100 Quotes about central bank digital currencies

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Abstract

The objective of this article is to present some of the current thinking and arguments about central bank digital currency (CBDC) from the perspective of those who have vested interests in central bank digital currency (CBDC) and from those who are opposed to CBDC. The article gives the reader an opportunity to reflect deeply about CBDC and to make their own opinion about CBDC based on the informed insights of others. From the collection of quotes, it was found that the concept of a central bank digital currency has come to stay, and many central banks want to issue a CBDC in the distant future. It was also found that, despite the efforts of central banks and pro-CBDC enthusiasts to publicise the benefits of a CBDC for citizens, many people continue to raise daunting questions about the potential for government overreach and surveillance, loss of competitive advantages for deposit-taking financial institutions, loss of privacy for citizens, and concerns that CBDC development is an unwholesome distraction for central banks, among other concerns. There is also a perceived negative sentiment about CBDC, and this sentiment is unlikely to change anytime soon.

Keywords: central bank, CBDC, central bank digital currency, wholesale CBDC, retail CBDC, financial stability, financial crisis, financial inclusion, payments.

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1. Introduction

The evolution of digital currencies dates back to many centuries ago. It began with the use of commodities as money such as copper, bronze, metals, and gold (Kregel 2021). Later, commodity money was abandoned and replaced with fiat money which is paper money that is backed by the government (Gross and Siebenbrunner 2019). Paper money became known as fiat currency or physical currency. The emergence of digital technology and its wide applications in the financial services industry in the last two decades led to the digital transformation of money. Private actors began to develop digital forms of money and money alternatives, and it led to the rise of private digital currencies also known as cryptocurrencies (Khan et al., 2020). A private digital currency refers to currency in digital form in which transactions are verified and records are maintained by a decentralized system using cryptography and controlled by private entities (Khan et al., 2020). The proliferation of private digital currencies led central banks to develop interest in innovating the nature of central bank money in the digital age (Boar and Wehrli, 2021). As a result, many central banks are already conducting research into the possibility of issuing a central bank digital currency (CBDC) which is fiat money in digital form that is issued by a central bank (Boar & Wehrli, 2021; Ozili, 2024).

The purpose of this study is to bring together a collection of informed academic and non-academic perspectives on what a CBDC can achieve and its potential pitfalls. The need for this study arises because recent arguments in favour of, or against, CBDC have moved from research-based debate to a more informed intellectual and emotional debate, and this observation has not been documented in the finance and economics literature. My goal in this study is to present the viewpoints or perspectives of other people as they are, in the form of quotes, and allow the reader to reflect deeply on them, and form an informed opinion about CBDC based on a collection of several views that exist in the public space.

This study is significant because it provides a collection of informed perspectives on some of the recent thinking and research into central bank digital currencies from a diverse variety of people who are truly interested in what a CBDC can achieve and its potential effect on people. This study is valuable to pro-CBDC researchers and central banks who are conducting research into CBDC and are keen to develop a national CBDC in the future. This study is also valuable to anti-CBDC individuals and group who think that central banks should not issue a CBDC whether now or in the future.

Many of the perspectives offered through quotes in this article will offer fresh insights into CBDC, and it will reveal unpopular viewpoints that may be helpful in advancing the academic literature on CBDC. Also, expressing the feelings of the general public, through the quote of their representatives, will help the reader to see CBDC in a different light and stimulate the reader to think deeply and more carefully about CBDC. It is hoped that this perspective article will make the reader to ponder deeply on each viewpoint or quote and make the reader to form an objective opinion on what a CBDC can achieve and its potential pitfalls. It is also hoped that this article will provide the reader with new perspectives on other technical aspects of CBDC.

The article is organised in the following way. Section 1 presents the introduction of the study. Section 2 presents the background into central bank digital currency. Section 3 presents the methodology used for the study. Section 4 presents the 100 quotes about CBDC. Section 5 presents the conclusion of the study.

2. Background into central bank digital currency

In the last five years, many central banks have shown great interest in the possibility of issuing a CBDC due to its potential to give citizens access to central bank reserve money, improve the efficiency of payments, increase financial inclusion, facilitate cross border remittances, and enhance the conduct of monetary policy. Notably, three countries have already issued a CBDC. They include Nigeria which has the eNaira CBDC, Jamaica which has the JAM-DEX CBDC, and the Bahamas which has the Sand Dollar CBDC. These countries felt an urgent need to issue a CBDC and use it as a tool to address their financial exclusion problems and to improve the efficiency of payments. Other central banks, such as the central bank of Brazil, Thailand, the Philippines, Ghana, India, South Korea, Japan, Hong Kong, Singapore, China, the Euro Area, the UK, Russia, Israel and Switzerland, are already conducting CBDC pilot tests to determine the best use case of a CBDC in their countries. Meanwhile, some central banks, such as the U.S. Federal Reserve Bank, have indicated that they will not issue a CBDC in the near future due to lingering issues relating to privacy, trust, the potential for government surveillance as well as other political and legal issues. Despite these issues, a recent Bank of International Settlement (BIS) survey of central banks show that over 93 percent of central banks are involved in some form of CBDC project or research (Kosse and Mattei, 2023). This indicates that there is a growing certainty that many central banks will issue a CBDC in the short to medium term. This positive development, which indicates progress for CBDC, has led to mixed reactions from cryptocurrency advocates, CBDC antagonists and CBDC supporters. I document these mixed reactions in section 4 through quotes. But, before delving into section 4, I would like to explain the methodology used to document these reactions in the form of quotes in the next section.

3. Methodology

The quotes in this study are drawn from a wide variety of public sources including: media reports; comments on X (formerly known as twitter); expert interview of government officials and private sector experts by media houses; speech of government officials presented at official and unofficial events; publications on central bank websites; open letters from the general public and associations regarding CBDC; comments of legislators about CBDC during legislative hearings; comments of influential people about CBDC; and published academic and policy research reports about CBDC. The quotes obtained from academic research were derived only from the abstract of the research publication, which eliminates the need to provide page numbers for each of the quotes. Regarding the sample period, the quotes were drawn from articles that were published between 2017 to 2024. Finally, the 100 quotes were carefully selected for information purposes only and all extremely politically sensitive quotes were intentionally excluded.

4. The Quotes about central bank digital currencies

This section presents some quotes showing optimism about CBDC. It also presents some quotes showing pessimism about CBDC. It further presents some realistic perspectives about CBDC as well as some quotes from academic and policy research. The section also presents some quotes linking cryptocurrency to CBDC.

4.1. Quotes showing optimism about CBDC

1. "Central bank digital currencies will become the basis of payments [in the future]"
   – **Jeffrey Sachs**, American Economist, University of Columbia.[1]

[1] https://news.bitcoin.com/american-economist-jeffrey-sachs-heralds-end-of-dollar-hegemony-central-bank-digital-currencies-will-become-the-basis-of-payments/

2. "Like existing forms of commercial bank money and nonbank money, a CBDC would enable the general public to make digital payments. As a liability of the Federal Reserve, however, a CBDC would not require mechanisms like deposit insurance to maintain public confidence, nor would a CBDC depend on backing by an underlying asset pool to maintain its value. A CBDC would be the safest digital asset available to the general public, with no associated credit or liquidity risk,"
   – **Statement from a US Federal Reserve Bank Research Report[2]**.

3. "A digital euro [CBDC], existing alongside cash, would future-proof our currency. It would be safe, easy to use and free of charge."
   – **Christine Lagarde,** Governor European Central Bank**.**

4. CBDC is "a step forward in democratizing access for individuals and entrepreneurs to the benefit of the digitalization of the economy. Drex [CBDC] will bring more speed, practicality, and lower cost to various contractual and financial transactions we make today"
   – **Maurício Moura**, Deputy Governor, Central Bank of Brazil, August 2023.

5. "There are some key areas where innovation may continue. One that stands out is central bank digital currencies (CBDCs). As the name implies, these would be cryptocurrencies issued directly by central banks. One of their key advantages is that they could act as a form of electronic cash. Some of the more revolutionary possibilities lie in using CBDCs as a foundation on which to build a more efficient and interoperable digital domestic and global financial system and we may even see uses no one has even thought of yet appear."
   – **Jarek Kowcza,** Senior Economist at Westpac Group.[3]

6. "CBDCs are the catalyst for improving cross-border payments by enabling the build-up of a new international monetary system."
   – **Denis Beau,** Deputy Governor of the Banque de France

[2] https://www.federalreserve.gov/publications/money-and-payments-discussion-paper.htm
[3] https://www.westpac.com.au/news/money-matters/2023/01/cryptocurrencies-miracle-or-mirage/

7. "With this [CBDC] pilot project, we are now, for the first time, making it possible to securely and efficiently settle transactions with tokenised assets on a regulated and productive DLT platform using real wholesale CBDC."
   – **Thomas Jordan,** Chairman, Swiss National Bank**.**[4]

8. "CBDC can operate in places where there is no internet; offline payments will become much easier because from my CBDC wallet I can pay money to your wallet…The greatest advantage of CBDC will be that cross-border payments will become far more efficient, faster and very cost effective. As and when other countries adopt digital currency, I think, international payments systems will really gain in efficiency."
   – **Governor Shaktikanta Das,** Reserve Bank of India. *Responding to comments about India eRupee CBDC during an interaction session at the World Economic Forum Annual Meetings at Davos. January 2024.*

9. "The eNaira [CBDC] is expected to be accessible to all Nigerians. And would provide more possibilities to bring in the unbanked into the digital economy".
   – **Governor Godwin Emefiele,** Central Bank of Nigeria. *Speech at the Grand Finale of the 2022 eNaira Hackathon in Abuja Nigeria. August 2022.*

10. "One should recognize that the CBDC creates new opportunity for monetary policy. If we all had CBDC accounts instead of cash, in principle it might be possible to implement negative interest rates simply by shrinking balances in CBDC accounts. It will become a lot easier to undertake helicopter drops of money. If everybody had a CBDC account, you could easily increase the balance in those accounts."
    – **Eswar Prasad,** Professor of Trade Policy and Economics, Cornell University. *In an interview on how CBDCs will affect monetary policy. Excerpts from his book: 'The Future of Money: How the Digital Revolution Is Transforming Currencies and Finance.'*

11. "With the proliferation of crypto-moneys, central banks may still be best positioned to provide a cash-like digital currency to the public, as an alternative to digital and

[4] https://www.reuters.com/technology/swiss-national-bank-pilot-wholesale-digital-currency-with-ubs-other-banks-2023-11-02/

physical cash. The Bank of Canada has taken up the challenge of thinking ahead of how such a Central Bank Digital Currency (CBDC) would look like, should there be a political decision to launch one in the future."

– **Katrin Tinn,** Assistant Professor, Desautels Faculty of Management, McGill University. 2021.

12. "We are at an exciting time of innovation in money and payments, and we want to ensure the UK is ready should a decision to build a digital pound [CBDC] be taken in the future."

    – **Bim Afolami,** Economic Secretary to the UK Treasury**.**[5]

13. "CBDC is not really about replacing commercial banks, but it's ultimately, I think, a furthering up of opportunities for technology-based business models in digital banking."

    – **Alistair Milne**, Professor of Financial Economics at Loughborough University. *In a discussion on CBDC and the fintech ecosystem.*

14. "Monetary policy could act much more directly through a Digital Euro [CBDC], but the decision to ban interest rates on Digital Euros severely restricts these options". "Holding limits and the ban on paying interest are instruments that help the Digital Euro fulfil its intended role as a new, public means of payment

    – **Professor Dirk Niepelt.**[6]

15. "CBDC transactions could also be made anonymous, with access to account-holder information available, when necessary, only to law-enforcement authorities or regulators, as already happens with private banks. Besides, cryptocurrencies such as bitcoin are not actually anonymous, given that individuals and organisations using crypto-wallets still leave a digital footprint. And authorities that legitimately want to track criminals and terrorists will soon crack down on attempts to create cryptocurrencies with complete privacy."

[5] https://www.bankofengland.co.uk/news/2024/january/boe-hmt-respond-to-digital-pound-consultation

[6] https://www.euractiv.com/section/economy-jobs/news/digital-euro-as-currently-planned-is-bound-to-fail-warns-economist/

– **Nouriel Roubini**, a professor at NYU's Stern School of Business and CEO of Roubini Macro Associates. *Statement in a 2018 article published in the Guardian titled: Why central bank digital currencies will destroy bitcoin.*

16. "The objective of a CBDC within the framework of the payment system in Peru is to give the unbanked population access to digital payments, so it is important to know their characteristics to prepare an implementation strategy."
    – **A Central Reserve Bank of Peru (BCRP) Report**.

17. "A CBDC can be complementary to the set of existing payment instruments, including banknotes and coins issued by the BCRP, leading to a more efficient, inclusive, and safer payment system."
    – A Central Reserve Bank of Peru (BCRP) Report.

18. "By building a robust legal framework [for CBDCs], we can all ensure that CBDCs will flourish."
    – **Agustín Carstens**, General manager of the Bank for International Settlements (BIS).

19. "A digital pound could bring a number of opportunities from potentially enhancing and improving our existing payment systems; providing an alternative to other forms of payment; and potentially spur further innovation across the sector."
    – **Lisa Cameron**, Chair of the crypto and digital assets All Party Parliamentary Group. *In a statement to CoinDesk.*

Author's evaluation: The quotes by CBDC optimists indicate that CBDC may transform payments, complement cash, facilitate cross-border payments, lead to efficient offline and online payments, enable financial inclusion for the unbanked, and enhance monetary policy transmission.

4.2. Quotes showing pessimism about CBDC

20. "To protect Americans from government tyranny, as your President, I will never allow the creation of a central bank digital currency. Such a currency would give our federal government absolute control over your money."
– **Donald Trump, Former US President**. *In his re-election campaign speech on the election campaign ground in New Hampshire. January 2024.*[7]

21. "The Federal Reserve's exploration into central bank digital currency raises serious questions regarding the continued development of the digital economy, consumer privacy, and the eventual transition to a cashless system of payments. One of the most significant features that draw people to digital assets is decentralization, and there is no central authority that manages the supply and value of most digital assets. The United States must not follow countries like China down the path of digital authoritarianism but instead preserve a payment system that promotes consumer privacy and security."
– **Adam Brandon,** President and CEO of FreedomWorks. *Response to a proposed bill seeking to ban the Federal Reserve from establishing a CBDC.*[8]

22. "There is a 'don't take my cheese' opposition coming largely from the banks who view the CBDC as a potential disrupter of their very profitable payment systems. It's not a coincidence that pretty much every single bank and every single bank association has been in my office."
– **Rep. Jim Himes (D-Conn.)**, member of the House Financial Services. *Comment made during a debate about a Fed Digital Dollar. August 2022.*[9]

23. "[A CBDC could] end up becoming the equivalent of the FAA[10] flying planes and building jet engines as opposed to designating competition rules-based safe conduct in the skies."
– **Dante Disparte**, Chief Strategy Officer and Head of Global Policy at Circle. *In a statement made to the US House Financial Services Committee*.

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[7] https://twitter.com/BitcoinMagazine/status/1747819823159972003?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1747819823159972003%7Ctwgr%5E350699a00d7479863d6a8c32e717eda728b9d7b5%7Ctwcon%5Es1_&ref_url=https%3A%2F%2Fthefintechtimes.com%2Findustry-divided-on-trump-cbdc-views-and-the-impact-no-development-would-have-on-us-crypto-hub%2F

[8] https://www.cruz.senate.gov/newsroom/press-releases/sen-cruz-introduces-legislation-to-prohibit-the-fed-from-establishing-a-central-bank-digital-currency

[9] https://www.politico.com/news/2022/08/22/crypto-fed-digital-dollar-00052515

[10] FAA means the Federal Aviation Administration

24. "A CBDC would remain a liability of the Federal Reserve — remain on the balance sheet of the federal reserve — regardless of how it's distributed because that liability stays on the Federal Reserve's balance sheet, it's effectively a competitor of retail bank deposits and limits the ability of that money to be lent back out into the economy."
– **Brooke Ybarra**, Head of the American Bankers Association's office of innovation.

25. "CBDCs are a type of government-run cryptocurrency that let the government monitor and control every single transaction you make, no matter how small. That means every single cent can be tracked, traced, taxed, and stopped or even forced without your consent. CBDCs allow bureaucrats to quickly punish you for spreading wrongthink and misinformation. You can be fined, or your bank account can be frozen."
– **EJ Antoni & Peter St Onge**. *In a commentary on The Heritage Foundation.*[11]

26. "I have yet to see a compelling argument that a U.S. CBDC could solve any of these problems more effectively or efficiently than alternatives, or with fewer downside risks for consumers and for the economy… The potential benefits of a U.S. CBDC remain unclear,"
– **Fed Governor Michelle Bowman**. *Opinion on CBDC in a discourse at Harvard Law School. October 2023.*

27. "A central bank digital currency is government-controlled programmable money that, if not designed to emulate cash, could allow the federal government to surveil and restrict Americans' transactions. This is not just alarming – it's downright un-American"
– **Tom Emmer, Republican Majority Whip, Minnesota**. *Comments made when introducing the CBDC Anti-Surveillance State Act to the US House of Representatives for consideration. September 2023.*

28. "In response to the popularity of [cryptocurrency] this innovation, governments are pursuing the exact opposite: more centralisation, surveillance and control. CBDCs are

[11] https://www.heritage.org/monetary-policy/commentary/pushers-central-bank-digital-currencies-are-the-most-terrifying-villains

being developed precisely because they provide governments with increased control and power. This kind of threat to individual rights will naturally drive people toward private solutions, while governments are sure to work hard to thwart such alternatives since they undermine the increased government control and power CBDCs create."
– **Peter Goettler**, President of the Cato institute.[12]

29. "The Bank of Canada is doing everything necessary to eventually launch a digital currency, even if they still deny wanting to. In their public consultation, they do mention privacy concerns, but they don't ask a single question about how it would make it easier for them to manipulate monetary policy and control how we spend our money."
– **PPC Leader Maxime Bernier**, speaking to Rebel News.

30. "Governments can program central bank digital currencies (CBDCs) with expiry dates and to restrict undesirable purchases."
– **Eswar Prasad**, A warning by Cornell University Professor.[13]

31. "Certainly, the way the Bank of England is going, and the Euro system as well, these transactions are not going to be completely anonymous and private because the police and law courts will have the opportunity to jump in if they need to."
– **Alistair Milne**, Professor of Financial Economics at Loughborough University. In a discussion on CBDC and the fintech ecosystem.

32. "The standard case for a CBDC rests on the mistaken idea that we need new digital money for our new digital world. Much of our money is already digital though; commercial bank deposits and transfers are recorded on computers, not paper ledgers. What we need is not a new digital money, of which there are many already, but instead a new digital cash. Digital cash would not merely facilitate electronic transactions; it would also preserve financial privacy. Even if intermediated, CBDCs are unlikely to fit the bill.

[12] https://dailyhodl.com/2023/06/28/global-cbdc-rollouts-will-give-governments-massive-control-and-power-warns-cato-institute-president/

[13] https://crypto.news/cbdcs-can-restrict-citizens-spending-economist-warns/

– **Andrew M. Bailey** (Associate professor of humanities at Yale-NUS College) and William J. Luther (associate professor of economics at Florida Atlantic University). *In a commentary published in a Barron's article.*[14]

33. "The main problem with CBDCs is that they would disrupt the current fractional-reserve system through which commercial banks create money by lending out more than they hold in liquid deposits. Banks need deposits in order to make loans and investment decisions. If all private bank deposits were to be moved into CBDCs, then traditional banks would need to become "loanable funds intermediaries," borrowing long-term funds to finance long-term loans such as mortgages."
– **Nouriel Roubini**, Professor at NYU's Stern School of Business.[15]

34. "The administration of a CBDC will distract from the Federal Reserve's dual mandate of achieving both stable prices and maximum sustainable employment."
– **The National Association of Federally-Insured Credit Unions (NAFCU).** *In a public letter to the United States House of Representatives. June 7 2023*[16]

35. "CBDCs would threaten the liberties of law-abiding Americans and are being used by authoritarian countries right now to crack down on dissent. That's why closing this pilot program loophole is so important—to prevent the Federal Reserve from bypassing the will of Congress."
– **Alex Mooney (R-WV)**, Member of the United States House of Representatives.

36. "Current research overwhelmingly undermines the purported benefits of a CBDC and instead indicates that a CBDC would seriously disrupt the financial system, significantly harming consumers and businesses."
– **Greg Baer**, Bank Policy Institute.

[14] https://www.barrons.com/articles/the-u-s-needs-digital-cash-not-just-digital-currency-51646431864
[15] https://www.theguardian.com/business/2018/nov/19/why-central-bank-digital-currencies-will-destroy-bitcoin
[16] https://www.nafcu.org/system/files/files/6-7-23%20Digital%20Dollar%20Pilot%20Prevention%20Act%20Support%20Letter.pdf

37. “The purported benefits of a CBDC are uncertain and unlikely to be realized, while the costs are real and acute. [CBDC would] rewire our banking and financial system. And even if CBDC accounts were capped at $5,000 per user, they would drain in $720 billion in deposits, or 71% of bank funding. Based on this analysis, we do not see a compelling case for a CBDC in the United States today. Losing this critical funding source would undermine the economics of the banking business model, severely restricting credit availability."
– **American Bankers Association (ABA)**.[17] The ABA Comments on Federal Reserve Discussion Paper Money and Payments: The US Dollar in the Age of Digital Transformation.

Author’s evaluation: The anti-CBDC quotes above suggests that the issuance of a CBDC might distract central banks from their core mandate or it can lead to bank disintermediation. Issuing a CBDC may also lead to government tyranny and a violation of consumer privacy. There is also the perception that there is no clear use case for a CBDC at the moment, and that a CBDC will make central banks be in competition with commercial banks.

4.3. Quotes showing the reality of CBDC

38. “Central bank digital currency is changing the very nature of the international monetary system”
– **Tobias Adrian**, financial counsellor at the International Monetary Fund.[18]

39. “If you’re in the financial services sector, this is a potentially worrying time because the arrival of a central bank digital currency (CBDC) in your country will make it much harder to compete in terms of digital payments.”
– **Eswar Prasad**, Professor at Cornell University and Research Associate, National Bureau of Economic Research.

17

18 https://www.centralbanking.com/fintech/cbdc/7958484/cbdcs-will-change-international-monetary-system-imf-panel

40. "In many countries, privacy concerns are a potential deal breaker when it comes to CBDC legislation and adoption. So, it's vital that policymakers get the mix right."
– **Kristalina Georgieva**, IMF Managing Director. *Excerpts from a Speech delivered at the Future of Money: Gearing up for Central Bank Digital Currency event at the Atlantic Council on 9th February 2022.*

41. "We are not completely adverse to a UK Central Bank Digital Currency (CBDC) scheme, however, we don't believe a CBDC should be "programmable". This would mean that the issuer of the digital currency would have control over how an individual is permitted to use that currency. We believe that is not right and leave the system open to abuse. We ask the Government to assure that it will prevent any implementation of a "programmable" digital currency."
– **UK HM Treasury**'s official response to a public petition against introducing a CBDC in the UK.[19]

42. "Many central banks are aware of this — they're aware that a CBDC could limit private sector innovations in digital payments. So, what they're trying to do is provide their central bank digital currencies as tokens, on top of which the private sector can innovate in terms of using those tokens more effectively to intermediate payments between customers and businesses or between businesses and businesses."
– **Eswar Prasad**, Professor at Cornell University and Research Associate, National Bureau of Economic Research

43. "If a CBDC were to be issued, it would immediately displace cryptocurrencies, which are not scalable, cheap, secure, or actually decentralised. Enthusiasts will argue that cryptocurrencies would remain attractive to those who wish to remain anonymous. But, like private bank deposits today, CBDC transactions could also be made anonymous, with access to account-holder information available, when necessary, only to law-enforcement authorities or regulators, as already happens with private banks."
– **Nouriel Roubini**, Professor at NYU's Stern School of Business.[20]

[19] https://petition.parliament.uk/petitions/624159
[20] https://www.theguardian.com/business/2018/nov/19/why-central-bank-digital-currencies-will-destroy-bitcoin

44. "I am fully aware that, in its current state, this [CBDC] initiative raises many questions both for society in general and for the financial industry .... In these circumstances, issuing a digital euro is not naturally perceived to be a pressing need."
– **Pablo Hernández de Cos**, Bank of Spain Governor.

45. "One aspect of a CBDC that concerns many economists — me included — is the effect it can have on other means of payments issued by private financial institutions, such as commercial banks."
– **Economist Daniel Sanches.**

46. "The real-world use of CBDCs will depend on how governments address citizens' concerns about government surveillance. While CBDCs can potentially increase financial inclusion and efficiency, distrust of government surveillance could undermine their adoption. Striking the right balance between innovation and privacy is essential to ensure that CBDCs align with citizen's interests rather than becoming a source of discontent and resistance."
– **Nicole Willing**. Columns for Technopedia.[21]

47. I think we certainly need to understand the technology [behind CBDC], we need to proceed cautiously on building out a rupee CBDC…. There is a need to learn more to understand because in the global arena the rules for CBDCs are now being mapped out and we need to be participants in that rule making so that we do not find ourselves at a disadvantage at some future point.
– **Raghuram Rajan,** Former RBI Governor & Professor at University of Chicago Booth School.[22]

48. "Developing economies seem keener to develop retail CBDC to enhance payment effectiveness and increase financial inclusion, whilst wholesale CBDC have gained traction in more advanced economies where robust and mature interbank systems already exist."

[21] https://www.techopedia.com/will-citizens-distrust-of-government-surveillance-stop-cbdcs

[22] https://economictimes.indiatimes.com/markets/expert-view/at-present-cryptos-have-little-value-other-than-as-speculative-device-raghuram-rajan/articleshow/96660886.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

– **Mustafa Syed**. *In an article on LinkedIn titled: Cryptocurrencies and Central Bank Digital Currencies (CBDC) | A Future Outlook*[23]

49. "It may not solve a problem today, but maybe it solves a problem the day after tomorrow."

    – **Dilip Rao**, a former Ripple executive who's now leading Australia's CBDC pilot.[24]

50. "The open infrastructure of the proposed digital pound could enable programmability or automatic transfers with the help of smart contracts should the government allow it."

    – **Kene Ezeji-Okoye**, Co-founder at U.K.-based blockchain infrastructure provider Millicent.

51. "If the purpose is to ensure uniformity of money and protect privacy in a world of digital assets, then it will need to be able to work with the digital assets of the future, and it will need to be just as easy to use."

    – **Varun Paul**, Director for CBDC at Fireblocks. *In a statement to CoinDesk.*

52. "Though not in the Bank of England's near-term ambitions, a digital pound [CBDC] could one day unlock real-time and low-cost cross-border transactions directly from their users' digital wallets, eliminating the need for intermediaries and reducing transaction fees."

    – **Adam Jackson**, Policy Advisor at Innovate Finance. *In a statement to CoinDesk.*[25]

53. "I think that the model that the Bank of England proposes respects the need for privacy and respects the fact that people don't want the government and the central bank to be able to see their transactions,"

    – **Jannah Patchay**, Executive Director of the Digital Pound Foundation.

54. "Some members [of The Payments Association] are not comfortable with the central bank being able to view even anonymized transactions/wallet balances. Those that are

[23] https://www.linkedin.com/pulse/cryptocurrencies-central-bank-digital-currencies-cbdc-mustafa-syed
[24] https://cointelegraph.com/news/australia-cbdc-solves-problems-tomorrow-dilip-rao
[25] https://www.coindesk.com/policy/2023/06/22/digital-pound-should-be-interoperable-with-crypto-uk-lobbyists-say/

skeptical of the central bank's and the government's motives might argue that advances in data analysis will allow such data to be interpreted and abused, perhaps through [a] combination with other data sources, including geolocation or tax and benefits data."
– **Riccardo Tordera-Ricchi**, Head of Policy at The Payments Association. *In a statement to CoinDesk.*[26]

Author's evaluation: The quotes above show that CBDC realists admit that several issues need to be addressed before issuing a CBDC, particularly issues relating to competition with existing payment alternatives, privacy protection, the tyranny of programmable money, preserving the anonymity of money, striking an ethical balance between innovation and privacy, preventing the government from seeing people's transactions in real time and concerns that CBDC may not be a pressing need right now.

4.4. Quotes linking cryptocurrency to CBDC

55. "In my view, this [CBDC] development raises an existential problem for cryptocurrencies such as bitcoin: what will be the raison d'etre for cryptocurrencies once CBDCs become ubiquitous? Why would someone prefer to let Facebook's Mark Zuckerberg look after their money rather than Fed Chair Jerome Powell or ECB President Christine Lagarde? And who would prefer to hold their money in an unsecured exchange like Mt. Gox, an entity that was hacked in 2014 while losing $460m in the process? Moreover, why would they choose bitcoin if government-backed alternatives can do it just as quickly, only with a zero bid/offer spread and military-grade security to negate lingering concerns regarding hackable wallets? The answer to this question is that people are likely to go for the easier solution, which is CBDCs."
– **Marshall Gittler**, Head of Investment Research, BDSwiss. *Statement in an article published on World Finance.*[27]

[26] https://www.coindesk.com/policy/2023/06/22/digital-pound-should-be-interoperable-with-crypto-uk-lobbyists-say/
[27] https://www.worldfinance.com/markets/could-central-bank-digital-currencies-spell-the-end-for-cryptocurrency

56. "Insofar as CBDCs would crowd out worthless cryptocurrencies, they should be welcomed. Moreover, by transferring payments from private to central banks, a CBDC-based system would be a boon for financial inclusion. Millions of unbanked people would have access to a near-free, efficient payment system through their cell phones."
– **Nouriel Roubini**, a professor at NYU's Stern School of Business. *In a statement in a 2018 article published in the Guardian titled: Why central bank digital currencies will destroy bitcoin.*

57. "If CBDCs are eventually introduced as a counter to cryptocurrencies, it will only be a matter of time until people realise that cryptocurrencies have no real futures as trustworthy currencies, and therefore, are likely to have limited value as assets. But yes, I do wish I had bought a wallet full of bitcoin at 50 cents in 2011."
– **Marshall Gittler**, Head of Investment Research, BDSwiss. *Statement in an article published on World Finance.*

58. "If [the idea of] a CBDC is moved forward, conventional crypto enthusiasts can rest easy knowing that other types of crypto are still going to be relevant, at least in principle. It's also possible that CBDC can coexist peacefully alongside various other cryptocurrencies."
– **Deanna Ritchie**. A statement in a post published in Nasdaq.

59. "Crypto has some advantages and some disadvantages, but where are we headed? Many regulators around the world have warned against trading in Bitcoin whereas some countries have already legalized it."
– **Mustafa Syed**. *In an article on LinkedIn titled: Cryptocurrencies and Central Bank Digital Currencies (CBDC) | A Future Outlook*

60. It's hard to say exactly how CBDC introduction could affect cryptocurrency, but there are a few facts we know. We know Americans overwhelmingly reject this idea. We know there are no immediate plans for the introduction of a CBDC. And we know that the central bank and federal government will have to tread cautiously if they want people to accept this type of digital currency.
– **Deanna Ritchie**. A statement in a post published in Nasdaq

Author's evaluation: The quotes above show that there are concerns that the issuance of a CBDC may threaten the existence of cryptocurrencies, and that cryptocurrencies and CBDC may co-exist but not for very long.

4.5. Quotes showing what the future holds for CBDC

61. "The design of the remuneration schedule for CDBC will, in my view, be one of the most significant decisions made by central banks in the next half-century."
– **Andy Haldane**, the Chief Economist, Bank of England, 2021.[28]

62. "These are still early days for CBDCs, and we don't quite know how far and how fast they will go. What we know is that central banks *are* building capacity to harness new technologies — to be ready for what may lie ahead."
– **Kristalina Georgieva**, IMF Managing Director. *Excerpts from a Speech delivered at the Future of Money: Gearing up for Central Bank Digital Currency event at the Atlantic Council on 9th February 2022.*

63. "Whether or not we will issue a digital shekel [CBDC] is still an open question, as it is in most if not all other advanced economies"
– **Bank of Israel Governor Amir Yaron**. Speaking at a conference on digital currencies, September 2023.

64. "Country-wide launch will depend on the success, learning and fine tuning of CBDC itself. So, that is the distance which we have to cover. But we have no target date for implementation."
– **Governor Shaktikanta Das**. *Response to comments about India CBDC at the Das said in an interaction at the World Economic Forum Annual Meetings at Davos.*

[28]https://www.ledgerinsights.com/bank-of-england-economist-cbdc-good-for-negative-interest-rates-narrow-banking/

65. "Trust in all forms of money is an absolute necessity. We know that the decision on whether or not to introduce a digital pound in the UK will be a major one for the future of money."
    – **Shara Breeden**, Deputy Governor for financial stability at the Bank of England.[29]

66. "Maintaining an appropriate level of privacy will be crucial to ensuring public acceptance of retail CBDCs."
    – **Agustin Carstens,** General Manager, Bank of International Settlements (BIS).

67. "We will always ensure people's privacy is paramount in any design [of a CBDC], and any rollout would be alongside, not instead of, traditional cash."
    – **Bim Afolami Economic Secretary to the UK Treasury.**[30]

68. "The success of a CBDC, if and when issued, will depend on sufficient trust. And, in turn, any successful CBDC should continue to build trust in central banks."
    – **Kristalina Georgieva**, IMF Managing Director. *Excerpts from a Speech delivered at the Future of Money: Gearing up for Central Bank Digital Currency event at the Atlantic Council on 9th February 2022.*

Author's evaluation: The quotes above regarding the future of CBDC shows that many central banks are still researching CBDC and building capacity for CBDC with the intention of issuing a CBDC in the future. For these central banks, there is no rush to issue a CBDC soon. Other central banks do not intend to issue a CBDC now because they have not resolved issues relating to privacy and trust.

4.6. Quotes from existing academic and policy CBDC research

4.6.1. Motivations for CBDC

[29] https://www.bankofengland.co.uk/news/2024/january/boe-hmt-respond-to-digital-pound-consultation
[30] https://www.bankofengland.co.uk/news/2024/january/boe-hmt-respond-to-digital-pound-consultation

69. "In order to preserve the effectiveness of monetary policy in a world increasingly flooded by private digital currencies, central banks (CBs) will eventually have to issue their own digital currencies."
– **Cukierman (2020)**. In Abstract, published in *The Manchester School Journal*.

70. "Work on retail CBDCs is more advanced where the informal economy is larger. Many central banks are considering architectures in which a CBDC is a direct cash-like claim on the central bank, but the private sector handles all retail services."
– **Auer, Cornelli and Frost (2023)**. In Abstract, published in *International Journal of Central Banking.*

71. "Countries with more power distance, masculinity and long-term orientation cultures are more eager to adopt a CBDC. By contrast, countries with a cultural value leaning towards uncertainty avoidance are less involved in the adoption of a CBDC"
– **Luu et al (2023a)**. In Abstract, published in *Applied Economics Letters*.

72. "Perceived usefulness, perceived security, and perceived ease of use, as well as awareness all positively and directly influence individuals' behavioural intentions to use CBDC."
– **Liu et al (2022)**. In Abstract, published in *Technology Analysis & Strategic Management Journal*.

4.6.2. Benefits of CBDC

73. "The issuance of CBDC is a double-edged sword: the benefit of replacing physical cash for a more efficient payment system comes at the cost of disrupting the deposit base for commercial banks."
– **Bian, Ji and Wang (2021)**. In Abstract, published in *Finance Research Letters Journal.*

74. "CBDC could make monetary policy more efficient, and it could transform the international monetary and payments systems."
– **Bordo (2021)**. Abstract, published in *National Bureau of Economic Research.*

75. “Traders do not view CBDCs as a threat to cryptocurrencies. Rather, more positive stances on CBDCs appear to be interpreted as favorable signals for other forms of digital currencies as well.”
   – **Scharnowski (2022)**. In Abstract, published in *Finance Research Letters Journal.*

76. “Underdeveloped economies are more engaged in issuing CBDC. Besides, better regulations, FDI inflow, young populations, and more urban societies would increase the probability of CBDC issuance.”
   – **Alfar et al (2023)**. In Abstract, published in *Research in International Business and Finance Journal.*

77. “CBDCs promise to realize a broad range of new capabilities, including direct government disbursements to citizens, frictionless consumer payment and money-transfer systems, and a range of new financial instruments and monetary policy levers. A CBDC will also in some way need to address an innate tension between privacy and transparency, protecting user data from abuse while selectively permitting data mining for end-user services, policymakers, and law enforcement investigations and interventions.”
   – **Allen et al (2020)**. In Abstract, published in *the National Bureau of Economic Research.*

4.6.3. Cash usage

78. “CBDC may not be widely accepted by end users in the presence of a sizable informal economy in which cash is the primary method of payment. CBDC can decrease informality, but this effect becomes weaker in countries with larger informal economies.”
   – **Oh and Zhang (2022)**. In Abstract, published in *Economic inquiry Journal.*

79. “A cash-like CBDC is more effective than a deposit-like CBDC in promoting consumption and welfare. Interestingly, a cash-like CBDC can also crowd in banking, even in the absence of bank market power. In a calibrated model, at the maximum, a cash-like CBDC can increase bank intermediation by 10.2% and welfare by 0.059%, and it can capture up to 23.3% of the payment market.”

– **Chiu and Davoodalhosseini (2023)**. In Abstract, published in *Management Science Journal.*

80. "A CBDC can be designed with attributes similar to cash or deposits and can be interest bearing: a CBDC that closely competes with deposits depresses bank credit and output, while a cash-like CBDC may lead to the disappearance of cash. Then, the optimal CBDC design trades off bank intermediation against the social value of maintaining diverse payment instruments."
– **Agur, Ari and Dell'Ariccia (2022)**. In Abstract, published in *Journal of Monetary Economics.*

81. "Having both cash and a CBDC available [for use in the economy] may result in lower welfare than in the cases where only cash or only a CBDC is available. If the cost of using a CBDC relative to cash is around 0.25% of the transaction value, introducing a CBDC can lead to an increase of 0.12–0.21% consumption for the United States and 0.04–0.07% for Canada."
– **Davoodalhosseini (2022)**. Abstract, published in *Journal of Economic Dynamics and Control.*

4.6.4. Financial stability

82. "If the introduction of CBDC follows a set of conservative core principles, bank funding is not necessarily reduced, credit and liquidity provision to the private sector need not contract, and the risk of a system-wide run from bank deposits to CBDC is addressed."
– **Kumhof and Noone (2021)**. Abstract, published in *Economic Analysis and Policy Journal*.

83. "Banks [will] do less maturity transformation when depositors have access to CBDC, which leaves them less exposed to [bank] runs. Second, monitoring the flow of funds into CBDC allows policymakers to identify and resolve weak banks sooner, which also decreases depositors' incentive to run [on a bank]."
– **Keister and Monnet (2022)**. In Abstract, published in *Journal of Economic Dynamics and Control.*

84. "However, once the central bank can lend all the deposits in CBDC account to banks, an increase in the quantity of CBDC which does not require reserve holdings can enhance financial stability by increasing credit supply and lowering nominal interest rate."
– **Kim and Kwon (2023)**. In Abstract, published in *Journal of Money, Credit and Banking.*

85. "The introduction of deposits in CBDC account decreases credit supply by banks, raising the nominal interest rate and lowering a bank's reserve-deposit ratio. This increases the likelihood of bank panic in which banks exhaust cash reserves."
– **Kim and Kwon (2023)**. In Abstract, published in *Journal of Money, Credit and Banking.*

86. "If the central bank aims to have a positive net worth and the absence of bank runs, a high demand for a CBDC is a necessary condition to achieve both objectives. If this is not the case, financial stability will be endangered."
– **Tercero-Lucas (2023)**. In Abstract, published in *Journal of Financial Stability.*

87. "Higher CBDC remuneration raises bank fragility by increasing consumers' withdrawal incentives. On the other hand, it also induces banks to offer more attractive deposit contracts in order to retain funding, thereby reducing fragility. This results in a U-shaped relationship between bank fragility and CBDC remuneration."
– **Ahnert et al (2023)**. In Abstract, published in the *CEPR Discussion Papers.*

88. "Issuing a CBDC by expanding the central bank's balance sheet can have a durable impact on GDP and crucially, it allows for the activation of a new transmission channel, which depends on the sensitivity of investment and of the interest rate to firms' leverage. But it might reduce the demand for bank deposits, and even more crucially for bank loans, thus creating challenges for financial stability."
– **Temperini, D'Ippoliti and Gobbi (2024)**. In Abstract, published in *Structural Change and Economic Dynamics.*

4.6.5. Monetary policy

89. “Central bank digital currency (CBDC) is seen as a possible next step in the evolution of money, offering a more stable unit of account, a more efficient medium of exchange, and a safer way to store value.”
– **Hoang et al (2023)**. In Abstract, published in *Research in International Business and Finance.*

90. “If cash is important for monetary policy, payment instrument competition, or as an alternative payment instrument in the event of operational problems with privately supplied payment methods, the introduction of CBDC may best be introduced before cash substitutes become so ubiquitous that the viability of CBDC could be in doubt.”
– **Khiaonarong and Humphrey (2019)**. In Abstract, published in *Journal of Payments Strategy & Systems.*

91. “CBDC issuance of 30% of GDP, against government bonds, could permanently raise GDP by 3%, due to lower real interest rates, distortionary taxes, and monetary transaction costs. Countercyclical CBDC policy rules, as a second monetary policy tool, could substantially improve the central bank’s ability to stabilise the business cycle.”
– **Barrdear and Kumhof (2022)**. In Abstract, published in *Journal of Economic Dynamics and Control.*

92. “The central bank can implement negative interest rate policy by directly adjusting the interest rate of digital currency to stimulate consumption, investment, and output and to accelerate macroeconomic recovery.”
– **Xin and Jiang (2023)**. In Abstract, published in *Research in International Business and Finance.*

4.6.6. Effect on financial institutions

93. “The issuance of a CBDC is a double-edged sword for an economy. Although it provides additional payment and investment options for market participants, it increases competition and weakens financial intermediaries' margins.”

– **Son, Ryu and Webb (2023)**. In Abstract, published in *International Review of Financial Analysis.*

94. "The introduction of a central bank digital currency has no detrimental effect on bank lending activity and may, in some circumstances, even serve to promote it."
– **Andolfatto (2021)**. In Abstract, published in *The Economic Journal.*

95. "While a digital currency tends to improve efficiency in exchange, it may also crowd out bank deposits, raise banks' funding costs, and decrease investment."
– **Keister and Sanches (2023)**. In Abstract, published in *The Review of Economic Studies.*

96. "CBDC helps to reduce leverage and asset risks. The adoption of CBDC can be associated with expanded lending, increased asset quality and reduced loan loss reserves."
– **Luu et al (2023b)**. In Abstract, published in *Journal of International Financial Markets, Institutions and Money*

97. "Central banks wishing to introduce an economy-wide, account-type CBDC should first monitor yields on bank loans and consider policy measures that induce banks to maintain adequate liquidity reserve levels."
– **Jun and Yeo (2021)**. In Abstract, published in *Financial Innovation Journal.*

98. "Depending on its design, a digital euro [CBDC] could improve bank profitability and competitiveness by absorbing large amounts of idle (and expensive) excess reserves without penalizing lending, while incentivizing bank digitalization."
– **Fegatelli (2022)**. In Abstract, published in *Journal of Macroeconomics.*

99. "If banks have market power in the deposit market, a CBDC can enhance competition, raising the deposit rate, expanding intermediation, and increasing output. A CBDC can raise bank lending by 1.57% and output by 0.19% [in the US economy]."
– **Chiu et al (2023)**. In Abstract, published in *Journal of Political Economy.*

100. “Negative media sentiment about [CBDCs such as] the eNaira, DCash and Sand Dollar [is] caused by the existing negative media sentiment about CBDCs in general.”
– **Ozili and Alonso (2024)**. In Abstract, published in *Journal of Central Banking Theory and Practice.*

Author’s evaluation: Quotes from academic and policy research offer interesting technical insights into the motivations for issuing a CBDC, the benefits of CBDC, its effect on the use of cash, the financial stability implications, the monetary policy implications, and the effect of CBDC on financial institutions.

5. Conclusion

This study presented several informed views about the introduction of a central bank digital currency (CBDC) in the form of quotes. The significance of this perspective study is that it provides a collection of informed perspectives on the recent thinking and research about central bank digital currencies from people who are most concerned about CBDC. To date, this type of perspective study has not been documented in the central bank digital currency literature. This perspective study is most valuable to central bankers, economists and researchers who want to learn gain useful insights into CBDC and those who want to assist their country in developing a national CBDC. The starting point of such endeavour is to listen to the perspective of informed promoters and antagonists of CBDC. The insights gained can help them to develop a meaningful central bank digital currency.

My goal in this study was to present the views as they are, in the form of quotes, and allow the reader to reflect deeply on them, and form an informed opinion about CBDC based on a collection of several views that exist in the public space. From the quotes shown in this study, it is easy to see that a CBDC is the digital equivalent of physical cash, and it is issued by the central bank. It is also easy to see that the concept of a CBDC has come to stay and that many central banks want to issue a CBDC in the distant future. It is also easy to see, from the quotes, that despite the efforts of central banks and pro-CBDC academic researchers to publicise the benefits of a CBDC to citizens, there are many daunting questions that continue to arise about

CBDC particularly the potential for government overreach and surveillance, loss of competitive advantages for deposit-taking financial institutions, loss of privacy for citizens, and concerns that CBDC development is an unwholesome distraction for central banks, among others.

Due to these concerns, there is widespread negative media campaign to turn ordinary citizens against the issuance of a CBDC. Such negative media campaign is unfair to central banks because central banks, just like any organisation, have a right to innovate. But the ongoing negative media campaign against CBDC are intended to bring an end to CBDC innovation before it is launched. Central banks should be allowed to issue a CBDC, and let the people decide whether the CBDC will be successful or a failure. If majority of the population refuse to use the issued CBDC, then the central bank must discontinue the CBDC on the merit that people have refused to use it. Similarly, if majority of the population accept to use the issued CBDC, then the central bank should improve the issued CBDC on the merit that people have willingly accepted the CBDC. I think this is the proper posture or attitude to take towards CBDC. We need to inform people about the benefits and disadvantages of using a CBDC and allow the people to decide whether they will use the CBDC or not. For central banks that are keen on developing a CBDC, they should encourage more debates and deliberations on the best way to develop a CBDC that is non-intrusive, ensures privacy, complement existing alternatives, and prevent government surveillance.

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