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CENTRAL BANK DIGITAL CURRENCY – THE LATEST CHALLENGE FOR THE THEORY OF MONETARY LAW

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Abstract

In the last few years, several central banks, such as Bank of England, Sveriges Riksbank, Bank of Canada, ECB or Central Bank of Russian Federation, considered issuance of a new type of money – central bank digital currency. The monetary law theory distinguishes between three currently existing types of money, i.e. cash, deposit money, and reserves. Each of these types has a special combination of features that make them unique. The monetary law theory, however, has not carried out complex theoretical analysis of the central bank digital currency. In this paper, the Author focused on the theoretical aspects of the new type of money – the central bank digital currency.

Keywords

Central bank digital currency; deposit money; reserves; central banks; monetary law

JEL Classification: E50, G00, K19

1 Introduction

Central bank digital currency (or CBDC) has been a crucial topic in the discussions and speeches of the central bankers over the few last years. It is rather likely that CBDC will fundamentally alter the existing system of banking, as it will influence the commercial banks "monopoly" of issuance of accounting money with general accessibility and it will give the central banks a new tool for carrying out monetary

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policy. Thus, the creation of CBDC will have strong global consequences in both banking sector and the real economy.

CBCS is now not mentioned only by the central bankers, but also by many economists, journalists, and even lawyers. The concept of CBDC is still in the process of being shaped – even the name CBDC is not being used universally. The recent speeches of central bankers show that the plans of creating CBDC are probably not that far from materialization. Some of the basic functions of CBDC were already introduced by the central bankers, but what is still missing is a theoretical classification of this new type of money by the theory of monetary law.

In this paper, I will extend my previous analysis concerning CBDC (Schweigl, 2017). First, I will briefly outline the existing three forms of money recognized by the theory of central banking and by the monetary law theory. I will do so by showing the main features of these three forms of money in their complexity, i.e. by focusing on the unique variation of their features (chapter II). Next, I will consider the probability of materialization of CBDC, i.e. whether and when the central banks could start issuing them (chapter III). Finally, I will outline the core features of CBDC, or to be more precise the combination of the features (chapter IV). The main goal of this paper is thus to contribute to monetary law theory by outlining the core features of CBDC so that the theory could grasp them and use them in further research of CBDC. This goal is to be achieved by use of the method of comparison when CBDC will be compared to the existing three types of money.

2 Existing Three Types of Money

The notion of ´money´ is rather of a broad extent. Anything that is generally accepted as a mean of payment may be considered as money. However, only money recognized by the state (or supranational entity) is considered as national (or supranational) currency. The general central banking theory recognizes three fundamental types of money:[2]

1. Currency (in the narrow sense, i.e. cash).
2. Deposits on regular bank accounts (sometimes called “deposit money”).
3. Reserves, i.e. deposits of credit institutions on reserve accounts at the central bank (sometimes called “reserve money”).

To show the uniqueness of each of these types of money, I will outline the core features concerning their:

2 Comp: Mcleay, M., Amar, R., Ryland, T.: Money Creation in the Modern Economy. London: Bank of England. Quarterly Bulletin no. 1 (2014)

(i) form,
(ii) accessibility,
(iii) issuer,
and (iv) transfer mechanism.[3]

2.1 Form

As for the form, it is clear that currency is the only type having a material form – the other two types of money are of immaterial form. Currency is either in form of coins or banknotes, whereas deposit money and reserve money are only represented by accounting entries in the respective books (see below). Thus the deposit money and reserve money are considered to be "accounting money" (niem. *Buchgeld*).

2.2 Accessibility

There are no special limits on accessibility to coins and banknotes or to deposit money. In other words, there is no need to obtain a special license in order to hold cash or have a bank account at a commercial bank. Of course, there might be certain general limitations to access of those two types of money, such as limitation in legal capacity of a person, or limits on cash payments, but they are rather of general nature, they do not exclude certain groups of persons from holding these types of money. Reserve money, on the other hand, have very limited accessibility. As it was explained above, reserve money (reserves) is represented by balances at the reserve accounts at the central bank and there are strict limits on those who can open such a reserve account at the central bank. Usually, only credit institutions, such banks and credit unions are allowed (and required) to have a reserve account at the central bank. To summarize, cash and deposit money are generally accessible, whereas reserves are only accessible by credit institutions.

2.3 Issuer

When analyzing this criterion, we need to look at the balance sheet (statement of financial position) of such an entity that records the respective types of money as their liability. Each of the three types of money is a liability on the balance sheet of their issuer. Cash and reserves are liabilities on the central bank's balance sheet, whereas deposit money is a liability on a commercial bank's balance sheet. In other words, cash and reserves are issued by the central banks – these two types of money

3 The first three criteria were already analyzed in Schweigl, 2017. The fourth criterion was also analyzed e.g. by Bech and Garatt, 2017.

are sometimes called central bank money. The economists use the term monetary base for the central bank money. Deposit money is (in majority)[4] created by the commercial banks. The creation mainly occurs when a commercial banks extends credit or purchase assets.[5]

2.4 Transfer Mechanism

There are two basic types of transfer mechanisms – centralized and decentralized. In the centralized mechanisms, the transactions occur in a centralized ledger led by the provider of the respective payment system. The decentralized transactions require no such a centralized ledger, as they take place directly between the payee and payer without any central intermediary, i.e. peer-to-peer (Bech, Garatt, 2017). Transfer of cash is a typical example of the peer-to-peer transaction, whereas transfer of any type of the existing accounting money represents the centralized transaction.

3 Central Bank Digital Currency – Science Fiction or Reality?

As I mentioned in the introduction, the CBDC is currently discussed by numerous central bankers. CBDC is no longer just an idea of academics or economic theory. It is a concept that is being researched by research centers of several central banks. The name CBDC – central bank digital currency – is however not final. So far, there is no generally accepted name or title for the concept of central bank digital currency. There have been used, for instance, the names, such as "digital central bank money" (DCBM), "digital base money" (DBM)[6], "central bank issued digital currency"[7] "digital cash"[8] or "central bank digital currency" (CBDC). In this paper, I use the term CBDC.

Below, I will outlines several studies or research programs concerning CBDC. In 2016, the Inter-American Development Bank published a research paper called Digital Central Bank Money and the Unbundling of the Banking Function. The Authors explained the reasons for the popularity of CBDC. In the same year, the Bank of England published a paper researching macroeconomic questions arising from CBDC. Later that year, the Canadian central bank issued a booklet called

4 Central banks can also create deposit money, but they usually do so only in a very limited extent. Creation of deposit money is not a function of the central banks.

5 For more, see for instance: Gottschalk, J.: Introduction to Money Creation. International Monetary Fund, 2014.

6 For instance, compare Speech by Yves Mersch, Member of the Executive Board of the ECB, of 16 January 2017. www.ecb.europa.eu.

7 For instance, compare the study by (Barrdear, Kumhof, 2016). www.bankofengland.co.uk.

8 For instance, compare the Positive money institute. www.positivemoney.org.

Central Bank Digital Currencies: A Framework for Assessing Why and How. They mainly focused on the consequences of CBDC on the payment systems. In the last two years, there were a number of speeches by research from the Bank of England on CBDC. CBDC is also paid attention by private research centers, such as Positive Money Institute. In 2017, the CBDC started to be paid more attention also by the Swedish central bank, Riksbank, the Central Bank of the Russian Federation, or the Bank of China. The unprecedented interest in the concept of CBDC by the central bankers makes it very likely that CBDC will become reality in the future.

4 Core Features of Central Bank Digital Currency

The four criterions analyzed above with respect to the existing three types of money, will now be applied to CBDC. As for the form, it is clear that CBDC is supposed to be immaterial, i.e. it will not be represented by any coins or banknotes. The accessibility to CBDC should be general. This would be probably the main difference between CBDC and reserves, which are only available to credit institutions. The issuer of CBDC should be central banks, i.e. CBDC would be a liability on the issuing central bank's statement of financial position. Just by looking at these three features of CBDC, or to be more precise at the unique variation of the features, it can be deduced that CBDC will significantly affect the existing system of banking sector. Immaterial form of money with general access will be – aside from the commercial banks – issued by the central banks. This will also broaden the options central banks will have when conducting monetary policy.

The nature of transfer mechanism is, however, still open. CBDC is still in the process of being shaped and there are different ideas about how CBDC could be transferred. The transfers of CBDC could be either centralized (an issuing central bank would keep an internal payment system in which the transfers would be tracked and recorded) or CBDC could be transferred in a decentralized form, on some type of distributed ledger technology (Skingsley, 2016).

To summarize, CBDC will be of immaterial form, generally accessible liability of an issuing central bank. The general idea is that CBDC will be a form of national currency, i.e. it will be considered as legal tender.

5 Conclusions

In this paper, I chose four features of the existing types of money and compared them to CBDC, a new type of money that is currently considered by certain central bankers around the world. I also presented some of the studies and speeches published by central bankers or researchers from central banks from several different countries of the world.

The goal of this paper was to contribute to monetary law theory by outlining the core features of CBDC so that the theory could grasp them and use them in further research of CBDC. CBDC is a think of future. It is no longer only an abstract idea of several academics, but – according to the attention it has been given over the last few years by the central banks – it will soon become reality.

The economic studies mainly focus on the economic effects the creation of CBDC will have. The research for instance the effects it will have on the banking system as the whole or how it could be used when conducting monetary policy. The monetary law theory has been silent so far as for CBDC. The monetary law theory, however, now faces a new challenge – the challenge to bring theoretical classification of the new type of money. I hope that this brief contribution may help to the monetary law theory in grasping the new concept of CBDC.

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