The Impact of Central Bank Digital Currency on Financial Services Providers

Extended Abstract

In recent years, the use of cash has continued to decline (Khiaonarong, Humphrey, 2022). This effect was reinforced by the Covid-19 pandemic, among other things, which further increased the popularity of digital payments (Caswell et al., 2020). The growing popularity of digital payments is also impressively demonstrated by the enormous interest in cryptocurrencies such as Bitcoin, relying on decentralization rather than a central issuing authority. In response to these developments, central banks around the world are considering the introduction of central bank digital currencies (CBDC). Currently, 114 countries, including the U.S., China, and the Eurozone countries, are exploring the introduction of a CBDC.[1]

Central banks hope that the introduction of a CBDC will bring a number of benefits. Specifically, CBDC could improve the efficiency and speed of payments, ultimately benefiting consumers and businesses (see Boar et al., 2020 for an overview of central banks' motivations for issuing a CBDC). By increasing the attractiveness of CBDC compared to cash, which is a common means of payment for illegal activities, money laundering, tax evasion, and terrorist financing could possibly be more effectively combated. In addition, CBDC could provide access to financial services for those who do not have a bank account or access to traditional financial institutions – an aspect which is arguably of particular interest to countries with low financial inclusion. Finally, CBDCs could help central banks to compete with cryptocurrencies, thereby maintaining their relevance in the payments system. Maintaining control over the money supply, for example, is important to continue to manage monetary policy with proven instruments and to be able to respond to economic shocks in the future.

However, the introduction of a CBDC may also be associated with significant risks, in particular for financial services providers. For example, a frequently raised concern related to the introduction of CBDC is the risk of the disintermediation of banks (e.g., Ahnert et al., 2022). Depending on the design, CBDC could allow consumers to hold and transfer funds directly with the central bank and

[1] Current data on the introduction of CBDC around the world is available from https://www.atlanticcouncil.org/cbdctracker/.

earn interest on these funds, which could reduce the need for traditional banks and providers of financial services at large. This could lead to a shift away from banks as intermediaries and substantially reduce their role in the financial system, ultimately resulting in enormous economic consequences.

How will all this affect financial services providers? Given the potentially large economic impact of the introduction of a CBDC, it is important to understand the impact of an introduction of CBDC on individual banks and the financial services sector as a whole. Recently, a number of model-based studies have been conducted in the academic literature to this end, examining the impact of the introduction of a CBDC on banks from a theoretical perspective (e.g., Andolfatto, 2021; Fernández-Villaverde et al., 2021; Whited et al., 2022). However, since almost all central banks are still in a research status concerning the introduction of CBDC, there is hardly any robust data to address the raised research question from an empirical perspective.

Here, our key idea for an innovative setting comes into play. For some years now, central bankers from various countries have been commenting on their assessment of CBDCs and a possible introduction of a CBDC in their country.[2] Since it is known that market participants take central bank statements into account in their market assessments and react to them (e.g., Hansen, McMahon, 2016), we use this information and investigate in an event study how statements by U.S. central bankers on the introduction of a CBDC affect the market value of banks. Moreover, this empirical strategy allows us to analyze the impact of such statements on banks with different characteristics and financial services portfolios, so that we can understand more precisely which banks are likely to be affected the most by a CBDC introduction and to what extent.

Overall, our study allows us not only to draw data-based conclusions about the potential impact of a CBDC introduction on individual banks, but also to empirically assess how the introduction of a CBDC in a country would affect the overall stability of the financial services sector. The results of the analysis are thus not only relevant from an academic perspective, but also provide important practical implications with regard to the introduction of CBDC by central banks. For example, the results of the implication analysis could, among other things, provide important indications as to which design of a CBDC would be most beneficial (or least harmful) for banks.

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[2] See, for example, https://www.federalreserve.gov/cbdc-speeches.htm.

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