

39th Meeting of the Central Banks Governors' Club of the Central Asia, Black Sea Region and
Balkan Countries

Session III: Central Bank Digital Currencies – Challenges and Opportunities

I. Central bank digital currencies – concept and main characteristics

1. The core characteristics of central bank digital currencies (CBDC) are that it is a central bank liability denominated in the official currency unit (like banknotes and central bank deposits, but unlike private cryptocurrencies), and that it is in digital form (unlike banknotes).
2. CBDC could be offered in the form of accessible central bank deposit accounts based on existing technologies, or through new technologies, such as distributed ledger technology (DLT). There are different concepts of how a CBDC could be designed, regarding e.g. access, anonymity, remuneration or settlement hours. CBDC can aim at retail payments with access to central bank accounts granted to individuals and small business, or it can aim at wholesale payments, with such access granted only to monetary agents. CBDC is envisaged primarily as a replacement for cash issued by central banks.
3. In the narrowest concept, access to CBDC would be restricted only to conventional monetary counterparties, so the range of central bank counterparties would not significantly increase. Implementation of the CBDC for wholesale payments based on DLT technology, designed in compliance with existing central bank system requirements, would look similar to the systems used today. A broader concept of a CBDC could involve access to the central bank's balance sheet by a much wider group of market participants, including individuals. CBDC could be either anonymous or not, and remunerated or constant-nominal-value.
4. Analyses of the possibilities and implications of central bank digital currencies conducted by many central banks are partially motivated by the development of cryptocurrencies. The most advanced analyses regarding CBDC are carried out by Riksbank, which is actually considering the introduction of its own digital currency (e-krona). Riksbank's analyses regarding CBDC are strictly related to the falling use of cash in the Swedish economy; proportion of cash payments in the retail sector stood at only 15% in 2016 (compared to the euro area average of 78,8%). Riksbank is concerned that – with the ongoing drive towards cashless society – the inability of retail clients to turn to risk-free digital central bank money can pose systemic risk.

II. Central bank digital currencies – challenges and opportunities

II.A. Financial stability

5. Depending on the design, the impact of CBDC on financial stability, monetary policy and other aspects of financial system could be different. In its narrow form, in which access to CBDC would be restricted to traditional central bank counterparties, the impact on financial

stability and financial market development would likely be very limited. As the existing central bank money is digital anyway, the change would be only technological.

6. In a broader concept of CBDC deposits in central bank could be held by the general public. Given facilitated access to payment and deposit services and economies of scale, some of the potential benefits of introducing such a concept could include: lower transaction costs, easier tracking of transactions for credit history or know-your-customer purposes. In this case CBDC would be envisaged as a dematerialised central bank security available on demand, in any size of denomination (apart from using them as a means of payment, the general public could also store value at the central bank digitally). According to this concept, the introduction of a CBDC would constitute a structural, fundamental change of the existing model of financial intermediation, and its impact on financial sector stability would substantially increase.
7. In the case of the above mentioned retail-oriented design of a CBDC (which is the most far-reaching of all possible designs), it could crowd out deposits held by the public with commercial banks and could facilitate faster and larger runs towards the central bank during episodes of financial turbulence. As a result banks could lose much of their deposit funding, which could threaten their lending and liquidity provision role. Also, as central banks would collect more deposits, they would need to back them with sovereign claims (perhaps with an increased role in government financing; elevated central bank demand for sovereign debt could also adversely affect the functioning of collateral markets) and possibly also private assets, which in the long run could lead to significant increase of central banks' role in financial intermediation. In the most extreme scenario banking sector could shift from deposit-funded towards central bank-funded one, with the central bank obliged to provide liquidity to both markets and banks at the same time. Imminently, central banks would also have to introduce new layers of duties for handling of which they might not be well-equipped, which might create reputational risks and adversely affect the effectiveness of traditional central bank activities.

II.B. Monetary policy

8. From the monetary policy point of view, the issuance of (negatively) remunerated CBDC coupled with abandoning of high denominated cash could result in a marked decrease of the effective lower bound (ELB). This would increase monetary policy effectiveness in fighting deflation. Since the existence ELB seems to be the most relevant argument for keeping positive inflation target, CBDC could pave the way for lowering this target to zero.
9. What's more, interest rate on CBDC would most likely serve as a soft floor for retail deposit rates in commercial banks, since otherwise agents would be better off holding all their deposits at the central bank. This means that commercial bank deposit rates could be more closely aligned with the policy rate, allowing for more direct monetary policy transmission.
10. Another likely effect of introduction of broadly accessible, remunerated CBDC would be decrease in central bank's seigniorage income – as opposed to cash, remunerated CBDC (in positive interest rate environment) would generate cost related to the interest payments.

II.C. Other challenges and opportunities

11. CBDC could be technically issued with or without anonymity. Central banks should avoid the situation in which CBDC (granting anonymity) could become a better and cheaper instrument for money launderers than cash, because CBDC allows to make electronic payments in seconds. Issuance of a retail CBDC without anonymity could enable to monitor transactions in order to eliminate the use of digital money for criminal activity or money laundering. To meet these requirements the bank would need specialized IT experts and big data warehouse architecture.
12. CBDC, especially if it was coupled with a (gradual) discontinuation of cash, would be prone to technological risks, with potentially very harmful effects for the whole economy. Therefore cyber resilience of a CBDC would be one of the biggest challenges for central banks.
13. It is worth to point out that if CBDC were not introduced as a legal tender and obligatorily accepted, there would be no substantial differences between CBDC and previous technological innovations. In this case, issuing CBDC could be very costly and risky from a business point of view for central banks. On the other hand, issuing CBDC as the legal tender could pose reputational risk due to the lack of demand for it by the society in the short run. Changes in payment habits in the society take years or decades. People decide which innovative solutions are the most convenient for them. Currently there are many payment innovations and in some countries most consumers are not able to use all of them.

III. CBDC in Poland

14. Narodowy Bank Polski is not planning to issue any central bank digital currency at current stage. There is no demand for introducing a CBDC in Poland, as there is insufficient knowledge and interest in such currency in the society. This is partly caused by the fact that innovative payment instruments, such as contactless payments and mobile payments are very popular in Poland. Almost 70% of card payments (in terms of number of transactions) are contactless. Moreover, two instant payments systems (Express Elixir and BlueCash) have been operating in Poland for several years, allowing to transfer funds in seconds in 24/7 mode. The use of the new mobile payment solution (launched by Polish banks) called BLIK is also gaining momentum. Therefore, there is no market demand for CBDC in Poland, especially in comparison with other EU countries.
15. NBP does not see justification for creating a CBDC in Poland at the moment also because cash is still very popular in our country. According to the research conducted by the central bank in 2016, about 63% of retail payments in Poland were made in cash. This is much more than in Sweden (the only country in the EU seriously analysing issuing of CBDC) where less than 10% of retail payments are made in cash. In recent years the value of cash in circulation in Poland has been increasing by about 10% year over year.