
 - **Presence of network effects:** multi-sided platforms enable large dominant players to insulate from competition and create barriers to entry
 - **Lack of interoperability:** an active pursuit of non-interoperability by incumbents can deter new players and result in anticompetitive market
- Increasing competition in payments value chain can contribute to **greater innovation, lower costs, increased access and enhanced stability** of the payment system

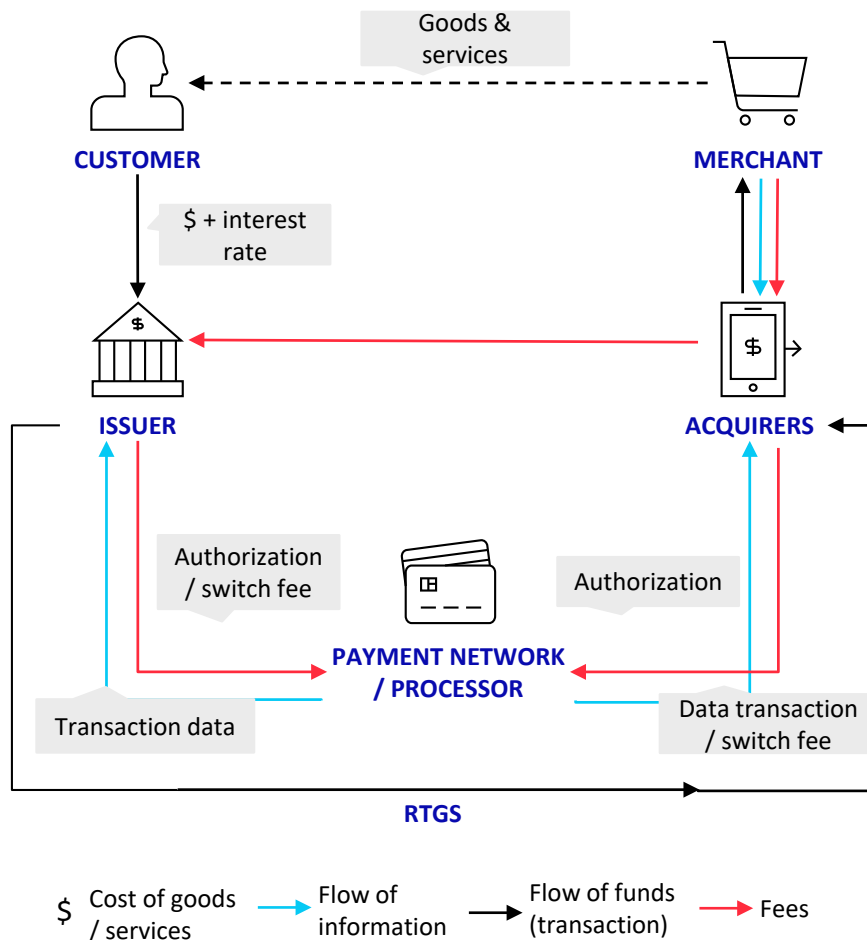
What are typical challenges for implementation?

- Challenges in monitoring and enforcing competition policy through **traditional competition tools**:
 - Market and product definitions have become more challenging, due to continuously evolving landscape and blurring between services
 - Collaboration across all relevant regulators and authorities (beyond traditional competition authorities) is essential to effectively promote competition in payment value chain (e.g. licensing schemes for new players, prudential regulations etc.)
- **Striking adequate balance** between need to promote competition and need to promote security and protect consumer rights
 - Some policy interventions, while enabling further competition, may have unintended negative consequences

OVERVIEW: E-PAYMENTS RELY ON MULTIPLE SERVICE PROVIDERS ACROSS DIFFERENT STAGES OF THE VALUE CHAIN

Payment system value chain

Similar across all non-cash payment methods



Functions of Players

Functions

Issuers

- Cards' distribution (or outsourcing of distribution)
- Allow payment advance to merchant

Networks / Processors

- Definition of payment system rules
- Communication between acquirers and issuers

Acquirers

- Provide POS to merchants
- Advance of receivables
- Payments processing (can be outsourced) and forwarding of payment to merchant

POLICY OPTIONS: RANGE FROM ESTABLISHING EFFECTIVE ANTITRUST OVERSIGHT TO ENSURING TRANSACTION FEES DO NOT ACT AS A BARRIER

| | A | B | C | D |
|-------------------------------|---|--|---|--|
| | Establish effective antitrust oversight and promote level playing field in payments value chain | Ensure streamlined and efficient licensing processing with reasonable and transparent licensing requirements | Promote greater transparency of fees | Consider regulating interchange fees |
| Description | <ul style="list-style-type: none"> Regularly evaluate state of competition in the markets for payment systems (e.g. acquirers, issuers, infrastructure providers etc.), analyze fee structures and promote competition / level playing field (e.g. penalizing collusive behaviors) Liberalize different segments of payments value chain to allow entry of specialized players (e.g. sub-acquirers) | <ul style="list-style-type: none"> Facilitate wide-access to payment system, including by new participants (such as non-bank payment service providers, incl. foreign players), while carefully assessing clearing and settlement as well as other risks Offer transparent, objective and accessible licensing requirements and fees that are commensurate with the risks of relevant activities | <ul style="list-style-type: none"> Promote low & simple fee structures clearly shown to customers (e.g. web, free-chart board) Limit practice of “blending” – charging a single price for transactions with different costs | <ul style="list-style-type: none"> Promote interchange fees to approach a rate so that retailer’s average costs of card payments are not higher than those receiving payments by cash (i.e. merchant indifference test) Consider introducing an interchange fee cap if deemed necessary, while considering capex and opex for building and running a payment scheme need to be covered |
| Rationale | <ul style="list-style-type: none"> Ensure fair competition in market, addressing anticompetitive practices / market structures Address potential barriers of entry | <ul style="list-style-type: none"> Entry of new market participants that collaborate & compete with incumbents drives competition | <ul style="list-style-type: none"> Drives increased awareness of fees, empowering customer to negotiate and/or select providers with lower rates | <ul style="list-style-type: none"> Prevents anti-competitive / abusive rates Ensures merchants receive share of benefit of efficiencies created by e-payments |
| Key stakeholders | <ul style="list-style-type: none"> Antitrust regulator Central bank / supervisor | <ul style="list-style-type: none"> Antitrust regulator Central bank / supervisor | <ul style="list-style-type: none"> Antitrust regulator Central bank / supervisor | <ul style="list-style-type: none"> Antitrust regulator Central bank / supervisor |
| Key enablers | <ul style="list-style-type: none"> Sufficient resources and authority for antitrust regulator | <ul style="list-style-type: none"> Capability to limit fraud and oversee new players | <ul style="list-style-type: none"> Private sector buy-in & capabilities | <ul style="list-style-type: none"> Private sector buy-in Capability to enforce measure |
| Potential risks / constraints | <ul style="list-style-type: none"> Potential unintended effects of active intervention (e.g. impact on security and system stability) | <ul style="list-style-type: none"> Risk of overcrowding the market with inefficient solutions (e.g. lack interoperability) | <ul style="list-style-type: none"> Hard to monitor compliance | <ul style="list-style-type: none"> Challenges in setting the specific cap level |

A CASE STUDY: ENDING OF MONOPOLY IN PAYMENT MARKET IN CHILE

Illustrates how competition authorities can liberalize specific segment of payment value-chain and foster competition

Program overview



- In 2017, after a thorough investigation into the payment systems market, Chile's competition court recommended **regulatory changes to open up the country's acquiring and processing market** to new entrants, ending the de facto monopoly enjoyed by Chile's major banks under their joint venture (JV) payment company
 - **The JV was the only company that processes payments for merchants** (acquirer) in the country
 - TDLC recommended "prohibiting joint actions by issuing banks when acquiring accounts"
- Government supported recommendation and created a plan to **progressively transition to a four-party payment system** (i.e. separation between card issuers and payment processing companies)
 - Ministry of Finance started a **working group with various market participants**, including card issuers to determine technology & business changes required
 - Government expressed intention to conduct changes in **an orderly and collaborative manner** between various public/private actors to ensure efficient and effective transition
 - Chile's major banks have stated intention to "actively participate in this working table"
- The JV officially migrated to four-party system in April 2020

Program impact

- Implementation of four-party system expected to strengthen market competition and innovation
- Expected to facilitate entry of new businesses into other links in the system (e.g. switching)
- Impact on fees uncertain, potential for increase due to high interchange fees

Key takeaways

BEST PRACTICES

- Launched thorough investigation to analyse the market and determine if changes were needed
- Opted for a progressive and collaborative transition approach, engaging relevant public & private stakeholders (including incumbent company)
- Strong government support and involvement – government-led working group initiative

SHORTFALLS & CHALLENGES

- To be determined whether existing infrastructure can remain profitable
- Potential unintended consequences need to be factored and addressed (e.g. increase in fees due to high interchange fees charged by international card networks)
- Incumbents may use opportunity to build their own payment network and establish barriers to entry – lead to fragmentation and non-interoperability

D CASE STUDY: INTERCHANGE FEE REGULATION IN EUROPE

Illustrates how regulators can approach interchange fee regulation to create level playing field in payments market

Program overview



- In 2015, the European Commission approved the **Interchange Fee regulation** to **address anti-competitive practices** in payments industry (evidenced in proceedings against international providers)
- **Problem:** card schemes offered ever-increasing interchange fees to incentivize issuers and acquirers passed on high fees to merchants, ultimately leading to higher retail prices for consumers
 - Moreover, merchants are often unaware of the level of these fees due to their opaqueness and, even if aware, there is little room to negotiate lower fees as merchant not involved in process
- EU Commission determined that **competition enforcement by itself** (which is backward-focused, focuses on specific companies and takes many years), was unable to create the EU-wide level playing field in payments market – and that an **EU-wide regulation** was needed
- **Solutions introduced** by Interchange Fee Regulation:
 - **Capping interchange fees:** general cap applying to both cross-border and domestic transactions of 0.2% for debit cards and 0.3% for credit cards of the value of transactions. To method to determine the cap was based on the “merchant indifferent test” concept¹
 - **Licensing rules:** removed restrictions on cross-border acquiring
 - **Co-badging:** prevent card schemes and issuers to pre-condition consumer choice of brand/app
 - **Transparency requirements:** limits practice of “blending” (charging single price for transaction)
- Regulation allows for flexibility to Member States to define a lower cap at a national level

Program impact

- The number and value of payments has been increasing across EU (incl. cross-border payments)
- Interchange fees and ultimately merchant discounts declined; free transparency increased – **60% of merchants** stick to the default option of unblended fees
- Further monitoring & data gathering needed to comprehensively assess long-term impact

1. Concept originates from Jean Tirole’s academic work – interchange fees should be at a rate so that retailers’ average cost of card payments are not higher than those of receiving payments by cash
Source: European Commission Competition policy brief (2015): “The Interchange Fees Regulation”; Expert interviews; OW analysis

Key takeaways

BEST PRACTICES

- Developed regional-level policy to promote common competition rules, yet allowed for flexibility in implementation (e.g. EU member states can define lower cap to allow consumers to benefit from efficient national markets)
- Leveraged wide set of policy tools under single regulation to address problems in a holistic manner

SHORTFALLS & CHALLENGES

- Potential for circumvention of interchange fee cap in the form of additional fees/ charges – hard to detect
- Small merchants may find it challenging to reap full benefits of transparency in absence of administrative capacity to process detailed information on schemes
- Challenges related to extensive monitoring and data gathering required to assess the long-term impact of regulation

03

Ease adoption of mobile wallets / e-payments infrastructure

Why is this important?

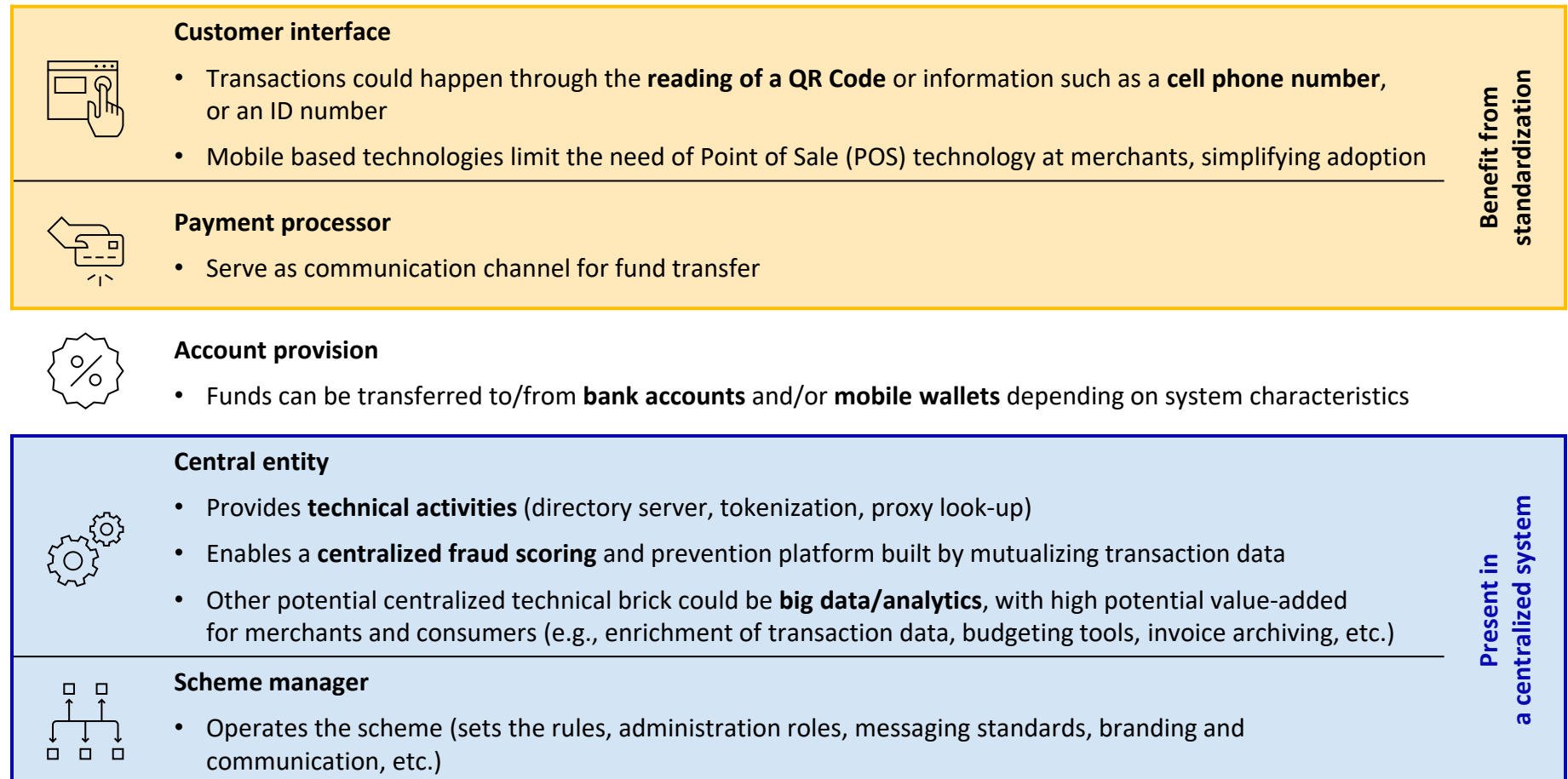
- Development of robust and efficient payment systems is key to drive financial inclusion, as **payments are the gateway to other financial services** (e.g. savings, credit, insurance)
- **Mobile money services**, and associated infrastructure such as electronic wallets and instant transfers, allow the underbanked to make and receive payments becoming a powerful **tool for financial inclusion** and moving away from cash
- The **underlying infrastructure of payment system is critical** to the provision of inclusive and cost-effective payment services – an effective infrastructure meets 4 key criteria:
 - **Interoperability**: payment can be processed independently of service provider, promoting competition, reducing costs through economies of scale, and improving overall customer experience
 - **Accessibility**: payment system can be accessed by new entrants, limited barriers
 - **Efficiency and standardization**: costs in payment value-chain are as low as possible, which in part can be driven by adopting common standards
 - **Safety and reliability**: critical to maintain public confidence and reliability of services

What are typical challenges for implementation?

- Lack of **incentives of private players to promote interoperability and cross-stakeholder collaboration**:
 - Incumbents with dominant position have incentive to create entry barriers
 - Providers may develop inefficient platforms with limited coverage & interoperability
- Lack of **technological infrastructure and standards**:
 - Payment infrastructures are dependent on more basic infrastructure elements, such as broad internet coverage and reliable power supply; not the case for all countries
 - Lack of common standards hinder development of interoperable platforms
- **Demand-side adoption barriers** (for merchants & consumers):
 - **Preference for cash**, driven by large informal economy
 - **High fees** (e.g. due to lack of competition) an **indirect cost** (e.g. need to travel significantly for nearest agent / ATM)

OVERVIEW: WITHIN MOBILE PAYMENTS THERE IS ROOM FOR STANDARDIZATION AND BENEFITS FROM CENTRALIZATION

Simplified mobile payment set-up



POLICY OPTIONS: RANGE FROM FOSTERING INTEROPERABILITY OF PAYMENT SYSTEM TO ENCOURAGING ADOPTION OF E-PAYMENTS

| | A | B | C | D |
|-------------------------------|--|--|--|---|
| | Foster standardization and interoperability of payment system | Increase access and enable usage through open APIs | Digitalize government payment receipts to create momentum | Offer incentives to merchants to adopt e-payments |
| Description | <ul style="list-style-type: none"> Develop common interoperability standards and guidelines Champion (and if necessary, mandate) near-universal interoperability within and across payment system networks, either by establishing consolidated or connecting fragmented system(s) | <ul style="list-style-type: none"> Develop and establish an open API standard for banks and merchants to connect to payment platforms Encourage working groups with key payment platform providers to advocate open API architecture | <ul style="list-style-type: none"> Allow for non-cash payment of govt. transactions (e.g. tax, fines, fees for gov't services; social security payments) to encourage adoption of digital payments | <ul style="list-style-type: none"> Focus on levelling e-payments to cash-based transactions Offer incentives (e.g. lower levels of authentication requirements for smaller transactions etc.) to merchants to drive adoption by decreasing hurdles to participation |
| Rationale | <ul style="list-style-type: none"> Removes frictions in system and increases options for users, driving transaction volume Enables provider cost-sharing of common infrastructure, driving down interbank / inter-entidy fees | <ul style="list-style-type: none"> Allow providers to leverage existing infrastructure to introduce innovative products and services at a low cost, further developing market | <ul style="list-style-type: none"> Creates initial momentum for electronic payments and helps overcome cash preference, supporting the development of viable business cases | <ul style="list-style-type: none"> Drives larger adoption on supplier-side, creating network effects to ultimately drive end-user adoption Incentive for increased "formalization" of economy |
| Key stakeholders | <ul style="list-style-type: none"> Banks and payment providers and their associations Central bank Competition authority | <ul style="list-style-type: none"> Banks and payment providers and their associations Central bank | <ul style="list-style-type: none"> Ministries and state agencies (including social security agencies) Banks and payment providers | <ul style="list-style-type: none"> Banks and payment providers, POS providers Industry associations and chambers of commerce |
| Key enablers | <ul style="list-style-type: none"> Private sector buy-in & capabilities Strong public/private stakeholder collaboration Common standards | <ul style="list-style-type: none"> API standards (ideally at regional level) Supporting technology infrastructure (e.g. cloud) Clear regulatory guidance | <ul style="list-style-type: none"> Technical capabilities & supporting infrastructure | <ul style="list-style-type: none"> Broad reach of solution / no fragmentation Low entry and ongoing cost Suitable for small transactions |
| Potential risks / constraints | <ul style="list-style-type: none"> Interoperability risks perpetuating a "least common denominator", making onward development into new biz models slow & complex Substantial investment required Lack of scale of separate solutions | <ul style="list-style-type: none"> Data privacy concerns Cyber threats Third-party & reputational risk | <ul style="list-style-type: none"> Government approach needs to be competition-neutral (ie not favor a particular private provider) Lack of acceptance if cost too high or convenience benefit limited | <ul style="list-style-type: none"> Fraud risk Clients and merchants might prefer staying "informal" |

Source: Expert interviews, OW analysis

ROADMAP: QR CODE MERCHANT PAYMENTS PRESENT A SIGNIFICANT OPPORTUNITY TO DRIVE FINANCIAL INCLUSION IN EMERGING MARKETS – INTEROPERABILITY IS KEY

Policy enablers

- Promoting high **penetration of supporting technology infrastructure** (i.e. mobile internet connectivity and smartphones), including in rural / remote areas
- Launching initiatives to **drive adoption and trust in QR payment** ecosystems, both among consumers and merchants – e.g. **nation-wide promotional campaigns, digitalization of government payments**
- Establishing a **supportive regulatory environment to drive innovation** in payment systems (e.g. regulatory sandboxes)
- Encouraging **development of shared infrastructure** for payment processing and data exchange (beyond QR codes)
- Promoting **effective collection of data** to maximize value of e-payments for financial services ecosystem

Design considerations

| Dimension | Design principles |
|-------------------------------------|---|
| Approach to interoperability | <ul style="list-style-type: none">• Two primary integration approach to QR payment interoperability:<ul style="list-style-type: none">– Harmonized QR code specification: interoperability is enabled via harmonization of front-end data encoding / decoding standards. EMVCo is the international standard adopted in most markets today– Integrated APIs with differing / proprietary QR code specifications: interoperability is enabled via back-end integration, typically through APIs (e.g. WeChat and Alipay in China)• Achieving interoperability does not require both QR code harmonization and API integration – can be achieved using one<ul style="list-style-type: none">– QR code harmonization, however, is more effective and scalable approach, particularly when multiple providers involved |
| Geographic focus | <ul style="list-style-type: none">• While most schemes start with domestic agenda, there is clear progression from domestic to cross-border interoperability• As a starting point, can seek bilateral / multilateral agreements where there is mutual interest (e.g. major outbound tourist destinations) |
| Agreement structures | <ul style="list-style-type: none">• Options include bilateral (i.e. proprietary scheme to proprietary scheme), multi-lateral (i.e. JVs / consortiums between multiple proprietary schemes) or government-led national initiatives• Optimal outcomes require wide collaboration across all relevant stakeholders (e.g. regulator, banks, payment providers, Fintechs etc.) |

Buy-in from industry players in the space is cornerstone to encourage investment

Source: GSMA (2020): QR Code Merchant Payments – a growth opportunity for mobile money providers; OW analysis

A CASE STUDY: DEVELOPMENT OF STANDARD QR CODE IN THAILAND

Example of how regulator can implement standards to promote interoperability of payment system

Program overview



- In 2017, Bank of Thailand (BOT) **developed QR code standard** based on **EMVCo global standard**
- This was a result of **joint-collaboration** with financial institutions, major international payment card network providers, telecommunications firms, government and Thailand Electronic Payment Association (founded by 16 Fintech companies)
- QR code standard supported development of open payment infrastructure and interoperable payment system – one code used for **any mobile app, all payment instruments** and **all merchants**
- Following approval of standard, BOT **created a regulatory sandbox** for banks to test their QR code-based payment projects, with a focus on IT system, risk management and consumer protection
- The QR payment services were developed on Thailand's **open-infrastructure and interoperable** e-payment system (PromptPay)
- In 2019, BOT revised and launched a new QR-payment system (MyPromptQR) – which **was quicker and safer than previous system** (e.g. before users scanned code of merchants and input payment amount, under new system merchants scan temporary QR code from users)
- In 2020, BOT announced plans to **introduce QR code payment for cross-border transactions** in Singapore, Myanmar and Cambodia (expected end of 2020)
- Beyond interoperability, **many other initiatives have been implemented** as part of BOT's National E-payment Master Plan: digitalization of government payments, waiver of digital transaction fees etc.

Program impact

- Convenient payment experience for users; merchants can receive e-payment at lower cost
- Number of merchants that have adopted standard QR code:

1M In 2017

3M In 2018

5M In 2019

Source: Financial Technology Department Bank of Thailand (2019): "Payments System: Standardization of QR code"; Expert interviews; OW analysis

Key takeaways

BEST PRACTICES

- Closely engaged and collaborated with multiple private-sector stakeholders to develop standards and guidelines
- Provided a supportive regulatory environment (i.e. sandbox) for providers to implement the standard in a safe environment
- Adopted international standard to enable cross-border interoperability
- Developed comprehensive strategy to drive e-payments adoption, including but not limited to interoperability

SHORTFALLS & CHALLENGES

- Potential to improve customer experience of QR-payment system (i.e. merchant-led vs. user-led scanning)

04

*Preserve and expand
access to funding for
micro-finance lending*

Why is this important?

- Microfinance institutions (MFIs) specialize in providing **access to capital and financial services** to micro/small enterprises and low-income households in emerging economies
- MFIs are **key to financial inclusion and will continue to play a fundamental role** – often referred to as “vectors of democratization” of access to capital and financial services
- MFI sector has been **growing rapidly since its inception** – in some countries, MFIs are already numerous and serve large number of clients, managing a significant portfolio
- However, it is estimated that there is still significant room for growth in penetration of microfinance services; while reasons for this gap are multi-fold, **lack of funding for MFIs** has been cited as an important barrier to achieving growth and scale
- Sources of **sustained long-term funding** depend on MFIs needs during different stages of their life-cycle: **subsidies and grants** generally support MFIs during **initial stages of development**, whereas **debt** is the main **engine to fuel growth stages**
- Transitioning from a pure public-grant support and NGO models towards more private capital (either debt or equity) is key for the **continued growth and long-term sustainability of the sector**; public initiatives should enable this transition

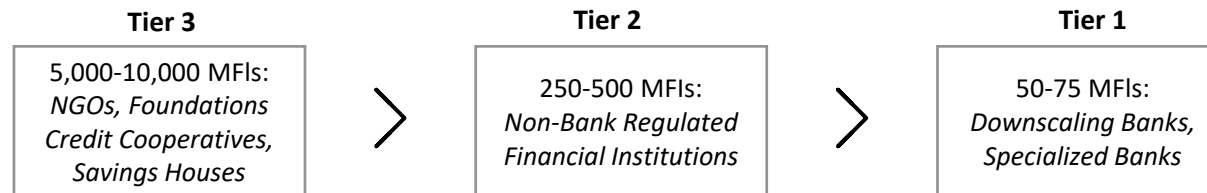
What are typical challenges for implementation?

- **Lack of awareness of microfinance** as investible asset class
 - Despite high profits & attractive risk profile for some MFIs, there is still lack of widespread awareness of microfinance as an investible asset class, also due to regulatory treatment
- **Over-reliance on public funds and grants**
 - MFIs risk becoming subsidy-dependent if government fails to gradually phase-out public funds and grants, thus “crowding out” the private capital that is needed to achieve sustainable growth and scale
- **Fragmentation of MF providers**
 - Early stage MFIs tend to be scattered and associated to NGOs, making it complicated to target segment

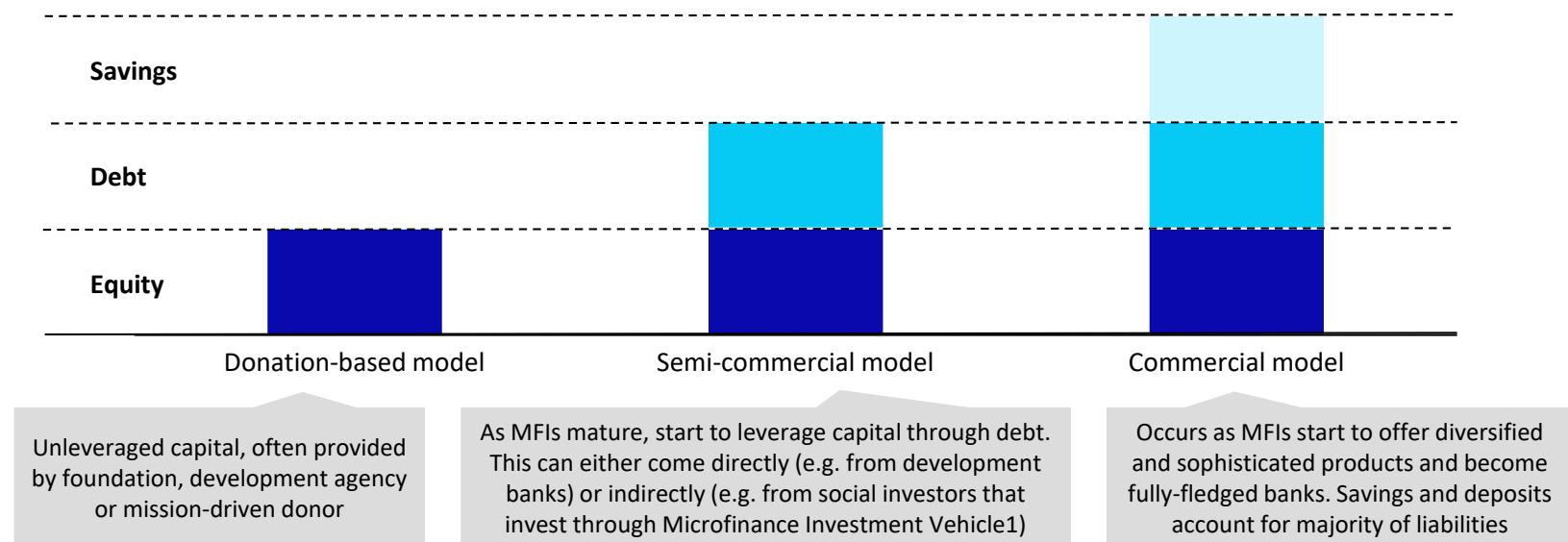
OVERVIEW: STRUCTURE AND FUNDING OF MICROFINANCE MARKET

The microfinance industry is commonly divided into three categories – different types rely on different funding sources

Type of MFIs: Microfinance institutions typically go through a relatively standard life cycle, and can be classified as into 3 types / tiers



Sources of funding: While not all MFIs follow the same path, from a funding perspectives most organizations go through three stages



1. Microfinance investment vehicles (MIVs) are funds dedicated to financing microfinance institutions and markets

Source: Dominicé (2012): Microfinance investments

POLICY OPTIONS: OPTIONS AVAILABLE RANGE FROM OFFERING FUNDING TO PROMOTING PRIVATE INVESTMENT

| | A | B | C | D |
|-------------------------------|---|---|--|---|
| | Offer guarantees/funding programs to support MFI initial development or funding shortfalls | Offer incentives for investors in microfinance sector to facilitate access to private capital markets | Allow microfinance institutions to take deposits (under certain conditions) | Promote consolidation of MFI as an investible asset class |
| Description | <ul style="list-style-type: none"> • Offer guarantees and funding that complement (rather than substitute) private capital • Support can be direct or indirect | <ul style="list-style-type: none"> • Offer incentives (e.g. tax benefits) and remove hurdles (e.g. asset allocation rules for PFs, regulatory treatment of exposures to MFIs) to encourage private investment in microfinance industry | <ul style="list-style-type: none"> • Allow deposit-taking microfinance institutions under certain regulatory requirements (e.g. minimum capital requirements) that are commensurate to the level of risk involved | <ul style="list-style-type: none"> • Ease regulatory constraints for Microfinance Investment Vehicles (MIVs) or equivalent to promote consolidation and awareness of MFI as investible asset class |
| Rationale | <ul style="list-style-type: none"> • Provides seed finance to MFIs that are yet to establish a track record • On an ongoing basis, enables risk sharing and cheaper funding • Provide relief during crisis / funding short-falls | <ul style="list-style-type: none"> • Enable transition from donor-driven NGO operating models to financially sustainable and scalable MFIs that increasingly rely on capital markets for funding | <ul style="list-style-type: none"> • Deposit-taking MFIs are able to more-easily become financially self-sufficient over long-term • Deposits are generally more sustainable source of funds | <ul style="list-style-type: none"> • Facilitate consolidation and awareness of MFIs as an investible asset class • Provide MFIs with broader access to capital |
| Key stakeholders | <ul style="list-style-type: none"> • State agencies | <ul style="list-style-type: none"> • State agencies, governments | <ul style="list-style-type: none"> • Central bank / supervisor | <ul style="list-style-type: none"> • Multiple public – private stakeholders |
| Key enablers | <ul style="list-style-type: none"> • Well-designed MFI programs to ensure appropriate use of funds | <ul style="list-style-type: none"> • Attractive risk/return profile for investments in MFIs | <ul style="list-style-type: none"> • Prudential regulation • Strong governance | <ul style="list-style-type: none"> • Attractive risk/return profile for investments in MFIs |
| Potential risks / constraints | <ul style="list-style-type: none"> • Potential crowding out of private capital | <ul style="list-style-type: none"> • Potential to distort socially-driven lending strategies | <ul style="list-style-type: none"> • Risk of insolvency, “deposit run” risk | <ul style="list-style-type: none"> • Potential to distort socially-driven lending strategies |

B CASE STUDY: PUBLIC-PRIVATE INITIATIVE TO MANAGE INVESTOR CURRENCY RISK

Example of innovative public-private partnership that can facilitate access to foreign private capital for MFIs

Program overview

- In 2007, a group of Governments, Development Banks, Microfinance Investment Vehicles (MIVs) and private donors partnered to establish a privately-managed fund that offers **hedging solutions** (e.g. swaps & forward contracts) to manage the currency risk that arises when foreign investors provide debt in developing countries
- The fund currently has **24 investors**, including Dutch and German Government, and has available capacity of more than **USD 1 billion**
- It only invests in market **risk management products** (no direct funding) and in **markets that are lacking adequately priced commercial alternatives**
 - Fund solutions provide foreign investors with ability to hedge currency risk in markets where it would not otherwise be possible to do so, hence **facilitating foreign investment in developing countries** (such as investments in Microfinance Investment Vehicles)
- Myanmar is an example of how a privately-managed fund can support development of the microfinance industry:
 - In 2009, a consortium of international donors partnered with the fund to create a local currency funding option at below rates for international investors
 - The ability to hedge currency risk was instrumental in catalyzing USD 80 million of funds in local currency from 12 international lenders
 - The funds were deployed to 11 local MFIs, and ultimately benefited 300,00 clients

Program impact

The fund helped develop local capital markets and unlock access to foreign funding. By 2018 it has:

| | | | | | |
|-------------|---------------------------------|------------|--------------|-------------|---------------------------------------|
| 1.7B | Managed hedging portfolio (USD) | 836 | Transactions | 890M | Absorbed currency risk for MFIs (USD) |
| | | 53 | Currencies | | |

Source: Annual Report (2018); Expert interviews; OW analysis

Key takeaways

BEST PRACTICES

- Strong public-private collaboration with diverse set of stakeholders
- Innovative solutions to solve key barriers in the microfinance investment value-chain
- Public funding invested on indirect support to facilitate/complement (rather than crowd-out) private capital

SHORTFALLS & CHALLENGES

- Impact constrained by additional barriers that prevent access to foreign funds despite elimination of currency risk (e.g. regulations restricting direct lending by foreign investors in some countries)
- Limited capacity to absorb significant amount of credit/country risks – fund dependent on willingness of strong parties to face these risks

05

***Ensure quality of and
access to credit risk
assessment data***



Why is this important?






- **Insufficient and asymmetrical information** about borrowers is a **key obstacle for the provision of credit to large segments of population**, as it prevents lenders from adequately assessing creditworthiness of borrowers
- This is particularly acute for the low-income segment as **traditional credit data is often inexistent**, given low bancarisation levels
- Credit reporting systems, both public & private, can address the problem of information asymmetry and **become a key driver for financial inclusion**, both in terms of **increased access to credit** and **higher quality of credit** (i.e. lenders can price risk more adequately, leading to lower interest rates and default rates) – access to credit should be coupled with **financial education** to ensure citizens can reap the benefits of the measure
- To be fully inclusive, credit reporting systems should be **as comprehensive as possible** while respecting data protection and privacy –The use of **positive data** or **non-financial alternative data** (e.g. utility bill payments) can help render visible many of today's "credit invisibles"

What are typical challenges for implementation?

- **Lack of incentives for multiple stakeholders to participate / collaborate**
 - Providers may not be willing to actively participate and share data (e.g. telecom players keep data as competitive advantage, no perceived value from sharing)
 - Providers may not be willing to use the data (e.g. MFIs may have developed their own credit risk assessment methods and may be unwilling to change)
- **Capturing and processing data for financially excluded**
 - Alternative data is often fragmented and inaccurate, making it difficult to aggregate / process (e.g. scoring methodologies with alternative data can be opaque)
- **Data privacy concerns**
 - Need to strike balance between goal of providing sufficient access to information, and desire to protect individual privacy / avoid misuse of information
- **Difficulty in establishing unique financial identity**
 - Challenges around linking information across different services providers to individual, particularly in the absence of adequate national ID system

OVERVIEW (1/2): THE CREDIT REPORTING SYSTEM INVOLVES MULTIPLE PARTIES; SEVERAL TYPES OF DATA CAN BE COLLECTED TO IMPROVE CREDIT ASSESSMENT

Key players in credit reporting system

| Stakeholder | Key roles |
|--|---|
|  Public credit registry | <ul style="list-style-type: none"> • Government owned; original purpose for most is to support financial sector supervision – data may be limited (e.g. exclude small loans) • Main focus on data collection – data is made available to lenders / private bureaus for data analysis (e.g. credit scoring models) |
|  Private credit bureau | <ul style="list-style-type: none"> • Privately owned – can be fully independent or consortium of lenders • Collects information from wide variety of financial and non-financial entities, and analyses information to offer value-added services • More likely to seek out alternative data than publicly-owned credit registries |
|  Financial service providers | <ul style="list-style-type: none"> • Share information with credit registry / bureau • Request data and analysis (e.g. credit scores) from bureaus to perform credit assessment |
|  Non-financial services providers | <ul style="list-style-type: none"> • Data owned by non-financial entities can enable better credit assessment • Incentives to share data may be limited if lack of perceived benefit |
|  Borrowers | <ul style="list-style-type: none"> • Consumer protection is key – need for effective complaint and rectification process to be able to challenge inaccurate entries |

Types of data collected for credit reporting

Identifying information

- ☐ Unique ID number
- ☐ Registered address
- ☐ Date of birth

Financial credit information (negative)

- ☐ Defaults
- ☐ Bankruptcies
- ☐ Court judgments
- ☐ Serious credit infringements

Financial credit information (positive)

- ☐ Repayment history
- ☐ Credit limit

Personal financial information

- ☐ Current account statements/flows
- ☐ Account open/close dates

Alternative payment data

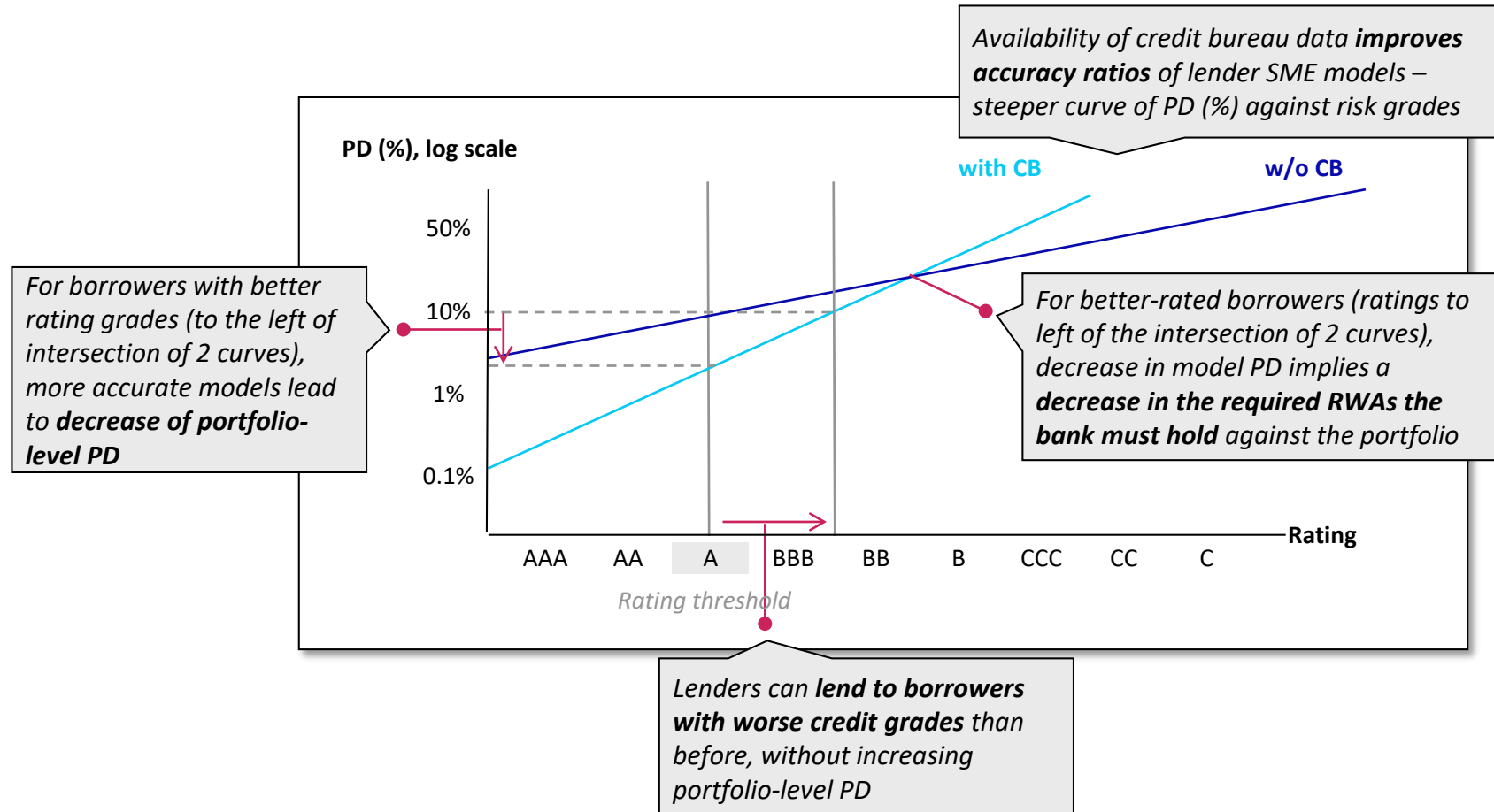
- ☐ Tax files
- ☐ Rental payments
- ☐ Utilities payments
- ☐ Telco payments
- ☐ Payables/receivables
- ☐ Social media data
- ☐ Psychometric

Can provide lenders with information to more accurately conduct credit assessments – particularly with customers with limited credit history

OVERVIEW (2/2): ACCESS TO CREDIT BUREAU / REGISTRY DATA CAN INCREASE ACCURACY OF PD MODELS, LEADING TO AN INCREASE IN CREDIT SUPPLY TO SMES

Impact on accuracy ratio from addition of Credit Bureau data
Rating, PD (%)

Illustrative



POLICY OPTIONS: FOCUS ON REDUCING INFORMATION ASYMMETRY ACROSS ALL CLIENT SEGMENTS

| | A | B | C |
|-------------------------------|---|---|--|
| | Foster access to credit bureau data and/or establish central credit registry to promote information sharing | Allow / promote inclusion of both positive and negative credit data | Allow / promote inclusion of non-financial / alternative data and support alternative credit scoring methodologies |
| Description | <ul style="list-style-type: none"> Establish central credit registry (government-owned) to collect data from multiple sources and share data with relevant stakeholders Promote establishment of private credit bureaus to analyse data and offer value-added services (e.g. credit scores) Allow for non-discriminatory access of credit bureau data for all interested creditors, subject to adequate fees and data and consumer protection requirements | <ul style="list-style-type: none"> Allow and/or encourage collection/sharing of both positive and negative data about borrower's repayment history on a systematic basis from all reliable, available and appropriate sources Mandate reporting of credit information to credit bureaus for financial institutions and public creditors. Enable, incentivize and encourage reporting by utilities and private-sector creditors. | <ul style="list-style-type: none"> Allow and/or encourage collection/sharing of alternative data sources (e.g. utility bill payments, rental information, remittance data, behavioural data) Support development and adoption of alternative risk assessment methodologies Develop and enforce standards and guidelines governing process of information-sharing, provider's ability to use the data on borrower's creditworthiness and extent to which privacy rights are observed |
| Rationale | <ul style="list-style-type: none"> Increase availability of credit-relevant data to allow for better credit decisions by financial institutions and other private-sector creditors. | <ul style="list-style-type: none"> Increase in robustness of credit information by creating a positive credit history that allows for better and more granular assessment of debtors | <ul style="list-style-type: none"> Alternative data helps assess credit risk of individuals that are excluded from financial system and may not have existing credit histories |
| Key stakeholders | <ul style="list-style-type: none"> Central bank / supervisor Credit bureaus and their owners (often banks) Utilities, private-sector creditors Competition, data and consumer protection agencies | <ul style="list-style-type: none"> Central bank / supervisor Credit bureau and reporting entities | <ul style="list-style-type: none"> Credit bureau as collecting entity that analyses data Data providers |
| Key enablers | <ul style="list-style-type: none"> Willingness to build a public utility, even if privately owned Willingness and incentives to report data Effective complaint and rectification processes | <ul style="list-style-type: none"> Willingness and ability of creditors to report | <ul style="list-style-type: none"> Availability of data Ability to develop robust models to infer credit quality |
| Potential risks / constraints | <ul style="list-style-type: none"> Abuse and data leaks Data quality issues Consumer protection incidents | <ul style="list-style-type: none"> Might provide an incentive for borrowers to leverage up | <ul style="list-style-type: none"> Risk of low robustness in case of low-quality data or models Costs of obtaining alternative data Consumer protection issues |

ROADMAP: A COMPREHENSIVE & CONSOLIDATED DATA REGISTRY, ACTING AS SINGLE SOURCE OF TRUTH, CAN INCREASE INTEGRITY OF CREDIT REPORTING SYSTEM

Policy enablers

- Developing **strong national ID system** that provides a **unique matching key** to identify relevant borrower data
- Developing **consumer protection laws**, ensuring individuals have right to check their own information and mechanism for correcting erroneous information – key to build trust in the system
- Establishing **clear guidelines** on type of data that can be collected, length of data retention etc.
- Allowing **data sharing** between financial and non-financial institutions
- Mandating **reporting** of comprehensive information (e.g. both positive and negative data) to central data repository
- Fostering **digitalization** of data to facilitate access / sharing
- Expanding **mandate of regulator beyond supervision** to include support of credit information infrastructure – relevant if central repository is government-owned

Design considerations

| Dimension | Design principles |
|---------------------------------|--|
| Ownership | <ul style="list-style-type: none"> • Several models: private vs. government-owned with considerations on potential conflict of interests and ability to deploy services efficiently |
| Functions | <ul style="list-style-type: none"> • Scope of functionality offered can range from: <ul style="list-style-type: none"> – Collecting, validating and merging data – data should be comprehensive (e.g. positive & negative, financial & non-financial); need to define collection frequency, data format etc. – Distributing consolidated data/reports – most cost-effective method for client is electronic access (via web portal) and batch access – Analyzing data and offering value-added services, including credit scoring, fraud detection, application monitoring, customer profiling etc. • Scope of government-owned tends to be on collection & distribution, private players differentiate by offering additional value-added services |
| Data management | <ul style="list-style-type: none"> • Governance structure with clear lines of responsibility and accountability • Clear policies / processes to control integrity, security and accuracy of data, as well as dispute resolution and data rectification mechanisms |
| Technical infrastructure | <ul style="list-style-type: none"> • Different options available to manage large volumes of data: <ul style="list-style-type: none"> – Single repository vs. data lake (flexible and lower cost for large volumes) – On-premise vs. cloud – need to balance costs & benefits |
| Business model | <ul style="list-style-type: none"> • Government-owned are non-profit – either cost-centers or profit-neutral • Private-owned charge flat membership fee + “per click” fee – volume discounts usually apply |

Existing infrastructure (e.g. public credit registries) can be leveraged – no need to build from scratch

B CASE STUDY: POSITIVE DATA SHARING IN BRAZIL CREDIT REPORTING SYSTEM

Example of how regulators can allow collection and sharing of positive data to enable better credit risk assessment

Program overview



- In 2011, Brazil created a **positive credit database (Cadastro Positivo)** – however, people needed to “opt in” to have their data included and the system remained largely empty. For years, Brazil relied **only on negative data** for credit scoring
- In July 2019, after years of discussions between banks, regulators and consumer protection groups, a new law was passed to modify the system into an “**opt-out**” model – where positive data of users is automatically included
 - Lack of coordination between relevant agencies** during design – when law passed **key approvals from Central Bank** were missing which prevented system to go into effect for several months
- 4 private bureaus were granted approval to operate the positive credit database – bureaus are currently working on a **unified system to standardize sharing of information**
- Data collected will cover the **previous 13 months** and is **not limited to financial data**, but also includes **non-financial data** (e.g. water bill, electricity bill)
- Safeguards were implemented to **protect consumers** and **address privacy concerns**: scope of data gathered is limited, information related to health is not included, and users can chose to be removed from a given bureau at any time (and data must be removed within two business days)
- New credit bureaus have emerged** to focus on “positive credit scoring” – e.g. a bureau owned by Brazil’s 4 biggest banks was recently launched and focuses on big data analytics for risk management based on a wide range of sources

Program impact

- Several **benefits expected**: lower interest rates (given that 30%+ of interest rate spread corresponds to coast of loan delinquency), expansion of access to credit

Estimates: **20M** New citizens included in positive bureau **R\$600 BN** In new loan concessions

Key takeaways

BEST PRACTICES

- Ensured comprehensiveness of data collected, including positive data as well as non-financial data
- Followed opt-out model in 2019 to ensure significant data volume
- Effectively addressed consumer privacy concerns through additional measures
- Ensured standardization of data for effective data sharing

SHORTFALLS & CHALLENGES

- Optionality / weak mandate in 2011 led to very low volume of data, rendering the system ineffective for years
- Limited time-period for data collection (only 12 months of payment history) – full benefits of positive years may take 2+ years to materialize
- Lack of coordination between relevant agencies (i.e. regulator and central bank) created uncertainty and delays

Source: Journal of International Affairs (2020): “Using Data for Financial Inclusion: The Case of Credit Bureaus in Brazil”; Expert interviews; OW analysis

06

Leverage suite of tools available to development banks to facilitate access to credit

Why is this important?

- Government intervention in credit markets through Development Banks can play an important role in **fostering economic development** and **promoting financial inclusion in the presence of market failures** (e.g. asymmetric information, positive externalities not captured in business case)
- However, to be effective, the role of Development Banks should be **limited to complementing rather than substituting private sector efforts**
- Development Banks have a **wide range of tools available** to achieve the objective, from lending directly to channelling funds indirectly through other financial institutions
- While the most **suitable tool** depends on a variety of factors (e.g target segment, stage of development, etc), **credit guarantees** are seen as an effective mechanism to leverage local banks underwriting network
- Developments banks are in a unique position to **develop infrastructure** and technology solutions to support market participants

What are typical challenges for implementation?

- **Striking right balance between safeguarding independence and achieving public policy mandate:**
 - Government interference driven by political needs can lead to pursuing a dispersed & unprofitable agenda
 - Finding the balance between independence and influence from government to ensure the Development Bank achieves policy mandate, is not straightforward
- **Fragmentation and lack of coordination**
 - There can be a lack of coordination in the often-fragmented (and sometimes competing) development finance space (e.g. national development banks, multilateral / bilateral institutions etc.), resulting in operational and funding inefficiencies
- **Crowding-out of private capital**
 - Funding from development Banks may risk crowding out private capital (e.g. if Development Banks competes directly with private banks at below-market rates)

OVERVIEW: THE ROLE OF DEVELOPMENT BANKS IN SUPPORTING ECONOMIC DEVELOPMENT CAN BE UNDERSTOOD THROUGH 3 KEY QUESTIONS

| Dimension | | Options | | | | | <div> <div></div> Main option <div> <div></div> Sub-option </div> </div> |
|-----------------|--|---------|--------------------|-----------------------|-----------------|----------------------------|--|
| Target segments | <i>Development Banks can specialize on specific segments or opt for an integrated model</i> | > | Retail | SMEs | Sectors | Infrastructure | ... |
| | | | Housing | Innovative | Manufacturing | Energy | |
| | | | Micro-enterprise | Traditional | Banking | Telecom | |
| | | | Students | Over-leveraged | Tourism | Transportation | |
| | | | ... | ... | ... | ... | |
| Needs served | <i>Different segments may need different kind of support from Development Banks</i> | > | Consumer financing | Working capital needs | Investments | Restructuring | ... |
| | | | Mortgage | Factoring | Digitalization | Bankruptcy | |
| | | | Education loan | Export financing | Int. expansion | Unsustainable debt | |
| | | | ... | ... | ... | ... | |
| | | | | | | | |
| Tools available | <i>Development Banks have at their disposal a wide range of tools, with multiple variations / options within each</i> | > | Credit | Guarantees | Equity | Non-financial | ... |
| | | | Direct lending | Eligibility reqs. | Grants | Platforms & infrastructure | |
| | | | Co-financing | Coverage | Direct equity | Regulation | |
| | | | On lending | Collateral req. | Indirect equity | ... | |
| | | | ... | ... | ... | ... | |

POLICY OPTIONS: RANGE FROM EFFECTIVELY DEPLOYING FUNDS TO SETTING UP INFRASTRUCTURE AND RESTRUCTURING SOLUTIONS

| | A | B | C | D | E |
|-------------------------------|--|---|--|--|---|
| | Enhance credit guarantee programs | Ensure adequate regulation and oversight | Centralize all development partners on country platform | Offer non-financial support to enable key stakeholders | Deploy restructuring solutions for overleveraged borrowers |
| Description | <ul style="list-style-type: none"> Enhance credit guarantee programs to align with best practices (e.g. risk-based pricing, limited coverage to reduce moral hazard, well-defined eligibility criteria) | <ul style="list-style-type: none"> Ensure that regulation and supervision of development banks is commensurate to the specific role & tools available (e.g. liquidity requirements) | <ul style="list-style-type: none"> Channel all development support through a centralized entity Mobilize all development partners to unlock investments, and maximize their contributions as a group | <ul style="list-style-type: none"> Provide non-financial support to enable private sector (e.g. provide IT platform and credit risk capabilities for banks to effectively operate in SME segment) | <ul style="list-style-type: none"> Deploy suite of debt-restructuring instruments to support viable but overleveraged borrowers (e.g. create special purpose vehicle for banks to transfer NPL or a recapitalization fund) |
| Rationale | <ul style="list-style-type: none"> Ensure credit guarantee programs are targeted and do not support non-viable cases | <ul style="list-style-type: none"> Provide a governance, capital and risk management framework to ensure development finance resources are adequately deployed and risks for the sponsor remain manageable | <ul style="list-style-type: none"> Maximize contributions and impact of development partners through increased coordination – taking advantage of combined strength | <ul style="list-style-type: none"> Address other structural barriers in market beyond “funding” (e.g. lack of technology platforms) | <ul style="list-style-type: none"> Enable over-indebted but otherwise viable borrowers to sustainably address their situation |
| Key stakeholders | <ul style="list-style-type: none"> Development finance institutions | <ul style="list-style-type: none"> Development finance institutions Sponsor | <ul style="list-style-type: none"> Government Development finance institutions | <ul style="list-style-type: none"> Development finance institutions Other regulators / agencies | <ul style="list-style-type: none"> Banks, development finance institutions, state-sponsored distressed asset vehicles, tax and social security agencies |
| Key enablers | <ul style="list-style-type: none"> Adequate risk-pricing tools Sound and independent governance Interface / relations with commercial banks | <ul style="list-style-type: none"> The right balance of economically sensible rules vs development objective. No compromises should be made on governance setup. | <ul style="list-style-type: none"> Transparency within platform to avoid zero-sum competition (e.g. subsidies) Strong government ownership / support | <ul style="list-style-type: none"> Technical capabilities | <ul style="list-style-type: none"> Availability of data Cooperation of borrowers and among creditors Appropriate legal framework, including enforcement tools |
| Potential risks / constraints | <ul style="list-style-type: none"> Politically-directed lending Lending to non-viable or zombie companies Moral hazard | <ul style="list-style-type: none"> Inadequate risk management practices Ineffective use of development funds | <ul style="list-style-type: none"> Politically sensitive Managing competing interests | <ul style="list-style-type: none"> Stifle private-sector innovation / investment | <ul style="list-style-type: none"> Limited or slow take-up Limited impact as long as macro-economy does not improve |

☐ High level roadmap provided

RECAPITALIZATION FUNDS ARE AN EFFECTIVE AND EFFICIENT WAY TO MOBILIZE PRIVATE INVESTMENT TO PROVIDE CAPITAL INJECTIONS TO OVERLEVERAGED SMES

Policy enablers

- Developing **bankruptcy laws** that facilitate **rapid, out-of-court restructuring** (e.g. convert debt into equity) – enables more efficient processing and more beneficial outcomes
- Establishing legal framework that enables **timely, transparent and predictable recovery** of claims, while protecting value for all concerned parties
- Promoting use of **electronic means** to speed up relevant processes (e.g. restructuring web applications)
- Follow supervisory approach aimed to **push against “wait and see” attitude**, and help banks actively resolve over-indebtedness / risk of NPLs (e.g. actively identify overleveraged SMEs and offer solutions)



Design considerations

| Dimension | Design principles |
|---|--|
| Target SME population and instrument | <ul style="list-style-type: none"> • Define target population (e.g. sector, size, region) – recapitalization funds tend to be most suited for viable firms that need to rebalance their balance sheet (e.g. equity vs. debt) to recover • Determine most adequate instrument for quasi-equity investment (e.g. preferred shares, long-term subordinated debt, mezzanine) |
| Mix of public / private resources | <ul style="list-style-type: none"> • Determine sources of funds from a variety of investors (e.g. institutional, public and possibly retail) • Potentially structure investment in tranches to align with risk/return profiles of various types of investors |
| Number of recapitalization funds | <ul style="list-style-type: none"> • Chose between single recapitalization funds (e.g. more targeted and easier to deploy centrally) vs. multiple funds competing (potentially driving higher returns for investors and favorable terms for SMEs) |
| Management of fund | <ul style="list-style-type: none"> • Appoint specialists to manage fund • Mobilize specific expertise (e.g. restructuring firms, collection agent) when needed |
| Role of banks | <ul style="list-style-type: none"> • Determine degree of bank involvement – could act as distribution channel or have a more actively role (e.g. identifying overleveraged SMEs, underwriting functions, etc.) |

Public co-investment (through development bank) increases attractiveness of platform

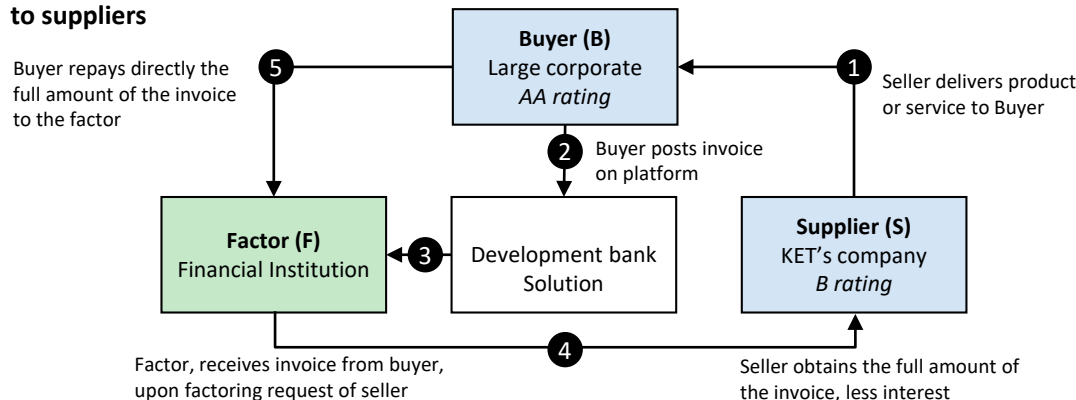
CASE STUDY: REVERSE FACTORING PROGRAM BY MEXICO'S DEVELOPMENT BANK

Mexico's Development Bank introduced a reverse factoring program to improve the financing and liquidity situation of SMEs at lower cost

Program overview



- In 2000s, Mexico's development bank launched an initiative to develop **reverse factoring**:
 - Its objective was to **improve the financing and liquidity situation of SMEs at lower cost**
 - It **provides technological infrastructure** that facilitates reverse factoring transactions
- The solution offers a **simple & centralized online platform** for reverse factoring transactions
 - Buyers specify the suppliers who are part of their "productive chain"
 - Lenders choose to factor receivables offered by suppliers on online platform
 - The solution **centralises information for financial intermediaries** and **offers technical assistance to suppliers**



Key takeaways

BEST PRACTICES

- Innovative and effective provision / intervention by a development bank, providing the electronic infrastructure rather than funds
- Government support to promote platform – mandating participation of central and federal government agencies in the program

SHORTFALLS & CHALLENGES

- For some sectors (e.g. real estate), perceived high-risk has disincentivized use of reverse factoring program
- After incorporation of central and state government to the program, growth of financing to SMEs slowed down – potential crowding out effect
- Risk of reducing innovation and investment - privatization was considered, however limited progress to date

Program impact (10-years post implementation):

75%

Of all Mexican factoring transactions (1st provider in Mexico)

17%

Turnover growth p.a

>600

Buyers

~90K

Suppliers

40

Financial intermediaries

Source: Valenzuela (2017): "Instrumentos para la inclusión financiera: el caso de México"; Expert interviews; OW analysis

07

Develop digital infrastructure and foster digitalization of internal processes

Why is this important?

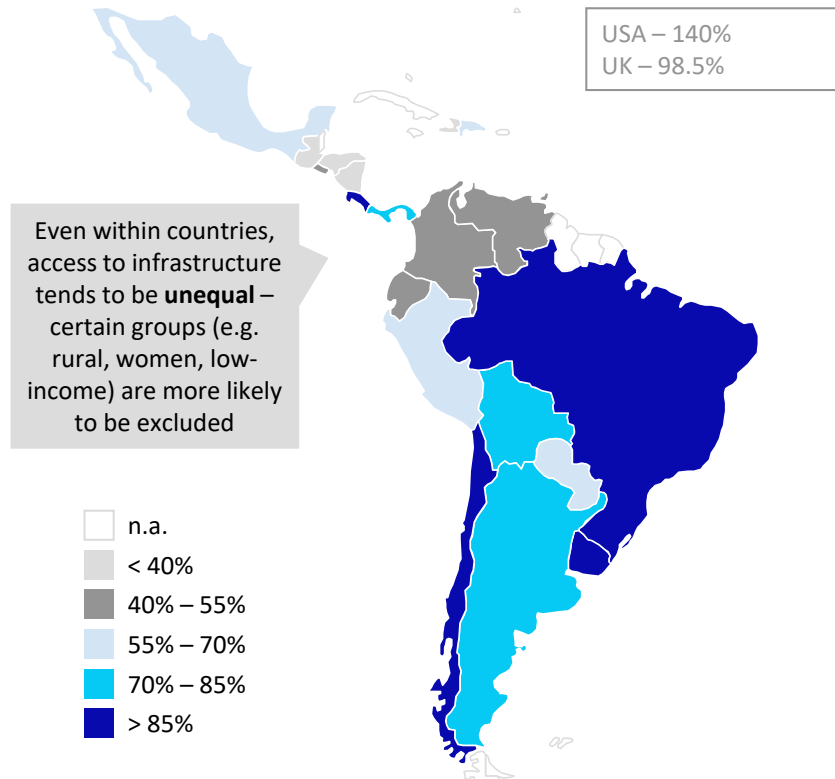
- **Digital infrastructure and technology is a critical enabler** for the functioning and adoption of digital financial services – key infrastructure include ICT network with broad coverage across country (including rural areas), reliable power supply , access to basic mobile services, and smartphone penetration (i.e. 3G and above)
- Ultimately, **digitalization of financial services and internal processes** can improve the **operational efficiency** of providers and enable them to **efficiently scale-up outreach** to lower-income segments (who may otherwise be too costly to serve)
- However, countries **differ widely in the stage of development of the digitalization** of financial sector, ranging from predominantly cash-based to fully digital
- Governments and regulators should champion the development of digital infrastructure, while at the same time **ensure policy actions / regulation is suitable to the country's stage of development and current technological realities**
 - For example, countries that are heavily reliant on cash should promote **widespread agent networks** that meet the need for cash-in/cash-out of digital mobile accounts
- Similarly, private providers should be **mindful of the target customer's realities / constraints** – players should strive to adapt to local technological reality while, at the same time, adjusting their business model to reap the benefits of digitalization
- Digitalization should be accompanied by adequate management of **cybersecurity**

What are typical challenges for implementation?

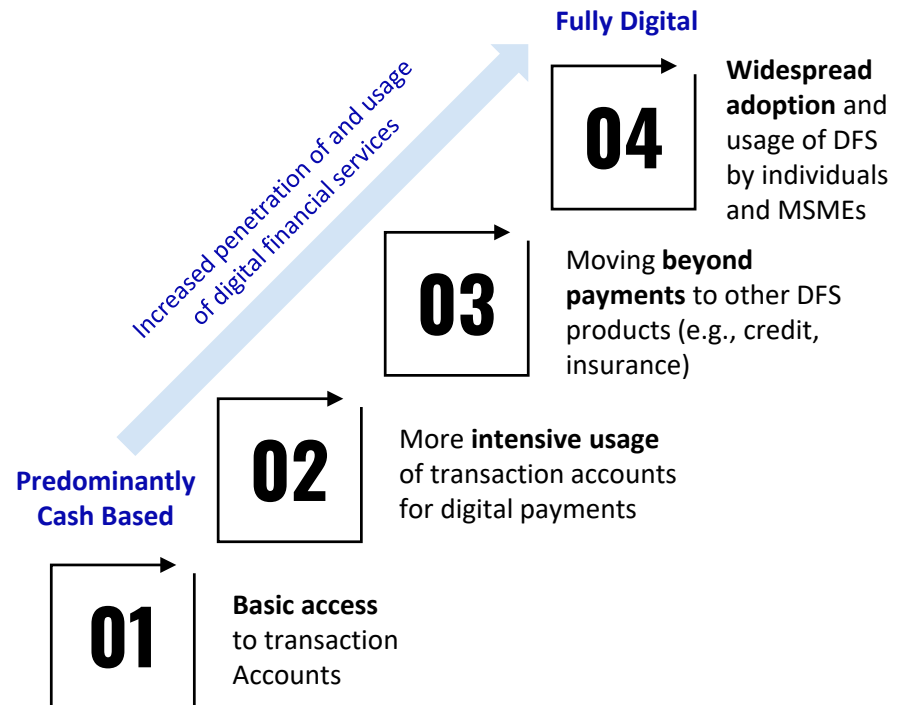
- **Lack of sufficient infrastructure investment**
 - Development of digital infrastructure is capital intensive and requires large public / private investment; some countries may lack sufficient budget / investment capacity
- **Unequal access to technology**
 - Even in countries that invest in digital infrastructure, access to technology / infrastructure is often unequal (e.g. urban-rural divide, gender gaps)
- **Lack of private adoption:**
 - Some providers (e.g. MFIs) lack the funds and/or technical capabilities to implement effective digitization programs

OVERVIEW: ACCESS TO DIGITAL INFRASTRUCTURE AND TECHNOLOGY, SUCH AS MOBILE INTERNET CONNECTION, VARIES SIGNIFICANTLY ACROSS THE REGION

Mobile broadband subscriptions Per 100 inhabitants¹



Development stages of Digital Financial Services (DFS)



Regulators and providers should take into account the technological reality of the country (including unequal access) to fully reap the benefits of digitalization

1. Latest available data was from 2018
Source: ITU (United Nations); Expert interviews; OW analysis

POLICY OPTIONS: RANGE FROM TAILORING REGULATION TO TECHNOLOGICAL REALITY TO OFFERING INCENTIVES TO PROMOTE DIGITALIZATION

| | A | B | C |
|-------------------------------|--|--|--|
| | Champion development and investment of digital infrastructure to enable digital financial services | Taylor regulation to technological reality to reap benefits of digitalization | Offer incentives and/or capacity building programs to promote digitalization |
| Description | <ul style="list-style-type: none"> Work closely with other regulators (e.g. Telco) to define infrastructure requirements to achieve financial inclusion and resiliency objectives; e.g. high levels (99%+) of network availability, broadband access etc. | <ul style="list-style-type: none"> Ensure that regulation is aligned with country's stage of development and current technological realities <ul style="list-style-type: none"> Consider reliance on 2G technology when designing processes (e.g. smartphone-dependent KYC remote onboarding) Account for need of agent models for cash-in/cash-out agent networks in rural areas that are still heavily reliant on cash | <ul style="list-style-type: none"> Facilitate digital transformation projects through government incentives and/or capacity building programs Channel support through development bank programs (i.e. direct lending, grants, guarantees...) |
| Rationale | <ul style="list-style-type: none"> Provide digital infrastructure as key requirement for economic agents to access digital services Facilitate deployment of critical infrastructure in underserved regions | <ul style="list-style-type: none"> Broaden accessibility of digital channels, including to low-income households and businesses | <ul style="list-style-type: none"> Facilitate digital transformation of internal processes to improve efficiency and increase outreach of financial service providers |
| Key stakeholders | <ul style="list-style-type: none"> Telecom utilities, government, telecoms regulator, infrastructure finance | <ul style="list-style-type: none"> Financial services providers, telecom utilities | <ul style="list-style-type: none"> Government, private providers |
| Key enablers | <ul style="list-style-type: none"> Regulatory requirements regarding coverage Ability to invest, including through subsidized infrastructure programs Technological progress (e.g. lower-cost wireless technology) | <ul style="list-style-type: none"> Design access channels to be consistent with the technical means of consumers (e.g. SMS banking vs apps) | <ul style="list-style-type: none"> Access to finance Ability to deliver Technical capabilities |
| Potential risks / constraints | <ul style="list-style-type: none"> Disincentives for investment in case of onerous regulatory requirements Technological change outpacing implementation of programs | <ul style="list-style-type: none"> Potential "slowing-down" of technological innovation / development – need to strike right balance | <ul style="list-style-type: none"> Slow "time to market" Inefficient or untargeted projects Increase threat of cyber attacks |

B CASE STUDY: MOBILE MONEY PLATFORM IN PERU

Practical example of how regulation and design of mobile money platform considers the technological realities / limitations of target population

Program overview



- In 2015, Peru's government, financial institutions, telcos and other stakeholders established Pagos Digitales Peruanos (PDP) – a JV to launch **Bim**, a **fully-interoperable national mobile money platform** to better serve the nation's low-income segments
 - Earlier, Peru launched the **National Strategy for Financial Inclusion (ENIF)** to allow collaboration across industries and public/private stakeholders and enacted **Electronic Money Law** to establish a legal framework for mobile money as a tool for financial inclusion
- From a **functional perspective** the platform is simple: it connects low-income residents to financial services via SMS. Onboarding can take <1 min (requires ID, passcode, and choice of issuer)
 - Platform allows users to: Cash in (through agents), Cash out (mostly through agents), P2P transfers, Buy airtime, and pay for business (P2B) and government (P2G) services
- From a **technical perspective**, the platform was designed taking into account the **limited availability of 3G networks throughout the country** – an inclusive solution required **technology that does not require a smartphone or mobile internet** (i.e. SMS)
- Moreover, given the **limited size / scope of agent distribution network** (for cash-in/cash-out purposes) in the country, PDP launched and is currently piloting an **innovative solution** involving the use of “Bimers”:
 - “Bimers” act as promoters of the platform: creating their own Bim e-wallets and making cash-in operations in an agent for their wallet, and then performing operations for other people (in exchange for a small facilitation fee)
 - Model is akin to “uberization” of agents – promoters do not require a license but **only an ID to operate, a practice that has been accepted by the regulator**

Program impact

- Encouraged other countries to explore similar initiatives (e.g. Paraguay)
- In <2 years after launch: **400K** Active users **20K** New users / month

Source: IFC (2018): “Modelo Peru: A Mobile Money Platform Offering Interoperability Towards Financial Inclusion”; Expert interviews; OW analysis

Key takeaways

BEST PRACTICES

- Regulation acts as an enabler to effectively address technology / capacity constraints
- Platform is designed with technological realities in mind (i.e. SMS vs. 3G technology)
- Use of innovative solutions to drive adoption and overcome challenges (i.e. use of “Bimers”)

SHORTFALLS & CHALLENGES

- Challenges driving adoption amongst people with less digital capabilities (e.g. the elderly) – initiatives such as moving government payments to Bim platform need to acknowledge / address potential limitations
- Need to address additional barriers (e.g. financial literacy, trust) – good platform in itself not sufficient

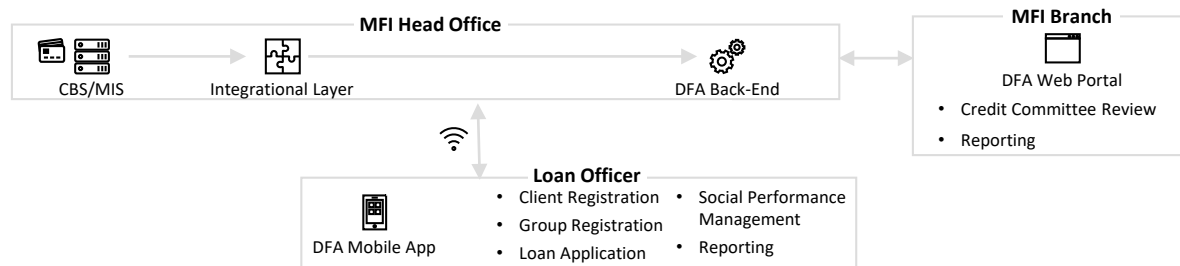
C CASE STUDY: DIGITALIZATION OF MICROFINANCE PROCESSES IN KENYA

Example of how MFI digitalized loan application process through use of technology devices to optimize operations and ultimately increase outreach

Program overview



- A MFI based in Nairobi, with a mission to **digitally optimize microfinance** service delivery
- In 2012, The MFI initiated its plan to use **Digital Field Applications (DFAs)** – i.e. using mobile technology (Android tablets) to enable loan officers to capture **client data electronically, minimizing costs and improving customer service**
- The MFI's tablets ran on a customized application that was capable of **operating both online and offline**, making it suitable for the rural areas with limited data connectivity
 - The mobile application was integrated with a web portal that was accessible from the MFI branches, which facilitate same-day review of loan applications (without need of loan officer traveling each morning / evening to the branch)



Program impact

72 → 6 hours

Reduction in average loan turnaround time (TAT)

68%

Increase in loan office case workload

Other benefits

- **Improved Customer Experience** (less physical docs required)
- Collection of digital data used to develop **credit scoring model**

Key takeaways

BEST PRACTICES

- Adapted model to technological reality – ensure offline operations for rural areas with limited mobile data connectivity
- Followed agile development & “test-and-learn” approach to ensure effectiveness and suitability of new processes
- Enabling regulatory environment – Kenyan regulation indicated that digital signatures are acceptable for KYC

SHORTFALLS & CHALLENGES

- Back-end components proved challenging (e.g. functionality to synch data from offline to online, workflow between tablets and web portal) – need to have adequate IT skills (either in-house or available for outsourcing)
- Lack of robust mobile devices (e.g. poor battery life) negatively impacted productivity – had to replace initial batch
- Lack of familiarity of beneficiaries on use of technologies – strong handholding and education is necessary

Source: Accion (2015): “Digital Field Applications”; Expert interviews; OW analysis

08

Foster innovation in financial technology (Fintech) sector

Why is this important?

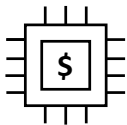
- Financial technology (Fintech) has the potential to **significantly improve financial system** and provide a range of opportunities for businesses and consumers, by bringing **greater financial inclusion**, higher **efficiency and safety**, and **enhanced transparency**
- In the past years, the Fintech market has **experienced strong growth rate**, and **countless of players across various subsectors** (e.g. payments, lending, insurance) have emerged
- Regulators and policy-makers need to be **proactive in responding to this fast-moving environment and technological developments** – slow regulatory reform can inhibit development of innovative solutions
 - Regulators should **actively promote activities around innovation and adoption of innovative technology** (e.g. blockchain, AI etc.)
- At the same time, Fintech poses **significant risks that need to be managed**, in particular around financial stability (e.g. ease of contagion due to interconnectedness, concentration in platform), consumer protection, and cyber risk

What are typical challenges for implementation?

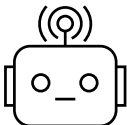
- **Defining adequate scope of regulation**
 - Fintech space is increasingly interconnected – traditional “lines” are blurred
- **Keeping up with pace of technological developments**
 - New technologies are constantly emerging – some regulators may lack understanding to effectively keep up with pace of innovation
- **Striking right balance between conflicting priorities**
 - Regulators need to balance market innovation and competition, with maintaining the integrity, safety and stability of the financial system – striking the balance is not straightforward

OVERVIEW: FINTECH IS TECHNOLOGY THAT IMPROVES AND AUTOMATES FINANCIAL SERVICES

What is FinTech?



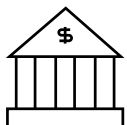
At its core, **FinTech (financial technology)**...



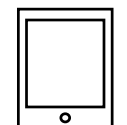
seeks to improve and **automate** the delivery and use of **financial services**...



...thereby **helping companies**, business owners **and consumers**...



... to **better manage** their **financial operations**, processes and lives...



....by **utilizing** specialized **software and algorithms** that are used on computers and, increasingly, smartphones

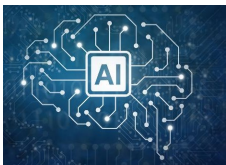
Fintech leverages a set of emerging technologies that will have a wide ranging impact...



Biometrics



Cloud



Artificial Intelligence

... and is enabled by new ways of developing tech: modular, reliable, scalable and cost-effective



Technology Agnostic



Mobile based



Microservices with API interfaces



Open Source



Embed Agility



N-tier



Real-time processing & analytics



Application extensibility

POLICY OPTIONS: RANGE FROM ESTABLISHING A REGULATORY SANDBOX TO BUILDING INSTITUTIONAL CAPACITY OF REGULATORS

| | A | B | C |
|-------------------------------|--|--|---|
| | Establish appropriate regulatory framework / guidelines on FinTech | Set up regulatory sandbox or enact regulation reducing barriers of entry for new players | Build institutional capacity of regulators to keep up with latest technologies |
| Description | <ul style="list-style-type: none"> Develop a comprehensive and coherent framework to regulate innovation in financial technology space Ensure framework adequately balances market growth & innovation, with the need to protect integrity, safety and stability of financial system | <ul style="list-style-type: none"> Allow financial service providers to conduct experiments in a modified regulatory framework (i.e. “sandbox”, tiered regulatory obligations, time-limited licenses) Created a direct channel of communication, which also serves as a point of contact for market participants | <ul style="list-style-type: none"> Build the institutional capacity of financial regulators (e.g. through innovation hubs, other industry dialogues) to enable them to understand the latest technological innovations and solutions and come up with enabling regulatory frameworks |
| Rationale | <ul style="list-style-type: none"> Apply “same business, same risk, same rules” principle Allow non-traditional providers to operate while capturing financial stability and other risks | <ul style="list-style-type: none"> Lower hurdles to entry for innovative and small but growing companies and business models Enable continuous dialogue between market and regulators Provides safe space to “test & learn” with innovative products and services | <ul style="list-style-type: none"> Allow regulators to understand and anticipate developments in the markets and emerging risks Allow for proactive adjustment of regulatory approaches and supervisory capacity |
| Key stakeholders | <ul style="list-style-type: none"> Central bank, supervisor, executive and legislative branch | <ul style="list-style-type: none"> Central bank, supervisor, executive and legislative branch | <ul style="list-style-type: none"> Central bank, supervisor |
| Key enablers | <ul style="list-style-type: none"> Pursue an “activity-based” and “risk-based” regulatory approach over a pure “institutional” one | <ul style="list-style-type: none"> Clearly define acceptable risks Clearly define entry criteria | <ul style="list-style-type: none"> Adequate investment in staff and organisational development |
| Potential risks / constraints | <ul style="list-style-type: none"> Inadequate coverage of risks Stifling of innovation | <ul style="list-style-type: none"> Visible failures impacting the reputation of the sandbox | <ul style="list-style-type: none"> Availability of staff Budget constraints and conflicting priorities |

B CASE STUDY: REGULATORY SANDBOX IN COLOMBIA

Example of how regulators can drive innovation in a sustainable manner by establishing a regulatory sandbox

Program overview



- In 2018, the Superintendencia Financiera de Colombia (SFC) launched the **Financial and Technological Innovation Internal Working Group (“InnovaSFC”)**, a program that aims to promote, accompany and facilitate innovation in financial sector
- To achieve its objective, the program was structured around the following tools:
 - **elHub**: Innovation office that serves as point of contact to provide support, assess and guide companies on topics related to Fintech and innovation
 - **laArena**: Sandbox framework that allows innovative companies to test their products, technology or business models in a controlled, safe and real-time environment. The sandbox is open to any player (both supervised & non-supervised institutions), as long as it is considered truly innovative and solves clear consumer need / greater financial inclusion
- In September 2020, based on the successful experience of the InnovaSFC sandbox, the Colombian Government introduced **Decree 1234, which formally establishes a regulatory sandbox beyond the InnovaSFC program**: the Control Trial Environment (CTE)
 - The key differentiating factor is that under CTE, Fintech companies can request exceptions to laws even beyond the scope of the SFC, such as the General Finance Statute
 - Under CTE, Fintech companies that meet certain conditions can obtain temporary licenses from SFC to test their products for up to 2 years
 - The wider scope of the CTE sandbox is expected to drive Fintech innovation even further

Program impact

The InnovaSFC sandbox has been effective tool to promote innovation in financial sector:

- Colombian regulator was accepted as member of the Global Financial Inclusion Innovation Network, which entitles the SFC to perform transnational testing of innovative projects
- Within 2 years: **4** Innovative projects have graduated and launched **10+** Projects have been tested **100+** Entities assisted through elHub

Key takeaways

BEST PRACTICES

- Established open and collaborative environment between supervisor and Fintech companies – helps build regulator’s understanding of emerging technologies in order to effectively regulate the sector
- Provided transparent and convenient process for participating companies (e.g. online application form, clearly-defined eligibility criteria)

SHORTFALLS & CHALLENGES

- Limited capacity of supervisor to run sandbox – need to allocate sufficient resources
- Limited scale / scope of the InnovaSFC program – recent sandbox established by government (Control Trial Environment) expected to have larger impact

Source: SFC (2018): “Financial Inclusion Report”; Alonso (2020): “The success of the Colombian Regulatory Sandbox”; Expert interviews; OW analysis

TEAM DETAILS

RESPONSIBLE TEAM



Oliver Wuensch
Senior Advisor, Zurich
oliver.wuensch@oliverwyman.com



Maria Fernandes
Principal, London
maria.fernandes@oliverwyman.com



Leticia Rubira
Associate, Madrid
leticia.rubira@oliverwyman.com

REGIONAL EXPERTS



Nuno Monteiro
Partner, Sao Paolo
nuno.monteiro@oliverwyman.com



Anacarla Abrao
Partner, Sao Paolo
anacarla.abrao@oliverwyman.com



Pablo Haberer
Partner, Mexico DF
pablo.haberer@oliverwyman.com



Til Schuermann
Partner, US
[Til. Schuermann@oliverwyman.com](mailto:Til.Schuermann@oliverwyman.com)



Michael Wagner
Partner, Sao Paolo
michael.wagner@oliverwyman.com



Pablo Campos
Partner, Madrid
pablo.campos@oliverwyman.com

QUALIFICATIONS, ASSUMPTIONS, AND LIMITING CONDITIONS

This report is for the exclusive use of the Oliver Wyman client named herein. This report is not intended for general circulation or publication, nor is it to be reproduced, quoted, or distributed for any purpose without the prior written permission of Oliver Wyman. There are no third-party beneficiaries with respect to this report, and Oliver Wyman does not accept any liability to any third party.

Information furnished by others, upon which all or portions of this report are based, is believed to be reliable but has not been independently verified, unless otherwise expressly indicated. Public information and industry and statistical data are from sources we deem to be reliable; however, we make no representation as to the accuracy or completeness of such information. The findings contained in this report may contain predictions based on current data and historical trends. Any such predictions are subject to inherent risks and uncertainties. Oliver Wyman accepts no responsibility for actual results or future events.

The opinions expressed in this report are valid only for the purpose stated herein and as of the date of this report. No obligation is assumed to revise this report to reflect changes, events, or conditions, which occur subsequent to the date hereof.

All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the client. This report does not represent investment advice nor does it provide an opinion regarding the fairness of any transaction to any and all parties. In addition, this report does not represent legal, medical, accounting, safety, or other specialized advice. For any such advice, Oliver Wyman recommends seeking and obtaining advice from a qualified professional.

