



Exploring a digital euro

Opening speech at the digital conference “Fintech and the global payments landscape – exploring new horizons”

14.09.2021 | Virtual | Jens Weidmann DE FR

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1 Introduction

Ladies and gentlemen

A very warm welcome to this joint symposium of the Bundesbank and the People’s Bank of China. The main theme of our conference is “Fintech and the global payments landscape – exploring new horizons.”

I am delighted that we have brought together such a wealth of experts in this field, with representatives of academia, fintech companies, commercial banks, central banks, government and supervisory authorities amongst our number. Sharing our respective thoughts and experiences is to the benefit of all parties involved. I would also like to thank the People’s Bank of China for co-hosting this conference.

Unfortunately, the pandemic forces us to hold it as a digital event. If we had been able to meet here in person, I would have recommended a visit to the Bundesbank’s Money Museum and the current numismatic special exhibition on the topic of “Money Creators. Who decides what’s money?” In the dawning age of digital currencies, that is a highly relevant question indeed. Crypto tokens and other innovations in finance are challenging established views on what constitutes money.

The exhibition takes a historical perspective and thereby teaches us important lessons about creating money in the future. For example that our success as a money creator depends on the trust of those who are supposed to use that money. That it is not necessarily the state that creates money but that creating money means having power. And that the form and use of money has always been changing.

Paper money, for instance, was first introduced in China about a thousand years ago. This innovation eventually transformed the payments system. Today, digitalisation is on the cusp of overhauling payments.

Central banks have to work out how to respond to this challenge.> [1] One possibility is the issuing of central bank digital currencies (CBDCs). According to a survey by the Bank for International Settlements (BIS), the share of central banks conducting work on CBDC for general or wholesale use rose to 86% last year.> [2] Many of them have made significant progress.

In the public debate, CBDCs that can be used by consumers and businesses have taken centre stage. And it is on such retail CBDCs that I would like to focus in my talk. The People's Bank of China has been playing a pioneering role in the development of such a digital currency and we are looking forward to gaining fresh insights into its projects.

2 A digital euro

Two months ago, the Eurosystem launched a project to investigate key questions regarding the design of a CBDC for the euro area.> [3] The aim of the investigation is to prepare us for the potential launch of a digital euro. Experiments have already shown that, in principle, a digital euro is feasible using existing technologies.

However, introducing CBDC is not an end in itself. There are various conceivable reasons why a central bank might introduce a digital currency. And its intended purpose will have important implications for its design: it is a matter of "form follows function". Accordingly, future CBDCs may differ in form and functionality across currency areas.

Of course, CBDCs should only be issued if the perceived benefits outweigh any potential drawbacks or risks. Thus, a digital euro needs to provide a clear value added to euro area citizens.

To start with, CBDC is often expected to lower transaction costs and to raise efficiency in payments, financial markets and the real economy.> [4] It could also stimulate innovative services and give rise to new business models.

Moreover, a key factor in my view is that a digital euro would enable consumers and businesses to pay with central bank money in a digital environment. This is a unique feature that the private sector cannot replicate. As my [ECB](#) colleague Fabio Panetta has stressed, a digital euro would have "no liquidity risk, no credit risk, no market risk,"> [5] in this way resembling cash.

Thus, private households and firms would be given an additional way of using public money, just as the use of cash is waning. Indeed, according to a representative Bundesbank survey, the share of cash payments in point of sale transactions made by German consumers dropped from 74% in

2017 to 60% last year.> [6] Admittedly, the pandemic may have had an impact on payment behaviour that could fade again. But the underlying trend is clear. And some experts recommend preparing for a future in which cash may no longer be king.

Beyond safety, another feature of cash that many people value highly is its anonymity. You don't need to identify yourself when you pay cash. It is therefore not surprising that in a public consultation of the Eurosystem both consumers and professionals considered privacy the most important feature of a digital euro.> [7]

The protection of privacy would thus be a key priority in terms of maintaining people's trust. European data protection rules would have to be complied with. Nevertheless, a digital euro would not be as anonymous as cash. In order to prevent illicit activities such as money laundering or terrorist financing, legitimate authorities would have to be able to trace transactions in individual, justified cases.

Overall, the declining use of cash is a major reason for many central banks to consider offering CBDC. But let there be no mistake about this: the Eurosystem will continue to provide access to banknotes as long as people want cash. A digital euro would be meant to complement cash, not to replace it. The goal would be to broaden the choice of payment means available to consumers in a world that is becoming more and more digital.

Ladies and gentlemen

You may be familiar with a piece of proverbial advice: check that the ladder is leaning against the right wall before climbing it. That's a warning that should be heeded when it comes to CBDC, too. We need to think carefully about what the purpose would be in issuing digital central bank money. And we have to mind and curb the risks that its introduction may imply.

For example, since CBDC is a substitute for bank deposits, at least to some extent, it might bear important risks for the functioning of the financial system and the implementation of monetary policy. If, in times of crisis, consumers were to rush to exchange their sight deposits for CBDC on a massive scale, financial stability could be jeopardised.

Depositors could also shift their funds into CBDC only gradually and over a long period. In this scenario, banks would still lose a convenient source of stable funding. To make up for it, they may increasingly turn to other sources like the bond market or to the central bank to finance their activities. This may affect the amount of credit which commercial banks supply to the economy. The impact on the equilibrium depends on various factors and is not clear-cut to predict.> [8]

Still, the established roles in the financial system could be transformed. And this could apply to more than just commercial banks. The central bank might end up directly interacting with consumers, attracting deposits on a grand scale and extending its balance sheet substantially. Hyun Song Shin from the [BIS](#) has pointed out that the central bank could leave "a much larger footprint" on the financial system because of this.> [9]

We have a two-tiered monetary and banking system with a clear division of tasks between the central bank and commercial banks. According to Princeton economist Markus Brunnermeier, it is “probably the most pronounced public-private partnership we have in our economies.”> [10] It should not be gambled with.

However, this does not call for banks to be protected like an endangered species, either. On the upside, CBDC could spur on competition among banks and promote new services. Some banks might also become more cautious and reduce the potential for banking stress.

But designing CBDC involves curbing its risks. In order to prevent excessive withdrawals of bank deposits, it has been suggested that a cap be placed on the amount of digital euro that each individual can hold. Or that digital euro holdings in excess of a certain limit could be rendered unattractive by applying a penalty interest rate.> [11]

Proposals like these highlight the difficult trade-offs central banks face. CBDC should be designed in a way that allows its users to reap its potential benefits as fully as possible, while keeping its risks and potential side effects at bay. It should be sufficiently attractive for users to accept it. At the same time, CBDC should not be too attractive since, otherwise, it might disrupt the financial system.

The design of a potential digital euro is still vague. It may not be a jack-of-all-trades. To my mind, a gradual approach might make sense given the risks involved – that means a digital euro with a specific set of features and the option to add further functionalities later.

3 Cross-border interoperability of CBDCs

One feature lending appeal to CBDCs would be their use for cross-border payments. At the moment, such transactions are still relatively inefficient and expensive. In a joint report, a group of international institutions recently emphasised that “faster, cheaper, more transparent and more inclusive cross-border payment services would deliver widespread benefits to citizens and economies worldwide.”> [12]

However, if a digital euro were accessible for non-residents, this could impact on capital flows and euro exchange rates. In the event of high foreign demand, a digital euro would substantially extend the balance sheet of the Eurosystem. Broad-based international use could also drive a “euroisation” of financial systems in other currency areas. And, by the same token, the issuance of CBDC by foreign countries could have converse effects on the euro area.

What this calls for is international and multilateral collaboration. Or, put simply, finding some common ground. In my view, it is crucial that CBDCs function together, not against each other. Enabling cross-border payments through interoperability should be an important element of all the ongoing discussions on CBDC.

At the G20 level, discussions have already started. And the report that I mentioned earlier suggests different degrees of possible cooperation, ranging from basic compatibility with common standards to the establishment of international payment infrastructures.

I think that enhancing cross-border payments should also be an important topic at the G7 level under the German presidency next year. We should take that opportunity to delve deeper into the international aspects of CBDCs. Connected with each other, CBDCs could make a real difference to the efficiency of cross-border payments.

4 Regulating bigtech

Ladies and gentlemen

Game-changing qualities of money are nothing new. More than 2,600 years ago, in what is today Turkey, the kingdom of Lydia minted the first coins the world had ever seen. According to the American anthropologist Jack Weatherford, the invention of coins fostered a “variety and abundance of commercial goods that quickly led to another innovation: the retail market.”> [13]

Neighbouring Greece not only adopted these innovations, but centred its public life on the marketplace – the agora> [14]. In Weatherford’s view, “Greece (...) arose from the marketplace and commerce. Greece had created a whole new kind of civilization.”> [15]

To what extent the digitalisation of money will be a game-changer, remains to be seen. Digitalisation can improve transparency, as consumers are able to gain an overview of the market with just a few clicks. But it could also serve to concentrate power and cripple competition.

In recent years, private stablecoin initiatives have intensified concerns about the increasing role of bigtech firms in payments and their growing market power in general. The large digital platforms feature strong network effects and economies of scale that can facilitate market concentration. Once a provider becomes dominant in its market, it could hamper competition, dictate higher prices and push up profit margins at the expense of consumers.

What distinguishes the digital platforms of today from networks created in the past is the special role played by data. Large volumes of data – “big data” – allow platforms to identify patterns, create profiles and predict behaviour. For instance, an academic study found that, once you have given 300 “likes”, Facebook may know you better than your friends and family do.> [16]

Customer data can help to improve the services of platforms or to better target advertising. But they are also a treasure trove that can help platform providers to eke out a competitive edge in other markets. Moreover, by creating entire ecosystems, bigtech firms could enhance network effects and customer experience, thereby stimulating user activities, which generate yet more data.

Thus, self-reinforcing loops and “lock-in” effects may tie users to one platform and exclude competitors.> [17] Some observers have been reminded of “Hotel California”, the famous song by the American rock band “The Eagles”: it’s such a lovely place, with plenty of room; but once inside you can never leave.

If competition is hampered by the rising market power of bigtech firms, this needs to be addressed by competition law and policy in a reliable way. Concerns regarding data protection fall beyond the scope of central banks, too.

However, some important issues in digital finance are part of banking supervision. In this respect, it's a matter for central banks and financial regulators, too. The more so as here market dominance can quickly turn into systemic relevance. Just think of a platform that provides crucial services to a large number of banks.

In the case of bigtech, the traditional demarcations that separate the roles of regulating institutions involved may become blurred.> [18] The different actors should therefore collaborate more intensively – both within jurisdictions and, with respect to global platforms, also across borders.

I would consider the establishment of broad supervisory colleges an appropriate approach. Such “cross-disciplinary, cross-geographic colleges” could enhance information exchange and cooperation.

Overall, the state has to set robust ground rules for competition and make sure that everybody plays by those rules. At the end of the day, both governments and markets should serve people – not the other way around. I am also convinced that regulatory policy should help people use their personal data as they see fit and ultimately strengthen consumer sovereignty.

Here, too, a digital euro could be instrumental. The Eurosystem has no commercial interest in user data or behaviour. A digital euro could therefore help to safeguard what has always been the essence of money: trust.

5 Beyond CBDC

Distributed ledger technology (DLT) is often seen as harbouring great potential, for instance when it comes to enabling programmable payments. Indeed, a programmable payment medium would be practical for applications like smart contracts, machine-to-machine payments, internet-of-things-payments or pay-per-use payments.> [19]

But this is not necessarily a case for CBDC. An alternative solution might be for the private sector to tokenise commercial bank money. The EU's proposed “MiCa” regulation establishes a framework for payment tokens that the private sector can work within to develop payment solutions needed in a digitalised economy.

Still, recipients of large payments may prefer settlement in central bank money since it harbours no risk of default. If we were able to build a bridge between private blockchain networks and the existing payment infrastructure, DLT-based trade could be settled in central bank money without requiring CBDC. This is why Bundesbank experts are investigating a “trigger solution”, which could allow smart contracts to trigger conventional TARGET2 transactions.> [20]

Another possibility would be for central banks themselves to issue a token to be used by commercial banks. Such a wholesale CBDC could, for example, complement innovative ways of exchanging and settling financial assets. Given that the tokenisation of assets is becoming increasingly prominent in the world of finance, such a central bank token could provide an important benefit.

In any case, the Eurosystem will further investigate the potential of innovations beyond CBDC and continue to improve its existing payments infrastructures. At the same time, we should make sure that our activities in the field of digital currency do not discourage the private sector from developing convenient and efficient applications for consumers and businesses.

In a market economy, offering innovative payment solutions to the public and interacting with customers is primarily a task for the private sector. Central banks' task is to provide critical infrastructures as a basis for others to develop and supply their services, thereby acting as a catalyst.

6 Conclusion

Ladies and gentlemen

In the 13th century, the Venetian merchant Marco Polo travelled to Asia and later gave a vivid account of the wonders he had seen. In particular, he described how something resembling sheets of paper was made from the bark of mulberry trees and was universally accepted as money throughout China.> [21]

Polo's reports were met with sheer disbelief in Europe. It was only centuries later that paper money became common in Europe, too. The innovations we are talking about today will spread much faster.

Central banks need to be at the cutting edge of technology. Otherwise, they cannot provide the backbone of payment systems and offer safe and trusted money for the digital age.

This has prompted all major central banks to start exploring issuance of CBDC. However, our success as a money creator will depend not so much on speed, but on the trust of those who are supposed to use the money.

I wish you all a fruitful debate at this joint symposium of the Bundesbank and the People's Bank of China.

Thank you for your attention.

Footnotes:

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