

Mojmír Hampl: A digital currency useful for central banks?

Speech by Mr Mojmír Hampl, Vice Governor of the Czech National Bank, at the 7th BBVA Seminar for Public Sector Investors and Issuers, Bilbao, 27 February 2018.

* * *

Ladies and gentlemen,

Let me begin by thanking BBVA for their kind invitation to this event. It is a pleasure to speak in front of this knowledgeable and receptive audience, and it is a pleasure for me in particular to be in Bilbao for the first time in my life.

Cryptocurrencies, digital currencies, and especially bitcoin have become almost household names over the last couple of months.

What is especially interesting and curious for this place – as some of you might know – is that among the hundreds of cryptocurrencies introduced in the last couple of years is one called “bilur”, which means “chain” in Euskara, the Basque language. Bilur is unique for being the first cryptocurrency explicitly linked to the price of oil.

By the way, the second part of the label “cryptocurrency”, namely the *currency* part, is a misnomer in my eyes. No existing cryptocurrency for the time being conforms to the three basic functions of money: a store of value, a unit of account, and a medium of exchange. One cannot store value in an asset that can get 30%–50% cheaper or more expensive in a matter of days. One cannot use cryptocurrencies to measure value in economic transactions, because prices are mostly not displayed in cryptocurrencies and transaction costs are high and hidden for most people who would like to pay this way. One cannot, at least so far, use cryptocurrencies as a medium of exchange, because not many counterparties accept them.

Therefore, cryptocurrencies are not currencies. To me, rather, they resemble commodities – pieces of code with some value for enthusiastic collectors. Which is fine. Its founders wanted to create something that – through the process of mining and the costs associated with it – would resemble a physical commodity or something physical. I would call it a commodity of the new digital era. But compared to vintage wine, art, or postage stamps, the amount of digital commodities is never really fixed, as proved, for instance, by last year’s split (or “fork” – I very much like this particular word) between bitcoin and bitcoin cash or the recent split between litecoin and litecoin cash. A piece of code is, in effect, easier to duplicate and improve upon.

The fact that cryptocurrencies are rather commodities also shapes our light-touch, liberal approach to regulation at the CNB. We do not want to ban them and we are not hindering their development, but we are also not actively helping or promoting them and we are not protecting them or the customers that use them. Like in a casino, everyone investing in a cryptocurrency must be prepared to lose the entire bet. And central banks do not regulate casino visits.

As you can see, I could easily spend all of my time today talking about the problems of cryptocurrencies, and of bitcoin in particular. I could talk about how much energy it consumes – at some points last year, the bitcoin ecosystem consumed twice as much energy as Nigeria, an oil giant with 190 million people. By the way, the energy consumed on a single bitcoin transaction until 2017 could power a typical American household for more than three weeks. I could talk about how a seven-fold increase in the value of bitcoin some time ago was driven by the manipulation of a single trader. I could talk about the volatility of bitcoin, which surpasses that of any other commonly traded commodity and which renders bitcoin useless for the vast majority of people. I could talk about the funny thing that bitcoin as a quasi-currency was created to make payments cheap and fast, while in reality it is more often than not expensive and slow.

But instead, I will stress – and this is my point today – the positive philosophical influence of bitcoin on the conservative world of central banking. True, it is far from clear that anytime soon a full-fledged digital currency (be it blockchain based or not) will be created by a central bank (some of you may be following the debate in the Riksbank in Sweden), but the last three years have seen an explosion of research on this idea in many central banks. Bitcoin must be credited for this powerful intellectual stimulus. When so many professors at the most esteemed universities of the developed world are not thinking about potential reforms of the current monetary order, we have received a stimulus from the libertarian IT guys instead. Fine.

To be sure, a hypothetical digital currency issued by a central bank may have very little in common with the cryptocurrencies that currently exist. These two things are mixed up quite often in the public space. Cryptocurrency is in fact a different concept than a digital currency of a central bank and yet a different concept than electronic money such as pre-paid cards. They are all digital in one way or another, but they are conceptually separate.

Central bank digital money does not have to be based ultimately on a blockchain at all, but, to enable price stability, it will certainly be linked to the value of conventional elastic currency. To keep the current system of elastic money working, even the concept of central bank digital currency will have to allow the amount of money to change, not to be fixed or constant over time. Indeed, in our current system, bank deposits are essentially an existing “digital currency” that we all use.

What some central bankers have in mind, however, is a more substantive change. But it seems to me that the need for this change is often expressed quite vaguely. What problems of the current monetary system, and especially what challenges to monetary policy, should central bank digital currencies address? And how should these digital currencies be designed if they are to be useful in practice? These are other topics of my talk today.

The big problem of the current monetary policy framework is the effective lower bound on interest rates. The underlying neutral rate of interest has probably started to rise recently, but it will hardly reach the levels we were used to in the 1980s and 1990s anytime soon. In other words, during the next recession all major central banks will hit the effective lower bound again. How could a digital currency help?

One thing a digital currency can enable is the possibility of deeply negative interest rates. I am not a fan of negative rates at all, but of course one can imagine a scenario in which some central banks replace cash with a digital currency. Then consumers would have nowhere to hide from negative rates, if they do not want to leave their local currency entirely. If the central bank guaranteed the anonymity of transactions conducted in the new digital currency (Nobody knows if this is possible), it would behave much like cash – with the significant possibility of a non-zero interest rate charged on balances deposited in it.

By the way, I do not think it is a good idea to push forward the concept of central bank digital currency just as a response to the fall in the use of cash in society. As I noted earlier, households already have access to a digital currency: they can deposit their cash on accounts at commercial banks. If a central bank starts to compete with commercial banks in this arena, it may stop the fall in seigniorage revenues, but of course at the expense of the profitability or even the very stability of the banking sector.

Even worse, such “safe haven” digital currency accounts at the central bank available to all citizens would probably guarantee a “digital bank run” in any crisis – although deposits at commercial banks are fully insured, accounts at central banks, if no cap is set, will always be seen as safer. This is why the concept of central bank digital currencies has been criticized by, among others, Mark Carney, and why Denmark's Nationalbank concluded in December it had “no plans to issue central bank digital currency.”

But central bank digital currency brings another potential response to the problem of the effective lower bound: an easily implementable “helicopter money drop”, i.e., direct support of consumption. Of course, this is an even more controversial idea than negative interest rates, at least in the world of central banking. But I believe it is a real and viable possibility in the event of a deep crisis akin to the one of the late 2000s. In this way, central banks could stimulate consumption directly at the individual level, circumventing the transmission uncertainty associated with quantitative easing. Moreover, such a windfall for all households could also boost consumer confidence at a time when optimism is most needed.

The immediate consequence of helicopter money would be a financial loss for the central bank, but central bankers should value the price stability of the nation above their income statement. Financial history of my home country seems to be indicating that there is little interplay between the central bank’s financial position and inflation or financial stability performance. So, central banks with less capital, perhaps depleted by helicopter money drops, are unlikely to underperform in the future.

In addition, this operation would be financially neutral at the national level, since the recipients of helicopter money would simply be the country’s citizens – a bit like in the case of dividend payments with all households receiving the same amount. Critics might say that it is not the role of central banks to decide on the distribution of funds and that any helicopter money drop should be executed by the government with mere central bank backing. But in fact, any change in the interest rate, just like any other change in the monetary policy stance, inevitably redistributes funds, and indeed does so in a much less transparent way.

A helicopter money drop is probably possible even without a digital currency – for example, using central registries of personal bank accounts, often operated by central banks on behalf of the government. But the benefit of using a digital currency is that the central bank would not theoretically need to work with the government, so its independence would not be put in danger. Moreover, the digital currency could be designed specifically to smooth the transmission of helicopter money to consumption.

Again, I stress that I only consider this a realistic scenario in a deep recession. The central bank could also limit the possibility of transferring these funds to bank accounts (and vice versa, in order to eliminate any risk of digital bank runs). If the central bank allowed transfers from bank accounts to the digital currency, it would have to cap the amount a single individual could hold in the digital currency, perhaps at the level of the median monthly salary. In the absolute extreme, the central bank could also determine what goods the helicopter money could be spent on. For example, real estate might be excluded in order to prevent a buildup of bubbles in the housing market.

In a nutshell, any digital currency used by central banks for monetary policy purposes would have to be heavily customized and tailor-made. It would hardly resemble any of the cryptocurrencies, from bitcoin to bilur, as we know them.

Thank you for your attention.