

SEPTEMBER 2021

Developing Inclusive Digital Payment Systems

By Romina Bandura & Sundar R. Ramanujam

Background

The Covid-19 pandemic has disrupted every aspect of how societies function, forcing governments, businesses, educators, and regular citizens to adapt to a “new normal” way of conducting daily activities. More specifically, the current health crisis has accelerated the digital transformation already taking place across geographies in areas such as e-government, remittances, and e-commerce. Stay-at-home orders and social distancing measures forced brick-and-mortar retailers to close or reduce their activity, accelerating e-commerce sales. In the United States, online retailers that relied on digital payments **raked in billions**: Amazon and Walmart, the country’s two largest companies, together earned an extra \$10.7 billion in 2020—a 56 percent increase in profits compared to 2019.

In the developing world, businesses, schools, and families were forced to seek out digital technologies as their governments imposed draconian lockdowns that paralyzed in-person activities. Many used the internet as a tool to sustain their social, economic, and political lives through the pandemic. A **study by the International Finance Corporation** found that there was an excess growth in internet usage of 1.3 percent in lower-middle-income countries between January and March 2020, while upper-middle-income countries remained steady. The same study also found that several middle-income countries—most notably China—scaled up teleconsultation and virtual care technologies for medical services. The digital transformation also hit the education sector in the developing world. Distance-learning initiatives were spun up, even for kindergarten-age children, and other online education platforms served many more enrollees than before. For example, Byju (an Indian learning app for K-12 education) saw a **60 percent growth** in the number of users in 2020, having made registration free for users.

The **Covid-19** pandemic has also pushed governments to utilize digital payment platforms in their response efforts (to the extent possible), both to distribute funds to vulnerable groups and to pay essential workers. Governments also relaxed their regulatory controls on digital payments—as in the **case of the**

Rwandan government, which waived digital transfer fees and tripled the maximum limit for online transactions. Overall, the pandemic has further highlighted the need to embrace digital solutions.

Long before the Covid-19 crisis, technological innovations such as the expansion of the internet, the introduction of cell phones and smartphones, and the development of software applications prompted digitization in the financial services industry. People received wages directly in their bank accounts, sent remittances via wire transfers, and put away money in a savings account online. A profound shift in buying **behavior and consumer preferences** arose in advanced and developing countries alike, with consumers and retailers switching to cashless transactions as the use of digital payments spread in the retail sector and other industries. Governments also embraced digitization to perform their functions—for example to collect taxes, pay civil servants, and distribute welfare checks.

Using digital means to conduct financial, retail, business, and government transactions holds many advantages vis-à-vis transacting in cash. Specifically, in the realm of financial services, digital payments are convenient, offering users speed and efficiency in transactions with added transparency and security (see Box 1). As a result, **digitization** enabled 700 million people in developing countries to access formal financial services between 2011 and 2014, with 62 percent of adults owning an account through a bank or mobile phone. In the long run, studies have also shown that **digital financial services** can help improve people’s income-earning potential, increase women’s economic participation, and lead to more inclusive societies. Since 2014, digital financial services have brought more than **240 million women worldwide** into the formal financial services sector, although progress still has not reached another one billion women, who still lack access to the formal banking system. In **Kenya**, for example, the spread of mobile money from 2008 to 2014 lifted one million people (2 percent of the population) out of extreme poverty.

BOX 1: THE GLOBAL DIGITAL PAYMENTS LANDSCAPE

While definitions vary, according to the Better than Cash Alliance a digital or electronic payment is “the transfer of value from one payment account to another using a digital device such as a mobile phone, POS (Point of Sales) or computer, a digital channel communications such as mobile wireless data or SWIFT (Society for the Worldwide Interbank Financial Telecommunication). This definition includes payments made with bank transfers, mobile money, and payment cards including credit, debit and prepaid cards.”

Depending on the local regulatory framework and market dynamics, domestic digital payments are offered by a range of providers, including banks and other institutions. Likewise, payments might occur via closed-loop networks or open-loop networks that permit payments directly between accounts held with different financial institutions. With regard to cross-border digital payments, until fairly recently these have relied on both correspondent banking intermediaries and secure messaging systems, like that offered by the Society for the Worldwide Interbank Financial Telecommunication (SWIFT).

Merchant-level digital payment systems can be broadly categorized into either point-of-sale payments (including the use of credit and debit cards, radio-frequency identification (RFID) enabled devices, and biometrics-enabled technologies) or contactless payments (such as mobile applications, online browsers, electronic wallets, and machine-readable technologies) to send or receive a specific value. Contactless payments have been on the rise in the last few decades. In 1990, there were fewer than 3 million internet users and 11 million mobile phone users, with most concentrated in high-

income countries. By the end of 2019 (nearly three decades later), 3.5 billion people were using the internet, while the number of unique mobile subscriptions reached 5.2 billion.

In the developing world, the spread of the internet and mobile connectivity has generated new businesses, including money transfer operators, e-commerce platforms, and ride-hailing services. Retail stores and the service sector (i.e., health, tourism, and entertainment) are using mobile payment applications such as PayPal, Samsung Pay, Apple Pay, AliPay, and WeChat Pay for customer transactions. Government initiatives are also spurring digital payments through e-wallets and point-of-sale machines.

Examples of these trends abound across Africa, Latin America, and Asia. A precursor of the digital payments movement was Kenya's M-Pesa, which steadily transformed what had been a cash-driven economy in 2007 (where 80 percent of transactions were in hard currency) into a cashless society by 2017 (where 80 percent of transactions were done using digital tools). Similarly, in Latin America, the e-commerce giant MercadoLibre launched an Argentine digital payments interface, MercadoPago, in 2003. With its presence now expanded to several Latin American countries (including Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Uruguay), this digital payment platform boasted of more than 132 million unique users as of 2020 who could use virtual wallets instead of conducting transactions via traditional banks. During Covid-19, MercadoPago experienced a doubling of its transactions. Meanwhile, in 2016, the National Payments Corporation of India (an umbrella organization under the ownership of the Reserve Bank of India that oversees the operation of retail payments and settlement systems) developed a real-time payment system called the Unified Payments Interface (UPI) to allow fund transfers between two bank accounts in real time through a mobile platform.

As a result of these developments, in 2020, consumer transactions that were made over the internet and through smartphone-enabled payments at points-of-sale hit \$5.4 trillion in value (with Chinese consumers leading this market at \$2.9 trillion).

At the same time, digital payments have gradually enabled alternatives to “money mules” and in-person cash transfers for migrants sending remittances back home. This trend can be demonstrated by the fact that remittance flows to low- and middle-income countries amounted to **\$540 billion** in 2020 (just 1.6 percent below the 2019 total of \$548 billion), this in spite of the Covid-19 pandemic.

Notwithstanding these encouraging trends, a significant share of the world remains outside the digital economy, relying on hard cash to receive income, save “under the mattress,” and pay for services. This is particularly prevalent in developing countries, where approximately 2.5 billion adults rely on cash to conduct business transactions. Being unable to make or receive payments via digital means brings a series of challenges, such as increased transaction costs, safety concerns, corruption, and even wealth inequality.

The Significance of Digital Payments for Equity, Development, and Security

The digital transformation taking place across countries and the accompanying expansion of digital payments have clear connections to global efforts to create a more equitable, prosperous, and democratic world. Although there is no specific development goal on “digital transformation,” it is a cross-cutting enabler of the **17 UN Sustainable Development Goals (SDGs)**. Specifically, **Goal 9.c** urges countries to “significantly increase access to information and communications technology and strive to provide

universal and affordable access to the Internet in least developed countries by 2020,” while [Goal 10.c](#) recommends governments and financial institutions to “reduce to less than 3 percent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 percent” by 2030.

For users, digital payments provide many [benefits](#) to both senders and recipients of the transaction. Their ability to reduce time and associated expenses to collect payments goes beyond the mere convenience of the operation. In contrast to a cash payment that travels at the speed of its carrier, digital payments can take place in real time and prove to be a more secure transaction. Aside from lower costs and enhanced authentication features, digital payments are often the first entry point into the financial system for individuals, opening the door to other products such as savings, credit, and insurance. Digital payments can embed vulnerable people in a system of automatic deposits, scheduled text reminders, and other options that can help people overcome psychological barriers to saving. At the same time, digital payments connect individuals to the broader economy and can help people mitigate unexpected income shocks. Finally, digital payments might give recipients greater agency with regard to the use of money, for example in the case of excluded groups such as women and other minorities.

As the first financial product used by many low-income people, remittances are a cornerstone of digital payments and can be an avenue to enhancing financial inclusion. Digital technology can [facilitate](#) a faster, cheaper, and more convenient remittance process, thereby increasing the volume of funds transferred to populations in need. An inclusive, trusted formal digital remittance system can also help reduce criminal activities. Informal funds transfer (IFT) systems, such as [Hawala](#), operate outside regulatory and supervisory frameworks in some jurisdictions, and have [been shown](#) to be vulnerable to money-laundering and terrorist financing. Providing individuals with formal alternatives can help reduce illicit money flows by enabling providers and authorities to identify and address risks. As previously mentioned, remittances to developing countries held steady in 2020, despite the disruption created by the Covid-19 pandemic. Remittance flows were resilient during this period in part because people shifted from informal providers to formal financial services when sending cash by digital means.

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Digitization also commands advantages on the sender side. In the case of governments, digital payments reduce leakage and incidents of ghost recipients, and they improve the traceability of the payment process. For lenders, biometric identification of borrowers allows lenders to collect positive and negative credit information on loan performance.

While digital payments offer a clear advantage over cash-based transactions, some risks need to be accounted for when designing these systems. The World Bank [categorizes](#) the challenges of digital payments into supply-side and demand-side concerns. On the supply side—that is, for the system that facilitates the transactions—barriers include safety and reliability, the interconnectedness or

interoperability of the system, physical infrastructure, and the presence of cash-out points to actually collect the payments. Most importantly, the World Bank recognizes that a digital ecosystem needs to encourage cash-out options by offering store-of-value functionality, enabling digital bill payment products, and offering the option of digital payments at retailers.

On the demand side—the customers—one main hurdle is a lack of trust in digital services. Designing products that are simple and secure is key to realizing the benefits of digitization. To trust in the service and have a positive customer experience, users need a basic understanding of how the system operates and must feel at ease with the payment process. Customers living in isolated areas and recipients of social welfare are particularly vulnerable, since they might not have access to support in case of problems and may not have the financial literacy required to understand the transactions.

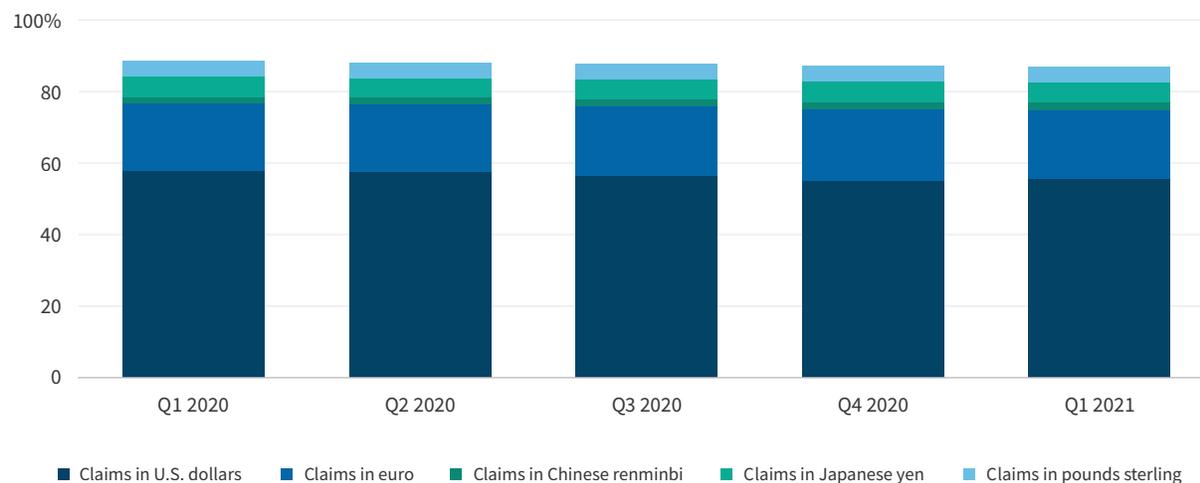
In this regard, security remains a top concern for consumers. Hackers and scammers are inventing new methods to steal account log-in credentials and bank account details (i.e., account takeover fraud), personally identifiable information (PII), and other personal or sensitive data. The International Criminal Police Organization (Interpol) registered [a spike in cyberattacks](#) centered on the Covid-19 pandemic. From January to April 2020, some 907,000 spam messages, 737 incidents related to malware, and 48,000 malicious URLs—all related to Covid-19—were detected by one of Interpol’s private sector partners.

Moreover, digital payments do not guarantee financial inclusion. Although they can be a first step to accessing a wide range of financial services (such as savings, credit, and insurance), people do not always use these services. Many people may hold a formal account with a bank, a microfinance institution, or a mobile money provider, but they may engage in little activity beyond withdrawing funds deposited to it. In fact, according to calculations from CGAP (using data from [2017 Global Findex report](#)), [25 percent](#) of account owners in the developing world have not used their account in the past year, either to deposit or withdraw funds. In effect, these accounts remain dormant, and financial services such as savings and lending products remain underutilized. There are many reasons for this underutilization, including the already mentioned lack of trust in the financial system and little understanding of how different financial products work. There are also disparities in the use of these accounts according to income categories, gender, and geographic location (e.g., rural versus urban populations).

Emerging and evolving international financial products—such as cryptocurrencies and digital currencies issued by central banks—add another layer of complexity to digital payments for governments and users alike. While the role of the U.S. dollar as the de facto global reserve and settlement currency has given the United States unprecedented influence over the international financial system, this dominance may decrease in the future. According to [analysis by the Bank for International Settlements \(BIS\)](#), the U.S. dollar still commands the bulk of all foreign-exchange transactions, and there is no official [currency](#) that threatens the dollar’s supremacy. However, the Chinese renminbi has been used more widely in international trade over the last decade and could become more important in the future. According to [Morgan Stanley](#) estimates, the renminbi may represent 10 percent of global foreign-exchange reserve assets by 2030 (from the current 2 percent, see Figure 1). If so, it would become the world’s [third-largest reserve](#) currency behind the euro, surpassing the Japanese yen and the British pound. The advent of [digital currencies](#) also pose some challenges to the U.S. dollar’s dominance and “could reshape the nature of currency competition, the architecture of the international monetary system, and the role of government-issued public money.” Most recently, the People’s Bank of China rolled out the [new digital yuan](#), a digital currency that potentially enables Beijing to scrutinize all of its citizens and companies—raising concerns about government exploitation and misuse.

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Figure 1: Currency Composition of Official Foreign Exchange Reserves



Source: International Monetary Fund, “Currency Composition of Official Foreign Exchange Reserves (COFER),” database, last updated June 30, 2021, <https://data.imf.org/?sk=E6A5F467-C14B-4AA8-9F6D-5A09EC4E62A4>.

Designing Inclusive Digital Payment Systems

Governments and businesses need to consider all these different risks when designing and implementing an inclusive and secure digital payment system. In particular, countries need to attract underserved clients—especially women and those with low financial and technological capability—in order to enhance financial inclusion and to encourage societies to be more equitable.

An inclusive digital payment system can **defined** by the following six characteristics:

- **Accessible:** Digital payment services should reach excluded groups and be easy to acquire and understand.
- **Reliable:** Users’ money and information should be readily available and highly secure or protected against cyber theft, money laundering, and other breaches.
- **Valuable:** Digital payment services should offer people clear advantages over using cash.
- **Affordable:** The services should be low-cost or free for all or most people.
- **Profitable:** Digital payment systems should fully involve the private sector and allow service providers to develop sustainable business models.
- **Interoperable:** Digital payments should allow customers to transact with any other customer, irrespective of the service provider.

However, beyond these design guidelines, any functional digital payment system requires **four foundational infrastructures in order to be implemented**. First, the electricity supply needs to be reliable. Digital payments depend on power, which is often inaccessible in many developing countries, both in urban and rural settings. Second, having a robust information and communications technology (ICT) infrastructure is paramount. Similar to electricity, mobile networks do not offer coverage in sparsely populated and rural areas, where they are most needed to enable mobile money solutions, with appropriate voice, text messaging, and other communication services. Third, the basic payment structure—such as automated clearing houses and payment switches, along with system interoperability—needs to be in place. Fourth, identification infrastructure, such as reliable ID systems (mainly digital ID), can help digital financial service providers carry out their due diligence and enable access to patrons of digital finance.

In parallel, there are aspects of global governance norms and standards that help underpin an inclusive digital payment system. To be genuinely inclusive, a system will need to depend upon **a legal and regulatory framework** that effectively addresses all relevant risks to the financial system and that protects consumers while at the same time fostering innovation and competition. Key international standards should be incorporated into the design of specific regulatory frameworks, such as Principle 5 of the **G20 High-Level Principles for Digital Financial Inclusion**, the **Responsible Digital Payments Guidelines**, and the 17 UN SDGs.

An inclusive, sustainable digital payment system also calls for a high degree of user awareness, along with technological and **financial literacy**. In 2012, the G20 endorsed the **OECD/INFE [Organization for Economic Cooperation and Development International Network on Financial Education] High-Level Principles on National Strategies for Financial Education**, recognizing the role of financial education as an essential complement to overall market conduct and prudential regulation. Access to technological and financial education is particularly relevant given that women and members of lower-income households have historically lacked the right to education.

International Efforts to Develop Inclusive Digital Payment Systems

Considering these underlying foundations, there have been multiple international efforts to develop inclusive digital payment systems. The United Nations Capital Development Fund (UNCDF), the U.S. Agency for International Development (USAID), the Bill & Melinda Gates Foundation, Citi, the Ford Foundation, the Omidyar Network, MasterCard, and Visa collectively launched the **Better Than Cash Alliance (BTCA)** in 2012. This global partnership aims to bring together private sector companies, governments, and development organizations to promote the transition from cash to electronic payments. In 2014, the BTCA joined as an implementing partner of the **Global Partnership for Financial Inclusion (GPII)**—an inclusive platform launched at the G20 Seoul Summit in 2010—enhancing its financial inclusion impact. These global efforts have collectively brought tangible **results**: between 2011 and 2017, 1.2 billion people worldwide have gained access to bank and mobile money accounts.

Developing countries have had significant successes in implementing digital financial platforms within their economies (see Box 1 and Annex 1). Kenya was a frontrunner in this space with the development of **M-Pesa**, while Mexico has more recently launched **Cobro Digital (CoDi)**. Meanwhile, some countries have also seen success in developing open, secure, and interoperable digital payments platforms. A case in point is the **Mojaloop platform**, which is now the core payments technology in Tanzania's Instant Payment System, as well as the pan-African mobile money system **Mowali**. Mojaloop is an open-source code that can be used by payment network implementers; given its success, Mojaloop can serve as a model for partnerships between the public, private, and philanthropic sectors in creating and scaling up interoperable payment systems.

China is leading the world in the digital payment revolution. With a global market of \$5.4 trillion in transaction value in digital commerce and mobile payments, Chinese firms **generated an estimated \$2.9 trillion** in transaction value in 2020, while the United States came second with **\$1.3 trillion**. The **Chinese system** is built on digital wallets and QR codes. It runs through the country's two major big tech firms: Alipay (running through Alibaba, China's largest e-commerce platform) and WeChat Pay (running through Tencent, China's largest social media company). With close to a billion digital consumers, it has allowed Chinese digital payment firms to rapidly build their platforms, making it easy to target markets overseas.

Chinese leadership in the digital payments market is complemented by investments in physical infrastructure and connectivity abroad. China is assuming an ever-growing influence in global infrastructure through its Belt and Road Initiative (BRI), and specifically in digital infrastructure through its **Digital Silk Road (DSR)**. Launched in 2013 as President Xi Jinping's flagship global strategy, the BRI is a trillion-dollar initiative to help countries construct hard infrastructures, including new ports, railways, fiber-optic cables, power plants, and other connections. The DSR is a component of the BRI that aims to improve recipient countries' telecommunications networks, artificial intelligence capabilities, cloud computing, e-commerce, mobile payment systems, surveillance technology, and other high-tech areas. The DSR may **accelerate** the digital transformation of recipient economies with the arrival of faster networks (notably 5G technology), cheaper sensors, and the proliferation of connected devices. Currently, **70 percent of the 4G networks** in Africa are built by Huawei and will likely look to **build up 5G** in the future.

More critically, China can acquire more influence in the international governance architecture of the digital space through its leadership role and engagement in international standard-setting bodies, such as the **International Telecommunication Union (ITU)**. China's seemingly successful digital finance governance model, which often promotes a set of values at odds with the one prized by the United States, may be seen as an example by other countries seeking to develop their own digital finance systems. In its fierce **geostrategic competition** with the United States, China's most **recent proposal** is for a new Internet Protocol (IP), which could impose a centralized and controlled Chinese internet model throughout the world, in stark contrast to U.S. principles of a free and open internet. Such internet standards would affect developing countries that rely on Chinese infrastructure for their digital needs, at the risk of being manipulated by authoritarian actors who undermine civil liberties and human rights. In this regard, the United States has an important stake in the global digital ecosystem and needs to support digitization pathways that are based on **technology** that according to **USAID's digital strategy** is "open and secure, promotes inclusive growth, fosters resilient and democratic societies, and empowers all, including the most vulnerable."

Looking Ahead: The U.S. Role in the Development of Inclusive Digital Payment Systems

As countries take different paths in their digitization journey, the U.S. government can support their efforts by providing technical assistance and funding investments in both physical infrastructure (broadly defined) and the skills, norms, and services necessary to make services useful and secure. Such engagement requires a more prominent role for the United States both in "hard infrastructure" (e.g., electricity grids, internet connection, and 5G technology) and "soft infrastructure" (e.g., policy, governance frameworks, and standards for digital inclusion). This extends well beyond basic mobile and internet connectivity to the broader set of technology domains and value-added services that will define the twenty-first century: artificial intelligence, e-commerce, data-driven services, and a range of other areas.

As countries take different paths in their digitization journey, the U.S. government can support their efforts by providing technical assistance and funding investments in both physical infrastructure . . . and the skills, norms, and services necessary to make services useful and secure. Such engagement requires a more prominent role for the United States both in “hard infrastructure” . . . and “soft infrastructure.”

The premier development agency to lead in this space is USAID, which already launched a comprehensive **digital strategy** in 2020 to guide its agency efforts. **USAID's** approach aims to promote digitization abroad, specifically by focusing on improvising development and humanitarian outcomes through the responsible use of digital technology and providing technical assistance to strengthen open, interoperable, reliable, and secure digital infrastructure and cybersecurity best practices. USAID's efforts also aim to advance and reinforce democratic norms, principles, and forms of governance in the digital ecosystem. However, as CSIS has **recently** argued, efforts to implement USAID's strategy will need to be matched by increased foreign aid investments to fund country programs, along with staff dedicated to this endeavor. Moreover, it is essential that USAID's investment efforts be oriented toward enabling **digital ID** systems. As mentioned earlier, ensuring that individuals have a digital ID at their disposal is the most prudent way of integrating them into modern society and enhancing their financial agency.

At the same time, USAID's digital strategy will need to be integrated across U.S. bilateral agencies; the Development Finance Corporation (DFC), the United States Trade and Development Agency (USTDA), and the Millennium Challenge Corporation (MCC) should be part of the process alongside the Export-Import (EXIM) Bank, the Department of Defense, and the State Department. U.S. engagement in the digital space will be critical in building more inclusive global payment systems, combating digital authoritarianism, and fostering U.S. commercial leadership within the digital ecosystem.

Finally, just as U.S. development agencies need to be better integrated with interagency efforts on digital issues, a similar emphasis should be placed on external engagement with the private sector and civil society. This can help inform policy-level investments, catalyze responsible innovation, facilitate sustainable investment in inclusive financial services, and surface unique risks or opportunities presented by trends across the digital economy. At the same time, such engagement can help clarify the real-world impacts and downstream consequences of decisions now being made by policymakers, regulators, and technologists. Design choices for digital payment systems can have consequences for communities on the ground. For instance, an application can create challenges across the national market if it is built in a way that decentralizes transactions and is subject to sub-national policies. Similarly, the way an application authenticates a user can impact the efficiency of the digital payments experience. Thus, better engagement with companies and civil society organizations can help ensure that U.S. development agencies work in tandem with engineers and designers to provide user-friendly solutions that will be more secure and have higher adoption rates in the long run.

As countries start adopting or accelerating digital solutions, the United States has an opportunity to make significant contributions to the development of inclusive digital payment systems. Global payment users

are facing risks such as security breaches and the possibility of fraud, while digital systems can be thwarted by terrorism financing and illicit activity. Moreover, China's focus on influencing the global digital infrastructure, e-commerce, and new projects such as the digital yuan and the proposed new IP, could sway digitization to a more authoritarian path. At a time when global technological innovations are evolving, the United States needs to craft a more active role for itself in the global digital payment architecture to ensure that the systems being developed are inclusive, democratic, and secure. ■

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Support for this publication was provided by the Bill & Melinda Gates Foundation. The views expressed here do not necessarily reflect the views of the Gates Foundation.

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Case Studies of Digital Payment Systems

Kenya and Mexico

Kenya

Kenya is a leading country in terms of the adoption and application of digital payments. In 2007, Vodafone Group Plc and Safaricom, the largest mobile network operator in Kenya, launched M-Pesa (M is for “mobile,” while Pesa is Swahili for “money”). Designed as a [branchless banking service](#), users can deposit, withdraw, transfer money, pay for goods and services, and access loans, credit, and savings—all with a mobile device. Today, M-Pesa has 42 million active customers who have carried out over 12 billion transactions. It has expanded to Tanzania, Mozambique, the Democratic Republic of the Congo, Lesotho, Ghana, Egypt, Afghanistan, and South Africa.

The development and implementation of M-Pesa have had a significant impact on the Kenyan economy. [A 2016 study](#) showed that, since 2008, access to mobile-money services had increased the daily per capita consumption levels of 194,000 Kenyan households (2 percent of the total), lifting them out of extreme poverty. Female-headed families saw even more significant increases in consumption than male-headed households, and an estimated 185,000 women moved from farming to business occupations. This economic growth reduced extreme poverty among female-headed households by 9.2 percent and reduced the poverty of households in general by 8.6 percent.

M-Pesa has transformed the everyday lives of most Kenyans by disrupting the traditional banking system and providing the country’s unbanked population with access to digital payments and other financial services. Small business owners in remote and rural areas conduct financial transactions safely and efficiently via their mobile phones. Its success has been [attributed](#) to a fast and convenient money-transfer system, secure and trusted service, time savings for users, and cheap rates that reduce financial costs. With regard to regulations, the Central Bank of Kenya engaged Safaricom and [released a statement](#) in 2009 that outlined and discussed the evidence gathered as part of the due diligence on M-Pesa, in the understanding that they needed to ease any public concerns that M-Pesa might encroach on banking business without the appropriate license and supervision.

Despite its success, M-Pesa is not without problems. In 2013, the Bill & Melinda Gates Foundation [warned](#) that lack of competition could drive up prices for customers of digital payment services. Additionally, in

2019, Safaricom was **sued** for the alleged breach of data privacy of an estimated 11.5 million subscribers; critics pointed to the absence of data protection laws in Kenya as an enabling factor of the scandal.

Mexico

In terms of **unbanked population**, Mexico stands out in Latin America and among emerging-economy peers such as Kenya and India. With a GDP per capita close to \$20,400—three to four times higher than Kenya and India—only 54 percent of Mexican citizens are banked, compared to 82 percent in Kenya and 80 percent in India. To address this low level of financial inclusion, the Central Bank of Mexico (Banxico) launched Cobro Digital (CoDi), a new digital payment system, in September 2019. By December 2020, CoDi had **garnered** 6.4 million users—far short of Banxico’s goal for 18 million accounts one year after launch. Usage of CoDi remains weak, with just over a million transactions so far; the central bank wanted 28 times that amount by now. The only **requirement** to pay and receive money with CoDi is for users to have a Mexican bank account and the CoDi application for mobile phones. It works with QR codes and near-field communication (NFC) technologies—the first consists of a barcode in a square that produces a quick response in smartphones, while the second allows the transmission of data by bringing two mobile devices together. CoDi **aims** to eliminate the need for banks to develop their own mobile offerings to send and receive money.

There are **various explanations** regarding the low uptake of this digital payment platform. Some have pointed to Mexicans’ fondness of cash and reluctance to use bank accounts—about 90 percent of Mexico’s population use cash as a daily means for payment—while others have blamed the platform’s failure to fully engage Mexican fintech firms, as it uses an interbank payment system that only connects to traditional bank accounts. The Covid-19 pandemic also discouraged in-person transactions, which are crucial for QR code-based digital payments, despite being contactless; the economic downturn also made 2020 a tight year for banks to invest in CoDi, as it would have brought them few immediate benefits.

In March 2020, the Mexican government **introduced** the National Financial Inclusion Policy 2020–2024, a country-level program that aims to increase the number of Mexicans with a bank account from 47 percent to 65 percent in the next four years and seeks to incorporate finance into the school curriculum as a way to normalize and massify financing.