

BILL & MELINDA
GATES *foundation*

DIGITIZATION FOR IMPROVED GOVERNANCE

Financial Services for the Poor

August 2021



DISCLAIMER

This work is provided as-is, without any warranty of any kind, and for noncommercial, informational use only. Any further use may require the consent of third-party content owners.

TABLE OF CONTENTS

Introduction

Providing Trusted Forms of Identification

Digitizing Social Safety Nets

Emergency Response

INTRODUCTION

KEY TAKEAWAYS ON DIGITIZATION FOR IMPROVED GOVERNANCE

Governments around the world are leveraging the spread of digital technologies to improve their capacity to serve their citizens and residents.

Social grants are being directly transferred to bank or mobile money accounts, and other public services also now utilize digital identification and digital financial channels.

1

Evidence suggests that digitization of government services can benefit governments, citizens and residents, and the private sector if digitization makes services more convenient and easy to control.

2

The benefits of digitization are not limited to rich economies—countries like Bangladesh, India, Kenya, Pakistan, and Rwanda are leapfrogging their way toward digital governance at a rapid pace.

3

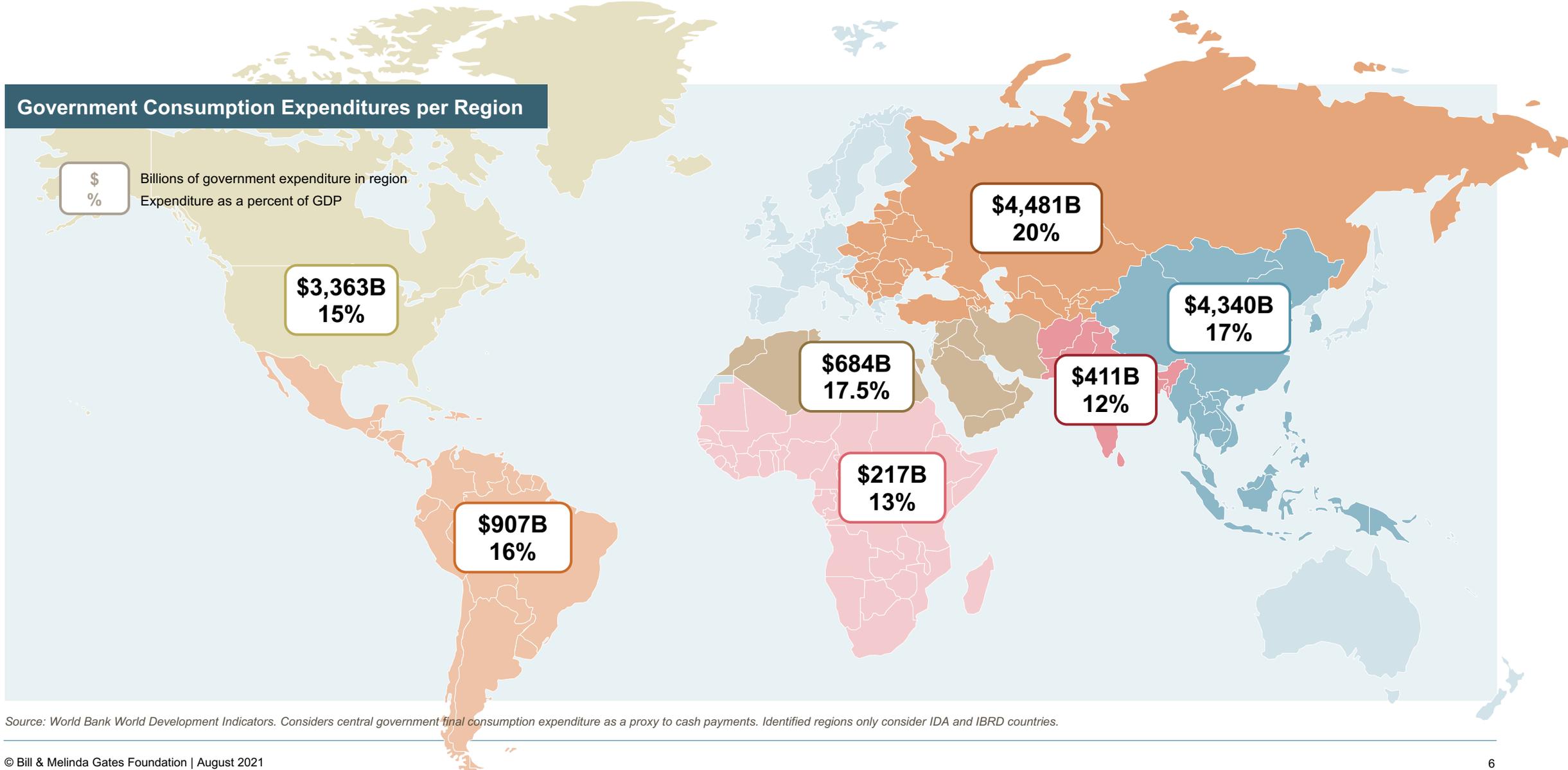
The road to digitization is not without challenges, including the issue of building on legacy systems, outmoded financial regulation, the need to protect the personal information of individuals, and potential for digitization to lead to exclusion errors and widening of the digital divide. There is also risk that governments can misuse the technology to yield excessive control over their citizens and residents.

4

Learning from rigorous evidence documenting the experience of other countries can expedite progress toward digitization, saving governments money and time and optimizing impacts on individuals.

5

GOVERNMENT EXPENDITURE IS A LARGE PORTION OF GDP ACROSS REGIONS



DIGITIZATION OFFERS AN OPPORTUNITIES & CONSIDERABLE BENEFITS



McKinsey. 2016. "Digital Finance for All: Powering Inclusive Growth in Emerging Economies."

SPECIFIC OPPORTUNITIES FOR GOVERNMENTS TO CATALYZE DIGITIZATION

Providing Trusted Forms of Identification

- Universally Accessible
- Digitally Verifiable
- Networked

1

Digitizing Social Safety Nets

- Cash Transfer Programs
- In-Kind Transfer Programs

2

Emergency Response

- Emergency Social Protection Benefits
- Payments to Frontline Emergency Responders and Healthcare Workers

3

Digitize Government Inflows

- Taxes
- Licenses
- Fees and Fines

4

Opportunities Addressed in This Presentation

Outside Scope of Presentation

OPPORTUNITY 1: PROVIDING TRUSTED FORMS OF IDENTIFICATION

Definitions and Overview

- Foundational vs. Functional
- Globally, one billion people lack an official proof of identity.

Benefits to Governments

- Eliminate Multiple or Ghost Enrollments
- Identify Ineligible Beneficiaries
- Enable New Program Design Options

Benefits to Private Sector

- Reduce Risk & Cost Associated with Customer Data
- Expedite Know Your Customer (KYC) Compliance
- Drive New Business Opportunities

Benefits to Individuals

- Reduce Corruption and Leakages
- Increase Financial Inclusion and Public Service Uptake
- Empower Women



OPPORTUNITY 2: DIGITIZING SOCIAL SAFETY NETS

Definitions

- Cash Transfers
- Public Works Programs
- In-Kind Transfers

Benefits to Governments

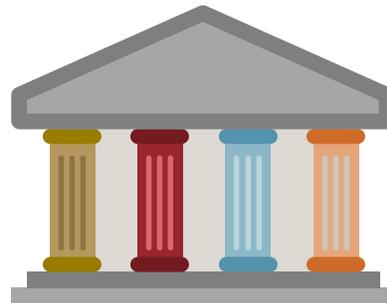
- Reduce Leakage and Corruption
- Reduce Costs
- Enable New Program Design Options

Overview

- Globally, 2.5 billion people are covered by safety net programs.

Benefits to Individuals

- Reduce Time and Costs & Improve Reliability
- Promote Financial Inclusion



OPPORTUNITY 3: EMERGENCY RESPONSE

Definitions and Overview

- Emergency Social Protection Benefits
- Wages to Healthcare Workers and Other Emergency Responders
- Monitoring

Benefits to Governments

- Improve Targeting and Reach
- Disburse Benefits Quickly
- Improve Efficiency
- Stabilize Macro-economy

Benefits to Private Sector

- Enable Workers to Retain Jobs
- Support Small Businesses



Benefits to Individuals

- Receive Emergency Benefits in a Timely Manner
- Improve Efficiency and Security of Benefits
- Smooth Consumption and Resilience to Shocks

INDIA CASE STUDY: DIGITAL ID AS A JUMPING-OFF POINT

Aadhaar in India

Aadhaar is built on an open platform and allows other organizations to create connected services. These layers of connected services have formed what is known as the “India Stack,” which provides a digital infrastructure that facilitates presence-less, paperless, and cashless service delivery from anywhere in India.

The India Stack allows organizations to:

- digitally authenticate new customers and verify basic attributes (e-KYC)
- send payments directly to a user’s bank account (Aadhaar Payment Bridge)
- sign documents online (eSign)
- transfer money via mobile (Unified Payments Interface)
- share documents such as bank statements, utility bills, etc., with other service providers who need to authenticate a user’s identity (DigiLocker)

Account aggregators are a bridge between financial data users and financial data providers to share customer data with consent.

1.29 B

**AADHAAR
Numbers Issued**

53.7 B

**AADHAAR
Authentications Done**

960 M

**AADHAAR
Linked Bank
Accounts**

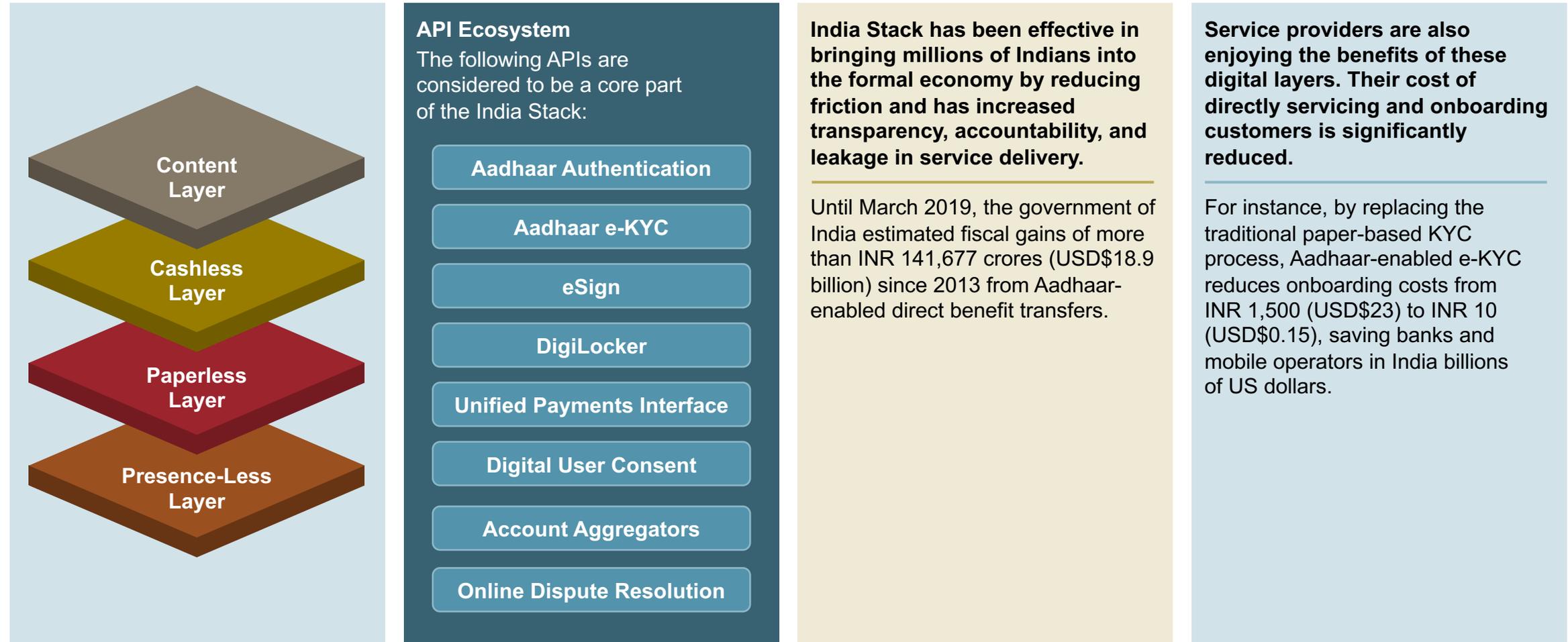
9.2 B

E-KYC Done

Sources: GSMA (2017) and India Stack.

INDIA CASE STUDY: INDIA STACK AND ITS BENEFITS TO THE ECOSYSTEM

India Stack is a set of APIs that allows governments, businesses, start-ups, and developers to utilize a unique digital infrastructure to solve India's ambition of presence-less, paperless, and cashless service delivery.



Sources: GSMA (2017) and India Stack.

ROAD MAP FOR THE REST OF THE PRESENTATION

This presentation shares evidence on the potential for **digital ID, digitized social safety nets, and digital response to emergencies** to improve the capacity of governments to deliver more efficient, reliable, inclusive, and impactful public services, transfers, and subsidies with improved citizen and public-sector accountability.

This document reviews the growing **body of literature on digital reforms** both to create organizing frameworks and to distill specific evidence from country case studies and field-based research. Evidence from over 50 different countries is included to enable key stakeholders to learn from prior experience and best advance their own countries along the digital governance journey.

1

Providing Trusted Forms of Identification

Pg. 14

2

Digitizing Social Safety Nets

Pg. 31

3

Emergency Response

Pg. 43

1. PROVIDING TRUSTED FORMS OF IDENTIFICATION

PROVIDING TRUSTED FORMS OF IDENTIFICATION: KEY DEFINITIONS

Identity: A collection of attributes that uniquely identify a person

Functional Identification

An identification scheme created to manage identification, authentication, and authorization for a particular service or transaction, such as voting, tax administration, social programs and transfers, and financial services. Functional credentials include voter IDs, health and insurance records, tax ID numbers, ration cards, and driver's licenses and may be accepted as identification for purposes outside their original intent.

Foundational Identification

An identification scheme created to manage identity information for the general population and provide credentials that serve as proof of identity for a wide variety of public and private sector transactions and services. Examples may include birth certificates, identity cards, unique identity numbers, or digital certificates.

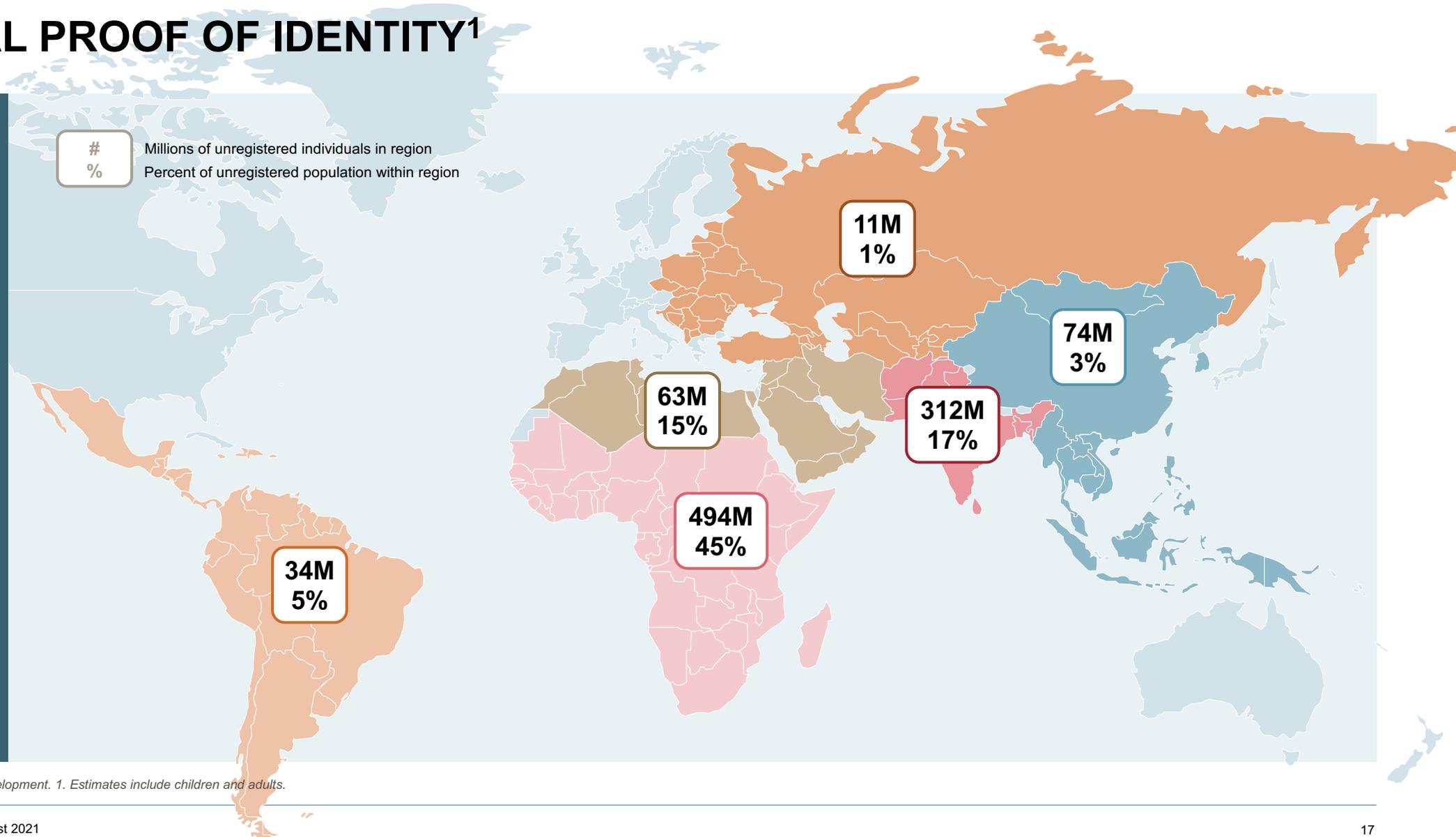
Digital Identity

A set of electronically captured and stored attributes and/or credentials that uniquely identify a person. Digital identity systems use digital technology throughout the identity lifecycle, including for data capture, validation, storage, and transfer; credential management; and identity verification and authentication.

ONE BILLION PEOPLE AND 600 MILLION WOMEN LACK AN OFFICIAL PROOF OF IDENTITY¹

161 countries have ID systems that use digital technologies, reinforcing the need for robust privacy and data protection safeguards.

One in two women in low-income countries do not have an ID, limiting their access to critical services and participation in political and economic life.



Source: World Bank Identification for Development. 1. Estimates include children and adults.

BENEFITS OF DIGITIZING IDENTIFICATION: SUMMARY

Benefits to Government

Eliminate Duplicates or Ghost Enrollments

Identify Ineligible Beneficiaries

Enable New Program Design Options

Benefits to Individuals

Reduce Corruption and Leakage

Increase Financial Inclusion and Public Service Uptake

Empower Women

Benefits to Private Sector

Reduce Risk and Cost Associated with Customer Data

Expedite Know Your Customer (KYC) Compliance

Drive New Business Opportunities

BENEFITS TO GOVERNMENT

Eliminate Duplicates or Ghost Enrollments

Unique ID credentials or a database with a government-to-person (G2P) register with sufficient coverage can **de-duplicate beneficiary lists** by identifying and removing fake or deceased beneficiary names. Eliminating ghost accounts and de-duplicating enrollments saves the government money and improves efficiency of social protection systems.

Such efforts, if executed in the wrong way, could inaccurately remove legitimate beneficiaries. Additionally, removing deceased beneficiaries requires high-coverage vital statistics.

1

Identify Ineligible Beneficiaries

Interoperability between a strong, unique ID system and other registers **can address both inclusion and exclusion errors** by verifying attributes across different sources.

2

Enable New Program Design Options

By providing a secure and accurate way of identifying the population, **ID systems can facilitate the delivery of a wide variety of services** that expand financial inclusion, boost economic opportunities, improve access to social safety nets, and increase gender equality.

ID systems can have other fiscal benefits such as enabling trusted voter identification that reduces the probability of election disputes and violence and their associated human and economic costs.

Well-designed ID systems lead to efficiency gains for donors and the private sector.

3

Benefits to Government

1. ELIMINATE DUPLICATES OR GHOST ENROLLMENTS

Uganda

Eliminating Ghosts¹

- Uganda rolled out a robust national ID program, which covers 18.4 million Ugandans over the age of 16 and 10.5 million children ages 5–16, amounting to nearly 70% of the total population.
- The government saved US\$6.9 million in less than a year by verifying the identities of civil servants against the national ID database, removing some 4,664 ghost workers from the public payroll.

Nigeria

Removing Ghost Employees¹

- Nigeria implemented the Integrated Payroll and Personnel Information System, a biometric e-ID system, for its civil servants in a number of federal agencies.
- Through registration and de-duplication, the system uncovered about 60,000 fictitious employees, which accounts for 20% of agencies' payrolls.
- This effort saved the government US\$1.12 billion from 2007 to 2014.

India

Removing Ghosts in Transfers¹

- India found that about 8.6% of its registered beneficiaries of social protection programs were ghosts by “seeding” their databases using the unique Aadhaar number.
- Of the approximate US\$61.7 billion that the government of India spends on core social protection programs and subsidies, about 41% rely on Aadhaar-enabled direct benefit transfers (DBTs).
- As of 2018, the estimated fiscal gains from Aadhaar-enabled DBTs and related reforms to improve beneficiary identification and targeting of social programs and subsidies were US\$12.7 billion. This saving equals nine times the cost of Aadhaar implementation.

Pakistan

Utilizing a National Database¹

- National Database & Registration Authority (NADRA) manages all government databases for Pakistani citizens.
- NADRA has reported significant savings for government programs by removing multiple registrations across databases.
- During the 2010 flood season, the system enabled the government to quickly deploy resources via a distribution channel called the Watan Card program.
- About 2.7 million people applied to the Watan Card program to claim the flood grants. Of these 1.1 million (40%) were found to be duplicate family members. This translates to an estimated savings of US\$248 million in 2010.

1. World Bank. 2018. “Public Sector Savings and Revenue from Identification Systems: Opportunities and Constraints.”

Benefits to Government

2. IDENTIFY INELIGIBLE BENEFICIARIES

Thailand

Cross-checking Eligibility¹

- In Thailand, national ID numbers were used by a cash transfer program to cross-check the eligibility of beneficiaries against tax, occupational, and other databases.
- The database cross-check eliminated about 660,000 (7.9%) of the 8,375,383 people who applied. Most of these (around 600,000) were individuals who claimed to be agriculturalists on their applications but could not be found in the Ministry of Agriculture and Cooperatives database.
- Using the digital ID database to confirm identities saved the government US\$29.7–\$59.4 million.

Argentina

Improving Targeting¹

- Using a unique taxpayer ID number, Argentina electronically cross-checks eligibility indicators across a variety of databases. This allows the identification of inclusion errors across pensions and social programs, with an estimated savings of about US\$143 million in the first nine years.
- More recently, the government estimates that the system saved an additional US\$160 million simply from removing deceased individuals from social benefits registries.
- Altogether these savings are around eight times the US\$38 million required to implement the project.

Pakistan

Cleaning Up the Benazir Income Support Programme (BISP)¹

- Pakistan has reported savings from identifying ineligible beneficiaries in G2P programs through integration with the NADRA system. One such linkage is with BISP.
- When BISP launched in 2008, the initial targeting process generated a list of 3.3 million people. This list was given to NADRA for screening, and NADRA determined that only 2.24 million were eligible for assistance. Using NADRA to verify identification saved the government US\$13.9 million in the first year of the program.

Morocco

Lacking Digital IDs¹

- In countries where targeting systems and eligibility checks are weak due to a lack of robust digital ID program, many people who are included in social program registries may not actually meet eligibility requirements.
- In Morocco, for example, 2014 estimates suggested that some 60% of allocations for the country's main social transfer programs were going to non-poor individuals due to imprecise targeting.

1. World Bank. 2018. "Public Sector Savings and Revenue from Identification Systems: Opportunities and Constraints."

Benefits to Government

3. ENABLE NEW PROGRAM DESIGN OPTIONS

Malawi

Eliminating Redundancy¹

- In Malawi, integration between the national ID and voter registration eliminated the need for separate voter ID cards, saving about US\$44 million ahead of the 2019 elections.
- In addition to improving the overall efficiency of identity-related transactions, interoperability between identification systems with sufficient coverage and robustness created the opportunity to reduce or eliminate some redundant aspects of the identity ecosystem.

Argentina

Increasing Compliance in Taxes¹

- Argentina integrated tax databases and other registers via a unique ID.
- A unique ID enabled authorities to better identify the total base of potential taxpayers who may not yet be registered by the tax system.
- The integration improved tax audits, generating about US\$44 million in additional revenue from a reduction in tax fraud. Authorities used the unique ID system to de-duplicate tax records and identify individuals who use multiple tax IDs to decrease their liabilities. This enabled the government to identify individuals who are underreporting in order to better target audits.

India

Reducing Leakage²

- In the Krishna district of Andhra Pradesh, the government distributed food rations using the Aadhaar verification to authenticate grain deliveries, enabling beneficiaries to collect food rations from any service point in the state. The biometric verification is meant to improve service delivery and allow for beneficiary mobility.
- Program improvements including an improved weighting system, improved stock-flow reconciliation, and elimination of ghost accounts led to an estimated savings of 33% of the total program costs.
- About 70% of beneficiaries responded that the new system was an improvement over the prior system with many beneficiaries reporting faster delivery of benefits.

1. World Bank. 2018. "Public Sector Savings and Revenue from Identification Systems: Opportunities and Constraints." 2. Arshi Aadil et al. 2019. "Digital Governance: Is Krishna a Glimpse of the Future?"

BENEFITS TO INDIVIDUALS

Reduce Corruption and Leakage

Social service beneficiaries who lack identification often have their benefits subjected to corruption. Identification systems enable social service beneficiaries to access their benefits without bribing distributors. Thus, the beneficiaries are able to capture the full amount of their transfers.

These gains are enhanced by additional digitization including digital payments.

1

Increase Financial Inclusion and Public Service Uptake

IDs enable individuals to verify their identity, which is often a requirement to access social services and financial products.

2

Empower Women

Lack of identification disproportionately affects vulnerable groups, including women. Digital IDs enable women to vote, claim inheritance, register businesses and property, and access social services.

3

Benefits to Individuals

1. REDUCE CORRUPTION AND LEAKAGE

India

Reducing Bribes to Access Pension Payments¹

- India's Aadhaar initiative provides biometric-linked unique IDs that the government uses to distribute social protection payments. The government of Andhra Pradesh utilized the ID system for two welfare programs: the National Rural Employment Guarantee Scheme and Social Security Pensions (SSP).
- Researchers found that digital SSP payments via Smartcards obtained with IDs decreased bribe demands by 2%.

Malawi

Increasing Loan Repayments²

- An experiment in Malawi fingerprinted loan borrowers when they applied for loans. The experiment aimed to test the theory that an identification system, especially fingerprint identification which is unchangeable and unable to be manipulated, can enable lenders to identify and withhold loans from past defaulters. Lenders can also reward compliant borrowers.
- Researchers find that the identification system resulted in higher rates of repayment for some borrowers. Borrowers with the highest ex-ante default risk experience significantly higher rates of repayment, though repayment rates remain the same for other borrowers.

Sierra Leone

Reducing Wage Theft and Fraud through Digitization³

- Sierra Leone paid community health workers via digital wallets, provided digital IDs for workers, and shifted to a digital information management system during the Ebola epidemic. The government created unique digital identifiers for all response workers that relied on facial recognition.
- This process improvement led to an estimated USD\$10 million cost savings for both the government and workers. Efficient and expedient payments also stemmed payment-related strikes by healthcare workers, thus supporting care for Ebola patients and enabling the government to better contain the disease.

1. Muralidharan, Niehaus, and Sukhtankar. 2014. "Payments Infrastructure and the Performance of Public Programs: Evidence from Biometric Smartcards in India." 2. Brune, Giné, Goldberg, and Yang. 2012. "Credit Market Consequences of Improved Personal Identification: Field Experimental Evidence from Malawi." 3. Bangura. 2016. "Saving Money, Saving Lives: A Case Study on the Benefits of Digitizing Payments to Ebola Response Workers in Sierra Leone."

Benefits to Individuals

2. INCREASE FINANCIAL INCLUSION AND PUBLIC SERVICE UPTAKE

Bangladesh

Developing National Biometric IDs¹

- Bangladesh developed the national biometric ID. The NID covers over 95% of the adult population and over 85% of G2P recipients.
- The NID database has enabled financial service providers to verify customers' identification, facilitating onboarding to financial services.

India

Enabling Interoperability^{2,3}

- India's Aadhaar biometric identification system provides identification for all Indian residents.
- Digital ID-enabled payments have facilitated cash-in/cash-out interoperability at agent points of service, allowing individuals to freely withdraw transfers from any agent, independent of financial service provider. This has simplified financial services and driven financial inclusion.

Peru

Enabling Onboarding to Financial Services⁴

- Peru digitized identification in 2006, and nearly all Peruvians have an ID thanks to the government's emphasis on reaching the most vulnerable and remote groups through information campaigns in multiple languages. Extensive identification coverage enables financial inclusion by providing required credentials for opening financial accounts.
- For example, a major e-wallet, Billetera Móvil can be opened with only a phone number and ID. Users are quickly verified, and account opening can happen in a matter of minutes.

1. Baur-Yazbeck and Roest. 2019. "The Future of G2P Payments: Towards an Integrated Infrastructure in Bangladesh." 2. Dahan and Hamner. 2015. "The Identification for Development (ID4D) Agenda: Its Potential for Empowering Women and Girls." 3. World Bank. 2018. "The Role of Digital Identification in Agriculture: Emerging Applications." 4. Melhem and Harbitz. 2018. "Identification as a Centerpiece for Development: What Can Other Countries Learn from Peru?"

Benefits to Individuals

3. EMPOWER WOMEN

Pakistan

Providing Social Protection^{1,2}

- In Pakistan, the use of biometric IDs is a precondition for accessing cash transfers. This system ensures that payments to female beneficiaries are delivered to them rather than to their husbands or brothers.
- Women report that the biometric IDs gave them a sense of identity not experienced before. Other benefits to women include the right to vote, legal protection as registered citizens of the country, improvement of their status within the family, and improvements in their self-confidence.

Malawi

Enabling Financial Services Access¹

- In Malawi, Opportunity International safeguards its clients' bank accounts by requiring that transactions be authenticated by fingerprint.
- One significant problem that women face is male relatives attempting to control their assets, especially if these assets have been issued after a husband's death. The fingerprint identification system has proved to prevent male relatives from seizing control of women's assets.

Uganda

Supporting Small-Scale Traders²

- In 2014, Uganda made national IDs more accessible to all residents.
- The effort was important for small-scale traders, 75% of whom are women. Many traders cross the border to trade goods but lack identification to legally do so. With an ID, traders are able to cross the border legally to sell their goods.
- Additionally, traders acknowledge that IDs enable them to access other important government and financial services.

1. Dahan and Hamner. 2015. "The Identification for Development (ID4D) Agenda: Its Potential for Empowering Women and Girls." 2. Hanmer and Lubega-Kyazze. 2017. "Opening Doors: How National IDs Empower Women Cross-Border Traders in East Africa."

BENEFITS TO PRIVATE SECTOR

Reduce Risk and Cost Associated with Customer Data

By limiting the potential for identity theft and helping companies more accurately gauge customer risk, robust identification systems with high levels of accuracy, queriability, integration, and/or interoperability can help save companies money. Such systems are crucial for combating threats like synthetic identity fraud. The liability costs associated with the collecting, storing, and disposing of personal data are high, and firms can mitigate such threats by relying on external identification systems.

1

Expedite Know Your Customer (KYC) Compliance

Queriable identification systems with high levels of data accuracy can also help firms reduce compliance costs—such as those associated with Know Your Customer and anti-money laundering regulations—by increasing the ease and security of identity verification and authentication.

2

Drive New Business Opportunities

Lack of legal identity is an impediment to a person's participation in the formal economy. Insufficient identity is one of the main barriers to unbanked individuals accessing the formal financial sector. Access to identity credentials could generate a large customer pool for financial services. As the number of "identified" individuals within a given market increases, the customer base available to firms across industries expands, creating business opportunities.

3

Benefits to Private Sector

1. REDUCE RISK AND COST ASSOCIATED WITH CUSTOMER DATA

India

Leveraging the Aadhaar System¹

- In India, before a digital ID system was implemented, the average Indian firm's onboarding cost was about \$23 per person.
- However, with the increased queriability, digitization, and interoperability of the Aadhaar system, some estimates indicate that onboarding costs plummeted to as little as \$0.15.

Dubai

Improving Travel¹

- In June 2017, the UAE released a digital Smart Wallet app that can replace paper-based identity documents for travel. At the airport gate, the app produces a bar code to be scanned, eliminating the need for passengers to produce physical identity documents.
- The digital verification process is estimated to have reduced the time required for identity checks by airlines to 9–12 seconds, creating significant savings in administrative costs.

Norway

Savings in University Housing¹

- Norway's BankID uses a robust, high-coverage identification system for university applications. Onboarding requires identity verification procedures in order to evaluate counterparty risk, credit risk, or fraud risk. Without this queriability identification system, BankID would have to collect and store paper-based personal information, manually evaluate applicants, and solicit ad hoc means of proving identity attributes.
- This system reduced the time associated with applying for university housing from 10–14 days to 1–3 days.

Banks & Healthcare

Tracking a Customer Lifecycle¹

- Authentication costs throughout a customer's lifecycle are exacerbated if no queriable ID system is available.
- Around 30% of calls to banks' call centers, for example, are requests for account access due to misplaced or forgotten passwords. Each one of these interactions costs a company about \$25.28.
- Lack of uniqueness in customer records is also costly for companies and potentially risky.
- In the US healthcare sector, for example, duplicate records cost medical institutions \$1,000 each, plus an additional \$5,000 to correct the record.

1. World Bank. 2018. "Public Sector Savings and Revenue from Identification Systems: Opportunities and Constraints."

Benefits to Private Sector

2. EXPEDITE KNOW YOUR CUSTOMER (KYC) COMPLIANCE

India

Facilitating KYC¹

- The Unique Identification Authority of India built India Stack, a set of APIs to facilitate verification of the country's Aadhaar personal identifier for private-sector use cases.
- To date, India Stack has allowed for nearly three billion identity authentications for private transactions, including completing 150 million distinct digital KYC reviews and linking 339 million bank accounts with Aadhaar numbers.

Thailand

Venturing into e-KYC¹

- The Bank of Thailand has introduced a new regulation to facilitate the KYC process by using an electronic means, "e-KYC," for account opening, deposit acceptance, or fund acceptance from the public.
- These standards enable private-sector companies to easily access the source in identity credentials and to remain compliant with greater ease. This will translate into a reduction in spending on inefficient compliance mechanisms and a reduction in identity-verification-based compliance penalties.

Malaysia

Simplifying with e-KYC¹

- Malaysia is drafting legal standards to govern identity verification for streamlined electronic KYC protocols.
- Under the new rules, existing requirements for face-to-face verifications for onboarding new customers would be removed for companies that received approval to conduct e-KYC.
- These changes are expected to dramatically make the onboarding process easier and enhance competition between the nonbank industry (money-service businesses) and banks.

Singapore

Integrating KYC with IDs¹

- In some cases, governments are seeking to directly integrate KYC and other compliance functionality into burgeoning foundational identity systems. Singapore began bolstering the queriability of its burgeoning national identity system, linking all 3.3 million users of its public-sector federated identity credential with its private-sector integrated MyInfo.
- Users no longer need to fill up their particulars when transacting with government agencies, and the four local banks have saved significant time by simplifying onboarding and transactional processes.

1. World Bank. 2018. "Public Sector Savings and Revenue from Identification Systems: Opportunities and Constraints."

Benefits to Private Sector

3. DRIVE NEW BUSINESS OPPORTUNITIES

Pakistan

Offering New Financial Services¹

- Pakistan's Telenor leveraged the national ID and government-mandated SIM registration to reduce onboarding time and expand the customer base for its Easypaisa payments service, which now has 20 million users and processes the equivalent of 3% of Pakistan's GDP.
- Telenor negotiated for the Bank of Pakistan to accept CNIC-verified (a verification service using NADRA) SIM registration information as sufficient identity authentication for its own KYC purposes. This reduced onboarding time to under one minute and allowed for Telenor to offer mobile money services to their customers at the point of SIM registration.

Tanzania

Expanding Consumer Base¹

- In Tanzania, the government and UNICEF partnered with Tigo to build a five-year plan to develop a mobile birth registration.
- Within the first six months of the program, the SMS-based mobile app registered 127K children, increasing registration rates from 9% to more than 30%. Since then, the program has registered almost 1.5 million children.
- The program provided Tigo an opportunity to expand its consumer base and develop additional advanced applications. This program alone will expose over 1,300 birth registration assistants and the hundreds of thousands of families with whom they work to Tigo services and mobile payment platforms.

Estonia

Enabling Economic Growth¹

- Estonia instituted an e-residency program that allows anyone in the world to apply for an Estonian government-issued digital ID.
- Estonia's advanced digital infrastructure has made it an attractive corporate market for years, and the e-residency program has provided even greater opportunities for revenue generation.
- Since the program launched, e-residents have established over 1,300 distinct companies and have contributed over \$4.6 million in both taxes and services to the Estonian economy.

Sweden

Using BankID to Develop Swish¹

- Six of Sweden's largest banks launched a common mobile payment app, Swish, building on BankID's functionality.
- The app services e-commerce payments at a cost of \$0.19–\$0.25 per transaction for retailers and is now used by more than five million Swedes for real-time digital payments, with a user base growing by over 150,000 per month.

1. World Bank. 2018. "Public Sector Savings and Revenue from Identification Systems: Opportunities and Constraints."

RISKS

While digital identification can yield benefits for the government, individuals, and the private sector, the design of the digital identification is important to overcome common risks associated with such a system.¹

Exclusion Errors

Formalizing identification digitally coupled with stricter identification requirements may marginalize certain groups if they are unable to access identification.

For example, an estimated 8% (102 million people) of Indian residents do not have Aadhaar.²

Privacy and Security

Digitizing identification makes personal information vulnerable to data breaches and violations.

Breaches of sensitive information could be especially damaging for vulnerable groups, including ethnic and racial minorities, if the digital identification includes these details.

Technology Issues

Housing the digital ID on a platform that does not fit the country context or needs is unsustainable and costly.

Biometric identification may be difficult to implement or may generate authentication errors or failures, making access to certain services more difficult for groups who experience these errors (especially vulnerable groups such as persons with disabilities).

Limited Vital Statistics

National identification relies on vital registrations, which can be weak in developing countries.

Underdeveloped registration systems can affect the government's ability to develop and maintain a national ID system.

Connectivity and Lack of Digital Literacy

Connectivity issues can impede the use of digital IDs, especially in rural areas.

Users with limited digital literacy may also face challenges in using a digital identification.

Government Capacity

Weak government infrastructure to invest financially and coordinate the implementation of the digital technology can threaten a robust digital ID system.

The government must be able to procure and manage a vendor to implement the system and commit to the appropriate digital infrastructure, cybersecurity, and regulations required to develop the identification system.

1. World Bank. ID4D "Creating a Good ID System Presents Risks and Challenges, but There are Common Success Factors,." 2. "State of Aadhaar: A People's Perspective" (2019)

2. DIGITIZING SOCIAL SAFETY NETS

DIGITIZING SOCIAL SAFETY NETS: KEY DEFINITIONS

Cash Transfers

Unconditional Cash Transfers: Provide cash to individuals or families without conditions.

Conditional Cash Transfers: Provide cash to alleviate poverty or increase human capital by requiring beneficiaries to fulfill certain conditions.

Pensions: Compensate for loss of income because of old age, disability, or death of the breadwinner for individuals without access to social insurance benefits.

Public Works Programs

Wages that are conditioned on participation in community works.

Public works programs in developing countries can reduce poverty in the long term and help low-skilled workers cope with economic shocks in the short term.

Public works are particularly useful for “self-targeting” of the poor and can lead to construction of valuable public goods in parallel with social protection functions.

In-Kind Transfers

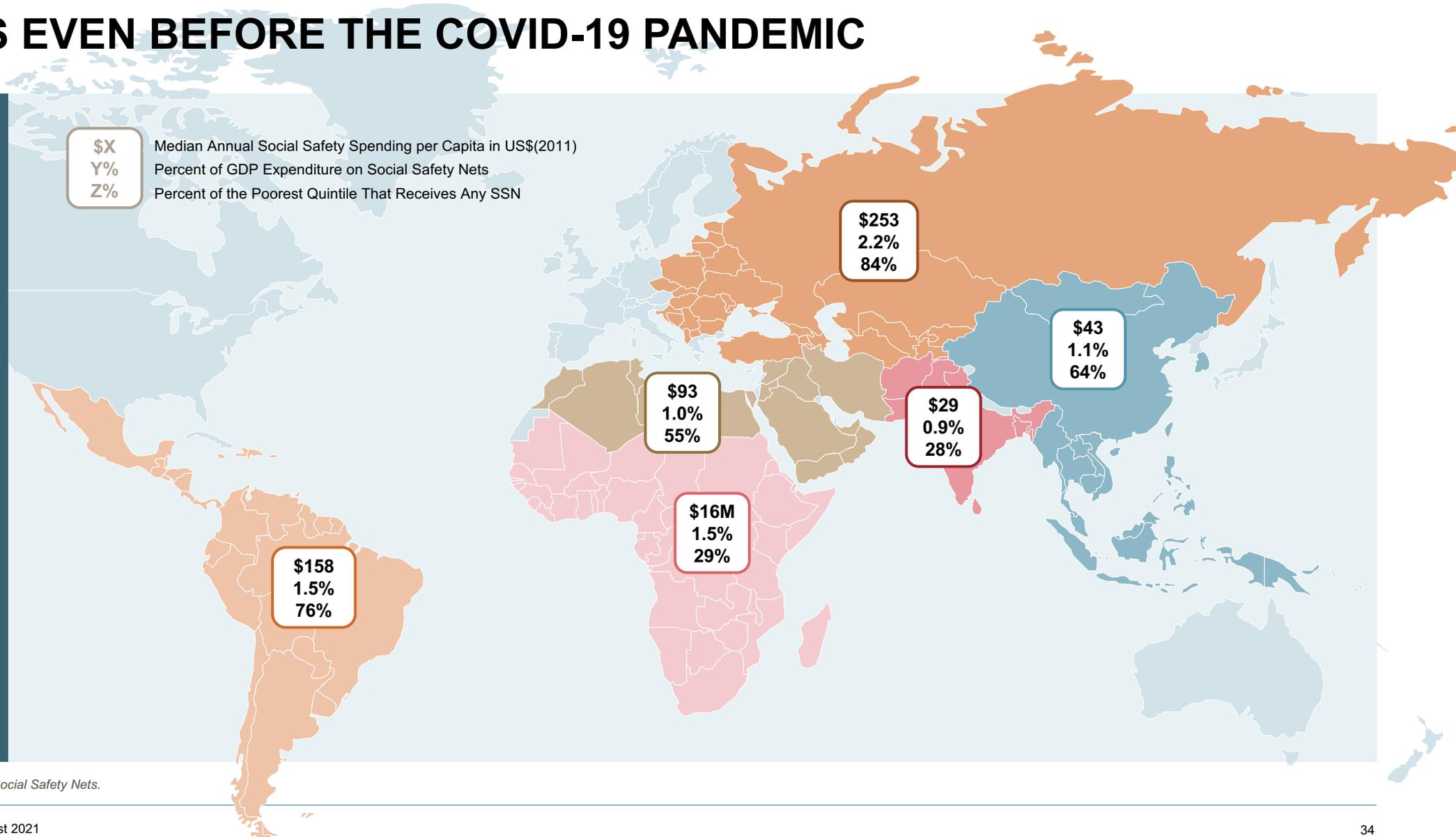
Transfers that either directly provide or provide vouchers for tangible goods such as food, clothes, school supplies, shelter, fertilizer, and agricultural seeds.

GLOBALLY 2.5 BILLION PEOPLE WERE COVERED BY SAFETY NET PROGRAMS EVEN BEFORE THE COVID-19 PANDEMIC

About 44% of the poorest quintile still lack coverage by a social safety net program.

Developing and transitioning countries spend an average of 1.5% of GDP on safety net programs.

Safety net benefits, as a share of the poor's income and consumption, are lowest in low-income countries, at only 13%.



Source: World Bank. 2018. *The State of Social Safety Nets*.

BENEFITS OF DIGITIZING SOCIAL SAFETY NETS: SUMMARY

Benefits to Government

Reduce Leakage and Corruption

Reduce Costs

Enable New Program Design Options

Benefits to Individuals

Reduce Time and Costs & Improve Reliability

Promote Financial Inclusion

BENEFITS TO GOVERNMENT

Reduce Leakage and Corruption

Digitizing the management of social safety net programs can improve targeting by eliminating ghost accounts and increasing payment traceability.

Digitizing the actual delivery of payments enables beneficiaries to more directly control their benefits by reducing corruption.

1

Reduce Costs

Digitization helps lower costs by pulling on several different levers:

- Reduced overhead
- Lower transaction costs
- Diminished operational costs
- Lower incidence of fraud

2

Enable New Program Design Options

Digitization involves laying down a significant investment in infrastructure, time, education, and coordination.

These investments will provide a stream of future dividends in the form of many new capabilities, possibilities, and unplanned positive consequences.

3

Benefits to Government

1. REDUCE LEAKAGE AND CORRUPTION

India

Reducing Leakage with National Rural Employment Guarantee¹

- India rolled out a biometrically authenticated payment system for beneficiaries of the National Rural Employment Guarantee (NREGS), a pension program. A large-scale experiment studied the impact of the payment system on beneficiaries of employment and pension programs in the Indian state of Andhra Pradesh.
- The system delivered a faster, more predictable, and less corrupt NREGS payments process without adversely affecting program access.
- The investment was cost-effective, as time savings to NREGS beneficiaries alone were equal to the cost of the intervention. There was also a 41% reduction in the “leakage” of funds between the government and beneficiaries in NREGS and social security pension.

Argentina

Reducing Leakage²

- The Sistema de Identificación Nacional Tributario y Social (SINTyS) in Argentina enabled individual records to be linked across 13 databases covering employment, pensions, electoral roll, social beneficiaries, the deceased, real estate registries, auto registries, and poor households, along with 24 provincial civil registries—all using a unique identity number.
- SINTyS enabled officials to cross-check databases and remove ineligible individuals from public benefits enrollment, which saved the government USD\$100 million.
- The system also reduced tax evasion.

1. Muralidharan, Niehaus, and Sukhtankar. 2014. “Payments Infrastructure and the Performance of Public Programs: Evidence from Biometric Smartcards in India.” 2. Pessino and Fenochietto. 2007. “How to Implement a National Coordinated System for the Identification of Individuals and Information Exchange to Improve Fiscal and Social Equity: Lessons from Latin American Countries.”

Benefits to Government

2. REDUCE COSTS

Brazil

Saving Administrative Costs¹

- Brazil bundled four social protection benefits onto one conditional cash transfer program, Bolsa Família, distributed via electronic payment card.
- Direct payments into bank accounts facilitated by digitization reduced administrative costs by an estimated 50%. Digitizing payments and consolidating the programs also improved transparency and reduced corruption.

South Africa

Reducing Costs of Delivering Transfers²

- The Mzansi Account is an entry-level bank account, based on a magnetic stripe debit card platform, developed by the South African banking industry and launched collaboratively by the four largest commercial banks together with the state-owned Postbank.
- The South African Social Security Agency cut its costs of delivering social transfers to less than US\$2 per payment after moving to these digital-enabled accounts.
- Direct electronic transfers dropped transfer costs from R35.92 to R13.50 per transaction. This represents a cost reduction of close to 62%.

Kenya

Generating Cost Savings³

- In 2018, the Ministry of Labour and Social Protection in Kenya launched the newest phase of its social safety net program, Inua Jamii, aimed at providing all recipients with a full bank account and offering them a choice among four financial services providers.
- Through payment digitization, recipients can access funds at bank branches and agents of their chosen bank.
- The government has recognized significant time and cost savings. These savings are generated from reduced time and resources required to operationalize payments such as replacing cards, which falls to the provider banks.

Mexico

Generating Cost Savings⁴

- Mexico digitized distribution for federal employee salaries, pensions, and social protection programs including Oportunidades, Procampo, and Programa para Adultos Mayores.
- The shift to digital distribution saves the government an estimated MXN\$17 billion per year, which equals 3.3% of total expenditures on such payments.

1. Lindert, Linder, Hobbs, and Brière. 2007. "The Nuts and Bolts of Brazil's Bolsa Família Program: Implementing Conditional Cash Transfers in a Decentralized Context." 2. Bankable Frontier Associates. 2009. "The Mzansi Bank Account Initiative In South Africa." 3. McKay, Mdluli, Chebii, and Malu. 2020. "The Future of G2P Payments: Innovating for Customer Choice in Kenya." 4. Babatz. 2013. "Sustained Effort, Saving Billions: Lessons from the Mexican Government's Shift to Electronic Payments."

Benefits to Government

3. ENABLE NEW PROGRAM DESIGN OPTIONS

India

Empowering Women¹

- In 2019, leveraging digital infrastructure, a study in India found sizable benefits to paying women's public workfare wages into their own digital accounts (instead of their husbands' accounts) while also providing training on how to use these accounts.
- Over the short term (one year after accounts opened), women were 9 percentage points more likely to be on the workfare rolls and to work in the private sector. Over the longer term (three years after the accounts opened), the intervention liberalized social norms around women's work and supported a sustained increase in private-sector work among women least attached to the labor market.

Kenya

Enabling Banks to Meet the Needs of Underserved Populations²

- Kenya's Hunger Safety Net Programme digitized benefit payments and allowed recipients to choose from four bank accounts through which they can receive the benefit.
- To create incentives for quality service and inclusive coverage, the program paid the banks on a three-tier commission structure. The levels were urban, semi-urban, and remote. The zones were based on detailed analysis and on population density, economic activity, and distance from branch.
- The bank incentives reduced the time to open customer accounts from six months to two. Some banks approached customers before the program began.

India

Enabling Widespread Reform³

- India converted its liquefied petroleum gas (LPG) production subsidy into a targeted cash transfer by digitizing accounts and associated identification of recipients.
- The reform reduced leakage and diversion of LPG to the commercial market and improved the quality of service for legitimate beneficiaries. This effort led to a 15% reduction in volume of subsidized LPG to the black market.
- De-duplication of beneficiary lists, elimination of price subsidies by direct transfers to bank accounts, and the use of Aadhaar improved access to poor and rural beneficiaries, especially women. The program accomplishes this because de-duplication opens additional funding for additional beneficiaries, who were previously excluded.

Colombia

Improving Education⁴

- Colombia issued conditional cash transfers to families of disadvantaged students.
- Researchers tested three different conditional cash transfer programs for secondary schools: forced savings, traditional bimonthly transfers, and a delayed transfer.
- Results show that forcing families to save a portion of the transfers until they make enrollment decisions for the next academic year increases on-time enrollment in secondary school, reduces dropout rates, and promotes tertiary enrollment and completion in the long term.
- While the main feature that led to these results was the forced savings, digitization is what enabled this feature.

1. Field, Pande, Rigol, Schanner, and Moore. 2019. "On Her Own Account: How Strengthening Women's Financial Control Impacts Labor Supply and Gender Norms." 2. McKay, Mdluli, Chebii, and Malu. 2020. "The Future of G2P Payments: Innovating for Customer Choice in Kenya." 3. Mittal, Mukherjee, and Gelb. 2017. "Fuel Subsidy Reform in Developing Countries: Direct Benefit Transfer of LPG Cooking Gas Subsidy in India." 4. Osorio, Linden, and Saavedra. 2017. "Medium- and Long-Term Educational Consequences of Alternative Conditional Cash Transfer Designs: Experimental Evidence from Colombia."

BENEFITS TO INDIVIDUALS

Reduce Time and Costs & Improve Reliability

Digitization of social safety net programs reduces the cost and time required to receive payment and makes it easier for recipients to collect transfers.

Digitization of social safety nets improves the operational efficiency, user interface experience, administrative back end, transparency, and traceability.

1

Promote Financial Inclusion

Digitizing social safety programs embeds beneficiaries into a system of automatic deposits and helps them overcome some barriers to saving.

It also increases participants' trust in the financial system and enables beneficiaries to access financial accounts.

2

Benefits to Individuals

1. REDUCE TIME AND COSTS & IMPROVE RELIABILITY

Argentina

Improving Operations¹

- Argentina's social protection program, Jefes y Jefas de Hogar transitioned from distributing cash via local officials to digital payments via debit cards.
- One year after switching to debit cards, 87% of the 1.5 million beneficiaries reported that the new system is an improvement. The average time spent on travel to a withdrawal point and queuing dropped from 255 minutes to 41 minutes.
- The percentage of participants who said they paid a bribe to local officials to access their benefit dropped from 3.6% to 0.3%.

Niger

Generating Savings²

- Concern Worldwide, a humanitarian organization, issued unconditional cash transfers to households affected by the 2009/2010 drought and subsequent food shortage. To understand the impact of digital delivery, beneficiaries were randomly assigned to either receive the cash transfer manually or digitally using the Zap cash app.
- Administering transfers digitally reduced overall travel and wait time. Beneficiaries of the digital transfer also enjoyed higher dietary diversity, which is attributable to the time savings associated with the digital transfer.

India

Reducing Time Spent Accessing Payments³

- India rolled out a biometrically authenticated payment system for beneficiaries of the National Rural Employment Guarantee (NREGS), a pension program. A large-scale experiment examined the impact of the payment system on beneficiaries in Andhra Pradesh.
- Recipients of the digital transfer withdrew NREGS payments twice as fast as recipients withdrawing from the post office and 10 times faster than recipients withdrawing from a bank branch.

Mexico

Increasing Trust⁴

- In Mexico debit cards tied to existing savings accounts were rolled out geographically over time to beneficiaries of the conditional cash transfer program Oportunidades. Researchers utilized the natural experiment enabled by the geographic rollout to examine the effects of digitization of transfer payments.
- Results show that digital payment beneficiaries accumulate a savings stock worth 2% of annual income after two years.
- Debit cards reduce transaction costs associated with manual transfers and reduce monitoring costs, leading beneficiaries to check their account balances frequently and build trust in the bank.

1. Duryea, Schargrodsky, and Di Tella. 2007. "Financial Services for the Poor: Welfare, Savings and Consumption." 2. Aker, Boumniel, McLelland, and Tierney. 2016. "Payment Mechanisms and Antipoverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger." 3. Muralidharan, Niehaus, and Sukhtankar. 2014. "Payments Infrastructure and the Performance of Public Programs: Evidence from Biometric Smartcards in India." 4. Bachas, Gertler, Higgins, and Seira. 2020. "How Debit Cards Enable the Poor to Save More."

Benefits to Individuals

2. PROMOTE FINANCIAL INCLUSION

Mexico

Increasing Savings¹

- In Mexico, Oportunidades recipients are offered a full savings account in Bansefi, a state-owned bank.
- More than 1.5 million have elected to use the savings account, 30% of the total five million recipients.
- A randomized controlled trial shows these households saved an average of 12% of their government grant.
- Combined with subsequent investments, these initial savings led to a 35% increase in total expenditures in consumption after five years in the program.
- In addition, digitizing cash transfers allowed households to receive more remittances and better cope with financial adversity.

Malawi

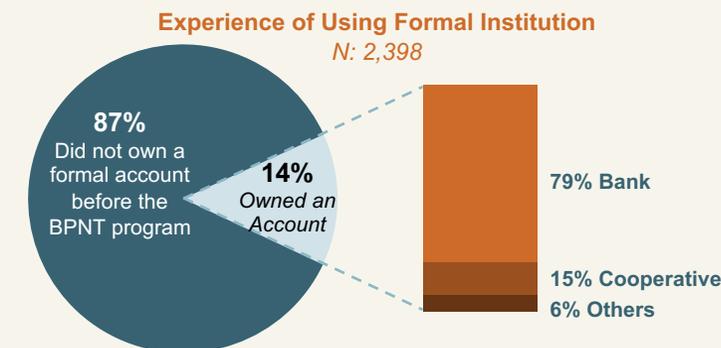
Promoting Usage²

- The Dowa Emergency Cash Transfer (DECT) project provided digital cash transfers to 11,000 recipients over the course of five months. The transfer was issued via a newly opened bank account at the Opportunity International Bank of Malawi (OIBM).
- OIBM reported that 45% of recipients enrolled in the DECT program, which ended in 2007, are still using the bank account they were initially given more than two years later.

Indonesia

Failing to Promote Usage³

In 2019, Microsave conducted an operations assessment of Indonesia's social assistance program, Bantuan Pangan Non Tunai (BPNT). BPNT supports beneficiaries by transferring digital payments into bank accounts. Beneficiaries report that BPNT is their first experience owning a savings account in a bank. However, the study found that only a negligible number of respondents have used their account for savings, indicating that digitization alone did not facilitate financial inclusion.



1. Gertler, Martinez, and Rubio-Codina. 2012. "Investing Cash Transfers to Raise Long-Term Living Standards." 2. Pickens, Porteous, and Parker. 2009. "Banking the Poor via G2P Payments." 3. MSC. 2019. "BPNT Operations Assessment."

RISKS

While digitizing the social safety net can yield benefits for the government and individuals, there are some risks associated with digitization.

Exclusion Errors

Digital targeting and distribution may miss certain intended beneficiaries. Targeting may be imperfect if the benefit relies on identification or other credentials that certain groups are unable to attain.

Additionally, certain beneficiaries may be enrolled in the digital program but may be unable to access the benefit due to failures in activating digital accounts.

Insufficient Infrastructure

A developed digital infrastructure increases the benefits of digitizing social assistance programs. Without the ability to either easily cash out their benefits or use their benefits to pay for services digitally, beneficiaries' ability to actually use their benefits are limited.

Lack of connectivity may also limit beneficiaries' ability to access their benefits. This issue may be especially salient for those living in rural areas.

Misconduct among Providers

Digitizing the safety net opens beneficiaries to misconduct by providers such as agents overcharging beneficiaries to cash out their payment. Digital safety nets should be accompanied by robust consumer protection regulations and practices that address the misconduct unique to digital financial services.

Lack of Digital Literacy

Access to benefits may be limited due to beneficiaries' lack of familiarity with digital systems available to access their benefits. Beneficiaries with low levels of digital literacy may have particular issues with both accessing and using benefits delivered digitally.

Increased Complexity

Digitizing the social safety net relies on several different systems, including digital identification, mobile penetration, and cash-in/cash-out (CICO) agent networks. If these interconnected systems are not well functioning, it may be difficult to implement a digital social safety net program.

Political Resistance

Shifting to a digital safety net system may also require shifting to new contractors to implement the programs. New procurement could disrupt political patronage networks that benefit dominant or state-owned providers. Thus, digitizing the social safety net could face political resistance.

3. EMERGENCY RESPONSE

EMERGENCY RESPONSE: KEY DEFINITIONS

Emergency Social Protection Benefits

Social protection transfers and in-kind benefits distributed quickly and targeted toward populations affected by emergencies such as natural disasters, epidemics, pandemics, sector-specific shocks, and food insecurity.

Wage Payments to Healthcare Workers and Other Emergency Responders

Salaries and hazard incentives distributed to individuals involved in direct service provision related to emergencies such as vaccination campaigns.

Monitoring

Tracking movement of key population groups and their access to government benefits as well as the efficiency of government benefit distribution.

EMERGENCY RESPONSE: PROBLEM DESCRIPTION

The economic fallout from emergencies pushes households into poverty, and low- and middle-income countries are disproportionately affected

The COVID-19 pandemic has significantly affected employment and living standards. The World Bank estimates that over 150 million people¹ from low- and middle-income countries will be forced into extreme poverty due to the COVID-19 pandemic.

Globally, due to the pandemic, income has decreased and food prices have increased by 14%,² resulting in many households being unable to meet their nutritional needs.

A survey of 40 countries shows that 36%³ of individuals working before the pandemic ceased working, and 62%⁴ of households lost income during the pandemic.

Child poverty and hunger have also increased during the pandemic. In sub-Saharan Africa, poverty rates increased by 10%⁵ and are expected to increase by 20% by the end of the pandemic, and the number of children experiencing food insecurity increased by 14%.

Governments face immense challenges in responding to emergencies

The COVID-19 pandemic has significantly affected employment and living standards.

The World Bank's rapid phone surveys show that, on average, 20%⁶ of households report receiving assistance, but the rate of assistance widely varies across countries. For example, 70% of Indonesians surveyed report receiving assistance, while fewer than 10% of individuals in sub-Saharan Africa report receiving assistance.

Emergencies have long-term consequences for the macro-economy

The COVID-19 pandemic's macro-economic consequences may significantly affect investment, human capital, and global trade.

The pandemic will downgrade economic growth⁷ in every region, and a global recession could have long-term impacts on economic and labor productivity. These impacts are likely to disproportionately affect emerging economies.

1. World Bank. 2020. "COVID-19 to Add as Many as 150 Million Extreme Poor by 2021." 2. UNICEF. 2020. "COVID-19: A Catastrophe for Children in Sub-Saharan Africa." 3. Sánchez-Páramo and Narayan. 2020. "Impact of COVID-19 on Households: What Do Phone Surveys Tell Us?" 4. Newhouse and Weber. 2021. "Phone Surveys Confirm the Widespread Effects of COVID-19 on Jobs in Developing Countries." 5. UNICEF. 2020. "COVID-19: A Catastrophe for Children in Sub-Saharan Africa." 6. Sánchez-Páramo and Narayan. 2020. "Impact of COVID-19 on Households: What Do Phone Surveys Tell Us?" 7. World Bank. 2020. "The Global Economic Outlook during the COVID-19 Pandemic: A Changed World."

BENEFITS OF DIGITIZING EMERGENCY RESPONSE: SUMMARY

Benefits to Government

Improve Targeting and Reach

Disburse Benefits Quickly

Improve Efficiency

Stabilize Macro-Economy

Benefits to Individuals

Receive Emergency Benefits in a Timely Manner

Improve Efficiency and Security of Benefits

Smooth Consumption and Resilience to Shocks

Benefits to Private Sector

Enable Workers to Retain Jobs

Support Small Businesses

BENEFITS TO GOVERNMENT

Improve Targeting and Reach

Using digital verification and enrollment can improve targeting to ensure benefits reach the groups with the greatest need.

Digital payments can more efficiently reach individuals outside the formal economy, individuals living in rural areas, and other hard-to-reach or vulnerable groups including women.

1

Disburse Benefits Quickly

Digital payments can reduce administrative transaction costs for governments, enabling governments to issue payments quickly.

2

Improve Efficiency

Digital payments can improve efficiency by reducing costs to both government and beneficiaries.

Distributing benefits electronically can stem fraud, especially in the form of bribes extracted at service points.

This system also has the potential to reduce the administrative costs to governments associated with distributing benefits and to reduce travel costs and lost wages associated with commuting to access benefits.

3

Stabilize Macro-Economy

Quick, efficient, and targeted government payments can infuse the economy with cash and protect businesses.

4

Benefits to Government

1. IMPROVE TARGETING AND REACH

India

Targeting Stranded Migrants in Bihar during COVID-19¹

- The Bihar state government launched the Corona Sahayata program to issue cash assistance to migrants affected by the COVID-19 pandemic. The logic behind the program is that with limited financial options due to lockdown, migrants would opt to travel back to their home states. Thus, social assistance directed toward migrants would help stem travel and limit the spread of COVID-19.
- The state government identified, onboarded, and issued payments digitally to over two million people during the first week of the program. The program relied on the ability to identify the correct beneficiaries, migrant workers living in Bihar. The digital identification process allowed individuals to apply for assistance through an app or through a website that required beneficiaries to provide proof of residency and bank account registration. Payment was made quickly through the pre-established digital infrastructure, enabling the government to provide benefits directly to individuals' bank accounts.

Lebanon and Jordan

Reaching Syrian Refugees²

- Humanitarian agencies in Lebanon and Jordan have digitized cash and voucher delivery through mobile wallets and biometrics that identify refugees so they can withdraw transfers directly from ATMs.
- Digital transfers issued through biometrics and mobile wallets enable more efficient targeting and interagency collaboration since multiple agencies can make payments through one system and share information about beneficiaries.
- While many organizations provide assistance, the largest provider, World Food Programme, reaches between 60% and 80% of the estimated 240,000 refugees with digital cash assistance in Lebanon.

Togo

Establishing a Methodology to Track the Poorest Residents during COVID-19³

- Togo launched Novissi, a cash assistance program that targets the neediest families during the COVID-19 pandemic. The initial registry relied on a voter database and included informal workers living in areas most affected by the lockdown. The government expanded the program and tested new ways to track and target beneficiaries.
- Findings suggest that using satellite tracking and mobile phone metadata enables governments to better track beneficiaries and deliver needed benefits.
- Using a satellite and phone approach is significantly more accurate than alternative targeting schemes. This targeting scheme is projected to reach two and a half times as many beneficiaries from the poorest families compared to the alternative targeting approaches considered by the Togolese government.

India

Distributing Transfers to Women during COVID-19⁴

- India established a digital cash transfer payment system directed toward women in response to the COVID-19 pandemic. Over the course of three months, women received transfers directly into their Pradhan Mantri Jan-Dhan Yojana (PMJDY) bank accounts. PMJDY accounts were established in 2014 and provide universal banking services to every unbanked adult in India.
- The pre-established PMJDY accounts enabled the government to quickly distribute cash transfers meant to subsidize food transfers. Additionally, the government was able to specifically target women for the transfer by identifying accounts owned by women. About 0.2 billion women received the transfer from April to June 2020.
- Some women did not actively use their accounts, which did impede the efficiency of the distribution.

1. Mukherjee. 2020. "Digital Cash Transfers for Stranded Migrants: Lessons from Bihar's COVID-19 Assistance Program." 2. Chehade, McConaghy, and Meier. 2020. "Humanitarian Cash Transfers and Financial Inclusion: Lessons from Jordan and Lebanon." 3. Blumenstock, Karlan, and Udry. 2020. "Using Mobile Phone and Satellite Data to Target Emergency Cash Transfers in Togo." 4. Yale Economic Growth Center. Pande, Schaner, Moore, and Stacy. 2020. "Reaching India's Poorest Women with Covid-19 Relief."

Benefits to Government

2. DISBURSE BENEFITS QUICKLY

Philippines

Distributing Benefits Quickly to Protect Vulnerable Groups during COVID-19¹

- In March 2020, the Philippines established the Social Amelioration Program, a social assistance program meant to support families during the COVID-19 pandemic and lockdown. Beneficiaries include individuals enrolled in the country's flagship assistance program, Pantawid, as well as other vulnerable groups.
- Distribution channels varied by beneficiary type as most individuals already enrolled in the Pantawid program were able to access their benefits digitally while non-Pantawid beneficiaries accessed their transfers manually. By April 2020, nearly all Pantawid beneficiaries had received their benefits, while only 20% of non-Pantawid beneficiaries had received their benefits, suggesting that digital channels enabled the government to deliver cash faster than non-digital delivery mechanisms.
- Pantawid beneficiaries report lower levels of food insecurity than non-Pantawid beneficiaries.

Ghana

Distributing Quick, Onetime Cash Transfers during COVID-19²

- Ghana distributed a onetime digital cash transfer to participants of a social protection program, Livelihood Empowerment against Poverty, during COVID-19. The program pivoted from manual distribution of transfers to digital distribution for this onetime payment in order to protect beneficiaries from exposure to COVID-19 associated with collecting cash in person. Beneficiaries withdrew cash from ATMs using electronic transfer cards.
- The transfer was issued through electronic benefit cards, so the beneficiaries could access the transfer quickly and to help beneficiaries avoid contact with others.

Senegal

Investing in a Registry and Digital Payment Platform in Anticipation of Emergencies³

- To prepare for floods and other similar shocks, Senegal developed an adaptive social protection system and methodology to target assistance to the most impacted households. The government invested in information and payment systems.
- The National Single Registry includes 550,000 poor and at-risk households.
- During the September 2020 floods, these upfront investments enabled the Senegalese government to identify needy households and disperse mobile payments quickly to more than 15,000 flood-affected households.

1. Cho, Avalos, Kawasoe, Johnson, and Rodriguez. 2020. "Mitigating the Impacts of COVID-19 on the Welfare of Low Income Households in the Philippines: The Role of Social Protection." 2. Dadzie and Raju. 2020. "Economic Relief through Social Safety Nets during the COVID-19 Crisis: The Case of Ghana." 3. Bossuroy, Bodewig, and Branders. 2020. "After the Rains: Assisting Flood-Affected Households through Adaptive Social Protection."

Benefits to Government

3. IMPROVE EFFICIENCY

Sierra Leone

Reducing Wage Theft and Fraud through Digital Payments to Healthcare Workers during the Ebola Epidemic¹

- Sierra Leone utilized mobile wallets to pay community health workers during the Ebola epidemic.
- Digitization made payments more efficient and reduced fraud associated with cash payments. This process improvement led to an estimated USD\$10 million in cost savings for both the government and workers. Efficient and expedient payments also stemmed payment-related strikes by healthcare workers, thus supporting care for Ebola patients and an ability to better contain the disease.

Niger

Improving Efficiency of Benefits Distribution²

- Concern Worldwide, a humanitarian organization, issued unconditional cash transfers to households affected by the 2009/2010 drought and subsequent food shortage. To understand the impact of digital delivery, beneficiaries were randomly assigned to either receive the cash transfer manually or digitally using the Zap cash app.
- Digital delivery reduced costs for both the implementing agency and recipient households, meaning using mobile money to distribute benefits has efficiency gains for both the distributor and beneficiaries. The implementor saved on the costs of transportation, security, and other administration associated with manual distribution. The recipients saved on the costs of travel associated with accessing the manual transfer.

1. Bangura. 2016. "Saving Money, Saving Lives: A Case Study on the Benefits of Digitizing Payments to Ebola Response Workers in Sierra Leone." 2. Aker, Boumijel, McClelland, and Tierney. 2012. "Zap It to Me: The Impacts of a Mobile Cash Transfer Program."

Benefits to Government

4. STABILIZE MACRO-ECONOMY

South Africa

Reaching Newly Unemployed and Preserving Companies and Small Businesses during COVID-19¹

- South Africa implemented a government assistance package to respond to COVID-19 lockdowns, issuing loan guarantees to companies and smaller enterprises. The government built on existing social programs and expanded benefits to newly poor and/or unemployed populations to provide tax relief, distribute digital cash benefits, and issue food parcels.
- The program props up business; provides additional services to individuals already enrolled in government assistance programs; and supports newly unemployed individuals, who are often difficult to target, through digital payments. The complete package of services aimed at both businesses and individuals is meant to stabilize the economy and catalyze recovery.
- There are criticisms of the government response.

Rwanda

Leveraging Digital Technology and Digital Financial Services to Support Households and Businesses during COVID-19²

- Rwanda utilized digital technology to respond to the COVID-19 crisis. The government implemented digital contact tracing and used digital reporting and geographic information systems to visualize and monitor cases. The country's already-high rates of financial inclusion enabled merchants and residents to better adhere to lockdowns. Telecom companies, in partnership with the government, waived peer-to-peer mobile money transfer fees, merchant payment fees, and transfers from accounts to mobile wallets.
- From March to May 2020, peer-to-peer transfers increased from \$11 million to \$73 million per week. Researchers find³ that while COVID-19 harmed sectors that rely on in-person work, the country has begun to recover from the crisis.

1. Gelb. 2020. "COVID-19 G2P Cash-Transfer Payments Country Brief: South Africa." 2. IMF Country Focus. 2020. "Rwanda Harnesses Technology to Fight COVID-19, Drive Recovery." 3. Byrne, Karpe, Kondylis, Lang, and Loeser. 2020. "Sectoral heterogeneity in the COVID-19 Recovery: Evidence from Rwanda."

BENEFITS TO INDIVIDUALS

Receive Emergency Benefits in a Timely Manner

Digitization allows payments to reach beneficiaries immediately.

Digital enrollment and distribution channels reduce the amount of time it takes to process beneficiary applications and transfer payments to beneficiaries.

Governments' rapid emergency response is also aided by digitization of payments to government workers, especially healthcare workers, and digitization of applications for emergency assistance.

1

Improve Efficiency and Security of Benefits

Digital payments reduce transaction costs and improve the security of delivery.

For the government, digitization of payments is administratively cheaper and allows for more efficient onboarding of beneficiaries and delivery of benefits.

For individuals, digitization reduces the costs and insecurity associated with travel to receive benefits.

Contactless payments can also reduce exposure to disease, allow citizens and residents to comply with curfews and shutdowns, and reach individuals who have been dislodged from their homes due to an emergency.

2

Smooth Consumption and Resilience to Shocks

Digital payments can help beneficiaries meet their immediate needs when their income and financial security are disrupted by emergencies.

3

Benefits to Individuals

1. RECEIVE EMERGENCY BENEFITS IN A TIMELY MANNER

Jordan

Rapidly Deploying Payments to Informal Workers and Social Assistance Beneficiaries during COVID-19¹

- Jordan invested in a digital application, enrollment, and payment system prior to the COVID-19 pandemic and utilized the system to target payments to informal workers and social assistance beneficiaries during the pandemic. Informal workers were able to apply for benefits using an online portal, and the first round of benefits were distributed nine days after the government announced the program.
- Utilizing upfront investments in digital infrastructure, Jordan rapidly deployed digital payments through e-wallets to nearly 250,000 beneficiaries. Digital application and enrollment enabled Jordan to quickly review and validate applications, accelerating onboarding and payments.
- Though deployment was fast, some beneficiaries faced challenges due to the digital delivery and were unable to open their e-wallets or retrieve cash.

Pakistan

Deploying Payments Quickly to the Poor and Most Vulnerable during COVID-19²

- Pakistan launched the Ehsaas Emergency Cash Program at the beginning of the COVID-19 pandemic to immediately deploy cash transfers using an existing digital payment system established by the Benazir Income Support Programme (BISP). BISP is an existing social protection program that includes beneficiaries identified through a national registry.
- The government is able to determine eligibility for new applicants through the national registry and through developing a list of needy families at the district level whose eligibility was verified through data analytics. The pre-established mobile authentication registration system and robust national digital identification facilitated rapid deployment of emergency assistance and onboarding for new, eligible beneficiaries.
- The government issued digital cash transfers to 7.5 million existing BISP beneficiaries and identified 7.3 million additional beneficiaries.

Namibia

Deploying Payments Quickly during COVID-19³

- Namibia used digital technology to enroll and issue payments to beneficiaries of a COVID-19 relief program. Applicants submitted their applications via mobile device, and Namibia screened them against tax status, employment status, and social assistance status. To avoid exclusion errors, 10 applications could be submitted via one SIM card. Thus, multiple members of one family could submit applications on one phone. Once the government confirmed eligibility, payments were distributed via e-wallets. However, distribution was staggered to improve efficiency.
- About 98% of transfers were cashed out within a short period of time.

1. Jordan Strategy Forum and UNICEF. 2020. "Jordan's National Social Protection Response during COVID-19." 2. Khan and Jamy. 2020. "COVID19 G2P Cash Transfer Payments Country Brief: Pakistan." 3. Gelb and Mukherjee. 2020. "Digital Technology in Social Assistance Transfers for COVID-19 Relief: Lessons from Selected Cases."

Benefits to Individuals

2. IMPROVE EFFICIENCY AND SECURITY OF BENEFITS

Afghanistan

Reducing Costs Associated with Food Aid¹

- In response to ongoing conflict, recurring natural disasters, and economic uncertainty, the World Food Programme serves food-insecure Afghans through emergency response food vouchers and in-kind transfers. In 2014, WFP piloted and tested an e-voucher system.
- The e-vouchers utilize digital technology to distribute benefits and to facilitate uptake and usage of the vouchers, especially for low-literacy users. Beneficiaries are provided with mobile accounts and are alerted via SMS when those accounts are loaded. Utilizing biometric technology, beneficiaries can make cashless transactions at merchant locations, redeeming their vouchers for food.
- E-vouchers enable beneficiaries to receive their benefits quickly, efficiently, and with limited security issues. Electronic distribution reduces administrative costs, provides a channel through which benefits can be transferred immediately, and eliminates the need for long and/or dangerous trips to access food. About 82% of beneficiaries report a preference for e-vouchers (compared to food or cash), and 100% of beneficiaries report a seamless customer experience when redeeming vouchers.

Liberia

Efficiently Paying Government Employees²

- In response to shortfalls in payment infrastructure, the Liberia Ministry of Health rolled out a digital payment system for government workers.
- The program was first established for educators and healthcare workers who overwhelmingly reported satisfaction with the payment.
- Enrollment in the digital payment system is associated with efficiency gains for the employees. Digital payments saved government employees from travel costs (costs associated with accessing payment decreased from USD\$12 to USD\$4, on average, per transaction) and travel time.

Colombia

Demonstrating the Need for Robust Digital Payment Systems for Social Distancing Compliance³

- Colombia issued unconditional cash transfers, every one to two months, in response to the COVID-19 pandemic and set up a digital infrastructure to deliver the transfer.
- While digital payments had some benefits (as outlined in the following slide), the lack of pre-established digital infrastructure meant that recipients immediately cashed out their payments because they could not spend the money digitally. Most recipients cashed out the entirety of their transfers immediately upon receipt, which negated the benefit of digital payments supporting social distancing measures.
- About 23% of digital payment beneficiaries report delays or difficulties with the program compared to 10% of cash beneficiaries, suggesting a need to stand up digital delivery systems prior to emergencies.

1. Fakiri. 2016. "Building a Gateway to Digital Payments in Afghanistan: The World Food Programme's E-Voucher Initiative." 2. Perkins. 2018. "Here's How Getting a Message Across in the Right Way Strengthens Projects." 3. Londoño-Vélez and Querubín. 2020. "The Impact of Emergency Cash Assistance in a Pandemic: Experimental Evidence from Colombia."

Benefits to Individuals

3. SMOOTH CONSUMPTION AND RESILIENCE TO SHOCKS

Colombia

Providing for the Needs of Unemployed Beneficiaries during COVID-19¹

- Colombia issued unconditional cash transfers, every one to two months, in response to the COVID-19 pandemic and set up a digital infrastructure to deliver the transfer. Researchers examined the effect of the transfer on wellness by comparing outcomes for eligible individuals who received the transfer and those who did not receive the transfer.
- The transfer improved beneficiaries financial security, despite 57% of beneficiaries becoming unemployed during the pandemic. Beneficiaries were 15% less likely to sell their belongings to cover expenses than non-beneficiaries.
- The transfer was delivered both manually and digitally, and digital uptake increased over time with nearly 75% of the recipients using the digital platform by November 2020.

Liberia and Malawi

Maintaining Food Security Even during Employment Disruptions Caused by COVID-19²

- In Liberia and Malawi, GiveDirectly issued digital unconditional cash transfer payments prior to the COVID-19 pandemic. As part of an ongoing study, researchers explored the effects of the transfer during the COVID-19 pandemic.
- While employment and income were disrupted due to the pandemic as evidenced by large declines in income among market vendors, food security remained stable. This result implies that transfers, issued quickly due to the digital delivery channel, enhanced beneficiaries' resilience to COVID-19.

Kenya

Smoothing Consumption of Beneficiaries during COVID-19³

- In Kenya, a universal basic income program was in place when the COVID-19 pandemic occurred, enabling researchers to explore the UBI's ability to provide insurance against unexpected risks. The study and program were initiated prior to COVID-19, and researchers captured information from the control and treatment groups during the strictest lockdown period.
- Households that received transfers were less likely to experience hunger during the lockdown. Transfer households also experienced reduced hospital visits and social interactions.
- The mobile payment and digital infrastructure established prior to the pandemic enabled governments to distribute cash quickly and supported beneficiaries' ability to smooth consumption during a shock.

1. Londoño-Vélez and Querubín. 2020. "The Impact of Emergency Cash Assistance in a Pandemic: Experimental Evidence from Colombia." 2. Aggarwal, Jeong, Kumar, Park, Robinson, and Spearot. 2020. "Did COVID-19 Market Disruptions Disrupt Food Security? Evidence from Rural Households in Liberia and Malawi." 3. Banerjee, Faye, Krueger, Niehaus, and Suri. 2020. "Effects of a Universal Basic Income during the Pandemic."

BENEFITS TO PRIVATE SECTOR

Enable Workers to Retain Jobs

Government support for businesses and workers during periods where employment and production are disrupted can stabilize jobs and facilitate a smooth transition back to work.

1

Support Small Businesses

Digital payments to businesses can shield them from short-term financial fallout resulting from an emergency.

While business disruption due to an emergency may be temporary, the consequences for small businesses could be severe without short-term support.

Financial products including direct payments and loans can stabilize small businesses and enable them to meet business obligations through an emergency period.

2

Benefits to Private Sector

1. ENABLE WORKERS TO RETAIN JOBS

Bangladesh

Protecting the Garment Sector and Garment Factory Employees during COVID-19¹

- COVID-19 threatens the garment sector due to canceled orders and lockdowns suspending production. To support the garment industry and encourage safe practices during the pandemic, the government of Bangladesh provided a relief package to garment factories that was conditional on firms paying their workers digitally.
- Employers who already had systems in place to pay their employees digitally were able to pay their employees rapidly even when work was halted. About 800 other factories rapidly transitioned to digital payments, which enabled them to safely pay employees. By May 2020, 76% of garment workers reported receiving their pay digitally compared to 28% in April 2020.
- Digital payments protected vulnerable workers because they allowed employees to maintain some income without the need to collect cash in person, avoiding potential exposure to COVID-19. Researchers found that digital payments improve resiliency because they make saving easier, and individuals who receive digital payments are less likely to immediately transfer their income to individuals outside their household.

1. Kashyap. 2020. "Protecting Garment Workers during COVID-19 Crisis."

Benefits to Private Sector

2. SUPPORT SMALL BUSINESSES

Zimbabwe

Enabling Mobile Payments to Small Businesses during COVID-19¹

- Zimbabwe's Economic Recovery and Stimulus Package provides relief to individuals, families, small businesses, and industries. The goal of the stimulus package is to provide liquidity support to productive sectors and protect employment in the wake of the COVID-19 pandemic.
- As part of its COVID-19 response, Zimbabwe's government amended the exchange control regulations to support small businesses. The regulation enables payments to small businesses electronically through a foreign currency account or through any electronic payment system.
- The effort encourages the use of digital payments to merchants, enabling consumers to support businesses and facilitating safe transactions between merchants and customers.

Indonesia

Supporting Mobile Money during COVID-19¹

- Bank Indonesia has developed policies in response to COVID-19 to strengthen the economy. Three tools that Bank Indonesia has employed to address the crisis and economic fallout include reducing the costs of the National Clearing System, providing hygienic currency for circulation, and enabling digital benefit transfers for government programs.
- These tools enable merchants to receive payments safely and encourage the use of digital payments.

1. World Bank. 2020. "Map of SME-Support Measures in Response to COVID-19."

RISKS

While digital emergency response can yield benefits for the government, individuals, and the private sector, it is important to design emergency response to overcome common risks associated with digitization.

Exclusion Errors

Digital targeting and distribution may miss certain intended beneficiaries. Targeting may be imperfect if the benefit relies on identification or other credentials that certain groups are unable to attain.

Additionally, certain beneficiaries may be enrolled in the digital program but may be unable to access the benefit due to failures in activating digital accounts.

Insufficient Infrastructure

A developed digital infrastructure increases the benefits of digitizing emergency response. Without the ability to either easily cash out their benefits or use their benefits to pay for services digitally, beneficiaries' ability to actually use their benefits are limited.

Lack of connectivity may also limit beneficiaries' ability to access their benefits. This issue may be especially salient for those living in rural areas.

Misconduct among Providers

Digitizing emergency response opens beneficiaries to misconduct by providers such as agents overcharging beneficiaries to cash out their benefit payments. Emergency response should be accompanied by robust consumer protection regulations and practices that address the misconduct unique to digital financial services.

Lack of Digital Literacy

Access to emergency support may be limited due to beneficiaries' lack of familiarity with digital systems. Beneficiaries with low levels of digital literacy may have particular issues with both accessing and using emergency benefits delivered digitally.

Increased Complexity

Digitizing emergency response relies on several different systems, including digital identification, mobile penetration, and cash-in/cash-out (CICO) agent networks. If these interconnected systems are not well functioning, it may be difficult to implement a digital emergency support. Thus, the government needs to establish these systems and necessary infrastructure prior to an emergency.

Gender Gaps

Digitizing emergency response could exacerbate gender gaps or leave out women. Women are less likely to have access to identification, have lower levels of mobile phone ownership, and have lower levels of financial literacy. Thus, emergency response that ignores these gaps could inadvertently disadvantage women.