CASH IS **DEAD**, LONG **LIVE** CASH

Virtual payments are fast displacing cash, but not completely and not everywhere

Alan Wheatley

Fewer Nordic banks are using cash in their branches. India recently scrapped 86 percent of its banknotes. Korea plans to stop minting coins by 2020. Online payments are booming. The march toward a cashless society, it seems, is unstoppable.

Young people especially, as well as the better off and better educated, are increasingly at ease paying by card or mobile phone. In the Netherlands, for instance, the number of card transactions surpassed cash (NFPS 2016) for the first time in 2015.

But wait. In other advanced economies, including Austria, Germany, Japan, Singapore, and Switzerland, cash is still king and shows no sign of abdicating. Globally, perhaps 85 percent of all payments are still made in cash.

"The cashless society, as appealing as it may sound, is probably just as elusive as the much vaunted paperless office," according to Yves Mersch, a member of the European Central Bank's (ECB's) executive board.

There is no inherent reason cash should survive if more efficient means of payment evolve. Cowrie shells were also a useful medium of exchange once. Banknotes did not come into use until the printing press had become sufficiently widespread and dependable.

"Today we can say the same thing about modern communication technology as about the printing presses in the 17th century. Access to the Internet is widespread, and computers, smartphones, and tablets are household items. Thus, the conditions

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are ripe for launching more electronic payment forms," Cecilia Skingsley, deputy governor of Sweden's Riksbank, has said.

Sweden is blazing the cashless trail. Cash is now used for only 15 percent of transactions at the point of sale. Because cash distribution costs in the sparsely populated country are high, fewer than half of Swedish banks still handle cash. Uniquely, cash in circulation fell by nearly 15 percent between 2007 and 2015. Even homeless sellers of Stockholm's street magazine accept mobile payments.

Network effects

Successful digitization of retail payments depends on economies of scale and network effects. In the case of technology-friendly Sweden, consumers and merchants alike have been happy to desert cash. The trend has been reinforced by a long tradition of cooperation among Sweden's biggest banks, which jointly run the country's payments infrastructure. So a new service enabling real-time payments was immediately able to reach most of the population.

"But if you look at some bigger countries, say Germany or the U.S., you have so many more important players that it's simply more difficult to create this atmosphere of cooperation," Björn Segendorf, of the Riksbank's Financial Stability Department, tells *F&D*.

The more people use a particular platform, the more attractive it becomes—like Facebook. The M-Pesa mobile payment service took off in Kenya because there was one dominant mobile operator, Safaricom, in a country where few people had access to a bank: a market was crying out to be opened up.

"M-Pesa is a good case of network externalities promoting non-cash use," Kim Huynh at the Bank of Canada tells *F&D*. "In Canada, contactless credit cards are a similar case." Their use tripled between 2009 and 2013 (Fung, Huynh, and Stuber 2015). Contactless cards and devices contain an antenna that, when held very near or against a special-purpose terminal, transmits two-way purchase information.

China has largely bypassed cards and is jumping directly from cash to mobile. The number of mobile payment users leapt 64.5 percent in 2015, and nearly 60 percent of the country's 710 million Internet users were paying with mobile devices at the end of that year.

India, too, criticized for the clumsy execution of its plan to withdraw 100 and 500 rupee bills from circulation in a crackdown on illicit income, is laying the foundations for a digital payment network by cataloguing biometric data that will allow citizens to open subsidized bank accounts.

Less crime, more tax revenue

India is not alone in trying to increase tax collection and lower crime and corruption by deterring the use of cash. A number of European countries have imposed ceilings on cash transactions, and the ECB plans to stop printing the €500 note, its highest denomination, in 2018.

Peter Sands, the former chief executive of Standard Chartered Bank, is critical of the ECB for not acting more rapidly to stop issuance of the €500 note and to encourage withdrawal of the outstanding stock. But he adds: "What is good is that there is now much broader acceptance that cash—and particularly high-denomination notes—plays a big role in facilitating illegal activities."

Sands advocates a pact among the Group of 20 advanced and emerging market economies (G20) for rapid withdrawal of all hard-currency notes with a value of more than, say, $50 because they dominate illicit financial flows in poorer countries. More than 60 percent of all $100 bills, the highest US denomination, circulate abroad. "Getting rid of such notes is one of the best things that could be done by the advanced economies to reduce corruption and increase tax collection in the developing world," Sands tells *F&D*.

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Former US Treasury Secretary Lawrence Summers and ex–IMF chief economist Kenneth Rogoff also propose phasing out big bills. They have a battle on their hands. For one thing, Switzerland has no plan to do away with its 1,000 franc note, one of the biggest bills in the world (see "Mountains of Cash" in the December 2016 *F&D*).

Apart from disrupting the underground economy, replacing cash would save money. Processing all but the smallest card payments is cheaper than

handling cash. Korea wants to abolish coins because minting costs exceed their face value. In Singapore, where cash accounts for 60 percent of consumer payments and checks for 30 percent of business transactions, going cashless would save more than 0.5 percent of GDP, according to a study for the Monetary Authority of Singapore.

True, central banks would forgo seignorage, the profit made by issuing currency, but the sums involved are generally small. In any case, as Sands says in a paper for the Harvard Kennedy School, "Providing criminals with high denomination notes because doing so makes money seems indefensible."

Doing away with big bills could also be an aid to monetary policy, Rogoff argues. That is because central banks would have more leeway at times of deflation to impose negative interest rates if there were no longer a threat of a stampede to turn bank deposits into cash.

The falling use of cash is transforming the task of ensuring the security and efficiency of the payment system. The authorities have to worry less about counterfeit notes and bank heists and more about cybertheft.

Several central banks are exploring the merits of issuing their own electronic money.

One of their toughest challenges is to maximize access to digital finance. In a world where 2 billion people are unbanked, holding back growth and entrenching poverty, financial inclusion is climbing the policy agenda.

In advanced economies, too, people without the Internet are finding it harder to access not only electronic payment networks but services of all kinds. "It's more a question of digital exclusion," says the Riksbank's Segendorf. "They are shut out of large parts of society."

The case for cash

The trend toward digitization may be irreversible, but Sands, for one, is not arguing for rapid removal of all cash, particularly in developing economies. "Low-value cash instruments are enormously flexible and robust payment instruments—you don't need electricity, Wi-Fi, or cellular signals to make them work. Nor do you need to be literate," he says.

Cash is also entrenched in advanced economies, accounting for more than half of all transactions by volume in six of seven countries covered in a coordinated central bank survey. In Austria and Germany, the share was 82 percent (Bagnall and others). In every country surveyed cash use decreases with education and income. Why? Among other things, a glance in the wallet makes it easier for households on tight budgets to monitor their finances.

Plenty of reasons have been put forward to explain why Germany, for instance, remains addicted to cash. One is an aversion to debt (and hence to credit cards); another is the folk memory of hyperinflation. Researchers are dubious about the latter theory (Bagnall and others), but, importantly, they say consumers everywhere are not completely rational in their choice of payment methods.

"Decision-making is more of an emotional process than a cognitive process," according to Frank van der Horst and Ester Matthijsen of the Dutch National Bank. "On balance, paying by cash triggers more positive emotions than paying by debit card," they reported (Deutsche Bundesbank 2014). Think of it this way: isn't it more satisfying to give a child a crisp new banknote as a present than to write her a check?

Whether the desire to cling to cash is best described as subliminal or atavistic, Dario Negueruela of the Bank of Spain said it cannot be ignored: "Cash has certain special characteristics that link it to feelings and to deep and primitive human sentiments (Deutsche Bundesbank 2014)."

For some, cash is a tangible symbol of wealth and standing; for others, it is a defense against attempts by an all-encroaching "Big Brother" surveillance state to rob people of their anonymity by forcing them to leave an electronic payment trail.

Michael Tomlinson, a 68-year-old London lawyer, happily uses his smartphone to make mobile payments. But he also withdraws more than £1,000 a month in cash for tipping in restaurants and for use in an emergency in case his credit cards are hacked—as has already happened.

Tomlinson cannot imagine ever doing without cash. "The more options I have as a consumer, the more I like it," he says. "I don't see why I should fall into line with what the banks want."

Or, to quote Dostoyevsky, "Money is coined liberty."

What does the future hold?

Innovation will provide ever more opportunities to do without cash. Ian Pearson, a futurologist who runs the UK consultancy Futurizon, expects pieces of security jewelry, such as electronic signet rings, to enter the market for payment authentication. Transferring money through fingerprint recognition, or even a handshake, will also become possible, Pearson predicted in a report for the UK Payments Council. But he sees a good chance that technology, rather than killing off cash, will prolong its life because people will put a premium on privacy. "We'll probably still have some form of everyday cash for little things even in 2040," Pearson tells *F&D*.

New forms of payment

A central focus of central bankers grappling with new forms of payment is the rapid development of blockchain technology, which underpins the digital currency bitcoin (see "The Internet of Trust" in the June 2016 *F&D*).

In December the People's Bank of China reportedly completed a successful trial run of a system for the transaction and settlement of bank acceptance bills using a blockchain-backed digital currency it had developed.

Several other central banks, including the Riksbank, are also exploring the merits of issuing their own electronic money—and the associated policy implications. For example, unpredictable public demand for e-krona could theoretically make it hard to carry out fine-tuning operations in the money market and to steer the money supply, the bank's deputy governor, has warned (Skingsley 2016).

Blockchain has the potential not only to spawn competing currencies but also to permit the replacement of existing centralized payment systems by peer-to-peer networks. A continuously updated ledger would keep track of all transactions and would be distributed among all participants. By obviating the need to be routed via the central bank's payment system, settlement would potentially be faster and cheaper.

Jon Nicolaisen, deputy governor of the Norwegian central bank, said in a 2016 speech that society might benefit greatly from a decentralized financial infrastructure. But the prospect raised fundamental questions about how banks' funding and lending would be affected.

Carolyn Wilkins, senior deputy governor of the Bank of Canada, added that distributed ledger technology could take regulators into uncharted territory over issues of law and governance. New fintech applications could also have implications for financial stability if some payment providers become "too big to fail," Wilkins said.

Central bankers have no precedent to help them answer all these questions, but they do have time on their side: They expect banknotes to be used for the foreseeable future. Rogoff, in his book *The Curse of Cash*, advocates moving to a "less cash" society, not a cashless one. For one thing, whoever operates the new payment technologies will have to earn people's trust—trust that, in the case of banks, has been badly eroded by the financial crisis.

Segendorf, the Riksbank official, says he personally can picture a day when Sweden dispenses entirely with cash. But the central bank researchers who surveyed payment methods in advanced economies probably better reflect today's consensus. "Reports of the death of cash have been exaggerated," they conclude (Deutsche Bundesbank 2014). FD

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