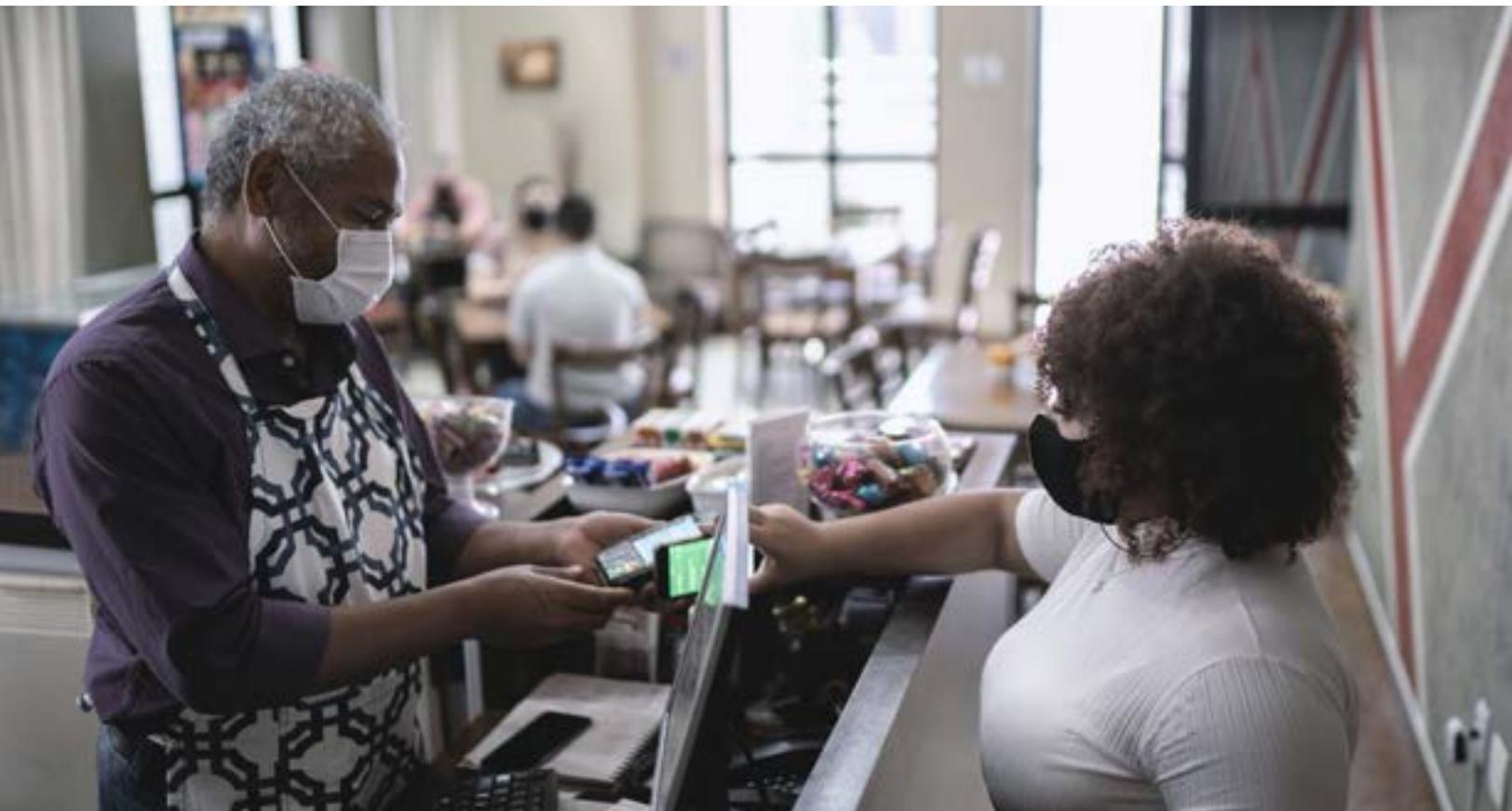


COVID-19: Making the case for robust digital financial infrastructure

The pandemic has been a tough, real-life stress test for government disbursement schemes, highlighting opportunities but also gaps and vulnerabilities.

by Olivia White, Anu Madgavkar, Tawanda Sibanda, Zac Townsend, and María Jesús Ramírez



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Governments worldwide reacted to the COVID-19 crisis with an outpouring of financial aid to businesses and individuals that was exceptional for both its size and the speed with which the disbursements were made. According to the IMF, fiscal measures announced globally amounted to [\\$11.7 trillion](#), or close to 12 percent of global GDP, as of September 2020. As a result, the pandemic has served as a high-stakes, real-life stress test for the financial infrastructure in many countries, bringing into sharp relief critical gaps and opportunities as well as providing valuable lessons about how to improve efficiency and resilience for the future.

What determines how effectively the money is disbursed, for achieving the design ambitions of the program and delivering the funds rapidly to the intended recipients? This question has been drawing the attention of [economic researchers](#), policy makers, fintech innovators and civil society watchdogs alike. Building on our pre-pandemic research on the economic impact of [digital identification and digital financial inclusion](#), we studied a sample of 12 government economic disbursement programs for both individuals and small and medium-size enterprises (SMEs) in seven countries—Brazil, India, Nigeria, Singapore, Togo, the United Kingdom, and the United States.

Several findings stand out. First, we find that effective programs have three critical structural features of financial infrastructure: digital payment channels, the presence of a basic digital identification system with broad population coverage, and simple data on individuals and businesses that are tethered to the ID. When these features were present in country-level financial infrastructure, these programs could be optimally designed and delivered quickly. When one or more of these infrastructure features was not present, countries had to make trade-offs between the design ambition (the scope, scale, and specificity of beneficiaries targeted) of their programs and their delivery success (the speed, coverage, and fraud levels in rolling them out).

Second, we estimate that the potential economic gain from building robust digital financial infrastructure is about 20 percent greater now than it was before the pandemic. Before the COVID-19 crisis, we estimated the potential economic gain by 2030 from applying basic and advanced digital ID to a wide range of interactions between individuals and government and nongovernmental institutions to be in the range of 3 to 13 percent of GDP. Finally, the crisis has underscored the resilience and flexibility that a robust financial infrastructure for SMEs and individuals provides, and thus its importance as a critical tool for responding to unexpected and potentially catastrophic events.

Our research highlights the opportunities that are still to be seized in many countries by harnessing the digital financial tools available and rolling them out on a large scale so that they function well during even the most severe and sudden crises.

We assessed the relationship between financial infrastructure and the performance of disbursement programs in their design ambition and how well they delivered

Government economic disbursements have assumed huge scale and complexity during the COVID-19 crisis, with emerging and advanced economies facing the challenge of supporting as many as [3.7 billion](#) vulnerable individuals and [500 million micro-, small, and medium-size enterprises \(MSMEs\)](#) worldwide both efficiently and urgently. In the unprecedented circumstances, program rollout has not always gone smoothly. Some programs providing grants or loans to individuals and small businesses have faced criticism because they were not sufficiently broad, not sufficiently inclusive, too slow, or hampered by fraud, among other reasons.

In our analysis of 12 COVID-19 support programs, we found meaningful patterns when we compared their effectiveness (on a limited set of criteria) with the structural elements of financial infrastructure they were able to use. Exhibit 1 provides a brief description of each program and an assessment of

the country-level financial infrastructure available in our sample countries, measured on parameters of digital payment channels, digital ID, and data linked to digital ID. We also estimated specific program-level financial infrastructure for the 12 programs, using the same parameters. Finally, we compared country- and program-level infrastructure strength to the effectiveness of programs, considering both design ambition and delivery success, and using three indicators apiece to measure them.

It is important to note that our analysis is based on measurement of select parameters of disbursement programs in order to stimulate further thinking and action on how to make them more effective. It is not our intent to provide a formal evaluation of the programs, and we have not undertaken a comprehensive assessment of them. Rather, we relied on government reports on the amount and speed of disbursements, public audits where available, some studies conducted by NGOs, and, in the case of fraud, the level of public interest in fraud related to each program. Each of these is a proxy indicative measure of program effectiveness rather than a definitive evaluation (see sidebar, “Our measurement methodology”).

Government disbursements to individuals and businesses during the pandemic assumed huge scale and complexity. The crisis helped identify key elements to ensure successful and speedy delivery.

Financial infrastructure is key to how government disbursement programs are shaped across countries.

Structural features of country-level financial infrastructure,¹ % share

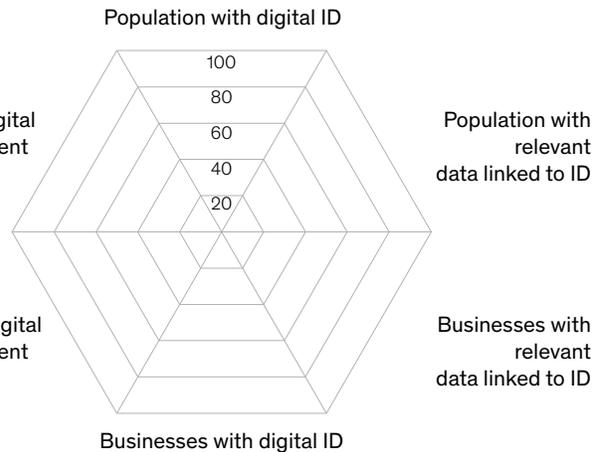
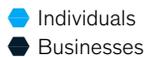


Note: For each chart a larger shaded area reflects a larger availability of financial infrastructure across features. The charts are normalized on each dimension, across the countries in scope.

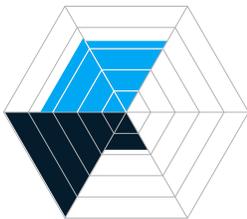
¹Digital ID coverage does not include traditional ID with digital trail which may add additional flexibility when designing work-arounds.

Source: World Bank; McKinsey Global Institute analysis

COVID-19 government disbursement programs



Brazil



Emergency aid: 600 reais (\$116) to informal workers, self-employed, and Bolsa Familia program beneficiaries (the poorest) and 1,200 reais (\$232) to mothers supporting families.

Emergency employment and income preservation benefit: Partial compensation to workers facing temporary suspension of or cut in working hours.

India



Targeted disbursement: 500 rupees per month for 3 months for 200 million women Jan Dhan account holders, and 1,000 rupees in 2 installments over 3 months for 30 million senior citizens, widows, and people with disabilities.

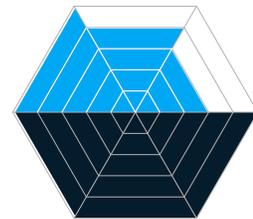
Emergency credit line guarantee scheme: 100% government-backed collateral-free automatic loans for MSMEs and subordinate debt for debt-ridden MSMEs.

Nigeria



Conditional cash transfer: Monthly cash payments of 20,000 naira (\$52), for four months, for impoverished households.

Singapore



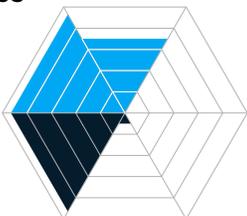
Job support scheme: Government cofunding of 25–75% of the first \$4,600 of gross monthly wages paid to each local employee in a 10-month period through cash subsidies.

Togo



Novissi program: Fortnightly cash transfers to the mobile money wallets of informal workers, amounting to 30 percent of the minimum monthly wage each month (12,250 CFA francs to women and 10,500 CFA francs to men), for the duration of lockdown measures in their local areas.

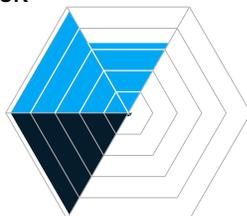
US



Economic impact payment: One-time cash payments of up to \$1,200 to qualifying citizens.

Paycheck protection program: Forgivable loans to help small and medium-size enterprises maintain payroll, hire back employees who may have been laid off, and cover applicable overhead.

UK



Job retention scheme: 80% of furloughed workers pay, up to a cap of £2,500 per month; plus the associated NIC and minimum pension contributions.

Bounce back loan scheme: 100% government-backed microloans for small and medium-size enterprises (SME) adversely impacted by the pandemic.

Coronavirus business interruption loan scheme: 80% government-backed loan for SMEs adversely affected by the pandemic, with an annual turnover <= £45 million.

Our measurement methodology

Our research is not exhaustive; it covers only seven countries and a subset of their disbursement programs. We selected countries that represent diversity across levels of income, availability of financial infrastructure, and types of government intervention in response to the pandemic. The programs we looked at fall into two categories: disbursements targeted directly at individuals, and disbursements and loans targeted at businesses (sometimes with the intent of supporting employees).

Across the seven countries and for each disbursement program we considered, we adopted a common metric to measure each aspect of financial infrastructure (at the national or country level and at the level of the specific program) and the program's design ambition and delivery success. We normalized the data across countries for each metric on a scale of 0 to 1, where 1 was the equivalent of universal coverage (where data pertained to a fraction of the population) or the maximum level we found (where data were absolute values, such as the different levels of disbursement in different countries).

For financial infrastructure, we assessed three attributes separately for individuals and businesses:

- Coverage through digital payment channels: We used the percent of individuals or SMEs who had a bank account.
- Presence of a basic digital identification system with broad population coverage: Unlike a paper-based ID, such as most driver's licenses and passports, a digital ID can be authenticated remotely over online channels. By basic digital ID, we mean one that enables digital verification and authentication with a high degree of assurance, meeting both government and private-sector institutions' standards for registration

and subsequent civic and economic uses. We measured the share of individuals or SMEs with a basic digital ID, at the country and program level. For this, we measured the coverage of specific digital ID programs and included coverage where the means for legal identity verification exist (such as a social security number), along with some means for digital authentication, such as email passwords, that are used for online interactions. The latter is not strictly equivalent to full-fledged digital ID, which can be directly authenticated over digital channels.

- Relevant data on individuals and businesses that are tethered to the ID: We took the percent of the population with advanced digital ID that also enables storing or linking additional information about ID owners, facilitating advanced data sharing, with informed user consent. Advanced digital ID typically has some relevant data tethered to it, such as, for example, occupation, age, family, disability, or income status to determine the level of individual need, and data related to business activities and payroll implications to assess the impact of COVID-19 on the SME, as well as bank information in both cases to make speedy disbursements.

At the country level, we looked at national coverage along these three parameters, while at the program level, we looked at the coverage of these features in the specific group targeted by the program. In some cases, we relaxed the definition of digital ID to reflect a program-specific workaround—for example, where disbursement programs were delivered through banks, we assumed that bank “know your customer” requirements were a sufficient means of digital identification at the program level, even if digital IDs were low or absent at the national level.

For the design ambition of each program, we assessed the scope, scale, and specificity of the program for individuals and businesses. We measured scope in terms of the percent of the country's adult population or SMEs targeted in the specific program. For scale, we looked at the amount of funds planned to be disbursed under the program as a percent of the country's GDP. Our measure of specificity was based on how variable the amount of payments of a given program were.

For the delivery success of each program, we assessed the speed of disbursement, fraud rates, and coverage of the target population, for individuals and SMEs. Speed was measured by the percent of the target population or applicant pool receiving funds within two weeks. For direct disbursements to SMEs, the two weeks were counted from announcement of the scheme to disbursement, while for SME loans, two weeks were counted from the application being made to funds being deposited. We assessed fraud rates for individuals and SMEs based on the search interest on Google Trends relating to each program's fraud. Finally, for coverage of target population, we counted the percentage of the targeted population or SMEs.

Because the sample of countries was geographically diverse, we relied on government data from each country or global data from a uniform source, where possible, to make comparisons meaningful. For instance, for the presence of financial payment channels, we used data from Findex and the World Bank; for the presence of digital ID and data tethered to ID, we used country-level data on basic and advanced digital ID adoption. Design ambition parameters were calculated based on country-level government data. For delivery success, we relied on government data and credible third-party reports as well as program-specific Google search trends as a proxy for fraud rates.

Note that our methodology necessarily has some limitations. We did not study the adequacy of disbursements relative to need. We acknowledge that there may be significant fiscal and other considerations that influence how much money is allocated

to emergency economic and social transfer programs. For our GDP estimates, we focus on change in GDP value at stake from digital financial infrastructure during COVID-19 rather than on GDP itself, as we did not explicitly estimate GDP impact

under current economic conditions and the associated range of forecasts. We acknowledge that the global impact of COVID-19 may have influenced the structural dynamics of global growth, but we did not consider this effect in our analysis.

Further reading:

Africa Network for Environment and Economic Justice, *Spot checks on payment to beneficiaries: National cash transfer programme*, May 2020.

Africa Network for Environment and Economic Justice, *What you need to know about Nigeria’s national cash transfer programme*, May 2020.

Alan Gelb and Anit Mukherjee, *Digital technology in social assistance transfers for COVID-19 relief: Lessons from selected cases*, Center for Global Development, September 2, 2020.

João Granja et al., *Did the paycheck*

protection program hit the target? NBER working paper number 27095, 2020.

Aarushi Gupta, Anupama Kumar, and A.P. Janani, *Last-mile delivery of PM Garib Kalyan Yojana benefits during the COVID-19 pandemic*, Dvara Research, May 2020.

Georgina Hutton and Steve Browning, *Coronavirus: Business loans scheme*, UK House of Commons Research Briefing, January 13, 2021.

Thomas Pope, Grant Dalton, and Gemma Tetlow, *The coronavirus job retention scheme: How has it been used and what will happen when it ends?* Institute for Government, October 2020.

Delphine Prady et al., *Beyond the COVID-19 Crisis: A Framework for Sustainable Government-To-Person Mobile Money Transfers*, IMF working paper, September 25, 2020.

Nicole Renno Castro and Geraldo Barros, *Rural Brazil: COVID-19, income and emergency aid*, CEPEA Center for Advanced Studies on Applied Economics, Luiz de Queiroz College of Agriculture, University of Sao Paulo, 2020.

Stephen Roll and Michal Grinstein-Weiss, *Did CARES Act benefits reach vulnerable Americans? Evidence from a national survey*, Brookings Institution, August 25, 2020.

Three structural features were critical success factors

The effectiveness of the 12 COVID-19 programs we analyzed depended greatly on the presence of the three structural features of financial infrastructure: digital payment channels, the presence of a basic digital identification system with broad population coverage, and simple data on individuals and businesses that are tethered to the ID. Where these features were in place to a large degree, interventions were more effective. Their design tended to be more ambitious and their delivery more successful. Without them, however, programs made trade-offs—sometimes large ones—between the design ambition of the program and its delivery success.

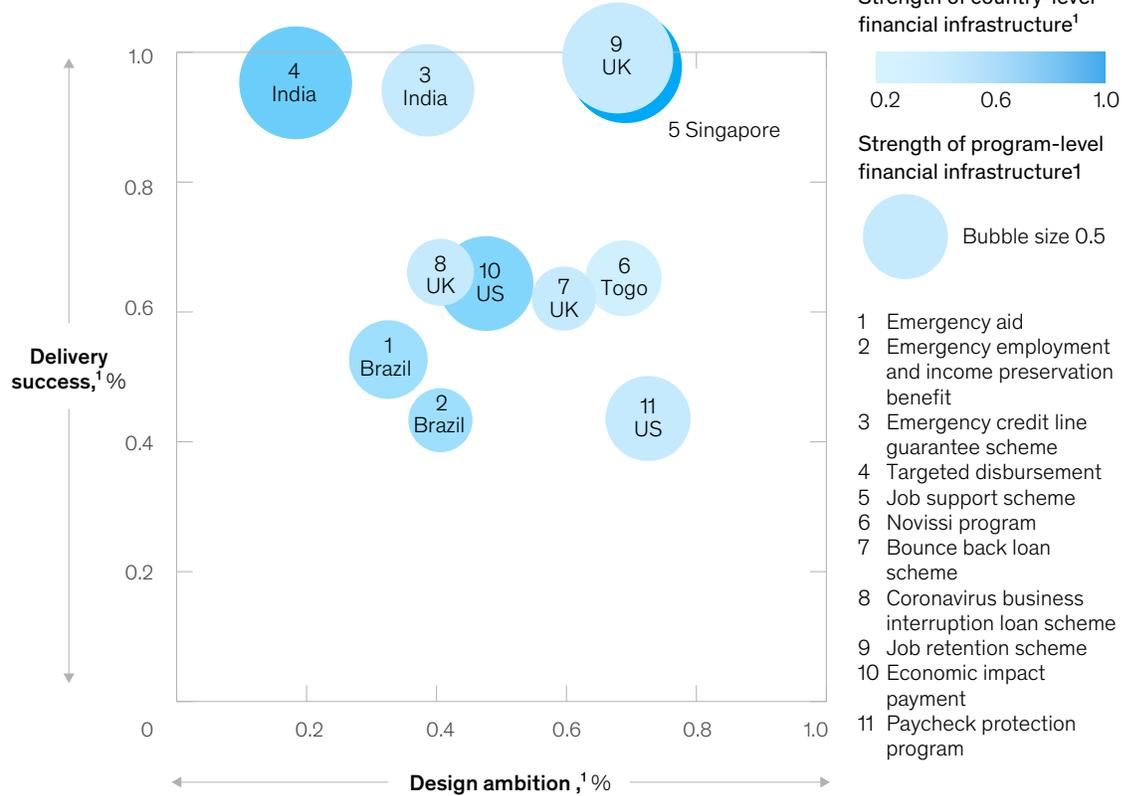
Program-level examples illustrate these findings in Exhibit 2. We calculated each program’s position

on design ambition (Y-axis), delivery success (X-axis), program financial infrastructure strength (size of the bubble), and country-level financial infrastructure strength (shade of the bubble) by computing the average of metrics for each of these areas. We gave equal weight to each metric and converted the aggregate score to a scale of 0 to 1, setting 1 as the maximum achievable or observed level in our data set. The result is a set of broad indices that do not fully capture the nuances and challenges that agencies faced in designing and implementing disbursement programs under the pandemic’s unprecedented circumstances. Yet these indices help convey the potential scope for improvement in outcomes as well as the link between disbursement success and the strength of structural foundations in financial infrastructure.

Exhibit 2

The strength of financial infrastructure allows governments to design programs with more effective outcomes.

Strength of financial infrastructure¹



¹For design ambition, delivery success, program financial infrastructure strength, and country-level financial infrastructure strength, we use 3 metrics, on a scale of 0–1 where 1 is the maximum achievable or observed level in our data set. The graph then uses the average of the 3 metrics, with equal weight to each, to calculate values for the X-axis, Y-axis, and the size and color of the bubbles. Nigeria’s National Cash Transfer Program not included due to limited data availability. Source: McKinsey Global Institute analysis

Programs leveraging strong financial infrastructure achieved higher program ambition and delivery success

Two of the programs had all three structural features of financial infrastructure in place, at least at the program level. This enabled them to meet relatively ambitious program goals and deliver funds with success.

Singapore’s Job Support Scheme (JSS) targeted a large portion of national SMEs and channeled a substantial amount of fiscal disbursement to them. The program was rolled out in a rapid and streamlined form with reportedly [low fraud levels](#). Funds were transferred automatically to eligible businesses in amounts calculated based on payroll, with no application process needed. This was made possible by the “[CorpPass](#)” digital ID system which

assigns a unique ID to businesses linked to data on the SME’s tax payment and employee wages from the government’s myTax portal.

The Job Retention Scheme (JRS) in the United Kingdom used the system that collects income tax and national insurance, Pay-As-You-Earn (PAYE), to identify businesses and control fraud. The program aimed to cover up to 80 percent of furloughed workers’ salaries. It reached all employers registered for PAYE, with some [28 million](#) payroll workers enrolled, representing more than [80 percent](#) of national employment. The PAYE reference number was linked to payroll and bank account information provided by the employer, which enabled streamlined rollout. Few cases of fraud were reported.

Programs using financial infrastructure but missing some structural features sacrificed either design ambition or delivery success

In some programs, delivery success was relatively strong, but at the potential cost of some limitations on program ambition.

India's Targeted Disbursement (TD) program was able to reach about 207 million women with Jan Dhan bank accounts and an additional 28 million elderly, disabled, and widowed beneficiaries, using data from its existing Aadhaar-linked Direct Benefit Transfer scheme. India was able to roll out the TD program rapidly, with some 40 percent of targeted beneficiaries receiving deposits within a day of the program launch in early April and [100 percent within two weeks](#). Nonetheless, the delivery experience could have been improved by addressing issues such as account dormancy, low use of online payment systems, and limited cash-out points in rural areas. In design ambition, lack of a universal national social registry and data limited the design ambition and scope of the program, which was focused on current beneficiaries of government transfers; for example, the needs of migrant workers were targeted through a [separate initiative](#) that introduced interstate portability of food ration benefits.

India's Emergency Credit Line Guarantee Scheme (ECLGS) targeted small businesses with government-guaranteed loans; more than [three million](#) MSMEs received disbursements within one month of the announcement and some [six million](#) as of November 2020. GECL leveraged the MSMEs' credit relationships with commercial banks and nonbanking finance companies because coverage under the digital ID program for businesses was relatively low, and credit relationships with regulated financial intermediaries were considered a reliable proxy for verification. However, this meant the program's ambit was restricted to MSMEs with those existing credit relationships. It was not able to target many of the country's 60 million microbusinesses that did not already have formal credit relationships, although this segment needed urgent credit and liquidity support, too.

In other programs that lacked some structural features of financial infrastructure, the design

ambition was evident, but delivery success had some limitations.

In Togo's Novissi program, fortnightly cash transfers were disbursed to the mobile money wallets of informal workers, amounting to 30 percent of the minimum monthly wage each month (about \$18 for men and \$20 for women) for the duration of lockdown measures in their local area. While country-level infrastructure remains weak, program infrastructure is [robust](#). Because Togo does not yet have a national digital ID program, the eligibility of enrollees to receive transfers was verified against the national voter ID registry that included data on occupation and place of residence, both targeting criteria for the Novissi program. (Togo has used biometric data for voter registration since 2007.) Residence in affected areas was also confirmed using mobile phone records. All informal workers were urged to register for the program, to ensure rapid payment as and when local lockdown restrictions were imposed. As of January 2021, Togo had registered 1.39 million people and paid benefits of \$22 million to 580,000 eligible beneficiaries. The country intends to roll out a [biometric digital ID card](#) in 2021 to all eight million-plus citizens. The ID system will also serve as a new platform to support national projects such as a single social registry and universal health insurance.

The Paycheck Protection Program (PPP) in the United States was large in scope of the SMEs targeted, and disbursement was relatively fast for about two-thirds of applicants. However, many small businesses—including some high-need SMEs, such as minority-owned firms—were excluded or not prioritized because they lacked banking relationships. At the same time, the program has received public attention for instances of fraud; since May 2020, the US Justice Department has publicly announced charges in more than 60 fraud-related cases. The amount of fraudulently received loans associated with these charges is small relative to the size of the PPP program (\$70 million in loans received by defendants versus total loans of over \$525 billion). However, official estimates are not currently available for improper payments and error rates.

In some cases, both program ambition and delivery success showed limitations

Multiple programs showed lower scores for both delivery success and design ambition, although this is a matter of degree. The Bounce Bank Loan Scheme (BBLS) and the Coronavirus Business Interruption Loan Scheme (CBILS) programs were structured as loans, wholly or partially guaranteed by the UK government, and designed to make use of bank-level financial infrastructure. Both underscore the challenges of achieving the trioka of widespread coverage, speed of disbursement, and low fraud rates in the absence of strong business identification systems with linked data. Disbursement decisions for the programs were made by banks, which had to authenticate and verify applications within program deadlines without the benefit of government digital records (for example, tax numbers and data). BBLS was designed to have an expedited application and disbursement process and achieved a [76 percent](#) approval rate with about [90 percent](#) of loans made to microbusinesses. Businesses self-certified their application documents, and lenders were not required to perform detailed credit or affordability checks. The program was found to have experienced [significant risk of identity fraud, money laundering, and duplicative applications](#), among other issues. CBILS achieved lower levels of fraud, but through a stringent and lengthy underwriting process leading to a low approval rate of about [44 percent](#). This left many needy SMEs without support. Thus, the low fraud rates may have been at the expense of higher potential for impact by targeting more beneficiaries.

In the United States, the Economic Impact Program (EIP) was large in scope, aiming to pay more than 50 percent of the population, but more limited in targeting. For example, all individual Social Security recipients and tax filers earning less than \$75,000 received the same amount. Delivery also met challenges, in both speed and coverage, as a result of partial reliance on paper checks and an incomplete list of eligible recipients. While more than 160 million individuals ultimately received a payment, only 90 million did so in the three weeks after the program began on [March 30, 2020](#). On September 17, the Internal Revenue Service notified nearly [nine million](#) individuals who had still not received an EIP and were potentially eligible, supplementing significant outreach and public awareness campaigning that had been in place since March. Structurally, these people may be more likely to be lower income because they are not required to file federal income taxes.

The Emergency Aid (EA) program in Brazil was targeted at informal, unemployed workers, individual microentrepreneurs, intermittent workers, and women-led households. About 44 percent of the target population was automatically included, being registered in the country's poverty-alleviation program, Bolsa Familia, or in Cadastro Unico, the Unified Registry that contains data on more one-third of the population and is used for federal social programs. However, about half of all beneficiaries were not in the Unified Registry and did not have a digital ID; they were required to apply and register via an online platform. Those who did not have a digital financial account needed to open mobile

Interventions were more effective when three features of financial infrastructure were in place: digital payment channels, the presence of a basic digital identification system with broad population coverage, and simple data on individuals and businesses that are tethered to the ID.

savings accounts at a state-owned bank. Ultimately the program's [rural coverage](#) was high at 56 percent, while in the urban areas, the coverage was about 36 percent, but the lack of universal coverage under a digital social registry was a limitation. There have been [reports](#) of fraud, cybercrime, and payments made to mistaken beneficiaries.

Brazil's Emergency Employment and Income Preservation Benefit (EEIPB) program received lower scores for both design ambition and delivery success. It experienced delays because of a disconnect between business data and the digital ID system, which meant that applications had to be made manually. [Additional delays](#) were caused by numerous failures in the government portals through which employers had to submit applications. The program also [reportedly experienced fraud](#) in the form of duplicate applications, payments to individuals not covered under the scheme (for example, deceased workers and government workers), and [employees with suspended contracts](#), among others.

Nigeria's National Cash Transfer program (NCTP) was built on a partial social registry, the National Social Register, of [2.6 million](#) households, or 13 percent of the estimated [83 million](#) people living below the national poverty line. Prior to the pandemic, about one million of these households were targeted for cash transfers under NCTP. In April 2020, the government announced a payment of four monthly stipends, 20,000 naira (\$52) in total, to NCTP beneficiaries for January to April 2020, and said it would pay the same amount to one million additional households by expanding the registry. By September 2020, NST registration had been expanded to [4.7 million](#) households. Data on actual disbursements are not available from government sources, but even the expanded number would fall short of the population living in poverty. The challenge is compounded by low financial inclusion (just 40 percent in 2017, according to the World Bank Global Findex database). NCTP is administered through a system of electronic credits to beneficiaries' virtual wallets, but since cash-out infrastructure is not readily available in many parts of the country, payment agents are engaged to run pay points where beneficiaries receive cash. According to a [field monitoring study](#) by the Africa Network for Environment and Economic Justice, beneficiaries

in several states faced delayed disbursements due to limited availability of electronic payments infrastructure; people had to physically queue up at payment points, compounding infection risks during the pandemic. [Cases of intimidation and unauthorized deductions](#) were also reported. On multiple dimensions, Nigeria's example illustrates the challenges of reaching a large number of vulnerable people without the requisite digital financial infrastructure and data tools. This program is not included in Exhibit 2 due to limited data availability.

The COVID-19 crisis raised the potential economic value at stake from robust financial infrastructure by as much as 20 percent

In the seven sample countries, we quantified the economic value at stake from robust digital financial infrastructure in the pandemic, considering the full spectrum of COVID-19 fiscal disbursements, beyond the 12 programs we studied. Our key finding was that the potential economic gain in these countries could be as much as 20 percent more than that possible through digital ID systems in the pre-COVID era.

This estimate builds on our previous research, which used historical trends in government disbursements and nongovernment financial transactions with individuals. We had estimated that countries potentially stood to gain between 3 and 13 percent of GDP by 2030 through reduced fraud, higher efficiency, and greater productivity if they achieved wide coverage of digital ID and broad adoption of digital ID-driven use cases by then. The potential varied by country based on the portion of the economy with bottlenecks that digital ID could address, as well as the scope for improvement in formalization, inclusion, and digitization. Depending on the country, between roughly 10 and 50 percent of this potential gain came from interactions between governments and their taxpayers or beneficiaries of transfers.

In response to the COVID-19 crisis, many governments sharply increased the level of government benefits paid to individuals and small and microbusinesses. This is a type of economic interaction that digital ID could improve, including by

reducing levels of fraud by as much as 80 percent. If such heightened levels of government support were to persist beyond the pandemic, the total value of stake for these countries would be 1.05 to 1.2 times the level we earlier estimated. This estimate of GDP does not include additional benefits from reaching more vulnerable populations in times of most acute need. COVID-19 underscores that global failure modes are possible and could happen again within the next decade. This risk raises the need for countries to invest in robust digital financial infrastructure.

To calculate the potential, we assumed the level of disbursements seen during 2020 across all forms of government spending for individuals and small businesses would prevail. We estimated the economic value that would accrue through

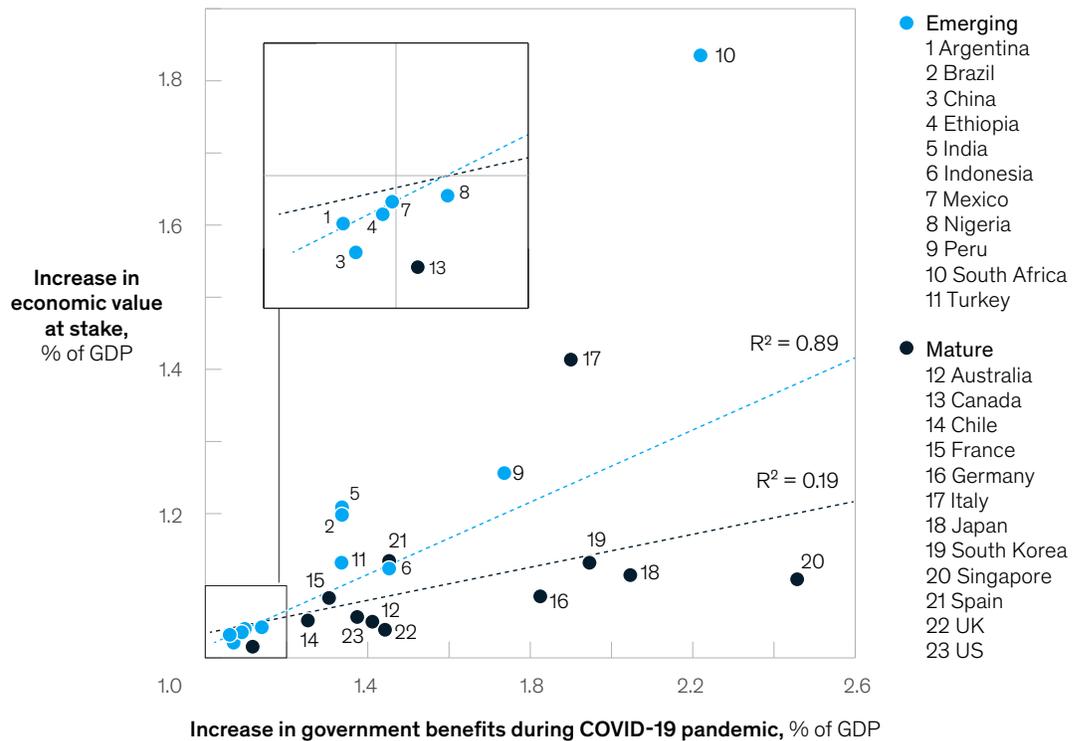
reduced fraud rates, better efficiency, and higher output that could be achieved if digital ID and related enabling financial technologies were in place. We compared this against our pre-pandemic estimates using the same methodology of the potential economic value of digital ID in 2030.

Extrapolating our estimates to other countries, we find a positive correlation between the increase in government disbursements during COVID-19 and the potentially higher economic value at stake from digital ID. Emerging economies have more to gain than mature economies in economic value for every percent of GDP spent in incremental disbursements (Exhibit 3). Mature economies also have a positive outcome, but the potential is less marked, perhaps because they start with more digital financial infrastructure in place.

Exhibit 3

Emerging economies have higher economic value at stake from using digital financial infrastructure to support government disbursements.

Economic value at risk in comparison with government benefits during COVID-19 pandemic



Note: Togo is not included due to limited data availability.
Source: McKinsey Global Institute analysis

Specifically, in our sample of seven countries, India and Brazil would see the highest incremental economic value at stake from using digital ID and financial infrastructure in 2030. Both countries had large potential for value creation before the pandemic—for India, up to 6 percent of 2030 GDP, and for Brazil, up to 13 percent. Both countries undertook significant additional government disbursements in response to COVID-19. In both countries, the value at stake we estimate has risen by a factor of roughly 1.2.

Incremental value at stake was more limited in the United Kingdom and the United States, as well as in Nigeria, rising by a factor of roughly 1.05. While the United Kingdom and the United States undertook large additional government disbursements, both had limited potential for value creation earlier, at up to 3 and up to 4 percent, respectively. Many processes are already digital in these economies, and improvement potential largely requires advanced digital ID programs that enable additional data-sharing features.

In Nigeria, which is more fiscally constrained, levels of government disbursement have risen only modestly during the crisis so far. Thus, despite Nigeria’s meaningful potential for value creation from digital ID in use cases earlier, at up to 7 percent

of GDP in 2030, the incremental value at stake from disbursements related to COVID-19 would be limited.

In Singapore, incremental value at stake was 1.1 times the level in “normal” times. While Singapore boosted levels of government disbursement by a factor of nearly 2.5, representing 44 percent of GDP, its economy is already highly formalized and digitized, and so its potential for value creation from advanced digital ID and financial infrastructure is relatively more limited, at roughly 3 percent.

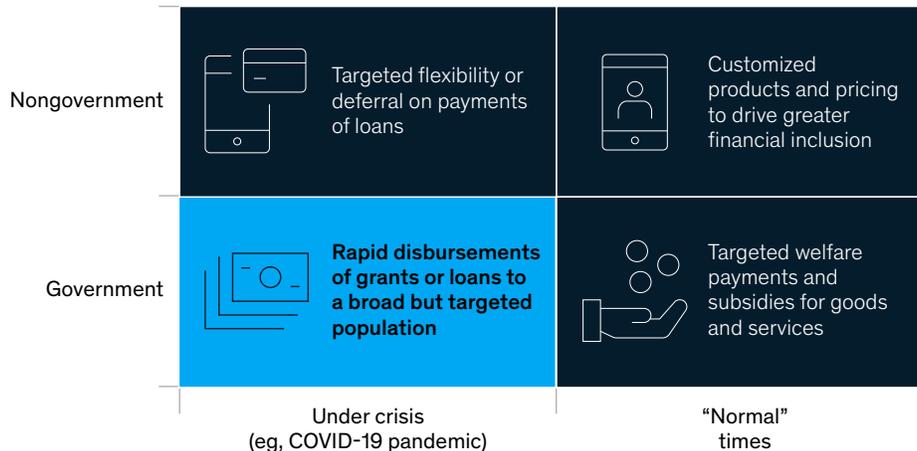
Digital financial infrastructure can improve country-level resilience in crises and on an ongoing basis

Beyond the potential economic impact, investing in digital financial infrastructure can help governments protect their populations in other important ways with long-term benefits. Effective government support in times of need helps prevent extreme poverty, hunger, and inequality, among others. This cannot all be measured in GDP growth. Financial infrastructure is relevant for the effectiveness of broader national government programs in more normal times, as well as interactions between individuals and nongovernment institutions (Exhibit 4).

Exhibit 4

Robust digital financial infrastructure has a potential impact beyond supporting government disbursements both during crises and on an ongoing basis.

Primary focus of this report



Source: McKinsey Global Institute analysis

To build resilience to support businesses and individuals in potential future crises, governments should ensure that the three elements of robust financial infrastructure are in place. Doing so at the country level would provide much-needed flexibility and speed of response to the design and delivery of individual programs.

Governments would do well to undertake a clear-eyed assessment of their current level of digital financial infrastructure. Our research highlights the opportunities that are still to be seized in many countries by harnessing the digital financial tools available and rolling them out on a large scale so that they function well during even the most severe and sudden crises. In developing countries, the pandemic has strengthened the case for building robust payment, ID, and data systems to leapfrog conventional systems that typically cover a small proportion of individuals and businesses but leave the informal, micro, and small-scale parts of the economy and population out of reach. Advanced economies have high levels of overall

ID and digitization that present opportunities for workarounds. But this can lull policy makers into a sense of complacency. For example, in the United States, widely held social security numbers along with reliable physical addresses and postal delivery systems suffice for support in “normal” times. But compared with the full suite of digital financial infrastructure, these fail to provide the same level of flexibility, targeting, and speed that are sorely needed in crisis times.

Finally, even as advanced and emerging countries accelerate implementation of robust digital financial infrastructure, governments should remain mindful of potential new risks that large-scale digitization and provisioning for emergencies may bring. The principles of “good digital ID”—well-considered system design and policies that promote uptake by users, the mitigation of risks associated with large-scale capture of personal data or systematic exclusion, and guarding against the challenges of potential dual-use technology—are all the more valid in times of crisis.

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