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A digital euro: what's new?

A digital euro supplanting cold hard cash is nothing new. That said, shaken faith in the euro's issuer is opening up novel questions about the role of banks in a cashless society.

I. Paper money

Standing behind the counter, you have just accepted a 10-euro note from a customer in exchange for a cup of coffee and a croissant (you run a fancy coffee shop), and you have stashed it in your cash register. Why have you accepted a piece of paper in exchange for a very tangible breakfast? At first sight, because everyone does it; in fact, you are required by law to accept it as a means of payment: a euro banknote is *legal tender* in the eurozone.

But what does that piece of paper do for you? It gives you the right to buy a piece of the eurozone's GDP, anything that strikes your fancy and costs no more than 10 euros: it is a very convenient medium of exchange. (This is why a 10-euro note is used in the example; 500-euro notes are not so much a medium of exchange as a store of wealth, transported in the trunk of a car to a tax haven.) But if, for some reason, prices go up, the piece of GDP your 10-euro note can buy becomes smaller. Now look at it from another angle: if, for some reason, the amount of notes in circulation increases while GDP stays the same, that GDP will be claimed by a higher number of notes: the piece every note can claim will necessarily be smaller. How is that done in real life? By prices going up. You stash the 10-euro note in your cash register because you believe the piece of GDP you can buy with it will not shrink, that prices will be reasonably stable. And you believe it because you trust whoever is in charge of printing money to keep an appropriate balance between the amount of money and the size of GDP. (The difficult art of defining and keeping that balance is called monetary policy.) Otherwise, on receiving the 10-euro note, you would have to run out to buy something tangible with it before it lost value. It is said that in Germany, during the hyperinflation (1923), people drank two cups of coffee in the morning and none in the evening, because in the course of the day the price of a cup would go up by 30%. In short, there are two conditions, not independent of one another, for a system of paper money to work: general acceptance and trust in the issuer.

II. Bank money

The digital euro project would, in its lighter version, replace banknotes with electronic money: you would bring your euro notes to your bank and have them credited into your account. After that, your customers would pay for your croissants with their debit cards; your bank account would be credited, that of your customer charged. Banknotes would disappear.

This project would have sounded revolutionary to our grandparents; for us, however, it is simply a description of today's monetary system, a description whose accuracy has been sharpened by COVID-19. Currency and coins have virtually disappeared as most transactions are performed through the banking system; the medium of exchange, bank deposits, although denominated in euros, is created by banks. You might believe that the money banks lend comes from your paychecks and your savings, previously deposited in your bank account. You would be wrong: that was true when banks were born, when their main line of business was the custody of the money deposited by merchants in their vaults. Today, banks prosper by buying assets, the loans they extend, and paying for them with bank deposits, the borrower's bank account, which they create and which the borrower uses, of course, as money, to pay for a car, an apartment or a trip.

Figure 1. Bank balance sheet when you get a 100-euro loan from your bank

Assets	Liabilities
Reserves New loan +100	New deposit +100 Other liabilities
Other assets	Capital

The bank has purchased an asset, your loan: the contract you signed promises it a stream of interest payments throughout the loan, until the 100 euros lent are returned. On the other side of the bank's balance sheet, the 100 euros that you will use as money, is something that did not exist before you obtained the loan. It is money, and it has been created by the bank. In the eurozone, more than 80% of what is considered money has been created this way.

The digital euro project, in this lighter version, would bring little change to our daily lives. Most of us would be neither winners nor losers as a result, since we already operate under its rules. The losers would be those who benefit more from the use of paper money: beggars, street artists, the homeless, tax evaders, among others. Those belonging to the first three groups are adapting, and many of them have use of a mobile phone through which gifts may be received. On the other hand, it is true that a collateral benefit of a cashless society is to make tax evasion more difficult, and tax evaders big and small (mostly the big ones) have voiced their complaints in the name of privacy and other fundamental rights. To them it might be replied that

he who has nothing to hide has nothing to fear; unfortunately, this argument has been too often used by the authorities in totalitarian regimes. The reader may draw his or her own conclusions.

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General acceptance of banking deposits as money may be taken for granted. We must now look at the second condition for a viable monetary system: trust in the issuer. The conventional answer to the question comes from the days in which banknotes were backed by the gold in the vault of the Central Bank, so that citizens could have their notes exchanged for gold. The issuer was, in fact, the Central Bank itself; the quantity of money was determined by the stock of gold.

Those days are long gone. Today, gold has been replaced by something called "reserves," mere items in the electronic balance sheet of the Central Bank, held in the electronic balance sheets of commercial banks under the heading of "reserves" or "liquid assets." These reserves are created by the Central Bank solely, and commercial banks are allowed to extend credit only up to a multiple of the reserves they hold. In this way it would seem that, by managing the amount of reserves created, the Central Bank determines the upper limit of the total quantity of money in the economy. The chariot is pulled by the banks, but the reins are firmly held by the Central Bank. This is the current model, and we have seen that the light version of a digital euro would make little difference to its operation.

III. From cashless to bankless

Over the last decade, however, it has become apparent that those reins are not made of solid leather, but rather of an elastic substance akin to chewing gum. Increased competition has changed the old traditional business model to one of low margins, so that many commercial banks have seen a high volume of lending as the main source of profit; banks have grown in size, often lowering the quality of their lending; capital has not kept pace with volume, so that higher profits have been achieved with larger, and more frequent, ups and downs as collateral damage. The financial crisis of 2007-2009, coming after a series of minor incidents, has revealed the fragility of the banking sector. At the same time it has become apparent that banks are interconnected, since they lend money to one another, so that the failure of one can trigger a chain reaction involving others. To avoid a catastrophe, monetary authorities have been forced to bail out banks in distress, so that, for a while now, it has looked as though central banks are being held hostage by commercial banks rather than supervising them. Returning to the second condition for a robust monetary system, it is not an exaggeration to say that the combination of a fragile