



# Should the Federal Reserve Issue a Digital Currency as Virtual Legal Tender? An Econo-legal Analysis Based on China's Master Plan for De-dollarization

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## ABSTRACT

Mainstream discussion on whether the Federal Reserve should issue a central bank digital currency (CBDC) as virtual legal tender focuses on five aspects related to the American domestic environment -- efficiency, privacy, safety and security, financial inclusion and exclusion, and impact on the current economic systems and monetary policies. This article takes a new and broader perspective on this critical issue by investigating how China, being the arch-international competitor of the US, has formulated a well-designed and structured master plan supported by various econo-legal strategies to pursue the objective of de-dollarization through the utilization of a China-currency-based CBDC with "controllable anonymity" and different multicurrency exchange and settlement platforms. Given the reality that de-dollarization will inevitably weaken the ubiquitous platform of international trade and payment of the US dollar (USD), can the Federal Reserve use the same tool, a USD-based CBDC, to counteract or even reverse the declining trend of the American currency's versatility and far-reaching capability? This article recommends that the Federal Reserve can slow down the de-dollarization movement by issuing a CBDC at both the wholesale and retail levels, emphasizing the control of the former while having more cooperation with private banks for the latter.

**Keywords:** Central Bank Digital Currency, Legal Tender, Federal Reserve, Dollarization, De-Dollarization

## INTRODUCTION

On March 9, 2022, President Biden issued Executive Order (EO) 14067 on "Ensuring Responsible Development of Digital Assets." The US Department of the Treasury subsequently published three reports according to Sections 4, 5, and 7 of EO 14067, addressing the future of money and payment systems, protection of consumers and investors, and illicit finance risks<sup>1</sup>. To a great extent, these issues are related to the consideration of the issuance of a central bank digital currency (CBDC) by the Federal Reserve. The acronym "CBDC" appears thirty-four times in the EO, indicating its relative significance in the policy consideration of the prevailing US Administration.

This article adopts an economic-legal approach to studying CBDCs based on analyzing their legal tender status and the corresponding implications to the domestic and

international monetary systems. This approach focuses on the role of the law as a mechanism to protect the rights and obligations related to persons, properties, groups, or organizations and the emphasis of economics on the efficient allocation of resources and distribution of goods and services through markets.<sup>2</sup> To support the analysis, this article investigates the significance of CBDCs in the coming decade regarding the dominant role of the US dollar (USD) in the global financial system. It analyzes how an unnecessary delay, and possibly deliberate procrastination, of its implementation in the US will result in the unfortunate decline of American leadership in the global financial system.

There are six sections in this article. Section I lays out the foundation of analysis by introducing the concepts and practices related to digital currencies. Section II presents

<sup>1</sup> This is based on a *Statement from Secretary of the Treasury Janet L. Yellen on the Release of Reports on Digital Assets*. September 16, 2022, <https://home.treasury.gov/news/press-releases/jy0956>

<sup>2</sup> See Takashi Yanagawa, Hiroshi Takahashi, Shinya Ouchi, (eds) *Econo-Legal Studies: Thinking Through the Lenses of Economics and Law*, Singapore: Springer, 2021.



the mainstream discussion on CBDCs. Section III analyzes various types of digital currencies and CBDCs around the world. This is followed by Section IV, which discusses the relationship between CBDCs and de-dollarization. Section V investigates China's master plan for de-dollarization through issuing a CBDC. Section VI provides the suggested strategies for the US to issue a CBDC to counteract the de-dollarization trend.

## CENTRAL BANK DIGITAL CURRENCIES

This article focuses on central bank digital currencies (CBDCs). The digitalization of money and currency is a milestone in monetary history. According to Bordo (2021)<sup>3</sup>, monetary history has gone through three shifts in the past. First was the shift from commodity money (made with gold, silver, and other precious metal) to convertible fiduciary and fiat money in the eighteenth and nineteenth centuries. The second shift happened in the nineteenth and twentieth centuries from central banks' power to issue paper notes to a central bank's legal tender monopoly. The third shift is about the changes in the power of central banks in formulating and controlling monetary policies. In addition to these three shifts, the new shift will likely introduce digital currencies to replace traditional tangible forms of money and currencies. Digital currencies will likely become the dominant worldwide currencies.

### A. What are digital currencies?

A digital currency (DC) is an electronic-based virtual instrument, often considered an asset utilizing cryptographic technology to secure and verify transactions and control the creation of new units.<sup>4</sup> They are designed to function as a medium of exchange, a unit of account, and a store of value to perform similar functions as traditional fiat money. DCs are managed, exchanged, and stored on digital devices and platforms<sup>5</sup>. In the context of DCs, a platform is a mechanism or institution that brings together two or more different parties for certain cooperative works, exchanges, or transactions. Bank accounts, credit, and charge cards are all platforms of exchanges and the store of value. Modern crypto technology gives platforms unprecedented flexibility in designing the attributes of their currencies. Digitization plays a significant role in reducing transaction costs associated with payments. It

saves the efforts of transportation, storage, and counting of fiat money.

A DC is issued by either a government agency or a private establishment with the characteristics of money in its virtual form, offering a unit of account, acting as a medium of exchange and a store of value.<sup>6</sup> DCs could be used in various transactions, allowing faster and more secure payments. Expressed in terms of the attributes of issuers, there are two types of DCs -- DCs issued by private establishments and government agencies. The following paragraphs will analyze the characteristics of DCs.

#### 1. Digital currencies issued by private establishments

Private DCs do not have legal tender status in any jurisdiction and are stored and transacted electronically in private establishments. According to a report by Statista, the market capitalization of all digital currencies, mainly private, was over 2.2 trillion US dollars as of September 2021<sup>7</sup>. The DCs issued by private establishments have two principal components – platforms and currencies. First, the platform components of DCs cater to transferring and storing money of specific private DCs. Common examples are PayPal, Alipay, and M-Pesa.<sup>8</sup> For the currency structure, the examples are Bitcoin, Ethereum, and E-dollar, which are specific DC forms created by private companies for customers' payments. This form of private e-dollar has become increasingly popular in the modern economy, allowing users to transfer money instantly without needing physical cash. Private DCs, like Bitcoins, are usually used as speculative investments.

It is important to note that DC and cryptocurrency are not referred to as the same thing. Cryptocurrencies are a subset of a specific type of DC that uses cryptography and decentralized blockchain technology to secure and keep safe its transactions. Cryptocurrencies can facilitate cheaper and faster money transfers between private accounts. They provide secure online transfers without the need for financial institutions as intermediaries<sup>9</sup>. While DCs, especially cryptocurrencies, are efficient in payment and storage of value, one of the most significant disadvantages of private DCs is their price fluctuation. In many cases, it can become a highly speculative form of investment. They may also cause high energy consumption for cryptocurrency mining and sometimes are even used in

<sup>3</sup> Michael D. Bordo, *Central Bank digital currency in historical perspective: Another crossroad in monetary history*. No. W29171. National Bureau of Economic Research, 2021.

<sup>4</sup> R. Böhme, N. Christin, B. Edelman, & T. Moore, Bitcoin: Economics, Technology, and Governance. *Journal of Economic Perspectives*, 29(2), (2015).213-238.

<sup>5</sup> Cointelegraph.com, What is cryptocurrency? A beginner's guide to digital currency. <https://cointelegraph.com/blockchain-for-beginners/what-is-a-cryptocurrency-a-beginners-guide-to-digital-money>

<sup>6</sup> Joshua S. Gans and Hanna Halaburda. "Some economics of private digital currency." *Economic analysis of the digital economy* (2015): 257-276.

<sup>7</sup> Statista. *Cryptocurrency Market Capitalization, 2013-2025*. (2021). Retrieved from <https://www.statista.com/statistics/863917/worldwide-crypto-market-capitalization/>

<sup>8</sup> Ibid.,

<sup>9</sup> M. Wątopek, S. Drożdż, J. Kwapień, L. Minati, P. Oświęcimka,, & M. Stanuszek,. Multiscale characteristics of the emerging global cryptocurrency market. *Physics Reports*, 901, 1 (2021). 77-82.

criminal activities such as money laundering.<sup>10</sup> Regulations on private DCs are likely to be considered very soon. For instance, given that Bitcoin futures are traded in the same way as many securities on the Chicago Mercantile Exchange. Yet, the Securities and Exchange Commission (SEC) used to take the stance that Bitcoin and Ethereum were not securities.<sup>11</sup> However, in September 2022, Gary Gensler, Chair of the SEC, openly claimed that cryptocurrencies were securities.<sup>12</sup> This apparent change of stance may imply that cryptocurrency's legal status will soon be subject to regulations. Incidentally, although cryptocurrencies are considered a medium of exchange, the Internal Revenue Service (IRS) now considers them financial assets for tax purposes.<sup>13</sup>

Private DCs like Bitcoins are often used as an effective means for private companies and individuals to evade political constraints, such as exchange control and covert transactions.<sup>14</sup> First introduced in 2009 by Satoshi Nakamoto, Bitcoin, a form of cryptocurrency, is considered a digitalized instrument and medium that will revolutionize online businesses<sup>15</sup>. By 2022, there are currently over one thousand types of cryptocurrencies, for instance, Bitcoin, Cardano, Dogecoin, Ethereum, Tether, XRP, and many others.<sup>16</sup> In addition to various types of cryptocurrencies, many fintech-based platforms support the trading and storage of these currencies. For instance, Ripple is a blockchain payment network and protocol supporting the cryptocurrency XRP.<sup>17</sup> Ethereum is a blockchain platform supporting the crypto-coin Ether for its exchange contracts with various distributed apps. Ether is used to pay transaction fees and as collateral by

network validators. TZero (t0) is a distributed ledger cryptocurrency platform launched by Overstock.<sup>18</sup>

## 2. Central Bank digital currencies

One of the most imminent examples of DCs issued by government agencies is the Central Bank Digital Currency (CBDC)<sup>19</sup>. A CBDC is a state-issued virtual currency that, in most cases, is legitimized as legal tender in the same way as the country's fiat money<sup>20</sup>. It is to be used as a secure and reliable domestic and international means of digital payment and storage of value. Its operations are not decentralized like most private cryptocurrencies. CBDCs will be designed to function similarly to cash, with the central bank acting as the issuer and guarantor of the currency. The central bank will be responsible for maintaining the currency's integrity and ensuring it can be used for various financial transactions. The issuance of CBDCs is also a response to the growing popularity of cryptocurrencies and the need to maintain control over the money supply.

Two major types of DCs issued by government agencies are established at the wholesale and retail levels. CBDCs at the wholesale level facilitate money transfers between institutions that keep money in the central bank accounts<sup>21</sup>. Such a type of CBDC is limited to relatively large interbank transactions in international trade backed up and guaranteed by the governments, operated and controlled by their central banks.<sup>22</sup> The corresponding CBDCs at the retail level act as a medium of exchange for consumer transactions in the domestic retail market. Each type of

<sup>10</sup> Xinmei Shen, Bitcoin remains the most polluting cryptocurrency in 2022 while Ethereum massively reduced emissions: report, *South China Morning Post*, January 13, 2023, Accessible through subscription at: <https://www.scmp.com/tech/tech-trends/article/3206593/bitcoin-remains-most-polluting-cryptocurrency-2022-while-ethereum-massively-reduced-emissions-report>

<sup>11</sup> Kate Rooney, SEC chief, says agency won't change securities laws to cater to cryptocurrencies, *CNBC*, June 11, 2018. <https://www.cnbc.com/amp/2018/06/06/sec-chairman-clayton-says-agency-wont-change-definition-of-a-security.html>

<sup>12</sup> Rakesh Sharma, SEC Chair Says Bitcoin Is Not A Security, *Investopedia*, June 25, 2019. Retrieved from: <https://www.investopedia.com/news/sec-chair-says-bitcoin-not-security/>

<sup>13</sup> Deidre A. Liedel, "The taxation of bitcoin: How the IRS views cryptocurrencies." *Drake Law Review*. 66 (2018): 107.

<sup>14</sup> Daniel W. Drezner, "The political economy of crypto," *The Washington Post*, February 1, 2022. <https://www.washingtonpost.com/outlook/2022/02/01/political-economy-crypto/>

<sup>15</sup> David Golumbia, *The Politics of Bitcoin Software as Right-Wing Extremism*, University of Minnesota Press, 2016.

<sup>16</sup> Ethan Lou, "The political polarization of crypto is underway, and it could have huge consequences," *Financial Post*, January 13, 2022. <https://financialpost.com/fp-finance/cryptocurrency/the-political-polarization-of-crypto-is-underway-and-it-could-have-huge-consequences>

<sup>17</sup> Ludovico Rella, "Steps towards an ecology of money infrastructures: materiality and cultures of Ripple." *Journal of Cultural Economy* 13.2 (2020): 236-249.

<sup>18</sup> Rajit Nair and Amit Bhagat. "An application of blockchain in the stock market." *Transforming Businesses with Bitcoin Mining and Blockchain Applications*. IGI Global, 2020. 103-118.

<sup>19</sup> Alex Golovakha, Central Bank Digital Currency (CBDC): What Is It? *coinspaidmedia.com*, <https://coinspaidmedia.com/academy/cbdc-what-is-it/>

<sup>20</sup> Ibid.,

<sup>21</sup> R. Ali, and J. Barrdear, Central bank digital currency: motivations and implications. *Bank of England Quarterly Bulletin*, Q1. 2019.

<sup>22</sup> Michael D. Bordo, *Central Bank digital currency in historical perspective: Another crossroad in monetary history*. No. w29171. National Bureau of Economic Research, 2021.

CBDC has varying degrees of central bank involvement in its operation and maintenance of technological processes.

Research has shown that implementing a CBDC, by providing a way for people to make transactions digitally without relying on traditional banking infrastructure, can have several potential benefits, such as improving the efficiency and security of payments and settlements within a country by reducing transaction costs,<sup>23</sup> enhancing financial inclusion, and improving the speed and security of cross-border payments<sup>24</sup>. CBDCs can also help governments better manage monetary policies by tracking money flow and adjusting interest rates more quickly.<sup>25</sup> According to research by the Bank for International Settlements (BIS), CBDCs are designed to be a secure and reliable form of DC that can be used for various financial transactions.<sup>26</sup> The issuance of CBDCs is a response to the growing popularity of cryptocurrencies and the need to maintain control over the money supply<sup>27</sup>. Introducing CBDCs may have significant implications for monetary policy, as the central bank would have greater control over the money supply.<sup>28</sup>

On the negative side, CBDCs also come with potential risks and challenges, such as the need to ensure security and fraud prevention, as well as the potential for disruption to the existing financial system, given that all transactions of CBDCs would be recorded and tracked by the central bank<sup>29</sup>. CBDCs also have privacy concerns, as the central bank would have access to detailed transaction data<sup>30</sup>. Despite these challenges, many central banks worldwide are exploring the development and implementation of CBDCs. Countries like China, Sweden, and the Bahamas have already launched pilot projects or fully operational systems. Others like the United States, Canada, and the European Union actively research and test CBDCs<sup>31</sup>.

<sup>23</sup> R. Ali, and J. Barrdear, Central bank digital currency: motivations and implications. *Bank of England Quarterly Bulletin*, Q1. 2019.

<sup>24</sup> Michael D. Bordo, *Central Bank digital currency in historical perspective: Another crossroad in monetary history*. No. w29171. National Bureau of Economic Research, 2021.

<sup>25</sup> J. Chiu, & T. V. Koepl, The economics of cryptocurrencies—Bitcoin and beyond. *Bank of Canada Review*, 2017(4), (2017). 51-60.

<sup>26</sup> Bank for International Settlements. Central bank digital currencies: foundational principles and core features. (2020). Retrieved from <https://www.bis.org/publ/bcbcs239.pdf>

<sup>27</sup> J. Davies and H. Halaburda, CBDC design choices, economic principles, and trade-offs. *Journal of Financial Regulation*, 5(2), 2019.163-183.

<sup>28</sup> Ibid.,

<sup>29</sup> Michel Rauchs and Garrick Hileman. "Global blockchain benchmarking study." *Cambridge Centre for Alternative Finance Reports* (2010).

The operations of CBDCs require three interrelated components: exchange platforms, account-keeping facilities, and adequate reserves to support and guarantee payments. CBDCs are expected to be different from cryptocurrencies in several ways. First, CBDCs are issued and backed by the central bank, whereas cryptocurrencies have no such backup.<sup>32</sup> Second, CBDCs are denominated in the national currency, whereas cryptocurrencies are typically denominated in their units of account or tied to a global currency such as the USD<sup>33</sup>.

On the technical aspect, fiat money and CBDCs are interchangeable at a ratio of 1 to 1. In other words, a CBDC is the government version of a stablecoin, guaranteed by the existing money supply of the national currency<sup>34</sup>. While traditional cryptocurrencies like Bitcoin and others involve complete decentralization and lack of control by any regulatory authorities, CBDCs are controlled by central banks. Central banks are responsible for the supply of DCs and have legal tools to handle transactions. The technical support of such currency is also carried out centrally, and there is no room and need for mining. More discussion on the technologies related to CBDCs will be provided in the following section.

### 3. Technologies related to digital currencies

DCs require state-of-the-art technologies to support their operations, safety, and security. These technologies are related to blockchain, cryptography, and data security measures.<sup>35</sup> One of the key defining characteristics of private DCs is the use of blockchain technology so that they are highly decentralized and can work independently, free from the control of government agencies. A blockchain is a digitally distributed, decentralized ledger of DCs across a network utilizing blocks of transactions for transactions and record-keeping<sup>36</sup>. Distributed Distributed

<sup>30</sup> Bank for International Settlements. (2021). Central bank digital currencies worldwide: A new dataset. Retrieved from <https://www.bis.org/cpmi/publ/d203.htm>

<sup>31</sup> Bank for International Settlements. Central bank digital currencies worldwide: A new dataset. (2021). Retrieved from <https://www.bis.org/cpmi/publ/d203.htm>

<sup>32</sup> R. Ali, and J. Barrdear, Central bank digital currency: motivations and implications. *Bank of England Quarterly Bulletin*, Q1. 2019.

<sup>33</sup> Bank for International Settlements, *Central Bank digital currencies*. Bank for International Settlements. 2018.

<sup>34</sup> Ibid.,

<sup>35</sup> S. Xie, Y. Hong, X. Wang, & J. Shen, "Research on Data Security Technology Based on Blockchain Technology." *2021 7th IEEE Intl Conference on Big Data Security on Cloud (Big Data Security), IEEE Intl Conference on High Performance and Smart Computing (HPSC), and IEEE Intl Conference on Intelligent Data and Security (IDS)*. IEEE, 2021.

<sup>36</sup> A. M. Antonopoulos, *Mastering Bitcoin: Unlocking Digital Cryptocurrencies*. O'Reilly Media, Inc. (2014).



ledger technology (DLT) can disrupt many financial service domains.<sup>37</sup> It comprises a set of connected blocks of information on online distributed ledgers.<sup>38</sup> Each block has a set of transactions independently verified by each validator on a network, making it very difficult to forge transaction histories. Blockchain technology can support various industries, supply chains, and processes through its decentralized framework.<sup>39</sup> For instance, Bitcoin, a typical private first-generation cryptocurrency, is based on the blockchain platform with complete decentralization and no control by any regulatory authorities. Stablecoins are second-generation cryptocurrencies aimed at maintaining their value stability concerning official currencies.<sup>40</sup> Examples are Libra (issued by Facebook) and Tether, with a market capitalization of over 10 billion USD. Using stablecoins for strategic and military purposes is helpful as an alternative electronic payment system to circumvent economic sanctions, especially from the US, in the international monetary system.

To make DCs more secure, many digital transactions are encrypted to minimize the risk of theft and hacking. This encrypted form of DC is called cryptocurrency. A cryptocurrency is a digitalized virtual currency secured by cryptography, making it difficult to counterfeit<sup>41</sup>. The most eminent examples of DCs issued by private establishments or individuals are cryptocurrencies, such as Bitcoin and Ethereum. They can be traded as an investment or used for exchanges and transactions. It is often considered the internet-based technology related to the liberty and independence of individuals in the absence of the interference of corporate capitalists and governments<sup>42</sup>. Cryptocurrencies are supported by blockchain, a form of interactive fintech, which could help enforce an internet-based democracy.<sup>43</sup> Given their decentralized nature, the blockchain system will not break down even when there

are individual points of failure. In terms of the security issue, most private DCs are not backed by any public or private entities, nor have any forms of collaterals.

Blockchain and cryptographic technologies, when working together, can record all the transactions involving specific DCs and maintain their safety and security. New trades will add new blocks of data to the chain, creating immutable records for future reference. Such a distributed infrastructure allows encryption and distributed ledger that can stay outside the control of governments and central authorities, disrupting the mainstream markets of financial assets.

Last but not least, the anti-virus, anti-hacking, data backup, and disaster recovery of hardware and software platforms and networks require some critical security technologies to brush off the possible problems of infecting viruses, hacking, and even losing data because of disasters or negligence<sup>44</sup>. These technologies involve signature and authentication algorithms, secured encryption and decryption, and a secured communication system<sup>45</sup>. The ultimate aims of these technologies are to ensure confidentiality, integrity, authentication, or authorization (CIA) of the operating systems and platforms for DCs<sup>46</sup>.

#### B. An Econo-legal analysis of digital currencies

When analyzing the implications of the issuance of private and public digital currencies, there is a need to establish a collaborative and interdisciplinary field of economics and legal studies by analyzing through the dual lenses of economics and law<sup>47</sup>. It is a form of legal study that fully utilizes the views and methods of economics by approaching a problem from both legal and economic angles<sup>48</sup>. By integrating law and economics, an Econo-legal approach uses the principles of economic efficiency to analyze legal rules and decisions in understanding and

<sup>37</sup> R. Böhme, N. Christin, B. Edelman, and T. Moore, Bitcoin: Economics, Technology, and Governance. *Journal of Economic Perspectives*, 29(2), (2015):213-238.

<sup>38</sup> Nizar Alsharari, "Integrating blockchain technology with the internet of things to efficiency." *International Journal of Technology, Innovation, and Management (IJTIM)* 1.2 (2021): 01-13.

<sup>39</sup> Ahmed Afif Monrat, Olov Schelén, and Karl Andersson. "A blockchain survey from the perspectives of applications, challenges, and opportunities." *IEEE Access* 7 (2019): 117134-117151.

<sup>40</sup> Luca Fantacci, and Lucio Gobbi. "Stablecoins, central bank digital currencies, and US dollar hegemony." *Accounting, Economics, and Law: A Convivium* (2021).

<sup>41</sup> Jake Frankenfield, Cryptocurrency Explained With Pros and Cons for Investment, *investopedia.com*, February 4, 2023. <https://www.investopedia.com/terms/c/cryptocurrency.asp>

<sup>42</sup> L. Dahlberg, Cyberlibertarianism. *Oxford Research Encyclopedia of Communication*. Retrieved March 29, 2022, from <https://oxfordre.com/communication/view/10.1093/acrefore/9780190228613.001.0001/acrefore-9780190228613-e-70>

<sup>43</sup> Darcy Allen, Chris Berg, Aaron Lane, & Jason Potts, "The Economics of Crypto-Democracy," *SSRN Electronic Journal*. 2017. <https://www.issuelab.org/resources/30952/30952.pdf>

<sup>44</sup> Juan Ling Wang, and Wei Zhou Hou. "The Feasibility of Researching Computer Network Data Backup and Disaster Recovery." *Advanced Materials Research*. Vol. 219. Trans Tech Publications Ltd, 2011

<sup>45</sup> Yan Ling Zhao, "Research on data security technology in the Internet of things." *Applied mechanics and materials*. Vol. 433. Trans Tech Publications Ltd, 2013.

<sup>46</sup> Sunghyuck Hong, "Secure and light IoT protocol (SLIP) for anti-hacking." *Journal of Computer Virology and Hacking Techniques* 13.4 (2017): 241-247.

<sup>47</sup> See Takashi Yanagawa, Hiroshi Takahashi, Shinya Ouchi, (eds) *Econo-Legal Studies: Thinking Through the Lenses of Economics and Law*, Singapore: Springer, 2021.

<sup>48</sup> A. Nussbaum, *Money in the Law: National and International*. Brooklyn: Foundation Press 1950.

critically assessing the law in terms of the efficacy it achieves in pursuing its goals.<sup>49</sup> For instance, Guido Calabresi's book *The Costs of Accidents: A Legal and Economic Analysis* is an outstanding work in integrating the legal and economic analyses by an approach based on the economic efficiency consideration of the rules of tort law<sup>50</sup>. Such an analysis is influential in its extensive treatment of the proper research required in complex legal situations.

An Econo-legal analysis helps analyze the issuance of a CBDC when the primary concern is not only money circulation but about the implementation of policies and legal frameworks related to money and currency<sup>51</sup>. The law of legal tender is considered the legal foundation of creating any form of currency as legal tender by the government<sup>52</sup>. The issuance of a CBDC is closely related to the government's financial governance of money and currency. While it is a genuine economic issue, there are significant implications for the CBDCs regarding their legal tender status, which can have a long-tail effect on the legal aspect of various governmental policies.<sup>53</sup>

Legal tender has lawful implications in the fulfillment of the contractual payment. According to United States Code 31 § 5103, "United States coins and currency (including Federal Reserve notes and circulating notes of Federal Reserve Banks and national banks) are legal tender for all debts, public charges, taxes, and dues."<sup>54</sup> In other words, given that all notes and US coins issued by the Federal Reserve are legal tender for all dollar-denominated obligations, creditors of obligatory contracts can only accept a payment made using these objects if their contracts specify another payment medium.<sup>55</sup> The official status of paper money as legal tender began on February 25, 1862, when the US Congress passed the Legal Tender Act, ending the traditional policy of using only gold or silver in transactions<sup>56</sup>. The Act authorized the government to print \$150 million in paper notes, commonly called greenbacks, to pay the government's bills to finance the Civil War after its precious metal reserves were depleted. In the same year, Congress also passed a bill on income tax

and excise taxes to cool down the inflationary pressures created by the supply of greenbacks.<sup>57</sup>

The legal tender of the US, the USD, is accepted as a versatile and universal currency adopted in many countries, especially those without legal tender of their own. This monetary practice and the everyday use of the USD in the global payment system is known as "dollarization." The uprising trend of using other currencies as legal tender and international payment additional than the USD is called "de-dollarization." The following sections will discuss important events and trends of the USD in the global financial system.

## MAINSTREAM DISCUSSION ON CENTRAL BANK DIGITAL CURRENCIES

Executive Order 14067, issued by President Biden, has yet to be the first official discussion on the issue of CBDCs in the US. Research regarding CBDCs has focused on how trust and confidence in CBDCs can be maintained, how different countries are approaching their CBDCs, and the potential implications of CBDCs on existing financial and payment systems<sup>58</sup>. Additionally, researchers have examined how CBDCs can be issued, how to maintain privacy and anonymity, and the potential for a global CBDC system.<sup>59</sup>

To a great extent, considering the issuance of CBDCs depends on the development status of international economies. For instance, in advanced economies, a CBDC is seen by central banks primarily in the context of domestic stability, privacy, internal payment security, and their resilience to failure. For developing economies, security and financial inclusion are more critical. For commercial banks, the main benefits of CBDCs are reduced commissions for cross-border transfers, improved bank liquidity, and lowered settlement risks.

The issue of CBDCs represents a trendy but unconventional phenomenon of recent times. Mainstream discussion on whether the Federal Reserve should issue a

<sup>49</sup> Richard A. Posner, *Economic analysis of law*. Aspen Publishing, 2014.

<sup>50</sup> Guido Calabresi, *The Costs of Accidents: A Legal and Economic Analysis* Yale University Press, 1970

<sup>51</sup> F.A. Mann, *The Legal Aspect of Money*. Fourth edition. Oxford: Clarendon Press 1982.

<sup>52</sup> A.P. Lerner, "Money as a Creature of the State." *American Economic Review* 37: 1947. 312-7.

<sup>53</sup> S. Lotz, "Introducing a New Currency: Government Policy and Prices." *European Economic Review* 48: 2004. 959-982.

<sup>54</sup> This is based on the US website, <https://www.govinfo.gov/app/details/USCODE-2010-title31/USCODE-2010-title31-subtitleIV-chap51-subchapI-sec5103>.

<sup>55</sup> S. Lotz, G. Rocheteau, "On Launching a New Currency." *Journal of Money, Credit, and Banking* 34, 2002.,563-588.

<sup>56</sup> This is based on the information available at the website of *history.com*., Retrieved from: <https://www.history.com/this-day-in-history/legal-tender-act-passed>

<sup>57</sup> Jörg Guido Hülsmann, "Legal tender laws and fractional-reserve banking." *Journal of Libertarian Studies* 18.3 (2004): 33-55.

<sup>58</sup> Michael D. Bordo, and Andrew T. Levin. *Central Bank digital currency and the future of monetary policy*. No. w23711. National Bureau of Economic Research, 2017.

<sup>59</sup> P.K. Ozili, "Central bank digital currency research around the world: a review of the literature," *Journal of Money Laundering Control*, (2022), Retrieved from: <https://doi.org/10.1108/JMLC-11-2021-0126>

CBDC as virtual legal tender focuses on five aspects related to the American domestic environment -- efficiency, privacy, safety and security, financial inclusion and exclusion, and impact on the current economic systems and monetary policies<sup>60</sup>.

#### A. Promoting efficiency by CBDCs

A CBDC can provide faster payments and help promote financial inclusion than traditional forms of money. Additionally, it could reduce the cost of international transactions, thus allowing efficient cross-border payments, improved payment security, fast and secure money transfers worldwide, and lower transaction costs. A CBDC can increase fiscal policy efficiency. Blockchain technologies will expand the tools of supervisory bodies, increase cash flow transparency, and improve the quality of collection and analysis of macroeconomic indicators.

CBDCs also facilitate efficient currency trading, meaning buyers and sellers can exchange money in different locations, thus providing a more efficient international currency exchange system. CBDCs, as legal forms of DCs, can improve the efficiency of payments, being faster and safer. It can also reduce transaction costs for individuals and businesses by eliminating the need for intermediaries, allowing them to access banking services and make payments swiftly and securely. This can increase financial inclusion by increasing usability through automation. By using blockchain technology which makes all financial transactions efficient and transparent, the government can control the turnover of digital funds, including internal budget expenditures, and means for anti-money laundering and anti-corruption.

Research by Barrdear and Kumhof (2022) showed that if the issuance of a CBDC accounts for the transactions of thirty percent of a country's gross domestic product (GDP), it could permanently raise GDP by three percent due to lower accurate interest rates, higher applicable taxes, and a reduction of monetary transaction costs.<sup>61</sup> A well-controlled CBDC can improve the central bank's ability to stabilize the business cycles and minimize the financial risks of commercial banks.<sup>62</sup> The efficiency concern is a primary advantage of issuing a CBDC.

<sup>60</sup> See, for example, (1) R. Auer, C. Boar, G. Cornelli, J. Frost, H. Holden, & A. Wehrli, *CBDC beyond borders: Results from a survey of central banks*. (Report No. 116). Bank for International Settlements, 2021; (2) P. R. Cunha, P. Melo, & H. Sebastião, From bitcoin to central bank digital currencies: Making sense of the digital money revolution. *Future Internet*, 13, (2021). 165; and (3) International Securities Services Association. *Blueprint for central bank digital currencies in the post-trade settlement*. (2021). Retrieved from: <https://issanet.org/content/uploads/2021/12/ISSA-Blueprint-CBDC-in-Post-Trade-Settlement-December-2021-FINAL.pdf>

<sup>61</sup> John Barrdear, and Michael Kumhof. "The macroeconomics of central bank digital currencies." *Journal of Economic Dynamics and Control* 142 (2022): 104148.

#### B. Privacy of CBDC users

There may be concerns around privacy issues related to CBDCs, as the central banks have access to detailed transaction data. The government's establishment of a DC platform can collect information about customers and transaction and storage details.<sup>63</sup> The issuance of CBDCs can open the door to financial service firms and foreign entities gaining access to the countries' economic systems, posing potential security and privacy risks to their domestic economies. Unless these potential risks are addressed through appropriate safeguards and measures, governments should refrain from rolling out their CBDCs. Modern encryption technology can effectively protect the privacy of users of CBDCs, but it depends on how the nations adopt such technology.

#### C. Security and safety of CBDCs

As CBDCs are stored in digital accounts or wallets, it is possible that they can be hacked and even stolen, leading to disastrous consequences. Distributed ledger technology, such as blockchain, can provide a secure way of making payments and maintaining records.<sup>64</sup> In reality, the currently available.<sup>65</sup> The technology of CBDCs is less prone to theft and tampering than fiat money.

In the case of private DCs, their reliance on distributed ledger technology, simply called blockchain technology, means that transactions can occur quickly and anonymously, making them attractive to trafficking, crime, and money laundering. Due to the decentralized and anonymous nature of private DCs, taxation on digital transactions is difficult for regulators to identify and track any possible fraud. These currencies also cannot provide the same consumer protections from theft or other security lapses due to hacking in the same way as traditional fiat currencies. While private DCs can be issued by anyone with access to the Internet, potentially leading to an increase in money laundering and fraud, a CBDC can avoid this form of crime through governmental intervention and surveillance.

#### D. Financial Inclusion and exclusion

From the perspective of individuals, CBDCs can have both financial inclusion and exclusion effects. On the one hand,

<sup>62</sup> Eli Cook, "Efficiently Unequal: The Global Rise of Kaldor-Hicks Neoliberalism." *Global Intellectual History* (2022): 1-23.

<sup>63</sup> Rodney J. Garratt, and Maarten RC Van Oordt. "Privacy as a public good: a case for electronic cash." *Journal of Political Economy* 129.7 (2021): 2157-2180.

<sup>64</sup> Raghava Suresh Samudrala and Srinivasa Kumar Yerchuru. "Central bank digital currency: risks, challenges and design considerations for India." *CSI Transactions on ICT* 9.4 (2021): 245-249.

<sup>65</sup> Raphael Auer, and Rainer Böhme. "The technology of retail central bank digital currency." *BIS Quarterly Review*, March (2020).



they can provide consumer protection and promote financial inclusion so that individuals and businesses can access valuable and affordable financial products and services that meet their needs.<sup>66</sup> The inclusiveness of digital technology in the sphere of CBDCs permits the expansion of the payment infrastructure and the integrating of the banking system into the digitized economy, allowing more people to use the system.<sup>67</sup> CBDCs may provide greater financial inclusion by allowing people without access to traditional banking services to participate in the financial system. More people can use CBDCs effectively. On the other hand, it is possible that some people cannot use CBDCs because of a lack of financial and technological literacy, so they are excluded financially<sup>68</sup>.

Research findings indicate that whether a CBDC can enhance financial inclusion or exclusion depends on the level of economic and technology literacy, poverty levels, financial innovation, regulatory frameworks, and the state of development and stability of the monetary economies that differ across countries<sup>69</sup>. CBDCs could weaken the current banking system, reducing commercial loans and possibly higher interest rates, making it difficult for small businesses and individuals to obtain credit<sup>70</sup>. In the context of the US economy, a CBDC likely has more inclusion than exclusion effects.<sup>71</sup>

#### E. Impact on the current financial systems and monetary policies

The introduction of a CBDC can help implement the monetary policy and influence by enhancing the financial and banking system for domestic and international payments, as the central bank would have greater control over the money supply<sup>72</sup>. Issuing a CBDC can give central banks more control over the money supply, helping them effectively manage its impact on inflation and economic growth. However, a CBDC may lead to reduced

competition in the financial market, allowing larger financial institutions to exercise greater market power by forming various types of barriers to entry for smaller banks.

Monetary policy can be implemented by controlling the domestic economy's money supply and interest rate.<sup>73</sup> The ability of central banks to carry out monetary policy stems from their monopoly position as suppliers of their liabilities, which banks, in turn, need either as legally required reserves or as balances for settling interbank claims to create the credit used by the public in everyday economic transactions.<sup>74</sup> Recent economic turbulence and ongoing crises across the world have revealed significant flaws in the structural design of the global financial system, underscoring the urgent need for renewed attention to the law-money nexus<sup>75</sup>.

The potential disadvantages of CBDCs in the macroeconomy include the misallocation of resources, an increased emphasis on direct taxation, and decreased demand for fiat money. They can increase liquidity in the money market, which may fuel unintended and possibly uncontrollable inflations, causing distortions in the financial markets. However, by enabling a centralized governance structure while retaining the decentralized and autonomous capabilities of the blockchain, governments could exercise more control over their DC's monetary and economic policy implications.<sup>76</sup> This could involve using a permissioned ledger system and providing oversight of issuing, circulating, and trading DCs, allowing for better control of economic incentives and more excellent management of financial flows. Blockchain technologies will enable the expansion of the tools of supervisory bodies, increase money flow and transparency, and improve the quality of collection and analysis of macroeconomic indicators.<sup>77</sup>

<sup>66</sup> Bank for International Settlements. Central bank digital currencies worldwide: A new dataset. (2021). Retrieved from <https://www.bis.org/cpmi/publ/d203.htm>

<sup>67</sup> Peterson K. Ozili, "Can central bank digital currency increase financial inclusion? Arguments for and against." In *Big Data Analytics in the Insurance Market*. Emerald Publishing Limited, 2022. 241-249.

<sup>68</sup> S. Mahendra Dev, "Financial inclusion: Issues and challenges." *Economic and political weekly* (2006): 4310-4313.

<sup>69</sup> Peterson K. Ozili, "Financial inclusion research around the world: A review." *Forum for social economics*. 50. 4. 2021.457-479

<sup>70</sup> Alex Golovakha, "Central Bank Digital Currency (CBDC): What Is It?" *coinspaidmedia.com*, Retrieved from: <https://coinspaidmedia.com/academy/cbdc-what-is-it/>

<sup>71</sup> Peterson K. Ozili, "Can central bank digital currency increase financial inclusion? Arguments for and against." *Big Data Analytics in the Insurance Market*. Emerald Publishing Ltd., 2022: 241-249.

<sup>72</sup> Michael D. Bordo, and Andrew T. Levin. *Central Bank digital currency and the future of monetary policy*. No. w23711. National Bureau of Economic Research, 2017.

<sup>73</sup> Seyed Mohammadreza Davoodalhosseini, "Central bank digital currency and monetary policy." *Journal of Economic Dynamics and Control* 142 (2022): 104150.

<sup>74</sup> B.M. Friedman, "Monetary Policy," in *International Encyclopedia of the Social & Behavioral Sciences*, Pergamon, 2001

<sup>75</sup> For an explanation of the relationship between money and law, see John Maynard Keynes, *Treatise on Money*. Harcourt, Brace, and Co. 1930 (reprinted in 2013)

<sup>76</sup> Nurjannah Ahmat, and Sabrina Bashir. "Central bank digital currency: A monetary policy perspective." *Bank Negara Malaysia Central Bank of Malaysia Staff Insights* 11 (2017): 1-7.

<sup>77</sup> Massimo Ferrari Minesso, Arnaud Mehl, and Livio Stracca. "Central bank digital currency in an open economy." *Journal of Monetary Economics* 127 (2022): 54-68.



In conclusion, the implications of CBDCs in the mainstream discussion emphasize how CBDCs affect domestic economic environments depending on the perspectives of multiple stakeholders. For instance, in advanced economies, the merits of CBDCs are seen in the context of data security, safety, and the emphasis on privacy. The concern for efficiency and financial inclusion is more critical in developing economies<sup>78</sup>. In particular, for private commercial banks, the main benefits of CBDCs are improved cross-border transfer efficiency, higher bank liquidity, and lowered settlement risks. However, research shows there is a potential crowding-out or replacement effect of CBDCs on commercial bank deposits.<sup>79</sup> Individual depositors may have demand for CBDCs, reducing their cash holdings and deposits at commercial banks, disrupting these banks' base.

While this article fully accepts the merits of the mainstream discussion of CBDCs, it needs to be noted that as the significance of global geopolitics is gaining momentum in the international relationship, mostly competition-based, between the US and China, the impact of China's financial policy, particularly the issuance of its CBDC to accelerate the de-dollarization process, is an important consideration. This critical issue of concern for CBDCs, based on China's master plan of de-dollarization, will be discussed in the following paragraphs.

## CBDCs AROUND THE WORLD

Countries worldwide are actively adopting the ideas of DCs issued by private companies and government agencies. There are two aspects for consideration – exploration and implementation. The former element is about how nations are carrying out various types of projects to investigate the feasibility of the issuance of CBDCs. The latter aspect examines how countries have implemented CBDCs nationwide through pilot programs.

Theoretically, CBDCs have the same legal status as cash or legal tender, with the advantages of providing less expensive, faster, and automated transactions. Blockchain makes all financial transactions transparent. The development of CBDCs will reshape the global monetary

system over the next two or three decades. The government can have the opportunity to control the turnover of digital funds, including internal budget expenditures, able to facilitate anti-money laundering and anti-corruption measures.

Based on the conceptual features of DCs and the experience of implementing digital platforms for these currencies, there is a need to analyze the legal and regulatory issues of using such instruments for transactional operations. The following will present how various countries are preparing themselves for CBDCs.

### A. CBDCs in developed countries

As private DCs are gaining momentum in their usage in business transactions and value storage, central banks worldwide are exploring how to issue their DCs. CBDC is believed to be one of the significant changes or even revolutions in the use of money in the next one or two decades<sup>80</sup>. Many developed countries, such as the US, Japan, Sweden, France, Spain, and the Netherlands, are actively exploring and working on creating CBDCs. The first official CBDC in the world is LBCOIN, issued by the Bank of Lithuania on July 23, 2020<sup>81</sup>. More countries are expected to follow the pave.

In North America, the Bank of Canada started Project Jasper in 2016 in three consecutive phases to address domestic and cross-border payments, delivery versus payment (PvP) and delivery versus payment (DvP)<sup>82</sup>. Delivery versus payment (DvP) or delivery against payment (DvP), alternatively called "receive versus payment" (RvP) from the perspective of receivers, is a security settlement method from the buyer's point of view to ensure that securities will be delivered only after receiving payment.<sup>83</sup> Project Jasper is a joint endeavor between the public and private sectors to explore a wholesale payment system based on distributed ledger technology (DLT). It is observed that a stand-alone DLT system is less beneficial in comparison to a centralized payment system in terms of operating costs. However, it may increase financial efficiency due to greater integration with the global financial market infrastructure.<sup>84</sup> Another small country, the Bahamas, an archipelago in the West

<sup>78</sup> B. Geva, Cryptocurrencies and the evolution of banking, money, and payments. In C. Brummer (Ed.), *Cryptoassets legal, regulatory and monetary perspectives* (pp. 11–38). Oxford University Press (2019).

<sup>79</sup> Wenlong Bian, Yang Ji, and Peng Wang. "The crowding-out effect of central bank digital currencies: A simple and generalizable payment portfolio model." *Finance Research Letters* 43 (2021): 102010.

<sup>80</sup> Fransiska A. Indrawati, Central bank digital currency under the state theory of money: A preliminary legal analysis, *Journal of Central Banking Law and Institutions*, 1 :3, 2022, 371-404. Retrieved from:

<https://jcli-bi.org/index.php/jcli/article/view/23>

<sup>81</sup> Austėja Šostakaitė, "Bank of Lithuania's digital currency experimentation: Lessons learned." *Journal of Digital Banking* 6.4 (2022): 338-348

<sup>82</sup> J. Chapman, R. Garratt, S. Hendry, A. McCormack, & W. McMahon, Project Jasper: Are distributed wholesale payment systems feasible yet? *Financial System*, 59. (2017).

<sup>83</sup> Alexandra Twin, Delivery Versus Payment (DVP): What It Is and How It Works, *Investopedia*, March 12, 2020. Retrieved from: <https://www.investopedia.com/terms/d/dvp.asp>

<sup>84</sup> World Bank. *Central bank digital currencies for cross border payments: A review of current experiments and ideas*. World Bank Group (2021). <https://openknowledge.worldbank.org/handle/10986/36764>

Atlantic Ocean near Florida, issued the Sand Dollar.<sup>85</sup> As a CBDC version of the Bahamian dollar to promote extensive access to regulated payments and other financial services for the nation's population<sup>86</sup>.

In Europe, Project Jura explored the direct transfer of euro and Swiss franc CBDCs between French and Swiss commercial banks on a single DLT platform operated by a third party.<sup>87</sup> The project demonstrates how wholesale CBDC can facilitate multicurrency exchanges for international settlements, an essential facet of cross-border transactions. With the perceived success of Project Jura, more wholesale CBDC experiment programs were later launched by the Banque de France.<sup>88</sup> At the same time, Riksbank, the central bank of Sweden, started a pilot initiative on Corda to determine whether it is possible to issue a digital complement to cash called e-krona<sup>89</sup>. Swiss National Bank and BIS Innovation Hub, SIX and completed Phase II of Project Helvetia in 2022, which used Corda to demonstrate that tokenized assets can be settled in wholesale CBDC.<sup>90</sup>

### B. CBDCs in developing countries

CBDCs are actively explored in developing countries. For instance, in Africa, Nigeria issues a CBDC, the eNaira, which is used along with the paper-based currency, Naira, and can improve monetary policy implementation, efficient payments, and enhanced financial inclusion.<sup>91</sup> The opportunities that CBDC present to Nigeria some identified risks include digital illiteracy, increased propensity for cyber-attacks, data theft, and the changing role of banks in a full-fledged CBDC economy. In South

America, Uruguay and Brazil have shown strong interest in issuing CGBCs<sup>92</sup>.

In the Asia-Pacific region, the Bank of Thailand launched the Project Inthanon and Project DLT scriptless bond initiatives as early as 2018 to address decentralized netting, selling and buying of bonds, foreign exchanges, and cross-border transactions based on the virtual platform provided by the bank.<sup>93</sup> It is a collaborative effort initiated in Thailand by a consortium of the central bank and major industry partners to test the capability of DLT to enhance Thailand's domestic financial market infrastructures and transactional efficiency.<sup>94</sup>

In late 2021, the Reserve Bank of Australia, Bank Negara Malaysia, the Monetary Authority of Singapore, and the South African Reserve Bank started Project Dunbar with the BIS Innovation Hub to test the use of CBDCs for international settlements.<sup>95</sup> The project is expected to make cross-border payments cheaper, faster, and safer in designing a multi-CBDC shared settlement platform. In Asian financial centers such as Hong Kong and Singapore, Hong Kong Monetary Authority started Project LionRock in 2019, focusing on domestic and cross-border payments and DvP<sup>96</sup>, while the Monetary Authority of Singapore R3 initiated the first of five phases of Project Ubin as early as 2016, focusing on cross-border payments, PVP, DvP, and faster settlement<sup>97</sup>. It was later followed by Ubin+, a new project with extended collaboration with international partners on cross-border foreign exchange settlement

<sup>85</sup> John Kim, and Andrew Lom. "Sand Dollars: A Postmodern Monetary Architecture." *Int'l Fin. L. Rev.* (2020): 43.

<sup>86</sup> Kilian Wenker, "Retail Central Bank Digital Currencies (CBDC), Disintermediation and Financial Privacy: The Case of the Bahamian Sand Dollar." *FinTech* 1.4 (2022): 345-361.

<sup>87</sup> Maxim I. Inozemtsev, and Artyom V. Nektov. "Digital Platforms for Cross-Border Settlement of CBDC." *The Platform Economy: Designing a Supranational Legal Framework*. Singapore: Springer Nature Singapore, 2022. 131-145.

<sup>88</sup> M. I. Inozemtsev, A.V. Nektov. Digital Platforms for Cross-Border Settlement of CBDC. In: Inozemtsev, M.I., Sidorenko, E.L., Khisamova, Z.I. (eds) *The Platform Economy*. Palgrave Macmillan, Singapore. (2022). Retrieved from: [https://doi.org/10.1007/978-981-19-3242-7\\_9](https://doi.org/10.1007/978-981-19-3242-7_9)

<sup>89</sup> Petya Petkova, and Boyan Jekov. "Blockchain in e-Governance." *Selected and Extended Papers from X-th International Scientific Conference 'E-Governance and e-Communication*. 2018.

<sup>90</sup> Stephan Hänseler, "Securities services embrace next-generation technology." *Journal of Securities Operations & Custody* 14.4 (2022): 290-298.

<sup>91</sup> Peterson K. Ozili, "Central bank digital currency in Nigeria: opportunities and risks." *The New Digital Era: Digitalisation, Emerging Risks and Opportunities*. Vol. 109. Emerald Publishing Limited, 2022. 125-133.

<sup>92</sup> Nájñez Alonso, Sergio Luis, Javier Jorge-Vazquez, and Ricardo Francisco Reier Forradellas. "Central banks digital currency: Detection of optimal countries for implementing a CBDC and the implication for payment industry open innovation." *Journal of Open Innovation: Technology, Market, and Complexity* 7.1 (2021): 72-85.

<sup>93</sup> Chananun Supadulya, Kasidit Tansanguan, and Vijak Sethaput. "Project Inthanon and the project DLT scripless bond." *Asian Development Bank, Working Paper No. 1030*, 2019. Retrieved from: <https://www.adb.org/sites/default/files/publication/535851/adb-wp1030.pdf>

<sup>94</sup> S. Pongnumkul, T. Bunditlurdrak, P. Chaovalit, & A. Tharatipyakul, "A cross-sectional review of blockchain in Thailand: research literature, education courses, and industry projects ." *Applied Sciences*, 11(11), (2021). 4928.

<sup>95</sup> "Project Dunbar: International settlements using multi-CBDCs," *BIS Innovation Hub*, November 8, 2021, Retrieved from: <https://www.bis.org/about/bisih/topics/cbdc/dunbar.htm>

<sup>96</sup> Tao Zhang, and Zhigang Huang. "Blockchain and central bank digital currency." *ICT Express* 8.2 (2022): 264-270.

<sup>97</sup> Aleksandr P. Alekseenko, "Legal regulation of the use of distributed ledger technologies in the financial sector of Singapore." *Revista de Investigaciones Universidad del Quindío* 34.S2 (2022): 381-391.

using wholesale DCs<sup>98</sup>. In the Philippines, the *Bangko Sentral ng Pilipinas* (Central Bank of the Philippines) announced in 2022 that it would pursue a CBDC pilot project to test wholesale CBDC in large amounts of financial transactions for cost savings in cross-border payments<sup>99</sup>.

In Central Asia, the National Bank of the Republic of Kazakhstan explored the capability and impact of Retail CBDC as a third form of central bank money, in addition to cash and central bank reserves, exploring offline payments, tokenization of ownership, customized anonymity, and integration with existing systems<sup>100</sup>. In East Asia, China is among the most aggressive nations pursuing the issuance of a nationwide CBDC. More discussion will be given in the following section about China's ambition and master plan to use CBDC to de-dollarize shortly.

## CBDCs AND DE-DOLLARIZATION

The relevance of CBDCs to the trend of de-dollarization is essential in discussing how modern technologies can neutralize the dominance of the USD in the global economy. The de-dollarization trend is becoming more prevalent, and many nations, especially those in the Third World, are actively seeking alternatives to trade in currency units other than the USD. Just like dollarization, de-dollarization will not happen overnight, but the trend is clear and gaining more momentum as the impact of geopolitics has gained more significance.

This section will present how the USD arose as a global currency since WWII giving rise to the dollarization process. It then discusses how geopolitics, unilateral sanctions of the US, and the increasing trend of interest rates of the USD that makes it highly fluctuating have paved the way to the de-dollarization process. The recent development of geopolitics, including the Russia-Ukraine

war and the US's sanctions against Iran, China, and other countries, has given rise to the critical need for de-dollarization for these nations. In addition, the fluctuating USD rates against other currencies are causing significant problems for many countries with USD as their reserves and international trade.

### A. The past trend of dollarization

The discussion of de-dollarization has to start with the analysis of the phenomenon of global dollarization since WWII. The USD has been the anchor of the international monetary system and the choice of global currency for many decades since the Bretton Woods Agreement of 1945<sup>101</sup>. The post-World War II reconstruction of Western Europe by the Marshall Plan recorded great economic and foreign policy successes<sup>102</sup>. The transfer of about \$13 billion to Europe from 1948 to 1951 set the stage to facilitate Western Europe's rapid growth<sup>103</sup>. The plan also significantly enhanced the economic power and influence of the USD in the world through a financial process that enabled the provision of a Keynesian-style macro-spending effort<sup>104</sup>. There has been a delicate interplay between trade-invoicing patterns and the pricing of safe assets by using the USD as a dominant currency, with dual roles in serving as a unit of account and a secure store of value. This provides a solid foundation for the "exorbitant privilege" of the USD as the dominant currency for cross-border transactions<sup>105</sup>.

The international oil market has used the USD as a significant transaction currency since the 1970s<sup>106</sup>. The oil prices significantly explain movements in the value of the USD against major currencies from the 1970s to 2008<sup>107</sup>. Research shows that oil prices significantly explain movements in the value of the USD against major currencies from the 1970s to 2008<sup>108</sup>. The exchange rates of oil exporters tend to appreciate, and that of oil importers depreciate when the oil price expressed in terms of USD goes up<sup>109</sup>. The massive value of global oil sales is traded in

<sup>98</sup> Refer to the website of the Monetary Authority of Singapore (MAS) Retrieved from: <https://www.mas.gov.sg/schemes-and-initiatives/ubin-plus>

<sup>99</sup> Francisco G. Dakila Jr, "Deliberations of an emerging market economy central bank on central bank digital currencies." *BIS Papers chapters* 123 (2022): 153-160.

<sup>100</sup> G. Aubakirova, "Effect of Digital Technologies on a Country's Competitiveness: The Experience of Kazakhstan." *Problems of Economic Transition* 61.4-5 (2019): 377-390.

<sup>101</sup> Sajal Ghosh, "Examining crude oil price–Exchange rate nexus for India during extreme oil price volatility." *Applied Energy* 88.5 (2011): 1886-1889.

<sup>102</sup> Tara Zahra, "The Psychological Marshall Plan": displacement, gender, and human rights after World War II." *Central European History* 44.1 (2011): 37-62.

<sup>103</sup> James Bradford DeLong, and Barry Eichengreen, The Marshall Plan: History's Most Successful Structural Adjustment Program

(November 1991). NBER Working Paper No. w3899, Retrieved from SSRN: <https://ssrn.com/abstract=226738>

<sup>104</sup> John Agnew and J. Nicholas Entrikin (eds.) *The Marshall plan today: Model and metaphor*. Psychology Press, 2004.

<sup>105</sup> Gita Gopinath, Jeremy C Stein, Banking, Trade, and the Making of a Dominant Currency, *the Quarterly Journal of Economics*, 136, 2, May 2021, 783–830. <https://doi.org/10.1093/qje/qjaa036>.

<sup>106</sup> Philip K. Verleger Jr, "The oil-dollar link." *The International Economy* 22.2 (2008): 46-63.

<sup>107</sup> Radhamés A. Lizardo, and André V. Mollick. "Oil price fluctuations and US dollar exchange rates." *Energy Economics* 32.2 (2010): 399-408.

<sup>108</sup> *Ibid.*,

<sup>109</sup> Christian Grisse, "What Drives the Oil-Dollar Correlation?." *Unpublished manuscript* (2010). Retrieved from:



the USD, commonly called the *petrodollar*. The oil market and the global commodities market give rise to the status of the USD as international trading and reserve currency.<sup>110</sup>

Another primary reason for the prevalence of the USD is attributable to many nations' use of the USD as their reserve currency.<sup>111</sup> For instance, pegged currencies like the Hong Kong dollar are designed to give local currencies more international reach and exchange rate stability.<sup>112</sup> These pegged currencies rely on certain significant currencies, mainly the USD. This allows a more inclusive approach to regional integration and international trade but makes a nation's currency far more vulnerable to the fluctuating dollar exchange rate.

Last but not least, the prevalence of the USD as an international currency is supported by a transaction and money transfer platform – the Society for Worldwide Interbank Financial Telecommunications (SWIFT), which was launched in 1977 to facilitate the movement of funds but does not move funds itself. Using the USD as a significant exchange currency, SWIFT can use modern technologies of record-keeping and value-storing to ensure secure messaging between global financial institutions. It is a Belgium-based cooperative controlled by G-10 central banks.<sup>113</sup> Many observers consider the weaponization of SWIFT against Russia to result in many countries being sanctioned. They will likely seek alternatives for international payment leading to the possible decline of the USD's dominance in the global financial market.<sup>114</sup>

### B. *The emerging trend of de-dollarization*

Will the age-old adage 'all good things come to an end' apply to the future of the USD in the global financial system? Will the current hegemony of the USD over world trade inevitably phase out? Rephrasing is a simple question -- is dollarization sustainable?

De-dollarization refers to a situation in which nations use currencies other than the USD to settle their international trade and payment.<sup>115</sup> It is the rising trend by which

foreign nations buy and sell goods and services without relying heavily on the USD. It is an economic trend in which various countries attempt to change to alternative currencies in domestic and international trade, gradually reducing their dependency on the USD. De-dollarization is not a new phenomenon requiring a series of carefully planned economic, regulatory, and political measures for success. The USD has long been used as an Econo-legal means to influence foreign nations and advance the US's economic and political interests.<sup>116</sup> The present trend of de-dollarization is a possible result of geopolitics as viewed from the perspective of the US. As currency manipulation has become a weapon of economic warfare, nations are eager to shield themselves against dollar hegemony. It is no surprise that countries like Russia, China, and Iran are actively pursuing various ways to refrain as far as possible from using the USD as their transaction currencies to avoid the financial sanctions imposed by the US.

The reasons why nations choose to de-dollarize are complex and multi-faceted. While there are economic reasons such as rising concerns over the US's economic policies, a desire to diversify currency holdings away from the USD, or simply because a different currency is more attractive or stable, the primary driving force of de-dollarization is due to American economic policies, geopolitics and unilateral sanctions on foreign nations<sup>117</sup>. The decision to de-dollarize is ultimately driven by a nation's desire to reduce its exposure to the international economic system dominated by the USD, an inherently volatile and unpredictable currency, and simultaneously avoid possible financial sanctions imposed unilaterally by the US.

- a. The US dollar is a geopolitical weapon against other nations.

The USD has been frequently used as a sanction weapon for punishing hostile countries for their unjustified predatory actions toward other nations, such as threats to national security, human rights violation, or the support of

<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=6e08e34d3e8e01f6c1d8ac5464b68da1ac623384>

<sup>110</sup> Anne Korin and Gal Luft, *De-Dollarization: The Revolt against the Dollar and the Rise of a New Financial World Order*. Anne Korin and Gal Luft, 2019.

<sup>111</sup> Aleksandr V. Kievich, "De-Dollarization of the World Economy as the Factor of the Aggressive Politics of The USA." *Банковская система: устойчивость и перспективы развития*, 2018. 58-62

<sup>112</sup> Ramkishen S. Rajan, and Reza Siregar. "Choice of exchange rate regime: currency board (Hong Kong) or monitoring band (Singapore)?" *Australian Economic Papers* 41.4 (2002): 538-556.

<sup>113</sup> The G-10 banks are the Bank of Canada, Deutsche Bundesbank, European Central Bank, Banque de France, Banca d'Italia, Bank of Japan, De Nederlandsche Bank, Sveriges Riksbank, Swiss

National Bank, Bank of England, and the Federal Reserve System. The National Bank of Belgium is the lead overseer.

<sup>114</sup> Russell Wong, "What Is SWIFT, and Could Sanctions Impact the US Dollar's Dominance?" Richmond Fed Economic Brief, Federal Reserve Bank of Richmond, 22(09), March 2022.

<sup>115</sup> Alain Ize, and Eduardo Levy Yeyati. *Financial de-dollarization: is it for real?* Palgrave Macmillan UK, 2006.

<sup>116</sup> J. A. Vidal, D. F. Hoyle, K. L. Vargas, & V. M. Vásquez, Policies for transactional de-dollarization: A laboratory study. *Journal of Economic Behavior & Organization*, 200, (2022). 31-54.

<sup>117</sup> D. Arner, R. P. Buckley, D. Zetzsche, B. Zhao, A. N. Didenko, C. Y. Park, & E. Pashoshka, Policy and regulatory challenges of distributed ledger technology and digital assets in Asia. In C. Brummer (Ed.), *Crypto-assets legal, regulatory and monetary perspectives* (pp. 263–305). Oxford University Press, 2019. <https://doi.org/10.1093/oso/9780190077310.003.0011>



terrorism. Sometimes, it is used to compete with other nations, such as China, to weaken their economies and gain leverage to support trade negotiations. Many countries, such as China, Iran, Russia, and South Africa, have no choice but to engage in various stages of de-dollarization. The immediate aftermath of the Russia-Ukraine war is the removal of Russian banks from the SWIFT messaging system as a sanction of Russia to stop the war.<sup>118</sup>

Weaponizing the USD may not be effective in addressing the foreign threats faced by the US. Any nation's use of economic sanctions destabilizes the global economy and invites retaliation. At the same time, the sanctions are likely to cause more harm to the general population rather than some specific targets of geopolitics. Given that the US has signed several international agreements, it must protect the global trading system based primarily on the predisposition of free trade. The overuse of weaponized sanctions by the US needs to be carefully crafted to avoid causing undesirable long-term effects on the dominance of the USD in the global economy.

#### b. Fluctuating exchange rate of the US dollar

The drastic appreciation of the USD against almost all major currencies in recent years to counteract an upward trend of American domestic inflation raised concerns from other nations. In 2022, the US currency gained about 9% against most major currencies, measured by the currency gauge USD Index (DXY)<sup>119</sup>. The cost of commodities, such as oil and gold, traded mainly in the USD, has escalated in the same proportion.<sup>120</sup> Most countries are paying a heavy price for a rising dollar in their imports, exports, and debts with the denomination in the USD.<sup>121</sup> Empirical findings suggested that from 2000 to 2016, there were both unidirectional and bidirectional causal relationships between oil price volatility and the USD exchange rate against some major currencies<sup>122</sup>.

#### c. Effects of modern technologies and digital currencies

Modern technologies applicable to DCs have the potential to cause de-dollarization. This could occur when DCs, private or public, are used to replace or supplement the USD on international markets and trading activities<sup>123</sup>. As

DCs offer the potential for faster, cheaper, and more secure means for international transactions, more businesses and governments may view DCs as a viable alternative to the USD.

#### C. How CBDCs contribute to de-dollarization

To what extent are CBDCs related to the eminent issue of de-dollarization in the global financial system? It is well acknowledged that the USD has been used as a worldwide medium of exchange along two dimensions – as a universal currency and the provision of a USD-based platform for foreign currency exchanges and as reserve currencies. The USD, being used as a global currency, is built on the premises of three major features – medium of exchange, store of value, and unit of account, which are three essential functions of money. The USD is commonly used as a currency and an intermediary for the foreign exchange between different national currencies. For instance, if a person wants to exchange the Pakistan rupee for the Philippine peso, his bank will convert it to the USD first, then exchange it for the peso. To perform such an intermediary role of foreign exchange, the use of the USD is essential for international trade and payments. Many countries also use the USD as their reserve currency, and it is expected that the exchange rates between the USD and other currencies should fluctuate too much within a short period.

To illustrate how CBDCs contribute to the de-dollarization process, the next section will present the case of how China is using various measures, particularly a CBDC, to counteract the influence of dollarization and formulate de-dollarization as its ultimate financial objective in the next two decades.

### CHINA'S MASTER PLAN FOR DE-DOLLARIZATION

China's rapidly growing economic power may be the biggest threat to the USD's leading role in the international economy. China has found an alternative, non-western way to modernize its economy while maintaining close control in the domestic social and political arena with a remarkable record of economic development.<sup>124</sup> Despite the suppression effort of the US, China is one of the few countries that can withstand US sanctions. China is the

<sup>118</sup> Russell Wong, "What Is SWIFT, and Could Sanctions Impact the US Dollar's Dominance?" Richmond Fed Economic Brief, Federal Reserve Bank of Richmond, 22(09), March 2022.

<sup>119</sup> Maurice Obstfeld, and Haonan Zhou. *The global dollar cycle*. No. w31004. National Bureau of Economic Research, 2023.

<sup>120</sup> Tie-Ying Liu, and Chien-Chiang Lee. "Exchange rate fluctuations and interest rate policy." *International Journal of Finance & Economics* 27.3 (2022): 3531-3549.

<sup>121</sup> Emine Boz, C. Casas, G. Georgiadis, G. Gopinath, H. Le Mezo, A. Mehl, & T. Nguyen. "Patterns of invoicing currency in global trade: New evidence." *Journal of international economics* 136 (2022): 103604.

<sup>122</sup> Richard Agyabeng Donkor, Lord Mensah, and Emmanuel Sarpong-Kumankoma. "Oil price volatility and US dollar exchange rate volatility of some oil-dependent economies." *The Journal of International Trade & Economic Development* 31.4 (2022): 581-597.

<sup>123</sup> Digital Currency Governance Consortium. (2021). *CBDC technology considerations* (White paper series No 8). World Economic Forum. Retrieved from: [https://www3.weforum.org/docs/WEF\\_CBDC\\_Technology\\_Considerations\\_2021.pdf](https://www3.weforum.org/docs/WEF_CBDC_Technology_Considerations_2021.pdf)

<sup>124</sup> Bo Kong, *Modernization through globalization: Why China finances foreign energy projects worldwide*. Springer, 2019.

world's second-largest economy, and many nations are highly dependent on China for the supply of essential products. China has taken steps to break away from its dependence on the USD. The financial hegemony of the US in the global financial system has long been seen as a threat to its own economic development and political stability. China's ambition for de-dollarization has become increasingly apparent in recent years. One key element of China's de-dollarization plan is the development of its own CBDC. China is actively exploring ways to make its currency, CNY<sup>125</sup> more acceptable as a trading currency in the global market.

China has taken various legal and administrative steps to execute its master plan of de-dollarization, weakening the economic influence of the US in the global political and economic arenas. China's formulation and development of its de-dollarization plan can be classified into seven ostensible steps, from developing non-USD assets to the current issuance of a CBDC and cross-border payment systems based on CBDCs. Conventional or fiat money may one day be a thing of the past and will be replaced by CBDCs in the not-so-far future.<sup>126</sup> China is leading the way in CBDC implementation by actively adopting it in many provinces.<sup>127</sup> China has been exploring using a CBDC system, more commonly referred to as the digital yuan, for some time now and has recently conducted testing in four major cities. The country has its international payment system, the "Cross-border Interbank Payment System" (CIPS)<sup>128</sup>. China is leading the way in CBDC implementation. According to the Chinese authorities, the free circulation of the national DC will start with the opening of the Winter Olympic Games in Beijing in 2022<sup>129</sup>.

In this section, the master plan and roadmap of the efforts of the Chinese authorities to go for the de-dollarization, highlighting the critical reason for the Federal Reserve to issue a CBDC, are discussed. There are several descriptions of the Chinese currency, such as CNY, Chinese yuan, Renminbi, and RMB. For the sake of consistency in this article, the term "CNY" and "e-CNY" will be used to describe the legal tender as well as the digital currency to be issued by the People's Bank of China (PBOC), respectively.

<sup>125</sup> CNY stands for "Chinese yuan." "CN" is the country code of China, and "Y" is the short form of the Chinese currency "Yuan."

<sup>126</sup> Ibid.,

<sup>127</sup> Lorand Laskai, Let's Start With What China's Digital Currency is Not, *DigiChina*, Stanford University, March 8, 2022, Retrieved from: <https://digichina.stanford.edu/work/lets-start-with-what-chinas-digital-currency-is-not/#:~:text=Unlike%20Bitcoin%20and%20other%20cryptocurrencies,and%20supervised%20by%20the%20PBOC.>

<sup>128</sup> Lena Tonzer, "Cross-border interbank networks, banking risk, and contagion." *Journal of Financial Stability* 18 (2015): 19-32.

### A. Step one: Development of non-USD assets and reserves

The first step of de-dollarization, which started in the early 2000s, is the introduction of increased local capital market activity in Chinese currency (CNY). This has been done by issuing local Chinese bonds, loans, and other financial instruments, all denominated in CNY rather than the USD, creating greater liquidity in the local currency and thus reducing over-reliance on the USD. This also allows the domestic economy to function more efficiently, given the fluctuation of the foreign exchange rates of the USD against other currencies. The status of the USD as the world's reserve currency is coming under threat as more and more nations switch over to trade settlements in local currency units.<sup>130</sup>

In June 2009, China allowed financial institutions in Hong Kong to issue dim sum bonds denominated in CNY. China launched the Qualified Foreign Institutional Investor (QFII) in 2002, and later, Renminbi Qualified Foreign Institutional Investors (RQFII) was established in 2011<sup>131</sup>. In October 2010, China opened up both FDI and settlement of Outward Direct Investment (ODI) in CNY, and Xinjiang was nominated as the first pilot province. Later twenty more pilot areas were designated.<sup>132</sup> These measures allow China to actively pursue opportunities for its financial institutions to access and invest in CNY-denominated assets, including offering low-risk products such as certificates of deposits and money market instruments. While such movement can attract more money flow into CNY-denominated assets, it can also increase the usage of CNY in international payments and settlements, replacing at least a significant portion of dollar-denominated assets.

### B. Step two: Development of regional trading arrangements

For a long time, China has been developing regional trading arrangements that involve establishing trade agreements between countries, allowing them to conduct transactions in their currencies, thus reducing their reliance on the USD. The Belt and Road Initiative (BRI), a mega-project proposed by China, is designed and offered to build up and expand international trade between China and the Belt-Road countries.<sup>132</sup> The trade involved has grown approximately 8% faster than the non-Belt-Road

<sup>129</sup> Eduardo Levy Yeyati, *Financial dollarization and de-dollarization in the new millennium*. No. 38. 2021.

<sup>130</sup> P. Vinod Kumar, De-Dollarisation: Uncle Sam Gets a Bitter Pill, *The Malabar Journal*, January 14, 2023. Retrieved from: <https://themalabarjournal.com/de-dollarisation-uncle-sam-gets-a-bitter-pill-p-vinodkumar/>

<sup>131</sup> Pamela Tobey, "Key Points of Regulations On QFII and RQFII." *Beijing Review* (2020) 124-126.

<sup>132</sup> Chunjiao Yu, R. Zhang, L. An, & Z. Yu, "Has China's Belt and Road initiative intensified bilateral trade links between China and the involved countries?." *Sustainability* 12.17 (2020): 6747.

countries.<sup>133</sup> The BRI is China's ambition developed in 2013 to stimulate international trade and cross-border investments, especially the development of infrastructures, in a massive region covering more than 130 countries in Africa, Asia, and Europe, accounting for over sixty percent of the world population and thirty percent of global domestic income<sup>134</sup>.

In Asia, China established a Free Trade Area (FTA) with the Association of Southeast Asian Nations (ASEAN) countries.<sup>135</sup> To promote trade between these countries in 1992<sup>136</sup>. The ASEAN further adopted the ASEAN Economic Community (AEC) in 2007. To further promote new ideas and opportunities for ASEAN infrastructure planning and construction through their Chinese connection, China issued the *Master Plan for ASEAN Connectivity* (MPAC) in 2010<sup>137</sup>.

China has established bilateral investment agreements with over one hundred countries and economies, including the European Union, Japan, South Korea, and the UK.<sup>138</sup> Many countries, such as Russia, Iran, and Saudi Arabia, have agreed to develop CNY-denominated trade finance instruments to facilitate cross-border business transactions among themselves. China also maintains seventeen Free Trade Agreements (FTAs) with its trade and investment partners, including ASEAN, Australia, Chile, Costa Rica, Georgia, Iceland, New Zealand, Pakistan, Peru, Maldives, Mauritius, South Korea, and Switzerland.<sup>139</sup>

### C. Step three: Internationalization of the Chinese legal currency

China's official currency and legal tender, CNY, was supposedly circulated in China only. CNY internationalization refers to the circulation of CNY outside China as an international denomination, reserve, and settlement currency<sup>140</sup>. In 2017, China agreed with the United Nations to use the CNY to settle goods and services, supported by the International Settlement Center in 2018<sup>141</sup>. The CNY has been recognized as part of the International Monetary Fund's (IMF) special drawing right (SDR), in addition to the previously included four currencies -- the USD, the euro, the Japanese yen, and the British pound.<sup>142</sup> Although SDR is not used in actual transactions, this new movement and addition can facilitate cross-border transactions made in CNY to reduce Chinese exposure to the USD and make CNY more attractive to other countries.

As the world's commonest reserve currency, the USD has the unique advantage of the exorbitant privilege, providing some strategic benefits for the US due to the dollar's prevalence.<sup>143</sup> For the time being, CNY has no substantial impact at the international level since almost ninety percent of global trades are settled in the USD, compared with just over one percent occupied in the CNY.<sup>144</sup> More than forty percent of the global reserves are in dollar-denominated assets, and the CNY's share in international payment ranked number five as of August 2019, with a market share of 2.22% compared to USD (42.52%)<sup>145</sup>. By 2019, the PBOC set up CNY clearing banks in more than twenty-five countries and regions around the world to increase CNY's exposure and reduce the cost of transactions<sup>146</sup>. In 2021, the International Monetary Institute in China published the *CNY Internationalization Report 2021--The New Development Pattern of Dual*

<sup>133</sup> Ibid.,

<sup>134</sup> Yiping Huang, "Understanding China's Belt & Road initiative: motivation, framework, and assessment." *China Economic Review* 40 (2016): 314-321.

<sup>135</sup> Member states of the ASEAN are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam. Retrieved from: <https://asean.org/member-states/>

<sup>136</sup> Chen Shen, "The Impact of Infrastructure Development on China-ASEAN Trade-Evidence from ASEAN." *Sustainability* 15.4 (2023): 3277.

<sup>137</sup> Blake H. Berger, "ASEAN Connectivity and China-Japan Infrastructure Export Competition." In Tomoo Kikuchi, Masaya Sakuragawa, *Financial Cooperation In East Asia*, S. Rajaratnam School of International Studies (2019), 97-105. Retrieved from: <https://www.jstor.org/stable/resrep25423.16>

<sup>138</sup> See the article "China - Country Commercial Guide," *The International Trade Administration (ITA)*, Retrieved from: <https://www.trade.gov/country-commercial-guides/china-trade-agreements>

<sup>139</sup> Ibid.,

<sup>140</sup> "RMB Settlement," Kasikorn Research Center, Bangkok, February 8, 2011

<sup>141</sup> Matthew Harrison, and Geng Xiao. "China and Special Drawing Rights—Towards a Better International Monetary System." *Journal of Risk and Financial Management* 12.2 (2019): 60.

<sup>142</sup> IMF News, IMF Adds Chinese Renminbi to Special Drawing Rights Basket, *IMF*, September 30, 2016. Retrieved from: <https://www.imf.org/en/News/Articles/2016/09/29/AM16-NA093016IMF-Adds-Chinese-Renminbi-to-Special-Drawing-Rights-Basket>

<sup>143</sup> Jacob Seabolt, Hayden Kibbey, Could CBDC Impact Global Currency Reserves? *bluechippartners.com*, September 31, 2021, Retrieved from: <https://www.bluechippartners.com/blog/digital-currency-cbdc-impact-on-global-currency-reserves-part-3/>

<sup>144</sup> Bernadette Lee, "China's capital controls: here to stay?" *Infopro Digital Limited*, 30 Jul 2021. Retrieved from: <https://www.centralbanking.com/central-banks/currency/7860946/chinas-capital-controls-here-to-stay>

<sup>145</sup> Liang Guo, L. King, K. Wang, & S. Yan, "Can a mighty dragon crush a snake in its old haunt? The impact of QFII on board independence in China." *Pacific-Basin Finance Journal* 74 (2022): 101800.

<sup>146</sup> See SWIFT Annual Review 2014, Retrieved from: <https://www.swift.com/swift-resource/8156/download>



*Circulation and Currency Internationalization*, claiming that the internationalization index of the USD in 2020 was 51.27 (with an annual decrease of 0.09%). The corresponding index of CNY was 5.01 (with a yearly increase of 54.20%)<sup>147</sup>. CNY's internationalization trend will likely be on an upward trend shortly.

#### D. Step four: Development of alternative payment systems

The prevailing international payment infrastructure is based on SWIFT, a messaging system open to any currencies and not necessarily tied to the USD. The actual global settlement of payments and transactions has to be made through methods such as Fedwire (for the US) or CIPS (for China) and TARGET2 (for Europe)<sup>148</sup>. China's Cross-Border Interbank Payment System (CIPS) is a payment system that offers clearing and settlement services for its participants in cross-border Chinese currency -- CNY.<sup>149</sup> It was established in 2015 to facilitate the settlement of onshore and offshore CNY transactions using SWIFT-enabled messaging. Participation in CIPS is an indicator of China's growing financial influence. CIPS aims at transactions and payments in CNY.

SWIFT does not move funds and was created by institutions from Western countries to enable secured global financial messaging using the USD as a basis for communication. CIPS imitates the path of the Clearing House Interbank Payments System (CHIPS) of the US domestic and cross-border USD transactions. Following the sanctions on Iran and Russia for omission from SWIFT, CIPS has become more critical in providing an alternative international payment system other than the one dominated by the US. As of January 2022, 1,280 financial institutions in 103 countries and regions have connected to CIPS.<sup>150</sup> Suppose the CNY can become a more attractive asset. Related technologies such as CIPS, e-CNY, Blockchain-based Services Networks (BSN), and other

emerging financial technologies can lead China to a more influential position in the global financial market. In 2021, China's PBOC announced a joint venture with SWIFT to create a data center with a localized network in China connecting to the leading SWIFT network. This allows the Chinese government to monitor and control cross-border payments of the network.

Blockchain-based Services Network (BSN) was launched in April 2020 as a global framework for deploying and operating a broad range of blockchain applications. BSN seeks to effectively allow stakeholders to build new decentralized applications under a uniform environment. It is seen as the infrastructure technology for nationwide interconnectivity by offering a convenient way to share data, value, and digital assets between anyone on the network. The BSN is China's attempt to lay its foundation for de-dollarization. The ambition of the BSN development efforts suggests that the Chinese government sees decentralized blockchain infrastructure as the backbone of a potential new phase of the global Internet.

#### E. Step five: Illegalization of private cryptocurrencies in China

China has recently cracked down on private cryptocurrencies, with the PBOC warning that asset-linked private currencies pose risks to the Chinese financial system. All private cryptocurrency exchanges and mining within China's borders are banned<sup>151</sup>. In December 2013, China released a statement regarding Bitcoin and other virtual currencies, declaring that Bitcoin is not a currency and would be treated as a virtual asset or digital commodity.<sup>152</sup> In September 2017, the PBOC and other ministries announced that China would explicitly ban all exchanges between fiat money and "coin substitution" and the circulation of such "coin substitution, as well as any public offering or financing activities of private cryptocurrencies.<sup>153</sup>

<sup>147</sup> International Monetary Institute, *China RMB Internationalization Report 2021--The New Development Pattern of Dual Circulation and Currency Internationalization*, International Monetary Institute, Renmin University of China, 2022. Retrieved from: <http://www.imi.ruc.edu.cn/docs/2021-09/7409bfb66b7490d98c1722350908fe1.pdf>

<sup>148</sup> Russell Wong, "What Is SWIFT, and Could Sanctions Impact the US Dollar's Dominance?" Richmond Fed Economic Brief, Federal Reserve Bank of Richmond, 22(09), March 2022.

<sup>149</sup> Athanasios Zisopoulos, Georgia Broni, K. G. Panitsidis, and Nikolaos, Kartalis, Cross border Interbank Payment System (CIPS) Security Supplements; Tangible Radio Safety Box, Software as Non-Textual Password and Revolving Executable Code Modules (January 18, 2023). *WSEAS Transactions on Business and Economics*, 20, 273-283, Available at SSRN: <https://ssrn.com/abstract=4328651>.

<sup>150</sup> This is based on the information provided by Emily Jin, Why China's CIPS Matters (and Not for the Reasons You Think), *Lawfare*, April 5, 2022? Retrieved from: <https://www.lawfareblog.com/why-chinas-cips-matters-and-not-reasons-you-think>

<sup>151</sup> Lu Fengyang, Legal Issues of Virtual Digital Currency -- Administration, *allbrightlaw.com*, 2022. Retrieved from: <https://www.allbrightlaw.com/SH/CN/10475/83ce55866c0f5f01.aspx>

<sup>152</sup> This is based on the "Announcement of Preventing Risks of Bitcoin by People's Bank of China, Ministry of Industry and Information Technology, China's Banking Regulatory Comm. and Other Departments, December 3, 2013, effective December 3, 2013) [from now on 2013 Announcement], art. 1, CLI.4.214081 (Pkulaw).

<sup>153</sup> Announcement of the People's Bank of China, the Office of the Central Leading Group for Cyberspace Affairs, the Ministry of Industry and Information Technology, and Other Departments on



On September 3, 2021, the National Development and Reform Commission and other departments issued the *Notice on Rectifying Virtual Currency "Mining" Activities*.<sup>154</sup> China's regulatory policies on virtual currencies, such as Bitcoin, have shown a clear trend of illegalization.<sup>155</sup> Later on September 15, 2021, China issued the *Notice on Further Preventing and Handling Speculation Risks in Virtual Currency Trading*.<sup>156</sup> Overseas virtual exchanges providing services to residents in China through the Internet are also illegal financial activities. In August 2022, the Cyberspace Administration of China concentrated on rectifying the chaos of virtual currency speculation by closing 989 Weibo, Tieba accounts and WeChat public funds, including significant platforms such as @Feige's Story Jianghu and @Absolute Pansense Bitcoin.<sup>157</sup>

The mining business of private cryptocurrencies in China, accounting for 60% of global Bitcoin mining, had to leave China as the government tightened restrictions on mining activities in 2021.<sup>158</sup> Illegalizing private cryptocurrencies in China can pave the way for the PBOC to issue a CBDC without possible direct competitors from the private sector, thus monopolizing the DC operations in China.

#### F. Step six: Issuing e-CNY for both international and domestic transactions.

China's CBDC is known as e-CNY or digital yuan.<sup>159</sup> Based on a CBDC, the e-CNY, with the support of a platform for payments and exchanges, the Blockchain-based Service Network (BSN), China can use modern technology and related financial strategies to maximize their utilities in promoting CNY as a global currency.<sup>160</sup> By 2022, the PBOC will have issued over twenty million digital wallets through early pilot programs in some major cities,

showcasing the payment system as a technological showpiece of the 2022 Olympics in Beijing.

The e-CNY is designed to serve as a digital version of fiat legal money or cash, circulated via a two-tiered system at the wholesale and retail levels. At the wholesale level, e-CNY is spread through institutional organizations such as state-owned banks or nationwide private organizations such as Tencent and Alibaba groups. At the retail level, ordinary consumers can use digital wallets through authorized apps to use e-CNY for daily transactions and payments.

Unlike most blockchain-based DCs, e-CNY requires that users reveal their identities associated with their digital wallet working within the framework of "controllable anonymity" with the principle of "xiǎo é nìmíng, dà é kěsù," which means "small amounts are anonymous, significant amounts are traceable."<sup>161</sup> The Chinese government requires all phone numbers to be linked to a government-issued ID. Phone-number-linked e-wallets allow a single-transaction limit of 2,000 CNY.<sup>162</sup> Controllable anonymity, sometimes called "managed anonymity," is one of the defining features of the e-CNY initiative proposed and operated by the PBOC.<sup>163</sup> It is designed to give the PBOC the power to review and control the flow of money that ordinary fiat currency cannot offer.

When the BSN platform is fully operational, e-CNY would be the logical first-choice payment platform for applications requiring one since the BSN only allows permissible cryptocurrencies like e-CNY, which have gatekeepers for participation, unlike other private cryptocurrencies like Bitcoin. E-CNY is intended to monopolize electronic payments in China at wholesale and

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Preventing the Financing Risks of Initial Coin Offerings. art. 1, CLL4.301348 (Pkulaw)

<sup>154</sup> Shuping Li, "The Criminalization of Cryptocurrency Operation in China: Limits of Private Money Reconsidered." *Hong Kong Law Journal* 23.Part 1 (2023).

<sup>155</sup> John Riley, "The current status of cryptocurrency regulation in China and its effect worldwide." *China and WTO Review* 7.1 (2021): 135-152.

<sup>156</sup> Rain Xie, "Why China had to ban cryptocurrency, but the US did not: a comparative analysis of crypto-market regulations between the US and China." *Wash. U. Global Stud. L. Rev.* 18 (2019): 457.

<sup>157</sup> This is based on the article "China Monthly Data Protection Update," *Lexology.com*, August 2022. Retrieved from: <https://www.lexology.com/library/detail.aspx?g=a911df37-4620-471b-960a-1f69501a38f4>

<sup>158</sup> Keita Sekiguchi and Manami Ogawa, "Cryptocurrency miners flee China as clampdown intensifies," *NIKKEI ASIA*, July 13, 2021, Retrieved from <https://asia.nikkei.com/Spotlight/Cryptocurrencies/Cryptocurrency-miners-flee-China-as-clampdown-intensifies>

<sup>159</sup> Heng Wang, "China's Approach to Central Bank Digital Currency." *University of Pennsylvania Asian Law Review*, 18, Available at SSRN (2022). Retrieved from: <https://dcfintechweek.org/wp-content/uploads/2022/09/Heng-Wang-Chinas-Approach-to-CBDC-2022-v.1.pdf>

<sup>160</sup> Mikk Raud and Eli MacKinnon, China's Digital Currency and Blockchain Network: Disparate Projects or Two Sides of the Same Coin? *DigiChina*, Stanford Cyber Policy Center, March 8, 2022, Retrieved from: <https://digichina.stanford.edu/work/chinas-digital-currency-and-blockchain-network-disparate-projects-or-two-sides-of-the-same-coin/>

<sup>161</sup> Eli MacKinnon, "Lexicon: 'Controllable Anonymity' or 'Managed Anonymity' and China's Digital Yuan" *DIGICHINA*, Stanford University, March 8, 2022, Retrieved from: <https://digichina.stanford.edu/work/lexicon-controllable-anonymity-or-managed-anonymity-and-chinas-digital-yuan/>

<sup>162</sup> This is based on the article "ID required for new cell phones." China Daily article covering the law's rollout requiring ID for phone number purchases." *China Daily*, September 1, 2010. Retrieved from: [https://www.chinadaily.com.cn/china/2010-09/01/content\\_11235859.htm](https://www.chinadaily.com.cn/china/2010-09/01/content_11235859.htm)

<sup>163</sup> *Ibid.*,

retail levels to develop a more active role in international payments.

### G. Step seven: Development of a cross-border CBDC-based payment system

The process of de-dollarization requires a substitute of the USD as a medium of exchange and store of value. Instead of identifying a specific national currency to replace the USD, countries worldwide seek a platform for foreign exchange transactions to reshape the international financial order.

The development of a new platform, Multiple CBDC Bridge (mBridge), can help enhance international payments by using the CBDCs of sovereign countries instead of the USD. The current global network of cross-border payment systems based on the USD has the disadvantages of high costs, low speed, and possible sanctions by the US. Exchanges and cross-border payments through virtual legal tender in the form of CBDCs have gained more momentum internationally. A new pilot platform of sales and payments, Project mBridge, was formed by the central banks of four independent economies, the People's Bank of China, the Hong Kong Monetary Authority, the Bank of Thailand, and the Central Bank of the United Arab Emirates. Project mBridge experiments with cross-border payments using a customized platform based on distributed ledger technology (DLT) for multiple central banks to issue and exchange their respective CBDCs<sup>164</sup>. The Chinese government also developed a global universal digital payments network (UDPN) that enables a standardized DC transfer method and payment procedure for any information system.<sup>165</sup> This can facilitate real-time, peer-to-peer, cross-border payments and foreign exchange transactions by using CBDCs. It also satisfies the governance needs of jurisdiction-specific legal requirements and regulations. The project attempts to

build and test the required technology by adding more liquidity, compliance, and connectivity features. The project's next step will be to invite more nations' central banks to join.<sup>166</sup>

The e-CNY is not fundamentally different from other online digital payment options in China, such as AliPay and WeChat. It was reported as of June 2021 that China's e-CNY pilot projects increased to 34.5 billion yuan (US\$5.34 billion) in payments, amounting to over 70 million transactions and creating more than 3.5 million institutional wallets and 20 million personal wallets.<sup>167</sup> China has multiple agencies, including the Cyberspace Administration of China, to control information management and data flow related to its CBDC.<sup>168</sup> China intends to set up a new national data bureau to oversee data-related issues within and abroad, particularly as new data-reliant technologies such as artificial intelligence.<sup>169</sup>

The CBDC's global network, such as the mBridge, is a feasible way for China to challenge USD hegemony.<sup>170</sup> While the issuance of CBDCs at the retail level enables person-to-person transfers with immediate payment and settlement, cross-border payments using CBDCs can enhance faster payment with reduced costs compared to traditional processes through a correspondent banking network.<sup>171</sup> Multiple CBDCs' capability to play the store of value allows risk-free settlement of cash assets in high-value payments. Transactions based on intelligent contracts allow proper rules and regulations to be built into the arrangements for real-time automatic execution of contracts.<sup>172</sup>

## STRATEGIES OF THE US TO FACE THE DE-DOLLARIZATION CHALLENGE

In President Biden's Executive Order 14067, he said, "My Administration sees merit in showcasing United States

<sup>164</sup> This is based on the Joint report by the BIS Innovation Hub Hong Kong Centre, the Hong Kong Monetary Authority, the Bank of Thailand, the Digital Currency Institute of the People's Bank of China, and the Central Bank of the United Arab Emirates. Retrieved from: <https://www.bis.org/publ/othp59.htm>

<sup>165</sup> Alice Ekman, "China's blockchain and cryptocurrency ambitions." *BRIEF. European Union Institute for Security Studies* 15 (2021): 1-8.

<sup>166</sup> Nicola Bilotta, "CBDCs and Stablecoins: The Scramble for (Controllable) Anonymity." *The (Near) Future of Central Bank Digital Currencies*: 167.

<sup>167</sup> Iori Kawate, "China's digital yuan pilot tally reaches \$5.3bn in six months," *NIKKEI ASIA*, July 17, 2021. Retrieved from <https://asia.nikkei.com/Economy/China-s-digital-yuan-pilot-tally-reaches-5.3bn-in-six-months>

<sup>168</sup> Edwin Chan, China Will Create a New Agency to Regulate Data, *WSJ Says, Bloomberg*, March 6, 2023. <https://www.bloomberg.com/news/articles/2023-03-06/china-will-create-a-new-agency-to-regulate-data-wsj-says>

<sup>169</sup> Iori Kawate, "China's digital yuan pilot tally reaches \$5.3bn in six months," *NIKKEI ASIA*, July 17, 2021. Retrieved from <https://asia.nikkei.com/Economy/China-s-digital-yuan-pilot-tally-reaches-5.3bn-in-six-months>

<sup>170</sup> Eli MacKinnon, Is SWIFT's Joint Venture With the People's Bank of China Related to the Digital Yuan?, by *DigiChina, Stanford Cyber Policy Center*, Retrieved from: <https://digichina.stanford.edu/work/is-swifts-joint-venture-with-the-peoples-bank-of-china-related-to-the-digital-yuan/>

<sup>171</sup> Jacob Seabolt, Hayden Kibbey, Could CBDC Impact Global Currency Reserves? *bluechippartners.com*, September 31, 2021, Retrieved from: <https://www.bluechippartners.com/blog/digital-currency-cbdc-impact-on-global-currency-reserves-part-3/>

<sup>172</sup> N. Kshetri, Blockchain's roles in meeting key supply chain management objectives. *International Journal of Production Research*, 56(1-2), (2018) 431-448.

leadership and participation in international fora related to CBDCs and in multi-country conversations and pilot projects involving CBDCs." While President Biden claimed that the US needed to "showcase" leadership, the nation is falling far behind other countries in exploring and implementing CBDCs, a significant tool for international payments in the future. The Federal Reserve has studied the potential for issuing a DC for years. A common argument is that introducing a CBDC can have far-reaching implications for the US economy. If the Federal Reserve is going to issue a CBDC, it will have to consider, first of all, requesting the passage of a relevant law to legalize such a currency to hold the status of legal tender. Before doing so, the Federal Reserve will have to convince Congress and the Senate that it can develop and maintain an effective digital system to keep accounts of the CBDC and this system is safe and secure, free from infringement of account holders' privacy and possible hacking and stealing from criminals and hostile countries.

In 2021, the US introduced the Digital Dollar Project, a program aiming at creating a DC issued and backed by the government based on blockchain technology.<sup>173</sup> The Digital Dollar Project (DDP) is a move to promote the public discussion around a US CBDC<sup>174</sup>. Together with Fintech Open Source Foundation (FINOS) and Hyperledger Foundation, the Digital Dollar Project (DDP) aims to create an open community dedicated to experimentation, information sharing, and discussion around CBDCs with the best available security technology<sup>175</sup>. With the accelerated growth of worldwide CBDC research, experimentation, and deployment, the US will likely need to catch up in the new global movement.

While China is playing an active role in the global de-dollarization movement, it is difficult for the US to block the growth of China's economic power in the way that it stopped the rise of Japan. In the 1980s, Japan was believed to be able to overtake the US as the world's largest creditor, causing the claim "Japan will take over America in peace!"<sup>176</sup>. In September 1985, five governments, including the US, Japan, Germany, France, and the UK, met at the Plaza Hotel in New York and agreed to intervene in the foreign exchange markets to bring the dollar down in an orderly manner against significant currencies to address the massive US trade deficit by signing the "Plaza Accord". In September 1985, the yen-USD exchange rate rose from

250 yen per dollar to 200 yen per dollar in December 1985, then to 152 yen per dollar at the end of 1986, and eventually to 120 yen per dollar in 1987. The Plaza Agreement of 1985 was a turning point for the Japanese economy, and Japan fell into a decade-long economic stagnation known as "The Lost Decade." The same approach, however, is not feasible for meeting the challenge of the de-dollarization movement in China. The US attempted to adopt the same process by accusing China of not protecting intellectual property rights and the artificial manipulation of the CNY exchange rate. But China is a different country from Japan. Japan is economically dependent on the US market and geopolitically dependent on the US for military support. Still, China has a vast internal market and a global manufacturing hub and is not depending on the US for military protection.

China's holdings of US debt have started to decrease, representing a trend of offloading US Treasuries after the trade war waged by the US against China intensified. Egypt issued CNY-denominated debt to raise funding in the Chinese bond market in May 2022. As the world's biggest crude oil importer, China is building a closer relationship with Saudi Arabia. Using CNY instead of the USD can develop swiftly in China's favor. Slowing down the de-dollarization trend is a critical challenge to the US dominance in the global financial market. China has worked on a carefully designed step-by-step master plan for de-dollarization. If the US does not do anything strategically competent to cope with this plan as soon as possible, the hope of "making America great again" will be history<sup>177</sup>. China's plan to de-dollarize allows the country to move away from its reliance on the USD and potentially reduce its vulnerability to the financial and economic sanctions of the US. The US has to consider possible efforts to neutralize this Chinese plan. Appropriate strategies need to be adopted to counteract the de-dollarization plan of China.

#### A. Preparing for the de-dollarization trend

The US economy has had a shrinking share of global output for the past decade, but the USD is still dominant in international trade, payment, loans, and reserves.<sup>178</sup> Simply put, the global dollarization status is still robust and solid. The replacement of the dominant role of the USD in the global financial system by another, more powerful currency is unlikely. But it can be done by a complex of

<sup>173</sup> Digital Dollar Project, Digital Dollar Project Hires Key Staffers to Expand US CBDC Exploration in 2023, *prnewswire.com*, January 12, 2023, Retrieved from: <https://www.prnewswire.com/news-releases/digital-dollar-project-hires-key-staffers-to-expand-us-cbdc-exploration-in-2023-301720492.html>.

<sup>174</sup> For more information on The Digital Dollar Project, please visit <https://digitaldollarproject.org>

<sup>175</sup> This is based on the article by Gabriele Columbro, "Open Digital Currency Initiative," Retrieved from: <https://project.linuxfoundation.org/open-digital-currency>

<sup>176</sup> Richard B. Finn, and Richard Finn. *Winners in peace: MacArthur, Yoshida, and postwar Japan*. University of California Press, 1992.

<sup>177</sup> Michael X. Delli Carpini, "Review Essay: Making America Great Again? Individualism, Community, and Enlightened Self-Interest in the United States." *Political Science Quarterly* 137.2 (2022): 393-403.

<sup>178</sup> Cary Springfield, "We are witnessing a global de-dollarization spree," *International Banker*, August 17, 2022. Retrieved from: <https://internationalbanker.com/finance/we-are-witnessing-a-global-de-dollarisation-spreed/>



multiple currencies when the exchanges among these currencies can be facilitated by some effective digital platforms using modern technology.

The de-dollarization trend is happening not only in hostile nations of the US but also in its allies. For instance, Israel, a close ally of the US, is actively pursuing de-dollarization by issuing local currency-denominated government bonds through consumer price indexation to reduce investors' uncertainty about local currency assets.<sup>179</sup> Israel is taking the first step toward de-dollarization in the same way as the initial steps of the Chinese authority in initiating the de-dollarization process mentioned in this article.

### **B. Minimum role of the US's CBDC at the retail level**

Based on a macro-view of the issuance of a CBDC, the critical issue is to ensure and consolidate the global domination of the USD rather than fostering the digitalization of the payment system within the US. Therefore, the CBDC issued by the Federal Reserve must have a minimum role at the retail level. It is sometimes argued that CBDCs may crowd out private bank deposits, threatening the foundations of the financial system by draining retail deposits out of private banks.<sup>180</sup>

At the retail level, credit cards, and sometimes debit cards, are more convenient for small-value personal transactions due to their wide acceptance and overall convenience. DCs, on the other hand, offer faster transaction times, better security, and the potential to provide lower fees. Ultimately, both credit cards and DCs have their place in the financial world, and the decision of which to use is based on cost, convenience, and security.

The Federal Reserve should only be involved in the retail banking business by providing guaranteed payment of its DC held in various accounts of private banks. Only the balances of these accounts, not the individual transactions, will be reported to the Federal Reserve for reconciling the amount of the CBDC issued and kept by private banks, not individuals. This ensures the anonymity, and therefore privacy, of individual accounts. It means that the Federal Reserve can issue a retail-level DC but needs to refrain from lending directly to households and businesses. It should delegate to the private bank the power to handle the account-keeping and transactions while guaranteeing the amount of CBDC issued and held in these accounts. From the individuals' point of view, the charges appear

almost the same, except that the currency they are keeping is a CBDC backed by Federal Reserve.

### **C. The proactive role of the US's CBDC at the wholesale level**

The US has established many strategies to counteract this Chinese effort, the primary one being the promotion and maintenance of the USD as a global reserve currency. The USD has been dominating international trade and finance for a long time, but this trend may be over in the next few decades. Accounting for about 60% of the foreign exchange reserves in the world, the USD allows the US to remain in economic control and lessen the attempts of China and other countries that want to bypass the USD in their trade. By keeping foreign investments safe and promoting investment in the US, the US can strengthen its hold on the USD. The power of the USD gives the US an increased ability to carry out international transactions, maintain financial dominance and sanction foreign countries, all of which work to counteract Chinese plans for de-dollarization. By adopting digital money, the US can control the flow of payments to counteract any attempts made by China or other countries to find an alternate currency or payment system to the USD.

There is an observable drift of international trade and payments towards using multiple currencies with more evenly distributed financial powers among nations rather than restricted to a single universal currency of the USD. A corresponding increase in the claims of the euro, pound sterling, yen, and other currencies of Western countries does not necessarily accompany the decline in the USD's share. The shift out of the USD has been in two different directions.<sup>181</sup> About one quarter has shifted to the Chinese CNY, and about three quarters into multiple currencies of small nations and economies. The economic and political sanctions imposed by the US cover almost one-quarter of the global population. These nations are forced to join the arena of de-dollarization. This represents a clear trend of de-dollarization.

The Federal Reserve should not offer personal accounts for individuals on its balance sheet. Instead, it should focus on the operations at the wholesale level. It means that a CBDC, guaranteed by the Federal Reserve as legal tender, can be used for inter-bank, large amount inter-organizational payment, or cross-border transactions.

<sup>179</sup> Bob McDowall, De-dollarisation: An Emerging Coalition Of Revisionist Countries, Rogue Governments, Techno-Visionaries, And Sanction Busters - Or A Sensible Long-Term Strategy? February 7, 2022, *Z/Yen*. Retrieved from: <https://www.longfinance.net/news/pamphleteers/de-dollarisation-emerging-coalition-revisionist-countries-rogue-governments-techno-visionaries-and-sanction-busters-or-sensible-long-term-strategy/>

<sup>180</sup> See, for example, the argument provided by Joseph T. Abate, Zoso Davies & Michael Gapen, Should the Federal Reserve create

a digital dollar? Barclays Bank, November 19, 2021. Retrieved from: [https://www.cib.barclays/our-insights/should-the-federal-reserve-create-fedcoin.html?cid=paidsearch-textads-google-google-themes-fedcoin-uk-we\\_rtg\\_fedcoin\\_314245385683&gclid=CjwKCAiAmJGgBhAZEiwA1JZolk06NhmFdNw\\_P-XBMztcGZfAcYBiiG483h36vj5ZH74IOX9fHjy8VBoCS04OAvD\\_BwE&gclid=aw.ds](https://www.cib.barclays/our-insights/should-the-federal-reserve-create-fedcoin.html?cid=paidsearch-textads-google-google-themes-fedcoin-uk-we_rtg_fedcoin_314245385683&gclid=CjwKCAiAmJGgBhAZEiwA1JZolk06NhmFdNw_P-XBMztcGZfAcYBiiG483h36vj5ZH74IOX9fHjy8VBoCS04OAvD_BwE&gclid=aw.ds)

<sup>181</sup> Ibid.,



The US needs to initiate the movement to rewrite international trade agreements, reduce sanctions, and formulate new national policies to strengthen its hold on the USD and maintain its superiority in the financial and economic landscape. By continuing to pursue these neutralization strategies, the US will maintain its status as a global superpower and leader in the world of finance for many years to come. The US must issue its own CBDC, given China has already moved ahead with its own. If not, it will likely miss the critical opportunity of utilizing the impending technological innovation to enhance economic efficiency and growth and, most importantly, the chance to continue the USD's crucial role in the international foreign exchange platform.

As seen from China's master plan for de-dollarization, the key issues are related to the issuance of a CBDC, the development of alternative payment systems based on CBDC, the adoption of currencies other than the USD as reserve currencies, and cooperation at an international level with other nations. The following recommendations are, therefore, based on these considerations.

### 1. Issuing a CBDC to participate in the ecosystem of international financial settlement

It is unlikely that any single currency can replace the USD, but a group of currencies from countries with significant power in international trade can do so. The US will face competitive disadvantages by not adopting a CBDC, as other countries may forge ahead with their CBDC initiatives, allowing them to gain advantages in international trade and finance through technologies. CBDCs can transform global economies by connecting people, governments, businesses, and organizations locally and globally through technology.

CBDCs, combined with digital asset networks, have the potential to streamline capital and asset management, payment, settlement, and record-keeping<sup>182</sup>. Capital market institutions have started to explore the potential of CBDC technology to unlock efficiencies and streamline post-trade settlement activity. Global projects outside the US were collaborative initiatives to examine the implications of post-trade settlement with tokenized assets and CBDC. These initiatives moved the needle on global CBDC explorations and raised significant findings and questions about CBDC settlement.

### 2. Guaranteeing the integrity of the USD reserves of foreign countries

From a technical perspective, the Federal Reserve must closely regulate its usage and institute strict anti-fraud measures by ensuring its security and protecting the USD

owners while taking full advantage of its efficiencies and cost savings. But more is needed since one of the scariest worries of foreign countries using the USD as their reserve currency is the US government's confiscation, or to a lesser extent, freezing, of their USD reserves kept at the US banks. This has happened to nations such as Russia and Afghanistan.<sup>183</sup> There needs to have some protection for these foreign reserves kept in the USD, free from any geopolitical influence on the safety of these assets. Otherwise, these foreign sovereign nations will shift to other currencies for their reserves without sufficient protection. Countries keeping reserves seek other forms, such as gold or multiple currencies, as alternatives to the USD.

### 3. Building a secure platform for the payments and settlements of CBDCs

New technologies such as distributed ledgers and tokenized assets challenge traditional global financial market payment and settlement operations. In advancing a digitalized future, private and public institutions are exploring the opportunities brought forward by DCs to streamline international payment networks. This allows the CBDCs of other nations to operate within the US settlement infrastructure, leveraging distributed ledger technology.

It is well noted that the US has always been at the forefront of technological innovation, from sending the first man to land on the moon to designing microchips, computers, and smartphones. By making the best use of American technology, the US should take the initiative to develop a pioneer, technically secure, and safe platform for the payments and settlement of international trade. This includes the design of the infrastructure of CBDCs, their trading networks, connectivity, and security measures. In the new wave of the issuance of a CBDC, the US is still stuck at the very early stage of consultation when other nations have already carried out many pilot projects to implement CBDCs. The US is overly conservative and cautious with CBDCs, ignoring the underlying advantages and benefits of CBDCs, such as faster payments, improved financial inclusion, greater efficiency, and, most importantly, the upholding of American leadership in the global financial system. From a legalistic point of view, money can be understood not only as a public resource but also as a governance instrument created and regulated by

<sup>182</sup> This is based on the article by DTCC Connection Staff, "Digital Dollar Project and DTCC: Security Settlement Pilot: Exploring Post-Trade Security Settlement with a US Central Bank Digital Currency," DTCC, November 30, 2022, Retrieved from: <https://www.dtcc.com/dtcc>

[connection/articles/2022/november/30/security-settlement-pilot-exploring-post-trade-security-settlement-with-a-us-cbdc](https://www.dtcc.com/dtcc)

<sup>183</sup> Oxford Analytica. "Afghanistan will benefit from unfrozen reserves." *Emerald Expert Briefings* oxen-db (2022).

the state.<sup>184</sup> Failing to make the best use of a CBDC, or even delaying the process of issuing a CBDC, is giving up the chance to use an effective monetary tool to regulate the economy effectively.

## CONCLUSION

Modern technologies, such as cryptography and distributed ledger technology, determine the specificities of issuing, storing, and conducting operations of CBDCs. Privately issued DCs have raised concerns about regulations and legislations related to domestic currencies, the security market, and the banking sector.<sup>185</sup> For CBDCs, proper regulations are even more critical but should not be an excuse for delaying their exploration and issuance.

This article argues that the trend of more and more countries establishing their versions of CBDCs is inevitable.<sup>186</sup> The development of CBDCs is expected to cause a fundamental change in the current financial system, which will completely reshape the global economy over the next decade. CBDCs can increase business payment efficiency, reduce transaction costs, and provide excellent stability and privacy for users, especially

underprivileged people. Central banks worldwide are actively exploring and experimenting with CBDC projects to implement CBDCs later.

The US must consider the implications of not issuing its digital currency initiative. There are no valid reasons to support the argument that the Federal Reserve should not issue an American CBDC. If China were to officially launch a nationwide CBDC and the US refrained from doing so, this would create massive economic benefits for China in terms of expanding its payment and financial inclusion capabilities, global influence, and overall economic influence on other nations. Inevitably, the US would then lose its global financial leadership.

In conclusion, the US is a pioneer in private DCs but needs to catch up in promptly exploring and issuing a CBDC. This article recommends that the Federal Reserve can slow down the de-dollarization trend by giving a CBDC at both the wholesale and retail levels, emphasizing the control of the former while having more cooperation and empowerment with private banks for the latter.

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<sup>184</sup> Anna Chadwick. "Rethinking the EU'S 'Monetary Constitution': Legal Theories of Money, the Euro, and Transnational Law." *European Law Open*, 1, 3, 2022, 468–509.

<sup>185</sup> Shamil Shovkhalov, & Hussein Idrisov, Economic and Legal Analysis of Cryptocurrency: Scientific Views from Russia and the Muslim World. *Laws*. 10. 32. (2021). Retrieved from: [https://www.researchgate.net/publication/351469732\\_Econom](https://www.researchgate.net/publication/351469732_Econom)

[ic and Legal Analysis of Cryptocurrency Scientific Views from Russia and the Muslim World/citation/download](#)

<sup>186</sup> Glenda Caldwell, "Hybrid place: blurring the edge between the digital and physical layers of urban environments." *National Library of Australia Cataloguing-in-Publication entry* (2014): 137.