

G20 GLOBAL PARTNERSHIP FOR FINANCIAL INCLUSION (GPFI)

Digital Financial Inclusion: Emerging Policy Approaches



GPFI

Global Partnership
for Financial Inclusion



WORLD BANK GROUP

ACKNOWLEDGEMENTS

This report was requested by the German G20 Presidency, and was prepared by the World Bank Group (Finance & Markets Global Practice) with substantive inputs from the following GPFI implementing partners: Consultative Group to Assist the Poor (CGAP), the Alliance for Financial Inclusion, and the Better than Cash Alliance.

The core drafting team from the World Bank Group comprised: Douglas Pearce, Loretta Michaels (consultant), Nomsa Kachingwe, and Sheirin Iravantchi.

Contributions and reviewer comments were also provided by:

- **Alliance for Financial Inclusion:** *Charles Marwa*
- **Banco Central de la República Argentina:** *Anabela Gómez*
- **Banque de France:** *Luc Jacolin*
- **Better than Cash Alliance:** *Ruth Goodwin-Groen*
- **Bill and Melinda Gates Foundation:** *SungAh Lee*
- **BMZ:** *Volker Hey*
- **Bundesbank:** *Jelena Stapf, Franziska Schobert*
- **CGAP:** *Xavier Faz, Gerhard Coetzee, Ivo Jenik, Louis de Koker (consultant), Anand Raman (consultant)*
- **Department of Foreign Affairs and Trade, Australia:** *Jayne Harries*
- **European Commission:** *Sirpa Tulla*
- **Financial Conduct Authority, UK:** *Thomas Ward*
- **GIZ:** *Albert Joscha, Wolfgang Buecker, Judith Frickenstein*
- **International Economics and Relations Directorate, Italy:** *Ricardo Settimo*
- **Ministry of the Treasury, Argentina:** *Estefania Campaniello*
- **People's Bank of China:** *Tiandu Wang*
- **SME Finance Forum:** *Matthew Gamser*
- **UK Department for International Development:** *Francesca Brown*
- **USAID:** *Matt Homer*
- **World Bank Group:** *Sebastian Molineus, Harish Natarajan, Massimo Cirasino, Jennifer Chien, Vyjayanti Desai, Lin Huang, Emile J. M. Van der Does de Willebois, Fredesvinda Montes Herraiz, Dorothee Delort, Timothy Kelly*

Executive Summary

Digital financial services, together with effective oversight and supervision, can expand the scale, scope and reach of financial services, and are essential to closing the remaining gaps in financial inclusion. Digital technologies also offer affordable and convenient ways for individuals, households and businesses to save, make payments, access credit, and obtain insurance. In 2016, the G20's Global Partnership for Financial Inclusion (GPFI) published High Level Principles for Digital Financial Inclusion¹ (HLPs) which aimed to catalyze government actions to drive financial inclusion through a focus on digital technologies. This report outlines examples of how countries are implementing measures in line with the HLPs, with the first four over-arching HLPs providing the report structure.

High Level Principle 1 calls for promoting digital financial services as a priority to drive development of inclusive financial systems, including through coordinated national strategies and action plans. It emphasizes the need for policy leadership and coordination across the public and private sectors as critical for expanding financial inclusion, and stresses the importance of leading by example in the push for digital solutions. The report discusses below the wide-ranging, multi-faceted approaches taken by India, China, and other countries, to expand digital financial inclusion in their countries. In particular, India has made extensive efforts to expand its digital infrastructure to expand access to financial services, including through the Unique ID scheme and the Digital India program. China strongly encouraged the growth of non-bank payment players early on, particularly for the burgeoning ecommerce sector, and has made clear that it believes that digital finance can have a positive impact on traditional finance. Another common approach taken by these and many other governments to promote digital financial inclusion is digitizing Government-to-Person (G2P) payments, as illustrated by the experiences in Brazil, Turkey, and an increasing number of other countries.

High Level Principle 2 highlights that, while innovation in financial services is essential for expanding financial inclusion, it also introduces new risks – both individual and systemic—that need to be identified and effectively addressed in a timely fashion. Policymakers are addressing the innovation/risk balance through actions such as: expanded learning and information sharing between regulators and the private sector, including through “test and learn” piloting processes for introducing innovative services; new modes of engagement with industry and consumers, and efforts to better understand consumer experience around new digital distribution channels. The report outlines examples of test-and-learn approaches from the UK, the US and Kenya, as well as how insurance regulators are assessing new distribution channels such as mobile phones.

High Level Principle 3 notes that for digital financial services to flourish, there needs to be a legal and regulatory framework that is predictable, risk-based and fair; that allows for new entrants and is technology-neutral; and that does not impose excessive, non-risk-based compliance costs. Policymakers and regulators also need to ensure that the framework can be effectively and efficiently supervised with the requisite supervisory capacity and resources. Two key themes emerge: one is the increasing use of risk-based regulation and supervision, including a risk-based approach to customer due diligence (CDD) for the purposes of Anti-Money Laundering and Countering Terrorist Financing (AML/CFT). The other is a growing recognition that reporting and monitoring systems need to become more sophisticated, with a greater focus on direct linkages to financial institutions' information systems along with real-time monitoring capabilities and appropriate privacy and data protection. We discuss

¹ <https://www.gpfi.org/publications/g20-high-level-principles-digital-financial-inclusion>

examples of tiered regulation and CDD regimes from China, Mexico, and Tanzania, along with automated data reporting systems that are emerging out of Austria and Rwanda.

High Level Principle 4 emphasizes the need for policymakers and industry to work together to achieve a robust, open and efficient digital infrastructure, including a widely accessible retail payments system and ICT infrastructure. Areas of particular focus for national authorities include retail and online payments infrastructure that involve interoperable platforms linked to a wide range of POS, ATM and agent networks, bill payment platforms, credit reference systems, digital asset registries (particularly for movable assets) and, in some cases, the underlying communications infrastructure needed to support all these systems. The report highlights differing interoperability approaches taken in Peru and Tanzania, along with examples of credit reference systems in China and Mexico. The report also explores efforts by stakeholders in Kenya to expand merchant acceptance of digital payments instruments. Some regulators are also exploring the potential benefits, costs, and risks of issuing digital fiat currencies that could be used in a digital financial services ecosystem.

As is evident in the cases set out in this report, the increasing pace and complexity of innovation and adoption of digital technologies in the financial sector means that policy and regulatory approaches must also evolve and be tailored to country contexts. While no two countries are identical in their approach or their particular market context, there are a number of insights which can be gleaned from the examples highlighted in this report. These include:

- Proactive leadership and political will are cross-cutting success factors, including through integration and coordination across national authorities to address the range of issues relevant to harnessing digital technology.
- More progress on digital tools is needed, to help regulators do their job. As digital innovation is redefining what it is to be a service provider, financial regulators are having to take a more proactive, data-driven approach to engagement with the industry. Supervising digital financial service providers in an era of ever-increasing volumes of transactions (and increased use of fast or real time payment transactions) calls for more sophisticated and automated systems that can provide real-time monitoring and analysis.
- Promoting interoperable, open technology platforms for digital financial services helps establish a broad-based ecosystem for private and Government entities to better reach consumers and ultimately improve their financial lives. The means and timing of achieving interoperability can vary, but policymakers should make clear that it is an expectation.
- Digital identity forms an important foundation of public digital infrastructure and opens the door for access to services across the economy – including beyond financial services. National governments need to prioritize availability of robust and easily verifiable digital ID, whether biometric or other types of data-based forms, which can be used to facilitate access to digital financial services. There are valid concerns about privacy and civil liberties to be addressed, and emerging examples of effective ways to oversee issues such as data security, quality of service and network reliability.

1. Introduction

In recognition of the importance of new technologies and business models for expanding financial inclusion, the G20 developed the 2010 Principles for Innovative Financial Inclusion which spurred policy actions and national efforts towards facilitating innovation in financial services. Building on the 2010 Principles, the 2016 G20 High Level Principles for Digital Financial Inclusion (HLPs), produced by the G20's Global Partnership for Financial Inclusion (GPFI),² aimed to catalyze government actions to drive financial inclusion through a focus on digital technologies, and to provide a basis for country action plans and initiatives reflecting country context and national circumstances (see Box 1 for the headline HLPs).

The G20 HLPs set out suggested actions that countries can pursue to promote digital financial inclusion. Many countries are now implementing measures in line with the HLPs, including the introduction of country strategies to increase the use of digital financial services, efforts to foster innovation and manage potential risks through test-and-learn approaches, and the expansion of digital infrastructure, such as interoperable service platforms and information databases.

This report highlights such actions, with a focus on the roles of policymakers and regulators highlighted in the first four HLPs. HLPs 5 through 8 are addressed by other cross-agency GPFI implementing partner initiatives, such as the Responsible Finance Forum,³ and the Identity for Development (ID4D)⁴ program, and are therefore not discussed in this report. The report also summarizes insights from the selected cases, and notes where there are apparent implementation gaps. It is hoped that the country cases and analysis will help stimulate ideas, dialogue and information-sharing among policymakers across G20 and non-G20 countries.

The examples outlined in the report are not intended to be considered “best practice,” as the use of digital technologies for financial inclusion is fast-evolving. Many of the profiled examples reflect actions under several HLPs, which indicates the wide-ranging nature of both opportunities and constraints for harnessing digital technologies to expand financial inclusion. There is no one-size-fits-all approach, but some common themes emerge from the examples covered in this report.

GPFI implementing partners actively support measures, consistent with the HLPs, to increase access and usage of financial services through new technologies. GPFI implementing partners which provide support to policy reforms and other measures taken by national authorities include the World Bank Group (World Bank and IFC), the Consultative Group to Assist the Poor (CGAP), the SME Finance Forum, the Alliance for Financial Inclusion (AFI)⁵, and the UN-housed Better Than Cash Alliance (BTCA). The UN Secretary-General's Special Advocate for Inclusive Finance for Development, Her Majesty Queen Maxima, as patron of the GPFI, is also an influential proponent of actions which are consistent with the HLPs. The global Standard Setting Bodies (SSBs), with the support of the World Bank⁶ and the GPFI,

² www.gpfi.org

³ <https://responsiblefinanceforum.org/>

⁴ <http://www.worldbank.org/en/programs/id4d>

⁵ <http://www.afi-global.org/working-groups/digital-financial-services-working-group>

⁶ <http://www.worldbank.org/en/topic/paymentsystemsremittances/brief/pafi-task-force-and-report>

are increasingly providing guidance and principles to guide national financial regulators in harnessing innovation and technology safely.⁷

Box 1. 2016 High Level Principles for Digital Financial Inclusion

- **Principle 1. Promote a Digital Approach to Financial Inclusion:** Promote digital financial services as a priority to drive development of inclusive financial systems, including through coordinated, monitored, and evaluated national strategies and action plans.
- **Principle 2. Balance Innovation and Risk to Achieve Digital Financial Inclusion:** Balance promoting innovation to achieve digital financial inclusion with identifying, assessing, monitoring and managing new risks.
- **Principle 3. Provide an Enabling and Proportionate Legal and Regulatory Framework for Digital Financial Inclusion:** Provide an enabling and proportionate legal and regulatory framework for digital financial inclusion, taking into account relevant G20 and international standard setting body standards and guidance.
- **Principle 4. Expand the Digital Financial Services Infrastructure Ecosystem:** Expand the digital financial services ecosystem—including financial and information and communications technology infrastructure—for the safe, reliable and low-cost provision of digital financial services to all relevant geographical areas, especially underserved rural areas.
- **Principle 5. Establish Responsible Digital Financial Practices to Protect Consumers:** Establish a comprehensive approach to consumer and data protection that focuses on issues of specific relevance to digital financial services.
- **Principle 6. Strengthen Digital and Financial Literacy and Awareness:** Support and evaluate programs that enhance digital and financial literacy in light of the unique characteristics, advantages, and risks of digital financial services and channels.
- **Principle 7. Facilitate Customer Identification for Digital Financial Services:** Facilitate access to digital financial services by developing, or encouraging the development of, customer identity systems, products and services that are accessible, affordable, and verifiable and accommodate multiple needs and risk levels for a risk-based approach to customer due diligence.
- **Principle 8. Track Digital Financial Inclusion Progress:** Track progress on digital financial inclusion through a comprehensive and robust data measurement and evaluation system.

⁷ A financial regulator task force chaired by the World Bank and the Committee on Payments and Market Infrastructures (CPMI) produced the 'Payment Aspects of Financial Inclusion' framework and guiding principles in 2016. A 2016 GPFI report outlined other SSB initiatives: http://www.gpfi.org/sites/default/files/documents/GPFI_WhitePaper_Mar2016.pdf

2. Emerging Policy and Regulatory Approaches to Digital Financial Inclusion

Financial inclusion involves multiple stakeholders, from policymakers and regulators to private industry, including employers, educational systems, communities and individuals. The responsibility of policymakers and regulators in this context, as set out in the HLPs, is to ensure that an open and enabling environment for financial services, from predictable laws and regulations to sound and accessible physical infrastructure, is in place while protecting consumers.

2.1. HLP 1: Promoting a Digital Approach to Financial Inclusion

High Level Principle 1 calls for promoting digital financial services as a priority to drive development of inclusive financial systems, including through coordinated and monitored national strategies and action plans. It emphasizes the need for policy leadership and coordination across the public and private sectors as critical for expanding financial inclusion, and stresses the importance of leading by example in the push for digital solutions.

There is broad global agreement on the importance of digitizing financial services, including to expand financial inclusion, as evidenced by the efforts and public statements of both global and national policymakers. There are a growing number of countries adopting national financial inclusion strategies that place a strong emphasis on the use of digital financial technologies (see Box 2 for examples). The 2016 Progress Report of the Maya Declaration indicated that ‘digital financial services’ featured in the top three thematic areas for targets and commitments made by AFI member countries in Sub-Saharan Africa and Asia.⁸ National governments and large institutions are increasingly committing to digitization of their large government payment streams.⁹

Box 2. National Financial Inclusion Strategies with a Digital Focus

Pakistan launched its NFIS in 2015 with the vision to ensure individuals and firms can access and use a range of quality payments, savings, credit and insurance services which meet their needs with dignity and fairness. The NFIS emphasizes that “the vision aspires to having universal access to formal accounts, not limited to simply traditional savings and checking accounts but would also include digital transaction accounts (DTAs) such as branchless banking accounts.” In addition, the Pakistan NFIS framework for action highlights DTAs as a key driver for financial inclusion, and explicitly outlines actions for expanding access to DTAs and expanding the scale and viability of DTAs through digitizing government payments.¹⁰

The NFIS launched by **Tanzania** in 2014 included, as core enablers for financial inclusion, the need for a “robust e-payments platform” as well as a “robust electronic information infrastructure for individual and business profiles, credit history and collateral.”¹¹ Actions related to building these enablers included developing regulations for mobile financial services, supporting market efforts for achieving payments interoperability, and

⁸ 2016 Maya Declaration Report. Available at: <http://www.afi-global.org/publications/2359/The-2016-Maya-Declaration-Report>

⁹ As of the end of 2016, the Better Than Cash Alliance counted 54 members that had committed to BTCA’s digital payment principles. <https://www.betterthancash.org/news/newsletters#filters>

¹⁰ Pakistan National Financial Inclusion Strategy 2015. Available at:

<http://pubdocs.worldbank.org/en/232671435258828008/Pakistan-National-Financial-Inclusion-Strategy-2015.pdf>

¹¹ Tanzania National Financial Inclusion Strategy 2014 –2016. Available at: <http://www.afi-global.org/sites/default/files/publications/tanzania-national-financial-inclusion-framework-2014-2016.pdf>

implementing risk-based customer due diligence (CDD) among other actions (further discussed in Section 2.3).

In the **Philippines**, the NFIS launched in 2015 also takes note of the role of technology and other innovations in reaching the financially excluded. The NFIS also includes as a regulatory strategy, promoting interoperability in technology-based solutions, including in retail payments and G2P payments.¹²

In **China**, the Plan for Promoting the Development of Financial Inclusion launched at the end of 2015 outlines an ambitious agenda for improving the availability, uptake, and quality of financial products and services, with a clear focus on digital technology. It encourages digital innovations in financial products and service, the usage of new technology (such as big data and cloud computing) in financial institutions, and employing internet as a key tool for achieving accessibility and affordability of financial services.¹³

In **Mexico**, the National Financial Inclusion Policy was approved by the National Financial Inclusion Council in June 2016. One of its main objectives is to harness technology to connect low-income individuals to the financial system through a regulatory framework that allows innovation and fosters soundness and stability of the financial system. In this respect, the Policy defines a set of actions aimed at using technological innovations to improve financial inclusion, including, among others, a thorough revision and updating of the current regulatory framework to allow the entrance of new finance providers and the provision of financial services through new channels, the promotion of mechanisms that reduce usage of cash and increase usage of digital financial products and services, and fostering interconnectivity of digital financial services.¹⁴

Other NFIS also recognize the importance of technology and digital financial services in reaching the unbanked and underserved market, and some strategies currently under preparation (for example, Zambia and Jamaica) are actively incorporating digital aspects of financial inclusion into their strategies.

Public strategies and commitments, of course, need to be followed up by concrete actions that encourage innovative, appropriate product offerings by service providers along with faster, easier and safer uptake by users. Such policy actions should not only promote usage, but also help remove or mitigate issues that hinder access to financial services. India and China have implemented wide-ranging initiatives in recent years, and are prominent cases covered in this section, and in the report more broadly. A common HLP1-consistent approach taken by governments to promote digital financial inclusion is digitizing Government-to-Person (G2P) payments, as illustrated by the experiences in Brazil, Turkey, and an increasing number of other countries.

The cases set out in this section illustrate the need for strong policy leadership and effective coordination across financial sector regulators and policymakers, ICT regulators, national ID authorities, payments service providers, and other relevant stakeholders, in order to ensure that the regulatory framework and infrastructure ecosystem are conducive to digital financial inclusion. Clarifying the policy priorities for, and approach to, supporting digital financial services, through issuing Guidelines or developing a strategy for digital financial inclusion, can be effective in catalyzing and informing actions by a wide range of stakeholders.

The India Stack: A Multi-Stakeholder Approach to Digital Financial Inclusion

A prominent country example that reaches across all the HLPs, but especially HLP 1, comes from India. As part of the “Digital India Programme,” which was formally launched in July 2015, the Government of India embarked on several initiatives aimed at expanding the digital

¹² Philippines National Financial Inclusion Strategy 2016. Available at:

<http://www.bsp.gov.ph/downloads/publications/2015/PhilippinesNSFIBooklet.pdf>

¹³ <http://pubdocs.worldbank.org/en/911391453407695993/CHINESE-Advancing-Financial-Inclusion-in-China-Five-Year-Plan-2016-2020.pdf>; <http://www.cbrc.gov.cn/EngdocView.do?docID=14667AC65F6444079F404024229CD810>

¹⁴ Mexico National Financial Inclusion Policy 2016. Available (in Spanish) at:

http://www.gob.mx/cms/uploads/attachment/file/110408/PNIF_ver_1jul2016CONAIF_vfinal.pdf

economy, including facilitating digital financial inclusion.¹⁵ Observers have dubbed the combination of the many technology initiatives undertaken by both Government and non-Government stakeholders, including those pre dating the launch of the Digital India programme, the “India Stack” (see Box 3). Core elements of the stack focus on generating greater efficiency in the delivery of G2P social transfers, e.g., subsidies and social cash transfers, as well as on removing barriers to financial access, including limited access to formal ID documentation, bank branches or agents, and to credit for micro-entrepreneurs and SMEs.

Box 3. Elements of the India Stack

The India Stack is an open digital infrastructure platform that makes use of open Application Programming Interfaces (APIs)¹⁶ to promote “presence-less, paperless, and cashless delivery” of services across different sectors of the economy.¹⁷ The India Stack is built on four technology layers:

- *Presence-less layer* which leverages India’s Aadhaar unique identification and authentication system to enable remote and real-time identification and verification of individuals and businesses;
- *Paper-less layer* which is comprised of a “Digital Locker” and “Digital Signature” (or e-Signature) and enables entities to share documents and enter into contracts digitally and remotely;
- *Cash-less layer* which is based on the recently developed Unified Payments Interface and which allows for real-time and interoperable payments across all bank accounts and mobile wallets. Transactions can be stored, and transaction histories shared, for example, with credit providers to enable alternative credit-scoring models; and
- *Consent layer* which, while not yet complete, will enable individuals to share data of their choosing, or to allow time-bound and identity-verified access to their data, but only with their consent.

While the India Stack is itself an innovative platform approach that can significantly expand access to digital financial services, it builds on the initiatives undertaken by several Government departments, as well as by other public authorities and non-government stakeholders. Initiatives undertaken by the Government and other public authorities include:

- In 2009, the Unique Identification Authority of India (UIDAI) launched the Aadhaar ID scheme, which has provided a unique biometric identity to over 1 billion people. The ID scheme captures biometric information from individuals, including iris scans and thumbprints, and issues a unique 12-digit ID number to each individual.¹⁸ The UIDAI has also developed an e-KYC platform based on the Aadhaar ID database;
- In 2014, the Government launched the Pradhan Mantri Jan Dhan Yojana (PMJDY) scheme, to provide basic bank accounts to all Indians above the age of 10 years,¹⁹ largely for the disbursement of welfare benefits, but also to facilitate access to a broader range of financial services. By February 2017, the PMJDY scheme had registered 273.9 million bank accounts;²⁰

¹⁵ The Digital India Programme builds on e-Governance initiatives introduced in the 1990s, and the National e-Governance Plan launched in 2006. <http://digitalindia.gov.in>

¹⁶ *Application Program Interface* (API) is a set of routines, protocols, and tools for building software applications. An API specifies how software components should interact. An open API allows for vendor neutral access to technology platforms.

¹⁷ <http://indiastack.org/about/>

¹⁸ <https://uidai.gov.in/new/>

¹⁹ <http://pmjandhanyojana.co.in/>

²⁰ <https://www.pmjdy.gov.in/account>

- In 2015, the Controller of Certifying Authorities (CCA), under the Ministry of Electronics and Information Technology, launched e-Sign to enable Aadhaar holders to digitally sign a document;²¹ and
- Also in 2015, the Reserve Bank of India (RBI) licensed new categories of financial institution, namely payment banks and small finance banks, to further expand access to transaction accounts;
- In 2016, the National e-Governance Commission, under the Ministry of Electronics and Information Technology, launched the Digital Locker (DigiLocker) platform to facilitate digital issuance and verification of documents;²² and
- Also in 2016, the Ministry of Finance issued a Cabinet Note to provide guidelines for the promotion of card and digital payments, as well as to coordinate various Government initiatives aimed at encouraging digital transactions.²³ A Committee on Digital Payments (also referred to as the Watal Committee)²⁴ was established to review the digital payments framework in India, and to provide further recommendations to stimulate the growth of digital payments.²⁵

Non-government initiatives that have supported the development of the India Stack, and have contributed to digital financial inclusion, include:

- The National Payments Corporation of India (NPCI) launched the Aadhaar Payments Bridge and Aadhaar Enabled Payments System in 2011, which uses the Aadhaar ID as a central key for electronically channeling Government benefits and subsidies;²⁶ and
- The Indian Software Product Industry Roundtable (iSPIRT), a non-governmental organization aimed at promoting the Indian software industry, was established in 2013 and has been instrumental in promoting the development of APIs and supporting systems for the India Stack.

The coordinated cross-government approach taken to developing the foundations of the India Stack has not only resulted in a significant increase in the number of individuals with access to digital transaction accounts and other financial services²⁷ as indicated above, but it has also enabled the Government to digitize the delivery of subsidies and social welfare payments, resulting in estimated savings of close to Rs 50 billion (USD 750 million) as of December 2016.²⁸

Authorities still face challenges, of course, in leveraging the India Stack for financial inclusion. For example, last-mile challenges of delivering services in rural/remote areas remain, with continuing low density of banking correspondent or agent networks.²⁹ At the same time, newly-licensed MNO-led payment banks face challenges in re-orienting their agent networks, long used to providing airtime and SIM registration services, to providing financial services.³⁰

²¹ <http://cca.gov.in/cca/?q=eSign.html>

²² <https://digilocker.gov.in/>

²³ http://dea.gov.in/sites/default/files/Promo_PaymentsMeans_Card_Digital_0.pdf

²⁴ http://dea.gov.in/sites/default/files/Constitution_Committee_digitalpayments.pdf

²⁵ http://www.finmin.nic.in/reports/watal_report271216.pdf

²⁶ <http://www.npci.org.in/>

²⁷ Through the PJMDY accounts, the Government of India also provides insurance and pensions to individuals.

²⁸ <https://dbtbharat.gov.in/>

²⁹ <http://indiabudget.nic.in/es2015-16/echapvol1-03.pdf>

³⁰ <http://www.cgap.org/blog/how-india%E2%80%99s-new-payments-banks-stack>

China: Promoting Digital Financial Services

A country that has focused particular attention on promoting digital financial solutions is China, and its digital finance sector has expanded rapidly in recent years. The Chinese regulatory authorities allowed space for the nascent industry to innovate and grow, with the prior development of electronic payments and e-commerce through entities such as China Union Pay, Alibaba and wholesaler DHGate all enabling the incorporation of merchants into an extensive digital ecosystem. It was not until 2010 – six years after the launch of Alipay – that the People’s Bank of China (PBOC) issued key regulations addressing non-bank payment services, setting out licensing requirements and procedures covering topics such as minimum capital requirements and investor requirements. Five years later, in July 2015, China’s four financial regulators, the Ministry of Finance and several other agencies, jointly issued the *Guidelines on Promoting Sound Development of Internet Finance* (“Guidelines”),³¹ establishing six goals for the internet (digital) finance³² sector:

- Promoting innovation via internet finance platforms, products, and services and encouraging existing financial institutions to adopt new technology;
- Encouraging cooperation between financial institutions and technology companies;
- Improving access to capital for internet finance firms through promoting venture capital, SME finance, and public listings;
- Reducing administrative approvals and other barriers to development and providing an enabling regulatory environment;
- Implementing an appropriate tax system for firms in the industry that benefits small firms and encourages investment in new technology; and
- Encouraging the participation of internet finance companies in the development of a national credit information infrastructure.

In so doing, the Chinese government clarified its position on the development of internet finance, i.e., that promoting new financial technologies can positively impact traditional finance. It also balanced promotion of digital finance with new guidelines for reducing emerging risks such as fraud, money laundering, illegal fundraising, and the unauthorized disclosure of users’ personal information. The Guidelines further clarified the regulatory mandates of different financial regulators with respect to Internet finance. PBOC is responsible for the regulatory oversight of Internet-based payments; the China Banking Regulatory Commission (CBRC) is responsible for oversight of online lending, Internet-based trust products, and Internet-based consumer finance; the China Securities Regulatory Commission (CSRC) is responsible for oversight of equity-based crowd-funding and Internet fund business; and the China Insurance Regulatory Commission (CIRC) is responsible for oversight of Internet insurance.³³

The PBOC subsequently issued rules, “Administrative Measures for Internet Payment Services of Non-Banking Payment Institutions,” in December 2015 for the internet payments industry following the release of the guidance document for public comment, setting out new rules on CDD, online payments usage, daily payments values, transaction values in function of verification, disclosure, etc. These rules went into effect in July, 2016. (See HLP 3.)

³¹ <http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/2813898/index.html> (in Chinese)

³² China uses the term internet finance to encompass digital financial services

³³ Joint PBOC - World Bank Report (forthcoming): “Towards Universal Financial Inclusion in China: Models, Challenges, and Global Lessons”.

In the years leading up to China's Guidelines and new rules on Internet Finance, it was also making a concerted effort to expand digital points of service in rural areas. In 2010, the PBOC launched a pilot program to test withdrawal services for farmers using bankcards and point-of-sale (POS) devices, and in 2014 allowed users to add remittances and bill payment services. In order to promote electronic payments and e-commerce in rural areas, PBOC has also made efforts to encourage resource-sharing between withdrawal service points and e-commerce outlets in rural areas. By the end of 2016, the number of rural withdrawal service points across China had reached 983,400, covering more than 500,000 (or over 90% of) administrative villages. In 2016, these service points conducted a total of 255 million payment transactions, amounting to RMB 120B.

Digitizing Government-to-Person Payments: Brazil, Mexico, and others

A far-reaching and catalytic example is the shift towards digitizing G2P payments, and in particular social safety net or social cash transfers. Many countries now have initiatives to deliver G2P payments using electronic means, and country cases are widely documented.³⁴ For example, in Brazil, the Bolsa Familia conditional cash transfer program reaches nearly 14 million households through an electronic benefit card, and was initiated back in 2003;³⁵ while in Mexico, the Federal government has centralized its payments and increased the share of these that are provided digitally, including some social benefits, through transaction accounts.³⁶ Other countries that have shifted or are in the process of shifting from cash to electronic G2P payments include Pakistan, South Africa, Kenya, Uganda, India, Nepal, Haiti, Colombia, Bangladesh and several others.

Digitizing government payments is a catalytic means of promoting digital financial services, but is also a wide-ranging endeavor that requires careful planning. Where such initiatives have been successful, there has been concerted effort by policymakers to adopt a coordinated approach, including with NGOs and donors as well as with private sector service providers. Insights from the implementation of well-established initiatives, such as in Brazil and Mexico, suggest that:

- Successful G2P initiatives are often one element of a larger plan to digitize and centralize Government payments and to promote the use of electronic payments in the economy;
- Building internal automated systems for managing social welfare programs should be conducted in parallel, if not before, the rollout of digital G2P payment programs;
- Adequate design of products in which beneficiaries receive G2P transfers is critical for beneficiaries to actively use digital devices to make and receive payments and transfers with the funds they receive in their accounts, instead of only cashing out such funds the moment they receive them;

³⁴ The forthcoming G20 GPFI "Guidance Note on Building Inclusive Digital Payments Ecosystems" will be a valuable further reference.

³⁵ IDB (2015). How Does Bolsa Familia Work? Best Practices in the Implementation of Conditional Cash Transfer Programs in Latin America and the Caribbean. Available at: https://publications.iadb.org/bitstream/handle/11319/7210/How_does_Bolsa_Familia_Work.pdf?sequence=5

³⁶ For instance, while all of the registered beneficiaries of the main conditional cash transfer program in the country (PROSPERA – formerly Progresas and Oportunidades) are opened a bank account when they enroll into the program, as of April 2017 about 81 percent receive a program-related debit card with limited functionality which can only be used as an identification tool to receive their corresponding transfer in cash from government agents. The remaining 19 percent do receive a fully functional debit card, which they can use to access their program-related deposits in a standard way so that they can make payments or cash withdrawals with their card. Likewise, about 50 percent of all old-age transfers' recipients receive their transfers fully in cash, while the remaining 50 percent receive them in a standard bank account, and they can access these funds with a standard debit card.

- Building a digital ecosystem that reaches beneficiaries where they live and work, including ATMs, POS devices and incentivizing merchant acceptance of digital payments, including online payments, is key; and
- Coordinated efforts to raise financial awareness and capability are needed to empower beneficiaries, especially women who may lack control of their own cellphones, to use new digital financial services beyond the receipt of G2P payments.

2.2. HLP 2: Balancing Risk and Innovation to Achieve Digital Financial Inclusion

High Level Principle 2 highlights that, while innovation in financial services is essential for expanding financial inclusion, it also introduces new risks – both individual and systemic—that need to be identified and effectively addressed in a timely fashion. Policymakers need to encourage and nurture innovation to harness the many benefits it enables, particularly for financially excluded and underserved groups. They also need to recognize that new risks will be an inevitable element of such innovation and that both old and new risks need to be addressed and mitigated. This recognition that not all risk can be eliminated is increasingly important as global policymakers focus on building cyber resilience into financial markets and work to safeguard the financial system from illicit activities.

Policymakers are addressing the innovation/risk balance through actions such as: learning and information sharing between regulators, development of digital supervision tools for regulators, engaging with private sector innovators, and finding new modes of engagement with industry and consumers.

Cases are emerging of regulators working with industry to design new tools and processes that not only streamline companies' compliance requirements, but essentially redesign how the regulators collect and monitor the data. (This is discussed in more detail under HLP 3.) More commonly, many regulators are revisiting how they regulate some financial services in light of the new digital distribution channels that service providers are using, by revising existing rules and/or, in the case of some new categories of services, choosing to allow limited pilots before making any regulatory decisions.

The rapid pace of growth in digital financial services requires regulators and policymakers to be proactive in engaging with industry to ensure that while new innovations expand the reach of financial services to new market segments and through new channels, potential risks to consumer protection, inclusion, market integrity and investor confidence, and financial stability are sufficiently addressed.

The examples illustrated in this section highlight that there are multiple and various approaches that regulators can take to balancing the risks and benefits of innovation for digital financial inclusion. Some regions like the EU are conducting public consultations and establishing task forces on how to address the topic.³⁷ Others are choosing to create a framework for experimentation, whether through the existing regulatory regime, a newly structured test and learn environment or through informal engagement processes, that can enable the development of digital financial services that meet the needs of customers, while at the same time limiting potential risks.

³⁷ https://ec.europa.eu/info/files/consumer-financial-services-action-plan-better-products-more-choice_en

Test and Learn Approaches in Kenya, USA and UK

One of the biggest changes for regulators in this new digital environment is how they interact with the industry they oversee and the consumers who are served by that industry. The speed of innovation in financial services, both in terms of product design as well as the types and numbers of new players involved, has introduced risks that challenge traditional approaches to the key regulatory objectives of financial stability, integrity, customer protection and financial inclusion.

A prominent example of how regulators are responding to new digital services innovation is the development of regulatory piloting efforts, for allowing new services to be introduced or tested, including those that might not fit into traditional oversight categories. The overall concept of allowing for such “testing” is not new. Notably, the Central Bank of Kenya (CBK) allowed mobile operator Safaricom to introduce its M-Pesa mobile payment service in 2007, without a regulatory framework yet in place.

The test and learn concept is now being tried in multiple countries for digital technologies in the financial sector. In the UK, a “Regulatory Sandbox” was established by the Financial Conduct Authority (FCA), under the auspices of their Project Innovate program. The FCA’s Sandbox is intended not as a way to avoid or negate regulation, but to provide a safe space for firms to test innovative products, services, business models and mechanisms of delivery, while ensuring that consumers are adequately protected.

At the same time that the FCA’s Project Innovate was getting started, the US Consumer Financial Protection Board (CFPB) was embarking on a similar initiative. The CFPB’s Project Catalyst “encourage[s] consumer-friendly innovation in markets for consumer financial products and services” by providing several unique engagement opportunities for innovators.³⁸ For example, the CFPB regularly conducts informal “office hours,” and recently announced a public inquiry³⁹ into alternative credit data to expand access to credit for underserved customers. The CFPB also lets innovators conduct pilot programs in a sandbox-like setting, so new ways of meeting regulatory or disclosure requirements can be studied jointly by both the agency and the company.

The pilot programs are viewed as a valuable learning mechanism for the CFPB. As part of the pilots, they are provided significant amounts of data. This has spillover effects to other policy efforts by advancing the CFPB’s understanding of consumer behavior and financial innovation, including whether or which aspects of innovations may be beneficial to certain segments of consumers. Another US regulator, the Office of the Comptroller of the Currency (OCC), in 2016 launched a “Responsible Innovation” initiative and has indicated that they intend to make national (as opposed to state-level) banking charters available to fintech companies, among other pro-innovation activities.⁴⁰

Since the UK and US announcements regarding the launch of testing frameworks, a number of jurisdictions have also launched their own initiatives (Australia, Hong Kong, Malaysia, Singapore, Thailand, United Arab Emirates) or announced an intention to establish one soon (Indonesia, Kenya, Switzerland). Low and middle-income countries are also establishing sandbox-like programs aimed at promoting fintech innovation, often with the aim of expanding financial inclusion, particularly into unserved rural areas. It’s not just bank regulators looking at this concept, either; insurance regulators are also taking a test and learn

³⁸ <http://www.consumerfinance.gov/about-us/project-catalyst/>

³⁹ <https://www.consumerfinance.gov/about-us/newsroom/cfpb-explores-impact-alternative-data-credit-access-consumers-who-are-credit-invisible/>

⁴⁰ <https://www.occ.treas.gov/topics/bank-operations/innovation/index-innovation.html>

approach. In Ghana, for example, the National Insurance Commission (NIC) allows mobile-insurance products to be tested on a case-by-case basis, checking the commercialization agreements between the MNO, the Technical Service Provider and Insurer in advance and closely monitoring activities thereafter.

While approaches to test and learn vary by name and design, most of them share a similar objective: creating a framework for experimentation and innovation in a small-scale, controlled environment to promote the growth and competitiveness of the (innovative) financial sector in favor of consumers. Two common attributes of test and learn approaches are:

- Structured communication between the regulator and the firm operating in the test and learn environment (sometimes called the “sandbox entity”) in which the regulator advises the sandbox entity on legal and regulatory requirements and, in some cases, issues temporary exemptions and waivers; and
- The monitored testing of innovations under a controlled environment.

The issue of regulatory capacity to properly oversee such programs will be critical. The capacity to balance risk and innovation to achieve digital financial inclusion, while ensuring financial stability, integrity and consumer protection is crucial for regulators. Regulators who are contemplating a regulatory sandbox or ‘greenhouse’ should therefore carefully consider all the options available and compare their costs and overall benefits, as well as compatibility with the existing legal and regulatory framework, and their capacity to implement. As they strive to encourage innovation through such methods, regulators also need to take care to avoid creating market-distorting excessive ‘first mover’ advantages. Setting timely constraints on the experimental phase in advance might help to limit those distorting effects.

Box 4. UK Financial Conduct Authority’s Regulatory Sandbox

The UK’s FCA wanted to encourage innovation in financial services, in order to promote more effective competition. It therefore wanted to encourage firms to develop creative solutions in a controlled environment of lowered regulatory requirements. The FCA felt that without providing some degree of official regulatory sanction for such piloting, industry players would not invest the time and resources needed for developing innovative services. A safe testing environment, or “sandbox,” would enable a test-and-learn approach to new and innovative services, but within the confines of approved pilot parameters, oversight and information sharing that would allow flexibility but limit risk. In designing the program, the FCA sought to address two main challenges— how to deliver a sandbox that lowers barriers to testing within the existing regulatory framework; and how to ensure that the risks from testing novel solutions were not transferred to consumers.

The resulting Sandbox program is aimed at both “unauthorized” (i.e., unregulated) businesses that need authorization before testing their services, as well as authorized firms looking for clarity around applicable rules before testing an idea that does not easily fit into the existing regulatory framework. In the case of unauthorized firms, they can be granted restricted authorization that only allows them to test their ideas. These firms still need to apply for authorization and meet threshold conditions, but only for the limited purposes of the sandbox test.⁴¹ For authorized firms, the Sandbox has three tools: individual guidance; waivers or modifications to the FCA’s rules where the rules are deemed burdensome (but not waivers to national or international law); and/or, in selected cases, no enforcement action letters (NALs). Such letters would only be issued where the FCA feels it is unable to issue individual guidance or waivers but believes it is justified in light of the particular circumstances and characteristics of different sandbox tests. The letter would only apply for the duration of the sandbox test, only to FCA disciplinary action and will not limit any liabilities to consumers.

The FCA set out specific criteria which have to be met by firms as a prerequisite for entry to the sandbox:

⁴¹ <https://www.handbook.fca.org.uk/handbook/COND.pdf>

- **Genuine Innovation.** Is the new solution genuinely novel, or significantly different to existing offerings?
- **Consumer Benefit.** Is there a good prospect of identifiable benefit to consumers? This criterion has to be met throughout the 6-month period of testing.
- **Is the Firm in Scope?** Is the new solution designed for, or supportive of, the financial services industry?
- **Need for Sandbox Testing.** Is there a genuine need for testing within the sandbox framework?
- **Readiness to Test.** Is the proposition at a sufficiently advanced stage of preparation to warrant live testing?

In November 2016, the FCA announced that out of 69 applications, it had accepted 24 applicants to the first cohort of its sandbox program. The 24 fintech firms selected came from a diverse range of countries, including Singapore, Denmark, USA and Canada, included both incumbents and new players, and covered a broad range of sectors such as payment and blockchain firms, retail banking, mortgages and insurance, advice, profiling and disclosure, international public offerings, and digital identity.

Access to insurance expanded through digital channels

There is increasing attention on the potential to harness digital technologies to expand access to insurance, including through alternative digital channels such as mobile network operators (MNOs). For most MNO offerings, insurance is often provided only as a means of attracting new customers and encouraging customer loyalty, although many products are evolving from the loyalty approach to freemium and paid products. Africa in particular has seen significant growth via these channels, with five out of seven high-growth products launched between 2011 and 2014 being distributed via MNOs. In terms of specific products for the non-G20 countries we are focusing on in this report, life, accident and health micro-insurance constitute the majority of the market, although there are regional variations (e.g., in Asia, life and personal accident dominate, while in Latin America, credit life has long been the dominant product).⁴² Most initial mobile-insurance product offerings started out as simple life and accident covers, but over time these became increasingly diverse, and some schemes now include personal accident, agriculture, and hospitalization covers, among others, often as bundled risks.

While MNOs are playing an increasingly significant role in micro-insurance offerings, they are so far largely acting as distribution channels, often in partnership with Technical Service Providers (TSPs) such as BIMA and MicroEnsure, leaving commercial insurers as the dominant risk carriers. TSPs play a crucial role in mobile-insurance partnerships and assume key functions across the insurance value chain. In some cases, all functions except underwriting (with the insurer) is outsourced to a TSP. In cases such as these, with multiple players involved, insurance regulators are seeking to provide greater oversight through increased cooperation and collaboration with telecommunications regulators.

For example, in Ghana, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), supported the National Insurance Commission (insurance regulator) to conduct a detailed risk assessment of the mobile insurance landscape and developed a risk framework to improve the regulatory guidelines for mobile insurance products. The assessment resulted in the National Insurance Commission (insurance regulator) entering into a memorandum of understanding (MOU) with the Bank of Ghana (central bank) and the National Communications Authority (telecommunications supervisor) to approve micro-

⁴² For further information, see https://a2ii.org/sites/default/files/field/uploads/lessons_from_a_decade_of_microinsurance_regulation_a2ii_nov_2016.pdf

insurance distribution agreements between the MNO and the insurer.⁴³ Furthermore, the National Insurance Commission drafted Market Conduct Rules for Insurers and Corporate Agents, which balances the regulation of market development to protect policy holders and mobile network subscribers against the maintenance of conducive market development incentives. In a few markets, however, MNOs are seeking their own micro-insurance licenses, sometimes as partnerships with TSPs or directly with insurance providers⁴⁴: MNOs BIMA-Milvik in Cambodia and Vodacom SA in South Africa, respectively, have set up as commercial insurers offering micro-insurance.⁴⁵ These types of players are a relatively recent market phenomenon, and it will be interesting to see whether MNOs and regulators favor this approach over MNOs playing a distribution-only role.

2.3. HLP 3: Creating an Enabling Legal and Regulatory Framework

High Level Principle 3 notes that for digital financial services to flourish, there needs to be a legal and regulatory framework that is predictable, risk-based and fair; allows for new entrants and is technology-neutral; and does not impose excessive, non-risk-based compliance costs. Policymakers and regulators also need to ensure that the framework can be effectively and efficiently supervised with the requisite supervisory capacity and resources.

There have been a number of positive developments in recent years aimed at expanding the breadth and reach of services for the unbanked through regulations that encourage innovation and open up a greater role for new, non-bank players. This is seen for example in digital payments, agent banking, and separating intermediation from payments. Many observers have termed these developments a “functional” approach to regulation, with a focus on the services in question as opposed to the type of entity providing the service (i.e., an “institutional” approach).

A prominent early example of this approach is the European Union’s Payment Services Directive (PSD), adopted in 2007 and updated with PSD2 in 2015, aimed at easing market entry for new payment players, improving transparency, and harmonizing EU member state regulations to further promote competition and innovation by opening the European retail payment market to emerging fintechs, and improve consumer protection.⁴⁶ In particular, PSD2 introduced graduated requirements for payments players proportionate to the size of business and scale of risks, in order to support innovation while adequately protecting consumers.

Another regulatory development aimed at expanding the reach of financial services is the adoption of the risk-based approach by the Financial Action Task Force (FATF) requiring the calibration of AML/CFT regulatory, compliance and oversight measures to mitigate the actual risk posed by providers, customers, products and services. While there are many facets to the risk based approach, a common method of adopting it within a financial inclusion framework is through the use of tiered Customer Due Diligence (CDD) regimes, which allow for increasing levels of CDD as the functionality of products and services increases. Functionality, in turn, can be controlled through maximum balance and transaction limits as well as usage restrictions.

In addition, as non-bank payment service providers expand their activities, regulators are rethinking how they oversee and supervise these entities. Non-bank digital payments services

⁴³ <http://www.ghananewsagency.org/economics/care-international-focuses-on-improving-financial-inclusion--110343>

⁴⁴ https://a2ii.org/sites/default/files/field/uploads/lessons_from_a_decade_of_microinsurance_regulation_a2ii_nov_2016.pdf

⁴⁵ BMZ 2015, Wiedmaier-Pfister and Leach

⁴⁶ https://ec.europa.eu/info/business-economy-euro/banking-and-finance/consumer-finance-and-payments/payment-services_en

are not new as such, given the long-standing use of limited purpose stored-value cards, or the advent of payment companies like PayPal in 1998. But these earlier electronic payment services tended to be supported by either closed-loop systems, in the case of store cards or transit system payment cards, or relied on direct linkages to bank accounts, as in the case of PayPal. What is new is the broad acceptance and recognition of non-bank players for the provision of open-loop payments and transaction accounts using digital means. The rapid growth of general purpose reloadable prepaid cards, particularly in the US, and the use of mobile money systems in many parts of the world, especially Africa, has demonstrated to regulators the massive, untapped demand for simple, low-cost, easy-to-use transaction accounts that don't require users to open traditional bank accounts. It has also led to a gradual rethink of how to best bring the unbanked into the formal financial services market, from the traditional focus on microcredit and group savings to the provision of personal transaction accounts utilizing electronic funds, or "e-money." A number of countries have instituted guidelines around the use of e-money over the last ten years, and the trend will no doubt continue.

Two key themes that emerge are the increasing use of risk-based regulation and supervision, including the risk-based approach to CDD, and a growing recognition that reporting and monitoring systems need to become more sophisticated, with a greater focus on direct linkages to financial institutions' information systems (where feasible) along with real-time monitoring capabilities and appropriate privacy and data protection.

An example of new risk-based regulation for digital financial services is a recent set of moves by the PBOC, which issued new rules at the end of 2015 governing online payments by non-banks, "Administrative Measures for Internet Payment Services of Non-Banking Payment Institutions".

Box 5. Tiered Regulation and Industry Self-Regulation

Effective July 2016, China's new rules tighten the CDD requirements for non-bank payments, with three tiers established, including real-name registration of all accounts and increasing levels of scrutiny as transaction levels increase. Perhaps most intriguing in the new rules is the concept of tiered regulation of payment platforms. There is greater scrutiny on the verification methods used by the platforms for identification, with tighter methods being awarded higher ratings by the PBOC. The PBOC will rate each payment platform based on their own analysis and categorization scheme, and platforms with higher ratings will have fewer restrictions, whereas platforms with lower ratings will face extra scrutiny from regulators. Another advantage for platforms with higher ratings is that daily limits for users could be increased by up to double the standard limit as defined in the regulations. (Annual limits remain unchanged by the tiered system.)

Along with instituting new rules for digital payments providers, the PBOC supported the establishment of the China National Internet Finance Association (NIFA) as a way to self-police the industry. Guided by the PBOC and registered as a "national Level One association" under the Ministry of Civil Affairs, the group has 408 member institutions, including banks, securities companies, funds, insurance, trusts and consumer finance companies, and non-bank payment service providers, along with other related organizations, such as guarantee companies, credit services and Internet peer-to-peer lending companies. The charter of the association includes establishing industry standards and operational rules by sub categories, promoting information sharing and communication within the industry, defining self-regulatory content and penalty mechanisms, and strengthening the legal and compliance culture of the industry. In September 2016, the NIFA also launched their Credit Information Sharing platform to capture and share customer data, without sharing the underlying individual customer information. When the system receives a request, it will send a query out to all members and collate the data, without divulging the source of the data, thus protecting competitive information.

Tiered CDD Regimes

As mentioned above, an important manifestation of the risk based approach for digital financial inclusion is the tiered Customer Due Diligence (CDD) regime.⁴⁷ CDD is the process of identification and verification of individuals and businesses undertaking financial transactions, including ongoing customer due diligence and monitoring of transactions, in order to detect transactions that may involve illicit financial activities, such as money laundering or the financing of terrorism. National authorities increasingly recognize that appropriate and proportionate CDD systems are an important factor in staving off de-risking trends.

While the critical importance of an effective CDD regime is clear, there is acknowledgement that stringent CDD rules have at times prevented poor and rural users from accessing formal financial services. The traditional rules for opening new deposit accounts often entail a number of requirements that poor people find hard to meet (e.g., the need to verify identity and provide proof of address and source of income). In addition, CDD requirements may be costly, especially in relation to low margin clients (e.g., where they entail handling paper-based forms, conducting a personal interview, or expensive software to monitor transactions). Policymakers and regulators now recognize that lower risk transactions, such as low-value payments, can be subjected to simplified CDD rules without jeopardizing anti-money laundering and countering terrorist financing (AML/CFT) objectives. Using a tiered approach with increasing CDD requirements for increased product functionality helps to mitigate risks efficiently, while also bringing low income consumers into the formal financial sector.⁴⁸

While regulators have been mulling the issue of appropriate simplified CDD for some time (South Africa's tiered approach dates back to the adoption of Exemption 17 in 2002, which allowed banks to drop the proof of address requirements for a basic account with limited functionality),⁴⁹ formal SSB recognition of the concept only goes back to June 2011 when FATF issued its first financial inclusion guidance paper,⁵⁰ since revised in 2013.⁵¹ Since then, a number of countries (AFI reports that this includes 42 of its members)⁵² have started adopting formal tiered CDD regimes.

Two notable examples in establishing formal tiered CDD regimes are Mexico and Tanzania. In 2011, Mexico approved a tiered scheme for opening deposit accounts at credit institutions. The scheme offers a model for inter-agency coordination, as it involved the relevant departments at the central bank, the Ministry of Finance and the banking regulator. This scheme entails 4 levels – three low-risk accounts, and the traditional current account – and provides for flexible account opening requirements for low-value, low-risk accounts that increase progressively as transaction values increase. Perhaps most notable at the time were the introduction of “Level 1” requirements, exempted from identity verification requirements on the basis of the low level of risk, which allowed for non-face-to-face account opening for low value debit card-based e-wallets. Although identities of users are not verified, transactions are closely monitored for suspicious activity. The scheme also allowed for

⁴⁷ The terms “Know Your Customer” (KYC) and CDD are often used interchangeably in practice, though the FATF recommendations refer to CDD.

⁴⁸ http://www.fatf-gafi.org/media/fatf/documents/reports/AML_CFT_Measures_and_Financial_Inclusion_2013.pdf

⁴⁹ <http://www.cgap.org/sites/default/files/CGAP-Focus-Note-AML-CFT-Strengthening-Financial-Inclusion-and-Integrity-Aug-2009.pdf>;

⁵⁰ FATF Anti-Money Laundering and Terrorist Financing Measures and Financial Inclusion (June 2011) at <http://www.fatf-gafi.org/media/fatf/content/images/AML%20CFT%20measures%20and%20financial%20inclusion.pdf>.

⁵¹ See also FATF's Forty Recommendations at http://www.fatf-gafi.org/media/fatf/documents/recommendations/pdfs/FATF_Recommendations.pdf

⁵² www.afi-dataportal.org

outsourcing CDD elements to third parties and paperless record-keeping. Over 10 million new accounts were opened in the two years following the new rules, with the large majority of them initially registered as Level 1 accounts.⁵³

In 2015, after much consultation, Tanzania established its own tiered CDD regime for mobile money, encompassing three tiers: Tier 1, for basic electronically registered accounts, requiring only a registered phone number; Tier 2 which requires both a registered phone number as well as in-person confirmation - and a copy- of an acceptable national identity document; and Tier 3, which is aimed at SMEs and includes not just the full CDD of Tier 2 but also tax ID and VAT registration numbers along with business license numbers. While the new system is considered a good approach for expanding mobile money, the Tanzanian banking sector continues to operate under its traditional, more stringent, CDD requirements. Given the ongoing convergence of the mobile money and traditional banking sectors, not to mention the growing interest by banks in establishing simplified basic accounts, Tanzania's simplified CDD regimes need to be aligned.

These are just a couple of examples of what is a growing trend amongst regulatory regimes, aimed at making it easier for financial institutions to open accounts for previously excluded market segments, where risk is considered to be sufficiently low. Financial regulators increasingly see, however, that weak (or non-existent) official identity systems are major barriers to the inclusion of all members of society. Some of these regulators are therefore taking measures to address the problem by introducing special purpose identity systems, which can be useful in the interim in the absence of universal coverage ID schemes.

ID as a critical facilitator of digital financial inclusion

Policymakers, donors and other stakeholders worldwide are recognizing the need to develop comprehensive ID programs to enable access to financial services, as well as to multiple other types of services. The Principles on Identification for Sustainable Development⁵⁴, launched by the World Bank-hosted Identification for Development initiative or 'ID4D',⁵⁵ and endorsed by more than 15 global organizations, ranging from development agencies to think tanks and industry groups⁵⁶, set out guidance to help facilitate the development of robust and inclusive digital ID systems.

Notable examples of the enormous potential of digital IDs to unlock access to financial services include Pakistan's eID system and India's Aadhaar system (as discussed in Section 2.1). In Pakistan, the National Database and Registration Authority (NADRA) developed the Computerized National Identity Card (CNIC) which incorporates biometric information to provide a unique identity number to citizens. Roughly 99 per cent of the adult population has been registered with a CNIC card. Initiatives to integrate the CNIC with financial services have been underway for several years, including links to entry-level transaction accounts,

⁵³ By December 2016, there were 14.7 million Level 1 accounts, 19.5 million Level 2 accounts, 0.4 million Level 3 accounts; and 94.4 million traditional current accounts in the country (Banco de México, 2017). Population estimates at that time of people of 15 years and older were about 90 million (CONAPO).

⁵⁴ "Principles on Identification for Sustainable Development: Toward the Digital Age", 2017. (<http://documents.worldbank.org/curated/en/213581486378184357/pdf/112614-REVISED-PUBLIC-web-final-ID4D-IdentificationPrinciples.pdf>)

⁵⁵ <http://www.worldbank.org/en/programs/id4d>

⁵⁶ See page 2 of the "Principles on Identification for Sustainable Development: Toward the Digital Age" report for a complete list of endorsing organizations.

social benefit payments, electronic credit information bureaus, and most recently to e-payment facilities.⁵⁷

In countries where full coverage of the national ID has not yet been achieved, various interim approaches have been taken to develop “special purpose” ID systems within the financial services sector. An example of a special purpose ID system is Nigeria’s Bank Verification Number (BVN). Nigeria does not issue unique identity numbers at birth, and therefore grapples with establishing a unique national identifier. Citizens can obtain one of three forms of official ID – passport, driver’s license, or voting card – but these systems use different forms for registering and because the systems aren’t uniform or centrally verified, people can use different names for each or even open multiple identity accounts.

Because of this situation, and the likelihood that it will take many years to fully rectify, the Central Bank of Nigeria (CBN) decided to work with the banking industry to set up the BVN. To obtain a BVN, individuals can go to BVN enrollment centers, which include all bank branches, for free enrollment and submit their 10 finger-prints, facial picture, name and address, which is then submitted to a central matching system. Once the biometrics are checked to prevent multiple accounts, the person is then issued an 11-digit number against the biometric record.

So far, the BVN has proven to be an effective, if limited, form of ID for the financial industry. Users can obtain a BVN without necessarily opening an account, but they can’t open an account without the BVN. The BVN is also starting to be used for non-bank services, such as agricultural subsidies. The system is still evolving, and policymakers are now working to link the BVN database into the Nigerian social security system (NIMC) so that people don’t have to re-enroll into NIMC once they obtain a BVN. There is also an intention to link the BVN to credit bureaus and non-bank financial institutions such as microfinance banks, in part through an API for direct interface and validation. And while there is no current requirement for non-bank financial institutions to use the BVN, the CBN is in the process of formulating guidelines to mandate use of the BVN.

Another example of a central bank establishing a financial identity system is in Uganda, where a specialty ID system used in matching of credit data profiles in the financial sector will ultimately be replaced by a national ID scheme which aims for universal coverage. The initial Financial Card System (FCS) is being wound down by the Bank of Uganda as the National Identification and Registration Authority (NIRA) is rolling out a national ID card. So far, NIRA has issued over 20 million cards, compared to the 1.4 million FCS smart cards issued. The smart cards won’t disappear entirely, as the vendor is working with NIRA to match the FCS card numbers with new national ID numbers, but going forward the National ID number will ultimately become the key identifier in financial sector transactions.

It is important to note that the examples noted in Nigeria and Uganda are innovations taken by financial regulators in the face of insufficient, or complete lack of, national ID systems, and not necessarily recommendations for addressing national identity challenges. Policymakers need to establish robust national identity systems for a host of reasons, not just inclusion, as set out in HLP 7. While sectoral approaches like Nigeria’s and Uganda’s might

⁵⁷ “Leveraging ID Systems for Financial Sector Development”, 2017 (forthcoming). Report by Consult Hyperion prepared for the World Bank Group’s ID4D initiative, and Finance & Markets Global Practice.

be useful for limited purposes, they can be inefficient in the overall context of national ID programs unless standards can be agreed upon that allow for evolution and incorporation into national ID solutions.

Leveraging Technology to Build Oversight Capacity: Austria and Rwanda

A growing theme among regulators is the need to develop and/or update reporting and monitoring systems, particularly in the face of increasing regulatory requirements and evolving digital financial services. While all central banks employ some form of information system for linking to their bank clients, the development of systems and capacity to track and oversee non-bank players such as digital payments providers, often lags behind the rate of industry growth. In many cases, regulators are still relying on self-reporting by industry, or on infrequent and paper or Excel-based reporting. Such relatively rudimentary approaches are inadequate for properly monitoring the volume of digital transactions of today's payments industry, and the pace of change in terms of products, delivery mechanisms, and providers.

A critical element of automating the process for collection, aggregation and analysis of data is the use of standardized reporting formats, which are easily extensible and portable across systems and make use of well-defined taxonomy and meta-data. There is a worldwide shift towards eXtensible Markup Language (XML) for message and data exchanges. Extensible Business Reporting Language (XBRL) was developed for the reporting of business results, corporate announcements and balance sheet data to capital market regulators and market data providers. This is now being widely adopted by banking sector regulators.

Many regulators in advanced economies have already updated (or are in the process of updating) their market monitoring systems, in many cases working closely with industry to develop regulatory technology, or 'RegTech', systems for improved reporting and compliance. RegTech⁵⁸ also helps regulators collect, analyze and monitor market data, as well as identify consumer pain points. To be sure, developed country regulators still struggle with legacy systems, and the pace of reporting and monitoring modernization occurring in emerging markets is often behind where it needs to be given the rate of growth in digital financial service providers, with notable exceptions (e.g. see Box 6).

Box 6. Automating Regulatory Reporting and Supervision

Some central banks have embarked on initiatives aimed at enhancing internal systems and processes for regulatory reporting and off-site supervision, in a bid to shift away from template-based approaches towards real-time, input-based approaches that enable greater efficiency in the collection of data and information from banks and non-bank financial institutions. The "input-based" approach leverages new technologies (or "regtech") that enable regulators to capture more granular data on financial sector activity, including on activity by new market entrants, or related to new digitally-enabled delivery mechanisms or products, while reducing the reporting burden on regulated institutions.⁵⁹

For instance, the **Austrian** central bank, Oesterreiche Nationalbank (OeNB), in collaboration with the banking industry, introduced a new software platform to streamline the data collection and regulatory reporting process for banks in Austria. The software platform, known as 'Aurep,' provides a direct interface between the IT systems of the OeNB and banks, enables the OeNB to capture granular data automatically via the platform. Importantly, 'Aurep' also acts as a buffer between the OeNB and banks, such that banks upload standardized

⁵⁸ Regtech as referred to here is the design and deployment of technology-enabled solutions for the collection, analysis and usage of data to: (i) improve market oversight, (ii) reduce the cost of compliance, (iii) develop smarter, proportional, risk-based regulation, and (iv) increase consumer trust, financial health, and participation in the system.

⁵⁹ BearingPoint Institute (2015) <https://www.bearingpointinstitute.com/en/regulatory-reporting-are-we-headed-real-time>

data sets (basic cubes) as prescribed by OeNB onto the platform, but retain control of commercially sensitive information. The platform can then transform the basic data sets into the formats required by various departments within the OeNB. This new reporting system significantly reduces the compliance burden for regulated banks, and also ensures greater consistency and quality of data disseminated internally within the OeNB. Whether or not OeNB plans to extend this platform to include reporting by non-bank financial players remains to be seen.

In **Rwanda**, the National Bank of Rwanda (BNR) is in the process of implementing an automated financial reporting and supervision system for the collection, analysis and dissemination of data from regulated banks and non-bank financial institutions. The system not only aims to streamline data collection and reduce the regulatory reporting burden for financial institutions, but it also aims to provide BNR with additional, more granular data to track progress on financial inclusion. The system will allow BNR to automatically pull data from financial institutions' core MIS (for those that have them), thus improving the accuracy, integrity, and timeliness of offsite reporting data.

With support from the World Bank, new reporting templates have been designed to improve the scope, consistency, and quality of data, including financial inclusion indicators— such as target market segments, gender, geographic location, among others. All licensed banks have been on-boarded onto the system, while some MFIs are submitting the new templates in Excel format. Related reforms are ongoing to establish core MIS in Savings and Credit Cooperatives (SACCOs) to ensure that they too can participate in the new system.

The cases set out in this section illustrate the need for a legal and regulatory framework that is proportionate, risk-based, and that creates a conducive environment for digital financial inclusion. Tiered CDD regimes, for example, can expand access to financial services by lowering the documentation barriers facing individuals as well as lowering the costs of compliance for financial service providers. As digital financial services and delivery mechanisms become more complex, building the capacity to adequately supervise and regulate the market will become critical. Regulators can leverage technologies to enable them to better monitor and supervise the market, while keeping pace with new developments.

2.4. HLP 4: Expanding the Digital Financial Services Infrastructure Ecosystem

High Level Principle 4 emphasizes the need for a robust, open and efficient digital infrastructure, including a widely accessible retail payments system and ICT infrastructure, to enable the broad delivery of digital financial services. This particular HLP calls for policymakers to work closely with the private sector to ensure that the entire ecosystem for digital financial services runs smoothly and seamlessly, from voice and data networks, including the various digital points of service that consumers rely on such as POSs and ATMs, to the power and transport systems that underpin these networks. Because the provisioning and ownership of the entire digital financial ecosystem will necessarily be made up of a combination of public and private resources, policymakers have to walk a fine line between the options of relying solely on private investment, public spending on infrastructure where needed, targeted subsidies where merited, and/or legal mandates to service providers where it's deemed necessary for the public good.

Areas of particular focus for national authorities include retail and online payments infrastructure that includes interoperable platforms that link to a wide range of POSs and ATMs, agent networks, bill payment platforms, credit reference systems, digital asset registries (particularly for movable assets) and, in some cases, the underlying communications infrastructure needed to support all these systems. Some regulators are also exploring the potential benefits, costs, and risks of issuing digital fiat currencies that could be used in a digital financial services ecosystem, and would combine the benefits of private

virtual currencies with the stability and consumer protection afforded by the central bank issuer.

The examples set out in this section highlight that achieving digital financial inclusion will require regulators and policymakers, in collaboration with private sector stakeholders, to develop a robust digital infrastructure ecosystem – including ICT, credit information, and payment systems infrastructure – that is accessible and interoperable. Public investments in ICT infrastructure, such as in Peru and Zambia, can go a long way in establishing the foundations for digital financial inclusion. Furthermore, promoting the use of electronic payments, through reforms to the payments system, driving merchant acceptance of digital payments and expanding access channels to rural and remote areas, will contribute towards increased uptake of digital financial services.

Payments Infrastructure and Credit Reporting Systems: China

Some countries are undertaking broad national initiatives to expand their financial infrastructure ecosystems, such as India, discussed earlier. Another ambitious program is found in China, driven in part by that country's rapidly growing e-commerce sector. Much of China's progress in advancing digital financial inclusion can be attributed to the efforts undertaken in recent years to strengthen the country's financial infrastructure through an integrated city and rural approach.⁶⁰ The People's Bank of China (PBOC) in collaboration with other stakeholders established a comprehensive and robust national payments system infrastructure in China. Meanwhile, government authorities prioritized the development and maintenance of a sound payments infrastructure in rural areas, which facilitated growth in physical access networks, improved diversity and efficiency of payment products, and allowed for the digitization of government-to-person (G2P) transfers. The key elements of the program include the following:

- Starting in 2002, PBOC developed a number of interbank clearing systems, including the China National Advanced Payment System (CNAPS), China Domestic Foreign Currency Payment System, and local clearing systems, to support the application of negotiable instruments, payment cards, and other payment instruments;
- China UnionPay was established (also in 2002) to develop and operate the inter-bank card information exchange system, to promote the interoperability of bank cards. UnionPay now forms the backbone for the interoperability for agents and payment cards, and also provides the rails on which Alipay and other online payment platforms operate.
- PBOC operates the Internet Banking Payment System (IBPS) which offers near real-time inter-bank direct credit and debit transfers for internet banking initiated transactions. Rural credit cooperatives (and other rural financial institutions) and city commercial banks have created systems for their respective members and these are connected to PBOC's systems which thereby enables transactions between the rural banks and the other nationwide banks;
- Coordination of China's payment systems infrastructure has been strengthened through the establishment of the China Payment and Clearing Association in 2011; and

⁶⁰ Joint PBOC - World Bank Report (forthcoming): Towards Universal Financial Inclusion in China: Models, Challenges, and Global Lessons

- In August 2014, the PBOC’s “Guidelines on Comprehensively Promoting and Deepening the Development of Payment Service Environment in Rural Areas” was formally issued, to further expand coverage of payment service systems.

The PBOC also established the Fundamental Database for Financial Credit Information and set up the Credit Reference Center (PBOC-CRC), a public credit registry that collects data from a wide range of financial institutions, including banks, rural credit cooperatives, trust companies, consumer finance companies, auto finance companies and micro-finance institutions, financing guarantee companies, financial leasing companies, insurance companies and securities companies.

Box 7. Credit Reference Center

First conceived in 2006, the CCRC’s mandate is to establish, operate and maintain the national centralized commercial and consumer credit reporting system. Financial institutions are able to access records from the system, which also supplements financial data provided with public information in the areas of social security payments, housing provident fund payments, administrative penalties and awards related to environmental protection, tax arrears, court judgments and bureaucratic actions, etc.

The CCRC covered 910 million individuals by the end of 2016,⁶¹ including 430 million with a borrowing history, and 22.1 million legal entities, including 6.36 with a borrowing history. The registry receives positive and negative information for all relevant credit products at any value. It not only collects data from traditional sources, such as regulated lending institutions and public domain, but also from alternative data sources, including utilities and telecoms.

PBOC continues to develop the credit reporting system in China, and strengthen the cooperation between CRC and other credit bureaus. This further contributes to China’s credit reporting system which, with an annual inquiry volume of about 500 million, is now the largest in the world.

Interoperability: Tanzania and Peru

An issue that policymakers are paying greater attention to with regard to financial infrastructure that enables digital financial services, is interoperability of services across service providers and points of service, including agents.⁶² This issue is of particular importance to national efforts to broaden the reach of financial services into previously underserved, often rural areas, through digital technologies and delivery mechanisms. The economics of reaching rural customers makes it unrealistic for all service providers to set up agents in all geographic areas, but at the same time policymakers want to ensure some level of competition and customer choice in financial services. One means of achieving that goal is to promote interoperability of financial service providers, so that customers can interact with other customers or merchants that they need to reach, without being required to open multiple accounts.

Policymakers have tended towards one of two approaches to interoperability: encourage industry players to enable it on their own, in some cases with the promise to mandate it if industry does not get there fast enough, or come up with their own government-led solutions. A recent example of industry-led mobile money interoperability was seen in Tanzania, where the four leading MNOs, supported by the IFC, worked together over the course of a year to agree payment scheme rules including exchange fees, dispute resolution and settlement

⁶¹ PBOC data.

⁶² Some regions, such as SADC, are also exploring the issue of regional interoperability; cross-border interoperability is not addressed in this report.

arrangements. The Bank of Tanzania supported the discussions and was kept informed on how the discussions were proceeding, so that by the time an agreement was finalized, all parties involved, including the regulator, were fully informed and in support of the arrangement.

The impact of this approach has been shown in the growth of cross-operator transactions since the scheme was facilitated (specifically, transactions between mobile money customers using different service providers): from an average of under 100,000 transactions per month in October 2014 when the new scheme began, cross-operator P2P transactions in Tanzania are now up to 4 million per month, and growing almost 15% a month.⁶³ These cross-operator transactions now make up about a quarter of all transactions, and this growth was achieved before the operators themselves had even kicked off any marketing campaigns announcing the new interoperability rules. Schemes such as Tanzania's, which start with existing infrastructure and make it interoperable through industry-agreed rules, have generally proven to be the most successful and enduring solutions for achieving interoperability.

In other cases, policymakers are choosing to support centralized solutions, either on their own in the form of national switch platforms or by encouraging industry to develop its own centralized solution. A prominent recent example of the latter is Modelo Peru, the multi-stakeholder effort in Peru to establish interoperability amongst all the country's financial actors and expand access to the 71 percent of Peruvians who lack access to a bank account, particularly in rural areas. Modelo Peru⁶⁴ has been lauded as an example of national interoperability, with many different players coming together to create one seamless payments ecosystem. (See Box 8.)

Box 8. Modelo Perú

Launched in February 2016 and spearheaded initially by the Bankers' Association of Peru (ASBANC), Modelo Perú is an effort to establish an interoperable nationwide payments platform. Critically, the effort had the strong support of government officials and the banking supervisor SBS (Superintendencia de Banca, Seguros y AFP) as well as the Central Bank of Peru, which helped convince non-bank players like the MNOs to join. The support from regulators and the government included the 2013 National Law for Electronic Money, which helped to set the ground rules for this new ecosystem.

The platform itself, branded Bim (Billetera Móvil), brings together over 30 financial institutions, government, telecommunications companies, and large payers and payees into a shared payments infrastructure. Its goal is to expand banking access to both banked and unbanked Peruvians and, importantly, aims to reduce the transactions costs associated with cash for both financial service providers and other businesses.

The main product offered by the platform is an interoperable e-wallet, co-branded Bim, that can be accessed on mobile phones using USSD or SMS-based means, thus making it available to all mobile phones. New users do not need a preexisting bank account, access to internet on their mobile, or even calling credit on their phone accounts. They can sign up and open an electronic wallet directly on their phones or at any of the more than 8,500 physical points of sale nationwide already operating with Bim. The process for opening accounts requires only that the new user provide a personal national ID number and code, select a personal passcode, and choose the financial institution to house the individual's account. Initially issued by 9 institutions, including 3 MNOs, the e-wallets can be used at any Bim-branded store or agent for payments or cash-in/cash-out, and can also be used to receive payments as well, both P2P as well as government payments.

Pagos Digitales Peruanos (PDP), the company set up to run the Bim platform, has a unique shareholding structure, with 51 percent ownership controlled by a non-profit entity set up by ASBANC, and the remaining ownership held by 33 participant shareholders who purchased shares of 2.45 percent each at launch. The company sets the scheme rules for the platform and acts as a service provider to all e-money issuers in the country.

⁶³ Bank of Tanzania data

⁶⁴ <http://www.centerforfinancialinclusion.org/publications-a-resources/browse-publications/794-modelo-peru-cfi-brief>

The scheme's managers have estimated that the platform needs a minimum of 1 million active users, or 3 million transactions per month, for the system to break even operationally. By the end of 2016, they had reached 240,000, somewhat below their initial target of 300,000 for the year. The system faces some challenges at this point, particularly around transaction numbers, rural coverage, and integrating Bim into existing bank and merchant POS systems, but PDP is committed to addressing these challenges in order to create volume and scale and become a truly unified national payments system.

Mexico's Transactional Database

The Central Bank of Mexico (Banco de Mexico) has developed a database to provide banks with an overall picture of their customers' transactions across borders, with the goal that this open and efficient digital infrastructure will strengthen industry's AML/CFT efforts and help mitigate the effects of de-risking. The database contains transactional information about client and other users' transfers abroad.

Beginning in March 2016, banks started daily reporting of: basic client information; recipient bank and beneficiary name; and information about the outbound transfer (amount, currency and reason for the transaction). In exchange, banks will receive aggregated data on their clients' status in the financial system, subject to their clients' authorization. The Central Bank anticipates also incorporating information about inbound international transfers to the database in the future.

Anticipated benefits of the national database include: data validation; aggregated data about customer transactions throughout the financial system; and access to this data by national authorities. Based on this data, banks will be able to build transactional indexes that can help map the nature of client activity. This should help facilitate detection of customer transaction anomalies. Additionally, banks will have the required information to know their customers based on their overall activities, rather than their activities with only one bank. The Mexican Secretariat of Finance and Public Credit (SHCP) has issued regulations mandating the incorporation of this data in risk analyses performed by banks.

Tentatively, 145 data points are planned to be shared with participant banks, based on data reported in the previous year, such as the countries where money was sent, the number of banks from which transfers were made and/or received, the total number of transfers, the number of days in the period during which a transfer was made, etc.

Once the data sharing platform is launched in 2017, banks will be able to access customer data on demand for the previous 360 days of reporting. The platform will allow banks to explore both individual and aggregated customer data by client segment. Anticipated uses include on-demand inquiries when clients solicit new international transfers. As the platform will be updated daily, this should facilitate a more comprehensive and up-to-date risk assessment.

Databases such as Banco de Mexico's are examples of data sharing in support of smoother functioning of financial markets along with improved AML/CFT oversight. An important next step for policymakers to consider is opening up other useful sources of data beyond credit registries, such as government databases, along with more linkages to non-bank financial institutions including fintech companies, in order to expand opportunities for more of the unbanked to participate in the financial system. While the potential benefits of greater data availability can be extensive, however, data privacy and protection safeguards will remain critical elements of such efforts.

Expanding Merchant Acceptance of Digital Payments: Kenya, Mexico and Argentina

An important component of expanding a digital payments ecosystem is enlisting a large merchant base that can accept those digital payments. For purposes of targeting the financially underserved, it is especially critical to include small merchants who are located in and cater to low-income communities. Such merchants are not typically going to employ the standard point-of-sale (POS) systems that accept bank credit cards, so finding affordable solutions for those businesses to accept simple digital card and mobile payments is necessary. At the same time, if there are multiple payment options available to customers, the typical small merchant must decide which type to accept and therefore which POS system to buy. In the face of such decisions, many merchants, understandably, simply choose to stick with cash.

One innovative company in Kenya chose to offer a low cost payment system to small merchants that allows them to accept a number of different payment options, without having to purchase new POS terminals. Kopo Kopo launched its merchant services in early 2012, and offers a web-based platform, accessible via Android, desktop, SMS and USSD, that enables small and medium enterprises (SMEs) in emerging markets to accept, process, and manage multiple mobile money payments. Kopo Kopo is now Safaricom's largest merchant aggregator, and one of the largest merchant aggregators in Sub-Saharan Africa. The regulator in this case, the Central Bank of Kenya, was aware of Kopo Kopo's activities but chose to let them operate as any other value-added service in the market, rather than as a regulated entity. The CBK's view was that the mobile money operator was responsible for its relationships with its merchant partners. Allowing the entrance of new and diverse players like Kopo Kopo, who viewed SMEs and poor customers as their main clients, was an important element in enabling the growth of the digital payments ecosystem across all income levels.

Another innovative start-up, Tienda Pago in Latin America, is focusing on facilitating transactions between retailers and suppliers. Suppliers receive large volumes of cash on a frequent basis from retailers (an inconvenience on their part) and are interested in business solutions that can reduce this pain point and decrease operational costs. These same suppliers leverage their strong merchant relationships and existing distribution models to coordinate bringing payment solutions to retailers, partnering with traditional payment service providers (PSPs). A joint-venture led by Grupo Bimbo, a bakery company based in Mexico, is one example of a non-traditional payment actor partnering with a large bank and a payments processing firm (Blue Label Technologies) to install card-accepting machines, reaching tens of thousands of small convenience stores across the country.⁶⁵

In August 2016 the Central Bank of Argentina established that banks should offer immediate transfer of funds (online credit transfers and direct debits) through the "Mobile Payments Platform." By subscribing to the "Pago Electronico Inmediato (PEI)," merchants can receive payments initiated via a cell phone, tablet or laptop, with crediting to their accounts occurring in real-time. The client (buyer) can make daily transfers up to a total equivalent to the minimum wage (approximately USD 520), or higher subject to banks implementing supplementary security measures. Funds are credited with no charge to the merchant within a limit of about USD 18,800 per month, thus making PEI a cost-efficient payments acceptance solution.

A 2016 World Bank Group report⁶⁶ specifically looked at the issue of digitizing merchant payments, and identified six key obstacles as significant impediments to deepening these

⁶⁵ <http://documents.worldbank.org/curated/en/765851467037506667/pdf/106633-WP-PUBLIC-Innovative-Solutions-Accelerate-Adoption-Electronic-Payments-Merchants-report-2016.pdf>

⁶⁶ <http://documents.worldbank.org/curated/en/765851467037506667/Innovation-in-electronic-payment-adoption-the-case-of-small-retailers>

payments, especially in developing countries: i) An inadequate value proposition for merchants, including product design that does not adequately encourage them to migrate from cash to electronic payments; ii) Weak product and stakeholder economics in traditional card models; iii) Insufficient aggregate customer demand, needed to reach the “tipping point” that drives demand and supply towards a digital payments ecosystem; iv) Inconsistent technological infrastructure and regulatory environment in developing markets to support digital payments; v) Ineffective distribution models to serve hard-to-reach merchants in areas with limited economic capillarity (i.e. low density of micro, small and medium enterprises MSMEs and customer populations); and vi) Difficulty in formalizing enterprises and reluctance of merchants to pay full taxes on sales.

While industry will play an important role in addressing some of these obstacles, policymakers also have key roles to play in encouraging an enabling electronic payments environment, as is clear from some of these constraints. Examples of actions which have been taken by policy makers are:

- Streamline CDD requirements for merchants seeking to accept electronic payments; stimulate the formalization of merchants including through some degree of tax-related accommodations, particularly in the early stages, so as to not disincentivize smaller, and perhaps even larger, merchant adoption (one example of tax-related accommodations for formalizing small merchants can be found in Uruguay);⁶⁷
- Create incentives for consumers and merchants to transact electronically (examples include tax rebates on digital transactions in Korea, or using receipts to enter into a digital lottery each time you transact electronically in Slovakia); and
- Accept electronic payments for government services (Modelo Peru has introduced a pilot to digitize a small merchant tax payment for small retail stores, for example).

Public Goods Infrastructure Investment in Zambia and Peru

In some cases, policymakers have decided to invest in broadband infrastructure themselves, often to extend services to rural areas that are not economically feasible for private players. One recent example is that of Peru, which in June 2016 announced⁶⁸ that the national fiber optic backbone network, RDFNO (Red Dorsal Nacional de Fibra óptica) was nearing completion, with plans to extend the benefits of the RDFNO to 195 district capitals, reaching about 625,000 people. The purpose of RDFNO is to bring connectivity to rural areas (in particular in Peru’s highland and jungle areas), as well as providing high speed cable networks to more developed areas. Peru’s Transport and Communications Ministry wants to encourage mobile network operators to extend their mobile networks into remote rural areas, by using RDFNO for backhaul.

The project includes both the expansion of the broadband network, built and operated under a PPP model, as well as digital content and skills development, including (i) the creation of a rural open data platform that will publish information regarding rural areas to the public; (ii) the creation of applications, content, and digital services that support public service delivery in rural areas; (iii) the development of prototypes for use of new technologies in areas critical to rural communities, such as early warning systems and disaster risk management; and (iv) training courses on digital technologies relevant to rural communities.

⁶⁷ https://www.itu.int/en/ITU-T/focusgroups/dfs/Documents/09_2016/FINAL%20ENDORSED%20Enabling%20Merchant%20Payments%20Acceptance%2030%20May%202016_formatted%20AM.pdf

⁶⁸ <http://www.fomsn.com/fiber-optic-news/fiber/rdnfo-is-getting-ready-for-completion-in-peru/>

Zambia went one step further in 2014,⁶⁹ setting up an initial 169 mobile towers through the Zambia Information and Communication Technology Authority (ZICTA) in rural areas of the country. The towers are owned by ZICTA and shared among the country's three mobile phone service providers.

3. Insights on Emerging Approaches to Digital Financial Inclusion

As is evident in the cases set out in this report, the increasing pace and complexity of innovation and adoption of digital technologies in the financial sector means that policymaker and regulator approaches must also evolve and be tailored to country contexts. Adding in the need to support efforts that are inclusive and help to reach those who are currently unserved by financial services adds to the challenge. While no two countries are identical in their approach or even in their particular market context, there are several insights which can be gleaned from the examples highlighted in this report. These include:

- Proactive leadership and political will are cross-cutting success factors, including through integration and coordination across national authorities, including Ministries of Finance, central banks and other regulators and overseers, and also social welfare agencies that interact with traditionally unbanked beneficiaries. Broad, cross-cutting programs involving government and industry are not easy to coordinate and can involve considerable effort, time and cost, but they can be effective in addressing the range of issues relevant to harnessing digital technology. As illustrated in the case of India, strong leadership and coordination across various government and non-government entities saw the development of a robust digital infrastructure (today dubbed the “India Stack”), coupled with rapid growth in access to digital transaction accounts. In China, the Government issued new Guidelines and rules to support the sound development of internet finance, which provided clarity to industry players and promoted the growth of non-bank internet finance companies.
- There needs to be more progress on digital tools to help regulators do their job. As digital innovation is rapidly redefining what it is to be a service provider, financial regulators are having to take a more proactive, data-driven approach to engagement with the industry, including the broad base of often informal SMEs that cater to the financially excluded. Many regulators are embracing a risk-based approach and looking for new ways to safely foster innovation, from test-and-learn programs to greater collaboration and information exchange with industry. In the case of the UK, the FCA’s “Project Innovate” program has enabled the UK regulator to stay abreast of new financial technologies, while guiding the development of innovative financial services and ensuring consumers are adequately protected. Similarly, in Ghana, collaboration between the central bank, insurance regulator and telecommunications regulator, resulting in the issuance of risk-based rules to support the delivery of microinsurance services through mobile phones.
- Supervising digital financial service providers in an era of vast volumes of transactions (and increased use of fast or real time payment transactions) calls for more sophisticated and automated systems that can provide real-time monitoring and analysis. Some countries are developing such systems, but more effort is needed to design robust, flexible systems and provide the capacity-building support needed to fully implement them. As in the example of Rwanda, the central bank’s implementation of the data warehouse project

⁶⁹ <https://www.telegeography.com/products/commsupdate/articles/2014/11/13/zicta-confirms-147-of-169-planned-rural-communications-towers-are-up-and-running/>

is expected to provide a more efficient and timely mechanism to obtain granular data to track progress on financial inclusion by gender, different target markets, and geographic locations.

- While regulators are making positive efforts to embrace new technologies and improve communications with industry, it can be effective to also clarify regulatory frameworks and supervisory expectations – to the degree possible – sufficiently early (and continually as needed), in order to guide and shape innovation in line with financial regulatory priorities, and to not be caught off guard by unforeseen developments.
- Promoting interoperable, open technology platforms for digital financial services helps establish a broad-based ecosystem for private and Government entities to better reach consumers and ultimately improve their financial lives. The means and timing of achieving interoperability can vary, but policymakers should make clear that it is an expectation. An important related element of open technology platforms is that they should make it (technically) easier for consumers to take ownership of their information and move it across service providers. In Tanzania, the industry-led development of scheme rules and arrangements for mobile money interoperability has seen rapid growth in cross-operator transactions. Schemes such as these, which build on existing infrastructure, have generally proven to be successful and enduring solutions to achieving interoperability.
- Digital identity forms an important foundation of public digital infrastructure and opens the door for access to services across the economy – including beyond financial services. National governments need to prioritize availability of robust and easily verifiable digital ID, whether biometric or other types of data-based forms, which can be used to facilitate access to digital financial services. There are valid concerns about privacy and civil liberties to be addressed. The need for universal identity programs increases the importance of addressing these concerns urgently. As seen in India and Pakistan, digital ID schemes with broad coverage have the potential to stimulate rapid access to digital financial services. In countries where full coverage of ID schemes is yet to be achieved, interim sectoral approaches can be incorporated into broader national ID solutions to ensure efficiency and sustainability.
- The rapid growth of digital services, of all kinds, raises concerns that financial policymakers and regulators have not traditionally needed to focus on increasingly important issues such as data protection⁷⁰, third-party access to data, quality of service and network reliability. Such concerns call for greater collaboration with authorities such as telecommunications, data protection, and consumer protection regulators. While regulators are rightly concerned with their respective remits and mandates, there is a clear case for working more closely through information sharing and agreement on areas of mutual interest and priority.

⁷⁰ The GPFI's separate work within the Responsible Finance Forum (RFF) focuses extensively on issues around data privacy and protection.

