

## Inclusive payments for the post-pandemic world<sup>1</sup>



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*The Covid-19 pandemic has accelerated the shift to digital payments. In some cases, it may be undermining the acceptance and availability of cash. If this trend persists, it carries risks that unbanked and underbanked people will be left – further – behind. Low-income and vulnerable groups, in particular, often do not have basic or trustworthy identification credentials, making it more challenging for them to access digital payments, and for the public sector to disburse government-to-person payments efficiently. Going forward, central banks will need to navigate multiple policy trade-offs. In particular, general purpose central bank digital currencies (CBDCs) and progress in digital identification can help fill the gap by ensuring access to a basic, trustworthy means to pay digitally and facilitating financial inclusion.*

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## Covid-19 has accelerated the shift to digital payments

**The pandemic and resulting economic crisis have led to marked changes in the use of cash and in retail payment behaviour.** These changes in payment behaviour are visible through several channels (BIS (2020)). First, public concerns about viral transmission through cash<sup>2</sup> and the temporary closure of many non-essential stores have led to a temporary decline in cash withdrawals (Graph 1, left-hand panel). At the same time, fewer opportunities to use cash and the economic uncertainty in the pandemic have resulted in higher cash holdings (centre panel). This can be attributed, in part, to higher precautionary holdings of cash, a trend that has been observed in previous periods of uncertainty (eg the Great Financial Crisis of 2007–09). Meanwhile, social distancing and increased transaction limits for contactless card payments have coincided with an increased use of contactless payments at the point of sale (right-hand panel).<sup>3</sup> Meanwhile, the surge in e-commerce (right-hand panel) has driven increased remote use of payment instruments (eg card-not-present) in the domestic context, while travel restrictions have affected cross-border payments. For example, e-commerce spending in the United States grew by 93% year on year in May 2020 and e-commerce as a share of total retail sales reached a record of 33% in the United Kingdom in April and May 2020 (Mastercard (2020a)), while volumes of cross-border payments in international card schemes fell by over 40% year on year in April 2020 (Mastercard (2020b), Visa (2020)).

**If the acceptance of cash decreases, households without access to digital payment means could face barriers to making and receiving payments.** The additional decline in cash use due to the pandemic could accelerate a reduction in automated teller machines (ATMs) and physical bank branches. A reduction in access to cash could disproportionately impact groups of people who do not have access to digital payment mechanisms. This includes senior citizens, individuals with special needs, (undocumented) migrants, people living in or moving out of extreme poverty or homelessness, inhabitants of rural and remote areas, and those with limited financial capability (Ceeney et al (2019)). Many of these groups lack access to bank accounts, (contactless) payment cards and to mobile devices for remote payments. As a result, they rely on cash to make and receive payments. Public entities and international organisations are therefore considering the need for preserving access to cash as well as improving digital financial inclusion.

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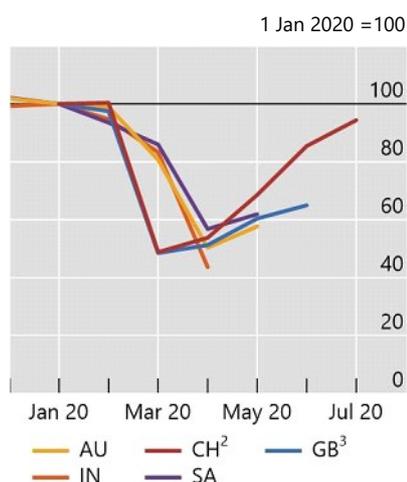
<sup>2</sup> Scientific evidence has suggested that the risk of using cash is low compared with touching other surfaces (Auer, Cornelli and Frost (2020a)).

<sup>3</sup> Contactless payments allow users to pay at the point of sale (POS) with contactless cards or mobile wallets without physically entering a personal identification number (PIN) in a device or providing a signature, both of which require contact with a physical surface. Brown et al (2020) examine the impact of rising access to contactless payment cards on demand for cash transactions.

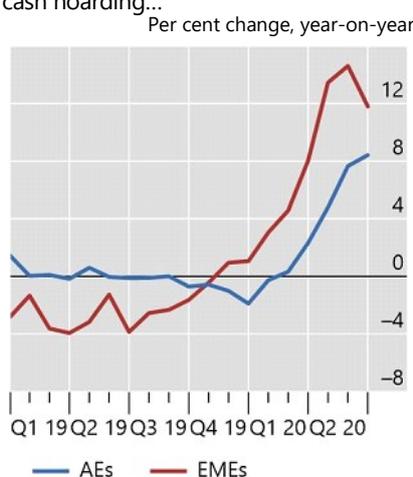
Payment behaviour is changing in the pandemic

Graph 1

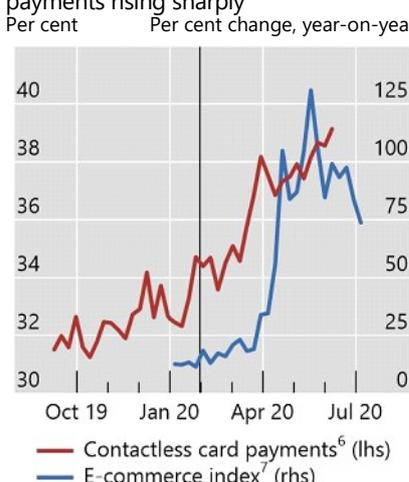
Even as ATM withdrawals fall...<sup>1</sup>



...there is evidence of cash hoarding...<sup>4,5</sup>



...and of contactless and remote payments rising sharply



The black vertical line in the right-hand panel indicates 30 January 2020 (World Health Organization declares the Covid-19 outbreak a “public health emergency of international concern”).

<sup>1</sup> Index calculated on the absolute volume. <sup>2</sup> Data for debit cards Debit Mastercard, Maestro CH, V PAY or Visa Debit issued by Swiss banks. Data for the third week of May and June for debit cards. <sup>3</sup> Data for LINK ATM transactions. <sup>4</sup> Data are weighted by GDP. <sup>5</sup> “AEs” denotes the simple average of the following advanced economies: AU, CA, CH, EA, GB, JP, SE and US. “EMEs” denotes the simple average of the following emerging market economies: AR, BR, CN, HK, ID, IN, KR, MX, RU, SA, SG, TR and ZA. <sup>6</sup> Share of contactless in all card-present transactions by a global card network. In many countries, transaction limits for contactless payments were raised in Q2 2020. <sup>7</sup> Year-on-year change of selected key performance indicators (KPIs) calculated as orders in the last 14 days divided by orders in the same period last year. Data show the average of selected countries (AU, DE, GB, MX and US) weighted by GDP.

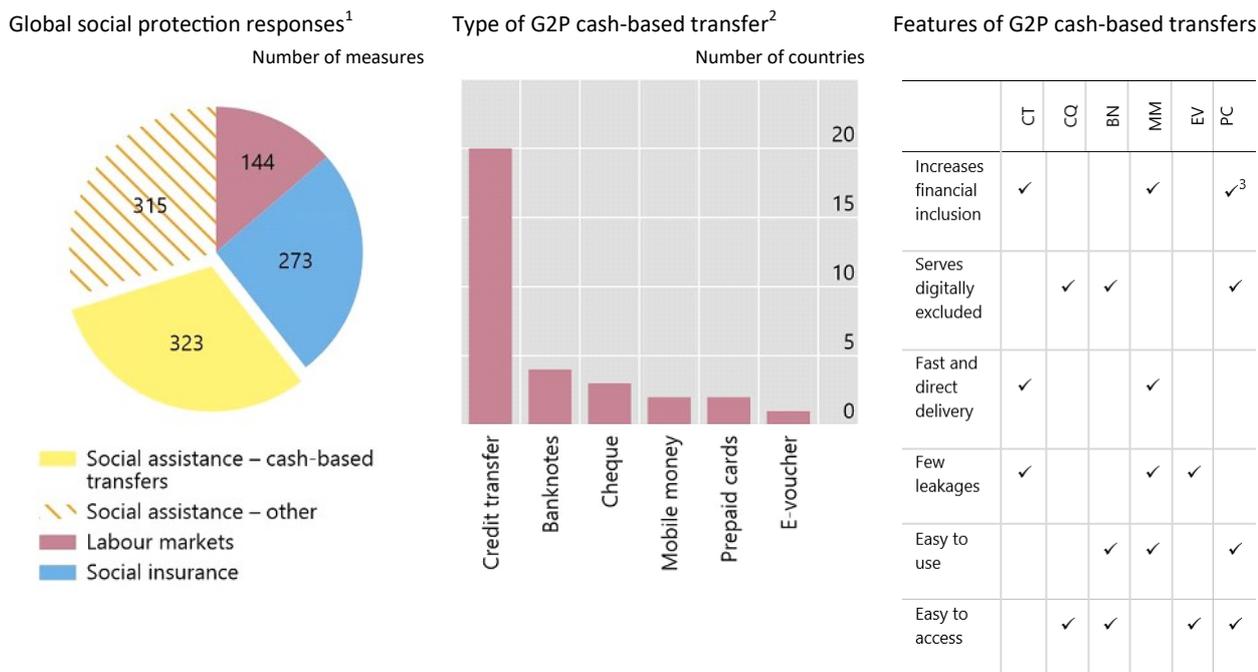
Sources: [rba.gov.au](http://rba.gov.au); [bancaditalia.it](http://bancaditalia.it); [sama.gov.sa](http://sama.gov.sa); CCIInsights; a global card network; [link.co.uk](http://link.co.uk); [SIX Payment Services](http://SIX Payment Services); national data.

## The need for efficient government-to-person payments

**Government transfers during the pandemic have highlighted both progress and shortcomings in payments.** As of 10 July 2020, a full 200 countries had planned, introduced or adapted social spending measures in response to the pandemic (Gentilini, Almenfi and Dale (2020)). The majority of these responses are social assistance measures, which are weighted towards cash-based transfers (Graph 2, left-hand panel). Most governments have relied on credit transfers – electronic deposits directly into a recipient’s bank account – to make their government-to-person (G2P) payments (centre panel). Credit transfers enable fast and direct delivery at lower cost than paper-based means. They also increase transparency, as governments can monitor that the full amount of the payment is delivered to the recipient. Furthermore, credit transfers can improve longer-term financial inclusion by potentially acting as an on-ramp to transaction accounts and other financial services (right-hand panel). Mobile money and general purpose prepaid cards can have similar benefits. However, during the pandemic, some governments have reverted to traditional (token-based) payments such as banknotes, cheques and limited-purpose prepaid cards alongside credit transfers. These token-based payments help to serve the digitally excluded in the short term, but are slower, suffer higher “leakages” (ie fraud and losses) and do not aid long-term financial inclusion.

Government-to-person payments in the pandemic

Graph 2



CT = credit transfer (electronic deposits directly into a bank account); CQ = cheque; BN = banknotes and similar tokens (eg physical vouchers); MM = mobile money (a form of e-money); EV = electronic vouchers; PC = prepaid cards (a form of e-money).

<sup>1</sup> Data as of 10 July 2020. A total of 200 countries have planned, introduced or adapted 1,055 social protection measure. Cash-based social assistance includes cash transfers, universal one-off cash payments, childcare support and pensions. Other social assistance includes in-kind measures, utility and financial obligation support, and cash for work. Other government responses include labour market measures such as wage subsidies, training, other benefits and regulation, and social insurance including paid sick support, healthcare insurance support, pensions, social security support and unemployment benefits. <sup>2</sup> Types of G2P cash-based transfers used in Committee on Payments and Market Infrastructures (CPMI) countries which have such transfers, as of June 2020. Each country can use more than one payment method. Three CPMI members do not have such transfers and two have undisclosed methods. <sup>3</sup> Prepaid cards, issued by a bank or other authorised and/or regulated payment service provider, which can be used to make and receive payments and to store value, can be considered as transaction account and enhance financial inclusion. Limited-purpose, closed-loop prepaid cards, on the other hand, may not enhance inclusion.

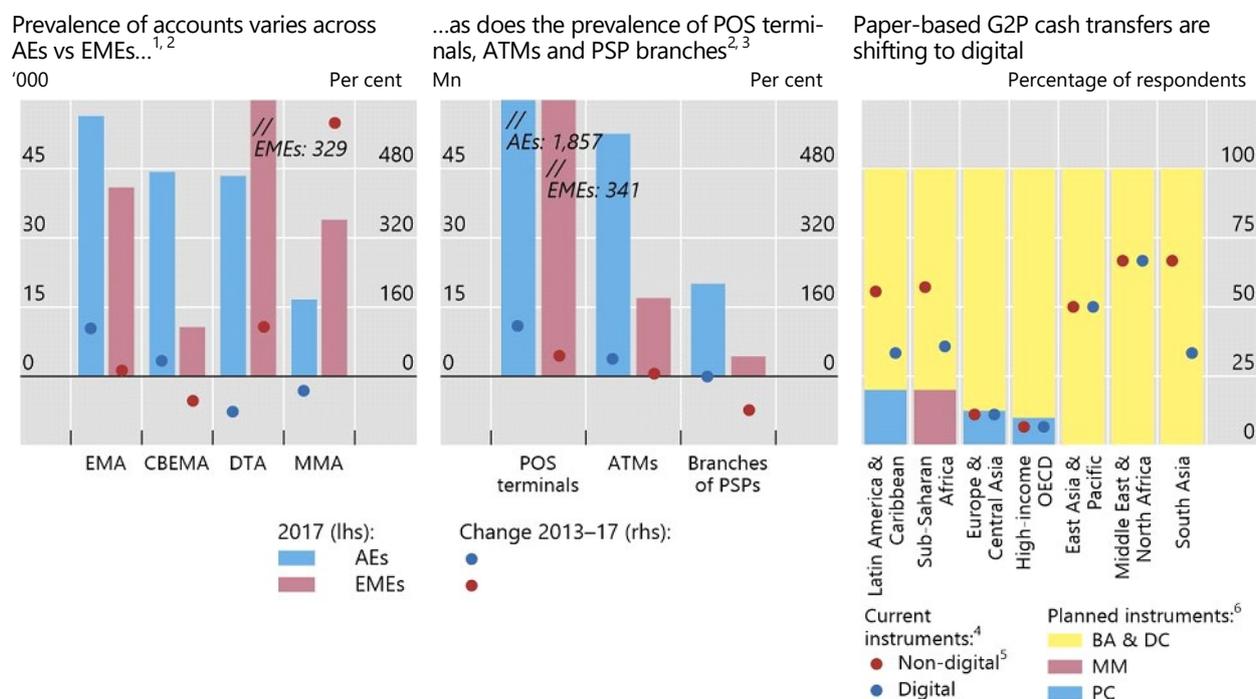
Sources: Gentilini, Almenfi and Dale (2020); authors' assessment.

**G2P payment programmes face challenges to identify the rightful beneficiary and ensure that beneficiaries receive their funds quickly, safely and cheaply.** An estimated 1 billion people worldwide do not have basic identification (ID) credentials, and many more have IDs that cannot be trusted because they are of poor quality or cannot be reliably verified. Most of the affected individuals live in lower-middle-income and low-income economies. Further, an estimated 3.4 billion people have some form of ID but with limited ability to use it in the digital world. And even the 3.2 billion people with a legally recognized identity may not be able to use that ID effectively and efficiently online (McKinsey Global Institute (2019)). Lack of ID makes it difficult for citizens to access financial services, for financial service providers to on-board customers and for governments to efficiently transfer funds to the rightful beneficiary. Additional barriers to financial services include high fees, geographical distance from bank branches, inability to access digital services due to the cost of obtaining connection devices and data, lack of mobile or broadband internet coverage, and of lack of digital literacy.

**Governments have used a variety of payment instruments to reach unbanked and underbanked people during the pandemic.** Alongside traditional paper-based payment methods, governments have used new methods to reach the unbanked, the underbanked or those who have not provided their bank account details to the government during the pandemic. In particular, improvements in access to non-bank transaction accounts, POS terminals and ATMs in recent years (Graph 3, left-hand and centre panels) have allowed new methods for G2P transfers. The governments of Indonesia, Italy and Korea have allowed recipients to pick up banknotes from collection offices. Even in highly banked countries, the absence of a comprehensive and interlinked government

payment programme has presented challenges to distributing funds to large portions of the population at short notice. For example, in the United States the government has made 120 million credit transfers, mailed 35 million paper cheques and sent 3.7 million prepaid cards. As of early June 2020, in the US an estimated 30–35 million eligible people had not yet received G2P payments (US House Committee on Ways & Means (2020)), and 1.1 million payments (for USD 1.4 billion) had been made to deceased individuals (US GAO (2020)).

Prevalence of means of payment in advanced and emerging market economies Graph 3



EMA = total e-money accounts; CBEMA = card-based e-money accounts (subset of EMA; includes prepaid and other cards); DTA = deposit transaction accounts (bank account and accounts with authorised non-bank deposit-takers); MMA = mobile money accounts (subset of EMA); POS = point of sale; ATM = automated teller machine; PSP = payment service provider; BA = bank account; DC = debit card; MM = mobile money; PC = prepaid card.

<sup>1</sup> Number of accounts per 100,000 adults. <sup>2</sup> Values refer to the simple average. <sup>3</sup> Number of access points per 100,000 adults. <sup>4</sup> Percentage of countries in each region that use either a digital or a non-digital method to make G2P cash transfers and social benefit payments. Percentages do not sum to 100%, as countries can use both methods. <sup>5</sup> Non-digital instruments include cash and paper-based payment instruments. <sup>6</sup> Percentage of countries in each region that plan to migrate G2P cash transfers and social benefit payments to digital methods for countries where these payments are handled mainly through cash or paper-based payment instruments.

Source: World Bank GPSS 2018 data.

**Onboarding of financially excluded people is challenging in normal times and even more so during times of crisis.** G2P credit transfers require a smooth functioning payment system supported by a conducive legal and regulatory framework (Rutkowski et al (2020)). Yet creating a digital payment system in the midst of a pandemic is not feasible. Instead, governments have scaled up established social transfer programmes, often alongside other actions to support digital payments (Boakye-Adjei (2020)). For example, Brazil has used its existing allowance programme for poor families to disburse Covid-19 payments as well as starting an emergency aid programme through a partnership with state-owned banks to reach 54 million financially vulnerable citizens. Recipients were required to open a digital bank account via a mobile wallet<sup>4</sup> with their national ID number. In

<sup>4</sup> Mobile wallets enable end users to securely access, manage and use a variety of payment instruments issued by one or more payment service providers (PSPs) via an application (app) (CPMI-World Bank (2020)).

India, the government was able to quickly provide Covid-19 relief through 204 million accounts operating under one of its existing financial inclusion programmes (Jerving (2020)). In many cases, programmes are already under way to shift G2P payments to digital instruments such as bank accounts, mobile money and prepaid cards in the future (Graph 3, right-hand panel).

### CBDCs and digital ID to promote inclusive payments

#### **Digital innovation presents opportunities to improve the access to and use of safe and reliable payments.**

New technologies can improve existing payment systems, increase access to digital payments via new access modes, and support new payment products and services, as well as greater interoperability between systems. The Committee on Payments and Market Infrastructures (CPMI) and World Bank (2020) identify application payment interfaces (APIs), big data, biometric technologies, cloud computing, contactless technologies, digital ID, distributed ledger technology (DLT) and the internet of things as new technologies that could improve payment services and financial inclusion. At the same time, digital innovation alone does not guarantee increased access to basic, trustworthy and low-cost payments. Private providers may be deterred from providing basic accounts to the financially excluded segments due to relatively thin profit margins and little scope for cross-selling. In addition, new payment channels could charge higher fees to merchants and users if they are launched by technology firms with substantial market power and large established networks. Moreover, central banks face important policy trade-offs around short vs long-term policy measures, ensuring privacy vs integrity, and the appropriate role of the public and private sector.

#### **General purpose CBDCs could enhance inclusion in the medium term if inclusion features prominently in CBDC designs.**

Both advanced economy (AE) and emerging market economy (EME) central banks are investigating general purpose CBDCs (see Boar, Holden and Wadsworth (2020) for a survey and Auer, Cornelli and Frost (2020b) for a stock-take). In EMEs, general purpose CBDCs could improve financial inclusion by providing a low-cost means of payment and acting as an on-ramp to broader financial services. Meanwhile, several AE central banks are considering these CBDCs in light of declining cash use and potential reduced access to cash. In the future, a widely used general purpose CBDC could enable universal G2P payments. It could complement efforts by governments or private sector entities (under public oversight) to establish a universal digital ID system leading to greater financial inclusion. Like cash, an inclusive CBDC should present low technical access hurdles so that all users can access it. Multiple interfaces and physical payment tokens, prepaid CBDC cards or dedicated universal access devices should be considered (Miedema et al (2020)). Options should also be user-friendly for children, seniors, and groups with special needs, such as the visually impaired. Accompanying educational programmes might also be beneficial.

**There may be trade-offs between token- and account-based CBDCs.** Both forms have their relative merits and disadvantages when it comes to improving financial and digital inclusion. Account-based CBDCs require individuals to present valid ID, which as discussed could reduce access in some jurisdictions. Moreover, linking personal ID to a CBDC could generate data privacy concerns. Alternatively, identification is not strictly needed for a token-based CBDC; instead, ownership of a token-based CBDC is linked to “knowledge” such as a digital signature.<sup>5</sup> This design could improve access to financial services, substitute for cash in countries where access to cash is cumbersome, enable a degree of anonymity and reduce the need for financial accounts. Yet a token-based

<sup>5</sup> See Auer and Böhme (2020) on policy trade-offs in CBDC design, and Auer, Böhme and Wadsworth (2020) on digital signatures.

CBDC without formal identification presents integrity risks and would have limited usefulness for G2P payments due to opportunities for fraud. For these reasons, central banks may lean toward account-based CBDC designs or a mixed system that allows for both token- and account-based access.<sup>6</sup>

**On balance, digital innovation and CBDCs can support improved access to safe transaction accounts, but they are no panacea.** The CPMI and the World Bank have developed a framework to harness the potential of digital innovation while mitigating its accompanying risks. This includes incorporating key actions relating to fintech into their guidance on payment aspects of financial inclusion (CPMI-World Bank (2020)). But to reach all members of society, innovations in payments and identification should be part of a broader payments and financial inclusion strategy, with an accordingly tailored design. Policymakers might also consider policies for ensuring access to and acceptance of cash. Mindful of the policy trade-offs, central banks can foster more inclusive payments in the post-pandemic world. ■

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*Continued*

<sup>6</sup> See ECB (2019) for a proposal on how to tier token- and account-based access. A recent stocktake of central bank research efforts indicated that CBDCs appear more likely to be based on account-based access (Auer, Cornelli and Frost (2020b)).

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