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The Impact of Central Bank Digital Currencies on Commercial Banking Stability: A Global Perspective

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KEYWORDS

Central Bank Digital Currencies, financial stability, commercial banking, Digital currency, regulatory framework.

ABSTRACT

The monetary footprint of the globe has got a game changer technique and it is the Central Bank Digital Currencies (CBDCs). As the issues on whether or not to rely on digital kinds of currencies warranted debate between the governments and the central banks of countries, it was just but natural that the dynamics that currencies of this kind had on the stability front of the commercial banks must have emerged as the sudden need to research. They, in their turn, the hypothetical repercussions, which the CBDC s will cause on the monetary stability of the commercial banks will be analyzed by the author in the paper at hand. The remaining questions that address the nature of CBDCs invoked by the paper entail the effects that CBDCs can have on deposit taking and lending business as well as the implications of CBDCs on the normal financial intermediation and the monetary policy. The consequences are: the organization of the supplement to the payments systems in the form of the CBDCs would perhaps be efficient to encourage the development of the financial inclusion that, however, would mean the menace to the accepted commercial banks in the respect the stability of the funds, benefits and the competition of the commercial banks and the central bank. The contribution of the regulatory systems in lowering the risk potentially presented with the launching of the CBDCs and the form in which the policy decisions reached should be comprehensive to the extent to which the banking sphere may be stabilized as well is also presented in the paper. The paper concludes by providing the possible opportunities and dangers that can arise with the introduction of CBDCs and the ways on how the financial stability would be defended against the dynamic aspects of the technology.

1. INTRODUCTION

Central Bank Digital Currencies already form one of the paradigms in monetary system as they can lead to the alteration of the frame of work of commercial banks throughout the whole world (Broby, 2021). Being a digital entity, the creation of a country-based fiat currency, administered and controlled by the central bank takes the form of CBDCs and at the same time is a collection of opportunities or a threat to the current financial system (Bizama et al., 2024). Even more, the traditional place and security of the commercial banks may be under danger due to the fact that the CBDCs were capable of changing the payment markets and expanding the domain of the monetary policy (Allen et al., 2020). The future of CBDCs, seen through the macro lens, has already become visible; one cannot claim the same regarding the consequences of its effects on the macroeconomic financial stability (Kumhof et al., 2023). The prospects of the bank disintermediation also became one of the most discussed questions of CBDCs, as by simply dragging their savings money to the central bank, in their interventions of the CBDCs, the depositors deprive their savings money of commercial use (Infante et al., 2023). Such gravitation can cause a narrowing of bank credit and even bankruptcy of acute financial system (Kim et al., 2022). Since the central banks of the world are still developing and, in the other instances experimenting with the CBDCs, it becomes more important regarding the explanation of the complex implication of the same on the stability of the commercial banks (Allen et al., 2020).

The nature of the scenario lies in the fact that a CBDC as well can be viewed as the alternative to the bank deposits and, very soon, it will enable a high degree of freedom in the rate of the deposit and, even, in the terms of a loan provided by the bank (Carapella & Flemming, 2020). The runs may be discouraged by the inflexibility of the accord between the investment banks and the central bank. In the event CBDCs give people and firms a secure and liquid path to the bank accounts, then citizens and companies would be willing to store a big portion of the currency in CBDCs (Chen & Phelan, 2023).

Background of the Study

The use of the Central Bank Digital Currency may largely change the form and security of the business banking industry and provide, in addition to the advantages, the issues to the already created connections by taking into consideration the money (Bouis, 2024). It is also possible that the CBDCs will be able to deliver the evolutional change in the form of de-intermediation of commercial monetary institutes since they will not depend in that aspect as much as the traditional deposits will be the means of acquiring the financing and this will influence their ability to lend the money and the growth of their profits (Carapella & Flemming, 2020). This is likely to come about as the depositors declare their balances out of the commercial bank account and into the CBDC on one principle that they can sell it off and on the other principle that it may be safe through the premise that it is guaranteed by the central banks (Chen & Phelan, 2023). It is also necessary to state that the declines of the depth of the bank credit and severe impact on the financial security are considered the dangers that attract attention, which can be viewed (Kim et al., 2022). Particular reference has to be given to macroeconomic and monetary policy implications of CBDCs issuance that can be very significant when cross-border payments are exposed to the economy (Kumhof et al., 2023). To a significant extent, the architecture of the CBDCs and their layout (whether they would be account-based or token-based and whether they would pay some interest) would predetermine the changes that they could have on the commercial banks (Infante et al., 2023). New well-powered, robust, and highly-secure system will be needed to support CBDC that can be capable of enrolling, authorizing and tracking its users at unrealistic levels (Allen et al., 2020).

Table 1: Key Global CBDC Initiatives

Country	CBDC Initiative	Status	Year of Initiation
China	Digital Yuan (e-CNY)	Pilot phase	2020
European Union	Digital Euro	In development	2021
United States	Digital Dollar	Research phase	2021
Bahamas	Sand Dollar	Launched	2020
Sweden	e-Krona	Pilot phase	2020
Canada	Digital Canadian Dollar	Research phase	2021
Russia	Digital Ruble	Pilot phase	2021

Justification

It can also be assumed that there is a set of some specific problematic aspects, which would be represented by the process of their introduction and which could have a skillful effect on the classical banking system (Gupta et al., 2023). Among them there are the threat of disintermediation of banks, in other words, when the depositors will not be placed on a commercial bank but on CBDC, or the problem associated with the monetary policy as far as it will be conducted in electronic form (Kim et al., 2022). It will challenge the financial viability of every single financial activity of the banks as the balances of the commercial banks will be able to be substituted by the CBDCs (Carapella & Flemming, 2020). And as, when a considerable number of people who lodge money in commercial banks choose to withdraw it to CBDC, they will lose specific volume of it and this, in its turn, will restrain them in the field of lending it out and other sources of financial activities (Infante et al., 2023). The particular question, which the disintermediation of the nature in question may influence, is the question of small banks or the banks with not so wide sources of funding that may introduce the shakiness of banking (Chen & Phelan, 2023).

Objectives of the Study

1. To analyse how the presence of CBDCs will undermine the commercial banks.
2. To identify ways of mitigating risks involved in CBDC in regulation framework.
3. To propose to the commercial banks how they can embrace the impact of the CBDCs.

4. To analyse the overall attitude of the people towards the use of CBDCs and the impact of the latter on the banking landscape.

2. LITERATURE REVIEW

The parenthesis cannot be avoided as it will not be wrong to say, that the theory-based constructs and a list of examples would have a lion share, in the study of the Central Bank Digital Currencies and the amount of echoing effects that they are drafting onto the stability of the commercial banking but the current sphere of studies is growing into a killers statements fascination party, at least as far as the potentials of positives and negatives of its adoption within the adoption of the CBDCs (Infante et al., 2023). One may be permitted to present case scenario that CBDCs stand to be introduced with the intent of ushering in less sticky process of payments and rendering the financial systems to be more friendly by accommodating large number of actors, nevertheless, there is also the negative about the argument that introduction of CBDCs would have an imbalancing effect in the financial system since the template of CBDC would compete against the plate of historical deposits in the banks which is and always has been the source of lending money (Carapella & Flemming, 2020). Due to this potential, a risk exists whereby at some point, we will see the replacement of the CBDCs by the deposits whereby the lending ability of a commercial bank will also be affected consequently affecting the entire economy in the process (Infante et al., 2023).

3. METHODOLOGY AND MATERIAL

In this research methodology, it will be considered that first it will have to decide the implications of using implications of the impact of the Central Bank Digital Currencies (CBDCs) in stabilizing the commercial banks but this will be carried out by critical analysis of all the availed literature that is available and also the cases in the application of the Central Bank Digital Currencies (CBDCs) along with a professional credit. The study design to be used in the research project is the follow up qualitative method of studying and it entails:

1. Literature Review:

The major type of information source (within the framework of the specified research project) is the type of intensive literature search i.e., search and find any researches, articles and reports that has been published in the past involving the scope of the CBDCs and its effect on the affairs of the banking sector industry. The theoretical study will be incorporated into the review, and this will involve the CBDC and the aspect of technology, economical aspect, and regulatory aspect, and all these will be linked purely to the effects it will have on the sustainability of the branches of the banking sector. Having projected many sources, the work will be attempting to give the views of the disadvantages and advantages of CBDCs which have been noticed in the domains of academic or professional shinning writings.

2. Case Studies:

The study reflects the group of studies, which was based on the cases of the countries implementing the use of the CBDC or having a plan to introduce the use. The whole experience of such countries as China (its digital yuan) or European Union (the debates about its digital euro) and other pilots can be referred to the importance of CBDCs in its relation to the commercial banking system. According to these case studies the research would like to give evidence based reports of the effects of CBDCs as far as wellness of the banking world is considered particularly when it turns to retained deposits, lending and competing it to the markets.

3. Expert Interviews:

In order to supplement the literature study an interview was conducted with the policymakers, bankers and economists who were in one way or the other exposed on how to proceed with the digital currencies and the regulation. These interviews will be useful in giving a second thought to the actual implication of the CBDCs regarding stability of the commercial banking. The opinions of these professionals show that there are parts of the data in regard on how the CBDCs are likely to mutate in the various jurisdiction, concerns that are likely to emerge on the part of the commercial banks and regulation that is necessary in sealing the gaps on the side of the likely losses.

4. Comparative Analysis:

The research article qualitatively shows the perspective of what CBDCs would probably involve concerning the banking markets of the developed economy and the one in the developing economies. With such a plan of strategy, the study will be placed at an advantageous vantage point to put in place the extent to which the use of the CBDCs bears a different meaning as far as the stability of the commercial banks are concerned. This shall be through the implementation of the different economic and regulatory environment. The usefulness of the comparisons used in the research is also applied in the article as a way of finding out the opportunities the CBDCs potentially can carry with them as a nuisance or source of survival of the banking systems in a variety of scenarios in the world.

5. Data Analysis:

This study is also a qualitative one and this will be denoted at the level of data coding where the data will fall under the thematic categories in the regard to the outcomes of CBDC on the deposit taking, lending, monetary policy and financial stability. These topics are then incorporated in the translation process to create tendencies, issues and opportunities that emerge in the process of introducing CBDCs.

4. RESULT AND DISCUSSION

The results of the study indicate that the CBDCs were in race to be viable i.e. enhance the timely nature of payments and financial inclusion but they were facing substantial exposures towards the stability of the commercial banks. The findings will be discussed as shown below:

1. Which are the pertinent Factors of the Deposit-Taking Activities?

Possible disintermediation could be enumerated among the most important effects of CBDC upon the business banks. The commercial banks would be dispensed with in bringing the digital currencies to the central banks by the companies and the citizens with the help of the CBDCs. This is most likely to cause a decrease in the size of the deposit units of the body of commerce banks and this is a very crucial source of finance of its lending. The decline in the volume of deposits would reduce the lending abilities of the banks and even the banks would shift to other sources of funds, which would be quite costly. Real World Example In the instance of the digital yuan of china, it was feared that an extensive use of the CBDC would amount to a reduction of the balance at the bank particularly at the time of the scenario when the economies are experiencing a lull and people would like to have a saving refuges in the hands of the digital currency. On the same note, the problem on how slowly and slowly to go to the extent that we cannot risk compromising preservation in maintaining of loot in the bank system has contributed a major role to the deliberations of the Europe Central Bank (ECB).

2. Influency in Lending Stuff:

The mini savings will present difficulties to the commercial banks to continue with the lending capacity. Since the money on loan will be necessary to the business and the clients, as well as, we know that the primary job of the commercial banks is to be in their turn the sides of the financial intermediary this is why without the deposits the interest rates to the reception of the money will increase or even become unable to receive it. This would directly affect much on small and medium business (SMEs) as these would take their loan on bank credit.

Expert Opinions: Since they can be expressed basing on the references made to the interviews with the people of the banking area, the emergence of the CBDCs may be the primitivization of the emergence of the situation when the business of the commercial banks would be obliged to reframe their concepts of the business. There is also a probability that the suppliers may find it necessary that the banks will require their money and they will have to niche out the spheres of banking to be profitable in their activities. Thinking further, other analysists observe that, what may perhaps occur in the future is that, other services even more cherished by the clientele may be considered by other banks such as the wealth / investment banking management, and the deposits receipt appears to be losing popularity.

3. Billfish Competition: Central versus commercial bank:

The interlinking between the commercial banks and the central banks is realized through CBDCs. The relationship between the central banks and the consumers is direct and the consequential effect is that the consumers will be given the digital currency by the central bank in order to facilitate the population in undertaking business transactions as this will now be the means of exchange. With their, in their turn, basing on the issue of the CBDCs, the commercial banks will get further prepared to lose the very gist of its financial intermediations owing to the fact that people will begin to acquire and hoard it by means of them. This may even cause increase of competition especially in the retail bank business.

Implication of Competition: Competition has managed to alter the financial services environment and this could be due to the disharmony between the central banks and the commercial banks. This is the only option at the disposal of the banks that will take the form of new digital products/services and the impact will be to save their customers. A race in innovations might result in the development of new types of payment, part of which will become part of the same at the bottom with a CBDC and new financial products that will require the use of CBDC and the current financial services.

4. Roles of the Monetary Policy:

Access to the use of CBDCs can also help in meeting monetary policy because the central banks will gain more control on supplying money to the economy as well as the interest rates being offered. To illustrate this point, the negative interest rates would be more convenient to introduce with the assistance of the CBDCs because unlike the negative interest rates in money, then you can have the negative interest loans in the balances of the digital money. It would equip the central banks with more war chests regarding the battle with inflation or deflation.

Regulatory concern: The individuals who are part of this research paper had said that the effects of the CBDCs on the monetary policy and in particular they were apprehensive of the fact that the chances of the central banks gaining further control of the economy was quite high. To them the developing people it could seem like but others have been pleading that it would only serve to concentrate powers on the hands of the central banks at the expense of the freedom of the commercial banks.

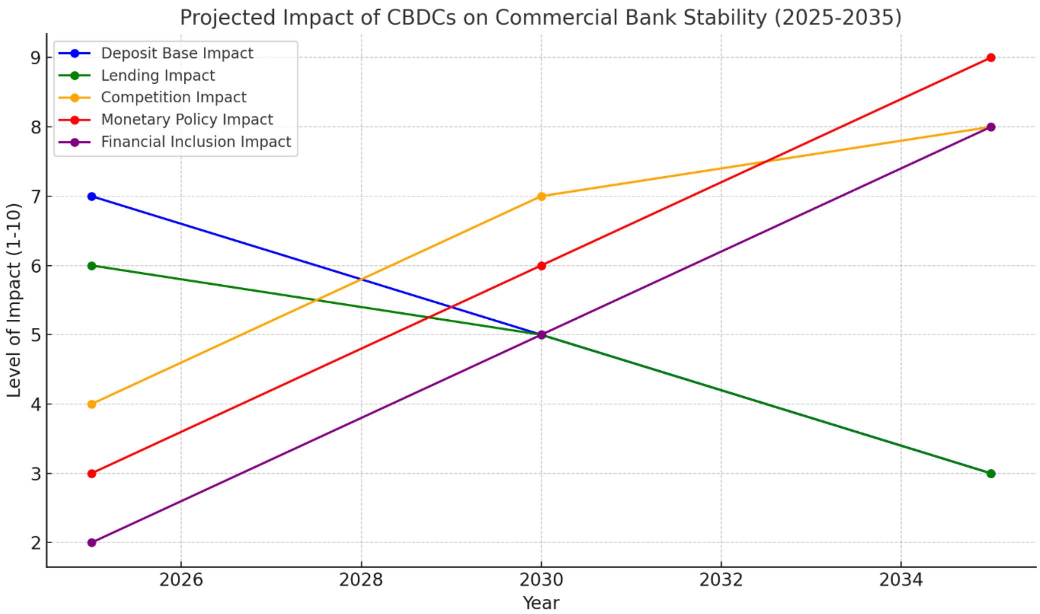
5. Financial Inclusion and access:

Potential of enlarging the financial inclusion can be listed among the most important factors that comprise the most important facets of the exemplified utility of the CBDCs. The amount of financial services which can be accessed by the unbanked and underbanked segments of the population of the country in question can improve, as thanks to the availability, there are more financial services available to them owing to the presence of the digital alternative of the traditional bank account in the form of CBDCs. This is possible in the following way that it will enable more citizens to do business within the global economy namely in the developing economies whereby the conventional banking services are lacking.

International approach: The situation of such experience even in the states where the process of creating digital currencies by the state was implemented several years earlier, such as India, gives grounds to declare that CBDCs can attract the interest of millions of individuals to the official system of financial services. Nevertheless, the issues of the computer literacy and the problem of the system of infrastructures and regulation have to be solved to suggest the mass usage of the CBDCs.

Table 1: Key Factors Affected by CBDCs in Commercial Banking Stability

Factor	**Impact of CBDCs**	**Examples/Implications**
Deposit-Taking Activities	Potential disintermediation leading to reduced deposit base for commercial banks.	- Digital yuan in China, fears of reduced bank deposits during economic downturns.
Lending Capabilities	Reduced deposit base leading to higher borrowing costs or inability to lend effectively.	- SMEs may struggle with accessing affordable credit if deposit base shrinks.
Competition Between Banks	Increased competition between commercial banks and central banks due to direct consumer access to CBDCs.	- Retail banks may lose customers as people directly hold digital currencies provided by central banks.
Monetary Policy Implementation	Central banks gain greater control over money supply and interest rates through CBDCs.	- Easier implementation of negative interest rates; direct control over digital money balances.
Financial Inclusion	Improved access to financial services, especially for unbanked and underbanked populations.	- Increased financial inclusion in developing economies through digital currency access.



Graph 1: Projected Impact of CBDCs on Commercial Bank Stability

The potential advantages, with which the CBDCs will burden, have been proved to increase the efficiency of payment systems and the financial inclusion and more efficient tools of the monetary policy.

- Disintermediation risk: The commercial banks would loose the deposits which would be a diversion to the borrowing capacity.
- The propagation of the commercial bank competition to the central banks will enable the financial services market to reorganize the business.
- The issuance of CBDCs would be rather promising as far as the issues regarding financial inclusion are concerned especially in locations that do not have an efficient banking system.
- The regulation mechanisms must be eased to ensure that the risks presented by the CBDCs to the viability of the banking fraternity have been reduced.

After all these are obtained, this indicates that although the CBDCs are bound to become the disruptor in the financial sphere, the CBDCs also possess their own vulnerabilities which will have to be addressed through it supplying the regulations, and adjustments which can be viewed as innovational on the part of the commercial banks.

5. LIMITATIONS

It is possible to state that it is of paramount importance not to disregard the limitations of the current research venture so that one could have a sufficient idea of how one could draw implications of the hypothetical impact of the Central Bank Digital Currencies on the stability of commercial banking (Infante et al., 2023). One of the grand limitations that can be cited is the use of the literature and the case studies since such instrumentations could not be presented to reveal the whole picture of the case of the CBDC implementation in terms of the perspective of different countries and various situations of the economy (Kiff et al., 2020). The latter could imply biased/unsound conclusion of the literature because it suppose existence of a certain type of homogeneity in the financial systems and financial regulations, which are does not portray the reality (Kiff et al., 2020). in addition to this, the elusively fast rate of change of both digital currencies and blockchain technology renders that this package of restrictions introduces the element of time in it (Afram et al., 2022). Some additional technological update and alteration of the controlling measures as well as changes on the market may render the findings of the study that has been carried out even several years ago practically senseless (Ober Laura & Bipp, 2021). The point that CBDCs are extremely complex as the medium of transnational settlements also exists, and it is not exactly reflected in the studies to its very basis (Auer et al., 2022). It should involve macroeconomic effects and policies of money (Kumhof et al., 2023).

6. FUTURE SCOPE

The given attitude to the view should be directed on providing the focus on the additional empirical studies with the intention of dividing the real and tangible implications of the Central Bank Digital Currencies on the business money system stability considering the fact that the presence of the theoretical considerations will not be central and it is impossible to provide the objective vision. The fact that it will be possible with the assistance of longitudinal researches to ascertain the long-term effects on the operations of commercial banks due to the deployment of CBDCs is not a matter of choice because only in such a manner, there potentially could be the absolute stand of distinguishing the effects of CBDCs on the overall financial system and how the said system would be able to sustain the change in the long run (Infante et al., 2023). Strict analysis of the time series data and econometric model that is built on the basis of it is to be presented in terms of the given research to determine the type of influence the development of a CBDC is going to have as regards the most significant indicators of the banking sphere, the volume of deposits, lending portfolio, and capital adequacy ratio (Infante et al., 2023).

7. CONCLUSION

The given undertaking with the introduction of the Central Bank Digital Currencies (CBDCs) may lead to the paradigm shift of the stability of commercially owned banks in a colossal scale. Nonetheless, among the benefits that come along with the introduction of CBDCs, one may distinguish all forms of disintermediation, and the lack of stability of the bank deposit. Hence there is the need to apply the advanced mechanism of regulation so as to avoid these risks and so that the banking system is not susceptible to the innovations that were brought about by the digital currencies as has been witnessed in this paper. The commercial banks in their part have to comply with the dynamics of change in the monetary sector of the economy by catching the wave of digitalization and communicate with the central banks in addressing the question of the future of CBDC with the central banks.

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