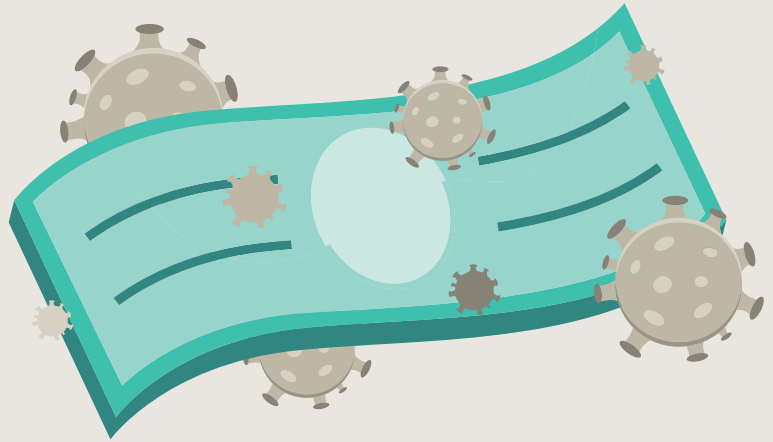


# Cash is not immune to the virus

Marion Laboure



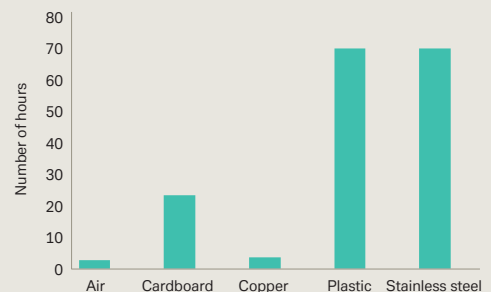
Covid-19 might be the catalyst that finally brings digital payments more fully into the mainstream. That is because the global spread of the virus is forcing countries to reconsider the use of physical money, which might transmit the disease. In fact, many people see the handling of cash as a potential risk factor in the pandemic. To bolster public confidence, central banks have quarantined, disinfected, and isolated banknotes as part of their efforts to stem the spread of the virus. This will likely add to calls for governments, central banks, consumers and businesses to move toward digital payments.

## Physical payments: a vector for transmitting pathogens

The physical washing of cash is justified as there is little disagreement that physical currency can serve as a vector for transmitting pathogens, much like a mosquito. Studies have shown that banknotes and credit cards, like any other surface that large numbers of people touch, can carry bacteria or viruses.<sup>1</sup>

A recent study suggested covid-19 “can persist on inanimate surfaces like metal, glass or plastic for up to nine days, but can be efficiently inactivated by surface disinfection procedures.”<sup>2</sup> Another study found the virus can survive on plastic and steel for up to three days after contamination, and on cardboard or copper for a full day.<sup>3</sup>

## Survival time of covid-19 on different surfaces



Source: van Doremalen et al (2020).

<sup>1</sup> The U.S. Department of Health & Human Services explained how covid-19 spreads from contact with contaminated surfaces or objects: “It may be possible that a person can get covid-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes, but this is not thought to be the main way the virus spreads.” For more details, see <https://www.cdc.gov/coronavirus/2019-ncov/about/transmission.html>

<sup>2</sup> G. Kampf, D. Todt, S. Pfaender, E. Steinmann (2020), Persistence of coronaviruses on inanimate surfaces and their inactivation with biocidal agents, *Journal of Hospital Infection*, March 2020, Volume 104, Issue 3, Pages 246–251 [https://www.journalofhospitalinfection.com/article/S0195-6701\(20\)30046-3/abstract](https://www.journalofhospitalinfection.com/article/S0195-6701(20)30046-3/abstract)

<sup>3</sup> N. van Doremalen et al (2020), Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1, *The New England Journal of Medicine*.

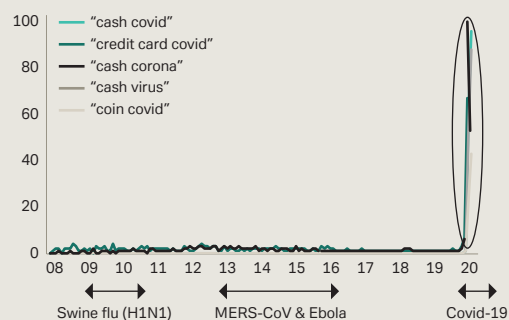
Smartphones are not necessarily a better option for avoiding germs. Preliminary results show that the covid-19 could survive up to a week on the smartphone screen. Researchers showed that 92 per cent of phones and 82 per cent of hands had bacteria on them.

Of course, users can easily disinfect their smartphones and cards, thus helping to prevent the spread of disease-causing microbes. Cash is more difficult.

### Central banks have responded to unprecedented public concerns

Globally, the number of internet searches of “cash virus” recently surged to astonishing levels, a phenomenon that was seen in such diverse geographies as Australia, Canada, France, Ireland, Singapore, Switzerland, the UK, and the US.

### Search intensity of relevant terms



Source: trends.google.com. Notes: The shaded areas in the left-hand panel indicate Jan 2009–Aug 2010 (Swine Flu (H1N1)), Sep 2012–Mar 2016 (Middle East Respiratory Syndrome Coronavirus (MERS-CoV)), Dec 2013–Mar 2016 (West African Ebola epidemic) and Dec 2019–current (Covid-19).

Central banks have responded to the public concerns in three different ways. Several central banks (including the Bank of England, Bundesbank, Bank of Canada, and South African Reserve Bank) have actively communicated that risks are low.

Other central banks have taken further precautionary measures. First, the People’s Bank of China, and then the central banks in South Korea, Hungary, and Kuwait began to disinfect and even destroy banknotes to mitigate the spread of the virus. For fear of importing contaminated currency from Asia, the US Federal

Reserve has initiated quarantine measures for dollar banknotes from the region.

Several other governments and central banks (including those in India, Indonesia, and Georgia) have explicitly encouraged cashless payments.

### Covid-19 fuels the transition to digital payments

Over the short term, the virus may continue to accelerate trends to switch to digital payments. The effect of the virus on payment systems in Asia could be felt sooner than in Europe and the US, given the already high penetration rate on digital payments. As of the end of 2018, around 73 per cent of internet users in China used online payments services (up from 18 per cent in 2008). One reason is that China and Southeast Asian countries have young populations that are significantly larger than those in Europe and the US, and young populations tend to be more open to adopting new technologies.

But covid-19 could be a game changer given that older people are the most vulnerable to this virus. They are also the most cash-intensive users and therefore have the most incentive to switch to cashless payments.

Our research shows that Americans and Western Europeans are much more dependent on cash. It takes much longer to change the ingrained habits of people in a legacy system. In terms of disease control, this could be a significant problem, especially in cash-based societies where populations are ageing, such as the US or Germany. To reduce physical contact and queuing at checkout, the contactless card payment limit rose from £30 (\$35) to £45 (\$52) across most European countries a month ago. And things are already starting to evolve: over the past few weeks, more than half of card payments have been done contactless, vs. a third in December in Germany.

The pursuit of digitisation in Europe might hollow out the continent’s payment sector unlike in China where there are no large European digital payments companies. Thus, a European shift to digital payments might benefit US companies.

Moreover, most people we have surveyed plan to use a smartphone wallet more frequently in the

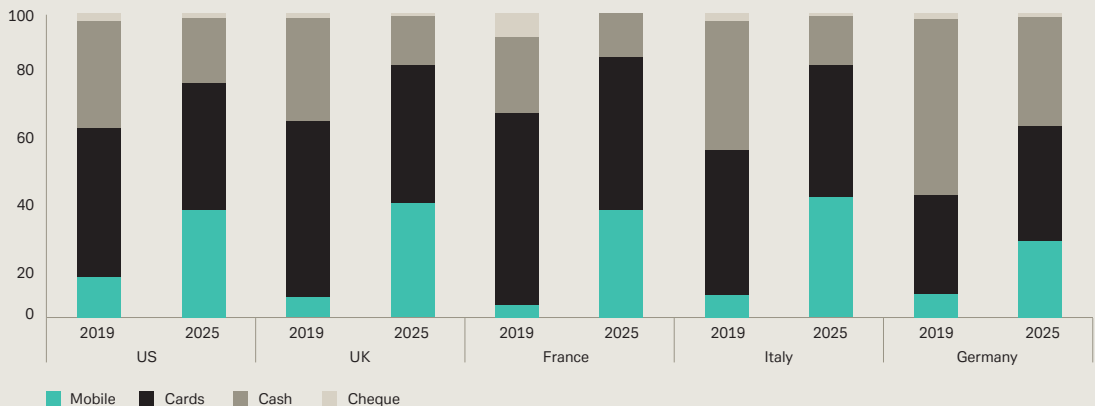
next six months and believe that digital wallets will replace traditional wallets within the next five years. Looking forward to 2025, we continue to expect e-wallets to be the second most preferred method of payments after cards, and the most preferred method among millennials.<sup>4</sup>

As we look towards the medium and long term, concerns over handling cash will add to the calls for central banks to develop their own digital currencies (CBDCs). Over the past two years, global central banks have increased their digital cash initiatives. Today, 80 per cent of them are developing a CBDC and the work goes far beyond research: 40 per cent of central banks are experimenting with proofs of concept and

10 per cent are already running pilot projects. Looking ahead, countries representing about a fifth of the world's population are likely to issue a general purpose CBDC in the next three years.<sup>5</sup>

This process is already in motion. The former president of the People's Bank of China, Li Lihui, argued that a digital currency's efficiency, cost-effectiveness, and convenience makes it especially desirable during an epidemic. Reports indicate the PBoC, in collaboration with private companies, completed development of the CBDC's basic function. In the last couple weeks, without any formal announcement, China began trialling payments – with Starbucks and McDonalds on-board – in its new digital currency

### Weekly in-store purchases per country in 2019 and 2025



Source: Deutsche Bank dbDIG, The Future of Payments.

in four major cities. In February 2020, Sweden, a country where cash in circulation now represents only one per cent of GDP, revealed that it began its first trial of the e-krona and is expected to become the world's first cashless society by March 2023. In the US, the drafts of the covid-19 stimulus bill first included and then discarded the creation of digital dollar wallets. Indeed, the US Federal Reserve could use a 'digital dollar' and digital wallets to send payments to individuals and businesses.

So although covid-19 may be a "once-in-a-century pathogen", as Bill Gates has previously warned, it may have coincidentally emerged when we have the ability to respond (at least to the cash problem) with a once-in-a-century solution. The virus has already driven nations to disinfect, destroy, and reprint their currencies. Compared with that, a digital payment system must seem a far more straightforward solution.

<sup>4</sup> According to FIS, a financial software and services provider. "On Monday, April 6 – the original target date set by President Trump for the stimulus to start going out – new mobile banking registrations jumped by approximately 200% over the daily average in March." "On Wednesday, April 15, registrations peaked and were roughly 207% higher than the daily average."

<sup>5</sup> <https://www.bis.org/publ/bppdf/bispap107.pdf>