

CHINA'S APPROACH TO CENTRAL BANK DIGITAL CURRENCY: SELECTIVELY RESHAPING INTERNATIONAL FINANCIAL ORDER?

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ABSTRACT

China is likely to be the first major economy to issue central bank digital currency (CBDC), the digital version of sovereign currency. China's CBDC is also known as e-CNY, DC/EP, or digital yuan. E-CNY has the potential to profoundly affect the international financial system and order. This article explores the following crucial issues from an international perspective: what are the core features of e-CNY? What is China's approach to CBDC? What is the long-term sustainability of China's CBDC approach?

This article argues that the role of the state, the potential cross-border use of e-CNY, and China's proactiveness in international governance are the core features of China's CBDC. These features

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contribute to China's CBDC approach, a possible selective reshaping of international financial order. The article adopts a multifactor analytical framework which explores major economic, political economy, legal and regulatory factors affecting the sustainability of China's CBDC approach. This framework seeks to promote a holistic understanding of e-CNY's evolution and its profound implications for international economic governance.

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1. INTRODUCTION

Central bank digital currency (CBDC), also called sovereign digital currency (SDC), is the digital version of sovereign currency issued by an economy's monetary authority.¹ An increasing number of central banks are exploring CBDC, including the Bank of England and the Riksbank, the central bank of Sweden.² The digital dollar has also been considered, with the Federal Reserve Bank of Boston working with the Massachusetts Institute of Technology to design a CBDC prototype.³ At least thirteen states (e.g., Sweden, and South Korea) are testing CBDC pilots,⁴ with some central banks like the European Central Bank considering such tests.⁵ The Bahamas, Eastern Caribbean, and Nigeria have rolled out CBDC.⁶

CBDC involves "the algorithmic hand" beside the "invisible" hand (the market) and the "visible" hand (government).⁷ It is likely to be a critical part of the digital economy, accelerated by the epidemic,⁸ while carrying both "policy and legal implications."⁹

¹ John Kiff et al., *A Survey of Research on Retail Central Bank Digital Currency* 5 (IMF, Working Paper No. 20/104, 2020).

² *Central Bank Digital Currency Tracker*, ATL. COUNCIL, <https://www.atlanticcouncil.org/cbdctracker/> [<https://perma.cc/N6CG-6M5J>] (last visited Nov. 19, 2022).

³ Ajay S. Mookerjee, *What If Central Banks Issued Digital Currency?*, HARV. BUS. REV. (Oct. 15, 2021), <https://hbr.org/2021/10/what-if-central-banks-issued-digital-currency> [<https://perma.cc/A9JZ-KNCC>].

⁴ *Id.*

⁵ Karen Yeung & Andrew Mullen, *China Digital Currency: When Will the E-Yuan Be Launched, and What Will It Be Used For?*, S. CHINA MORNING POST (June 6, 2021, 8:00 PM), <https://www.scmp.com/economy/china-economy/article/3135886/china-digital-currency-when-will-e-yuan-be-launched-and-what> [<https://perma.cc/NGZ8-CF4R>].

⁶ See *Central Bank Digital Currency Tracker*, *supra* note 2 (indicating that a country has rolled out a CBDC by categorizing it as "launched").

⁷ Paradorn Pasuthip & Steve Yang, *Central Bank Digital Currency: Promises and Risks*, WORLDQUANT (Feb. 6, 2020), <https://www.worldquant.com/ideas/central-bank-digital-currency-promises-and-risks/> [<https://perma.cc/EM5X-DTJF>].

⁸ See, e.g., *Pandemic Accelerates Bank of Canada's CBDC Work*, FINEXTRA (Feb. 10, 2021), <https://www.finextra.com/newsarticle/37460/pandemic-accelerates-bank-of-canadas-cbdc-work> [<https://perma.cc/3M4Q-4RC8>] (describing how the pandemic's impact on the use of paper money accelerated the Bank of Canada's research into a CBDC).

⁹ Yves Mersch, Member, Exec. Bd. of the Eur. Cent. Bank, Address at the Consensus 2020 Virtual Conference: An ECB Digital Currency – A Flight of Fancy?

CBDC raises many issues including digital payment ecology, financial inclusion, data protection and sovereignty, compliance, financial risks, and governance models.¹⁰

China is expected to be the first major economy to launch CBDC.¹¹ China's CBDC was previously known as the Digital Currency/Electronic Payment (DC/EP or DCEP),¹² and is also variously called e-CNY, digital yuan, eCNY, or e-RMB. The People's Bank of China (PBOC), China's central bank, started CBDC research in 2014¹³ and issued a white paper on e-CNY (White Paper) in 2021, with no timetable for the final launch of e-CNY.¹⁴ For e-CNY, "top-level design, function development, and system testing has been basically completed."¹⁵ E-CNY pilots have been conducted in ten regions (e.g., Shenzhen)¹⁶ and the Beijing Winter Olympics.¹⁷

It is probable that E-CNY will lead to an economic ecosystem (e.g., financial instruments denominated in e-CNY)¹⁸ that is more

(May 11, 2020), <https://www.bis.org/review/r200511a.pdf> [<https://perma.cc/ED7Q-543D>].

¹⁰ See, e.g., Xie Ping (谢平), Xie Ping: Yanghang Shuzi Huobi de Jichusheshi Jianhao Hou, Keyi Dapo Disanfang Zhifu Longduan (谢平: 央行数字货币的基础设施建好后, 可以打破第三方支付垄断) [Ping Xie: After CBDC Infrastructure Is Developed, It Could Break Third-Party Payment Monopoly], WEIXIN.QQ.COM (Dec. 24, 2020, 8:50 AM), <https://mp.weixin.qq.com/s/uHQs0mIPEZQle8R5xz6vfA> [<https://perma.cc/TM6L-P3TL>] (discussing the working of digital payments and its relationship to various economic phenomena).

¹¹ Bailey Reutzl & Pete Rizzo, *Most Influential in Blockchain 2017 #6: Yao Qian*, COINDESK (Dec. 31, 2017, 5:30 AM), <https://www.coindesk.com/coindesk-most-influential-2017-6-yao-qian/> [<https://perma.cc/7DHC-FJ4U>].

¹² BIS INNOVATION HUB HONG KONG CTR., INTHANON-LIONROCK TO MBRIDGE: BUILDING A MULTI CBDC PLATFORM FOR INTERNATIONAL PAYMENTS 13 (2021), <https://www.bis.org/publ/othp40.pdf> [<https://perma.cc/5TG2-BEQT>].

¹³ WORKING GRP. ON E-CNY RSCH. & DEV. OF THE PEOPLE'S BANK OF CHINA, PROGRESS OF RESEARCH & DEVELOPMENT OF E-CNY IN CHINA 1, 12 (2021) [hereinafter WORKING GRP. ON E-CNY RSCH. & DEV.], <http://www.pbc.gov.cn/en/3688110/3688172/4157443/4293696/2021071614584691871.pdf> [<https://perma.cc/RTQ3-F2KG>].

¹⁴ *Id.* at 14.

¹⁵ *Id.* at 1.

¹⁶ Ningwei Qin, *Shenzhen Has the Most E-CNY Pilot Program Uses, Chinese State-Owned Media Says*, FORKAST (Oct. 11, 2021, 2:35 PM), <https://forkast.news/headlines/shenzhen-ecny-pilot-programs-chinese-media-says/> [<https://perma.cc/L7TE-DQ74>].

¹⁷ BIS INNOVATION HUB HONG KONG CTR., *supra* note 12, at 14.

¹⁸ David Olsson et al., *China's Digital RMB – Is Your Business Ready?*, KING & WOOD MALLESONS (Apr. 27, 2021),

than just currency or a new “currency infrastructure.”¹⁹ Digital yuan is likely to develop an ecosystem that interacts with established and emerging payment systems,²⁰ with such systems ranging from payment to e-commerce involving, among others, big tech companies, banking institutions and individuals.²¹ International consumer brands, including McDonald’s, Starbucks, and Subway have been involved in the e-CNY trial.²² Accordingly, e-CNY is “likely to become an important feature of China’s digital economy and financial system.”²³

China’s CBDC is among potential CBDCs that could have real global implications.²⁴ For CBDC, it has been suggested that “[w]hatever the Chinese do will affect other national economies.”²⁵ It is expected that China’s CBDC may be “the powerful disruption that kickstarts a move from the extensive SDC-related research and piloting we have seen in Canada, England, and elsewhere, to multiple instances of SDC *issuance*, particularly by major

<https://www.kwm.com/en/au/knowledge/insights/chinas-digital-rmb-is-your-business-ready-20210427> [<https://perma.cc/9MMD-HJ83>].

¹⁹ *Id.*

²⁰ Vipin Bharathan, *E-CNY Progress Report Reveals Telling Details About The Chinese Retail CBDC Project*, FORBES (July 19, 2021, 8:58 AM), <https://www.forbes.com/sites/vipinbharathan/2021/07/19/e-cny-progress-report-reveals-telling-details-about-the-chinese-retail-cbdc-project/?sh=1975aa6b6a59> [<https://perma.cc/V9BY-63AP>].

²¹ See, e.g., Arjun Kharpal, *E-commerce Giant JD Starts Accepting China’s Digital Currency on Singles Day for the First Time*, CNBC (Nov. 11, 2021, 12:43 AM), <https://www.cnbc.com/2021/11/11/china-digital-currency-jd-begins-accepting-e-cny-on-singles-day.html> [<https://perma.cc/2V6H-Z5G6>] (describing a Chinese e-commerce platform, JD, as working together with the China Construction Bank to accept e-CNY and to use it for payroll); *Hainan Realizes First Digital RMB Payment in Cross-Border Import E-commerce*, SILK RD. CITIES ALL. (May 20, 2021, 6:05 PM), http://www.srca-info.com/srca/en/srca4/srca4_2/202105/t20210520_3417.html [<https://perma.cc/X89Y-8GSQ>] (describing a Chinese crossborder import e-commerce platform, Guomian (Hainan) Technology Co., Ltd., as accepting e-CNY for crossborder transactions).

²² Frank Tang, *China Includes McDonald’s, Starbucks, Subway on List of Foreign Firms to Test Digital Currency*, S. CHINA MORNING POST (Apr. 23, 2020), <https://sg.news.yahoo.com/mcdonald-starbucks-subway-among-foreign-113523567.html> [<https://perma.cc/J37T-KTW9?type=image>].

²³ Olsson et al., *supra* note 18.

²⁴ Dirk A. Zetsche et al., *Sovereign Digital Currencies: The Future of Money and Payments?* 1, 11 (U. H.K. Fac. L., Research Paper No. 2020/053, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3714386 [<https://perma.cc/9VLW-WEUY>].

²⁵ Bharathan, *supra* note 20.

economies.”²⁶ More generally, CBDCs will likely affect the development and use of each other. For instance, at the time of this writing, the Federal Reserve is seeking comments on CBDC, including those on how the decisions to issue CBDC should be influenced by other large economies’ decisions around CBDC.²⁷

This article explores China’s approach to CBDC, particularly from an international perspective. The international dimension and impact of China’s CBDC will be highlighted since it carries profound implications for the future of the international economy, while it has received scant attention in current research. This article will first analyse the key aspects of e-CNY (chapter II), and then its core features (chapter III). For its core features, e-CNY is characterised internally by the strengthened role of the state, and externally by possible cross-border use of e-CNY, and China’s proactiveness in international governance regarding CBDC. I argue that these features contribute to China’s CBDC approach of selective reshaping of international economic governance (chapter IV). The article further explores a multifactor framework, engaging with economic, political economy, and legal and regulatory factors, to analyse the sustainability of China’s CBDC approach (chapter V). Chapter VI concludes the paper with a short summary and reflection.

Some carve-outs are rather useful here. This article is based on publicly available materials and does not claim to contain all possible information on CBDC. For CBDC-related research, “caution is warranted in any comparative analysis about a subject in which the public-facing statements and trials are only the tip of the iceberg in comparison to the research, knowledge, and trials that are internal to each central bank and government.”²⁸ Also, of note, this article does not focus on the merits of CBDC, which demand a separate analysis.

²⁶ Zetzche et al., *supra* note 24.

²⁷ BD. OF GOVERNORS OF THE FED. RSRV. SYS., MONEY AND PAYMENTS: THE U.S. DOLLAR IN THE AGE OF DIGITAL TRANSFORMATION 1, 22 (2022), <https://www.federalreserve.gov/publications/files/money-and-payments-20220120.pdf> [<https://perma.cc/K4GF-G2NE>].

²⁸ Martin Chorzempa, *China, the United States, and Central Bank Digital Currencies: How Important Is It to Be First?*, 14 CHINA ECON. J., 102, 109 (Jan. 5, 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3765709 [<https://perma.cc/PV58-YTXY>].

2. WHAT IS CHINA'S CBDC?

China's CBDC is "the digital version of fiat currency issued by the PBOC."²⁹ Through account-based interfaces, e-CNY is, at the time of this writing, available to both the public and foreign visitors to China.³⁰ E-CNY's functions include "exchange and circulation management, interoperability and [a] wallet ecosystem."³¹ Several major aspects of e-CNY will be discussed below.

2.1. Two-Tier Operational System

China's CBDC features a hybrid operational system with two layers dealing with issuance and circulation.³² Within the first layer (the distribution layer), the central bank distributes CBDC to individual banks or payment platforms that then circulate CBDC to users in the second layer.³³

The structure of e-CNY is illustrated in the figure below.

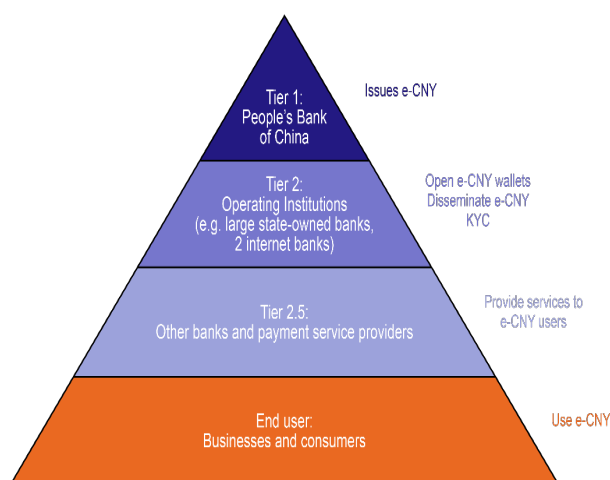
²⁹ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 3.

³⁰ Raphael Auer et al., *Central Bank Digital Currencies: Motives, Economic Implications and the Research Frontier* 1, 5 (BIS, Working Papers No. 976, 2021), <https://www.bis.org/publ/work976.pdf> [<https://perma.cc/XN8S-287B>].

³¹ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 13.

³² *Id.* at 3.

³³ Kiff et al., *supra* note 1, at 24.

Figure 1: The structure of e-CNY³⁴

Source: Deutsche Bank Research

In the first layer, the PBOC issues e-CNY to second-tier institutions (currently including six major state-owned banks and two internet banks), also called authorized operators, operating institutions, operating agencies or tier 2 institutions.³⁵ Second-tier institutions circulate the e-CNY to retail market participants, including the public.³⁶ The list of second-tier institutions is likely to grow. They will lead the CBDC exchange services³⁷ (exchanging e-

³⁴ This figure is adapted with slight adaptations from *Digital Yuan: What Is It and How Does It Work*, DEUTCHE BANK (July 14, 2021), <https://www.db.com/news/detail/20210714-digital-yuan-what-is-it-and-how-does-it-work> [<https://perma.cc/7YUA-L5Q8>].

³⁵ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 3; *Digital Yuan: What Is It and How Does It Work?*, *supra* note **Error! Bookmark not defined.**

³⁶ BIS INNOVATION HUB HONG KONG CTR., *supra* note 12, at 13.

³⁷ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 8.

CNY into traditional CNY for the public³⁸) and circulation services.³⁹ Second-tier institutions are also e-CNY wallet providers.⁴⁰ A user needs to go to one of these second-tier institutions to open an e-CNY wallet,⁴¹ which usually involves an e-CNY wallet app. Three telecommunication operators are also working with major state-owned banks to form joint project teams to participate in e-CNY research and development.⁴²

Other banks and service providers may be “tier 2.5 institutions” (also known as “related commercial institutions”) that supply payment and other services to e-CNY holders, but cannot provide e-CNY exchange services.⁴³ These institutions appear to include a number of other banks and third-party payment service providers.⁴⁴ Tier 2.5 institutions could also be regarded as secondary issuers.⁴⁵

³⁸ Duan Xiangyu (段相宇), Guancha Gun Yanghang Shuzi Huobi Ruhe Yingxiang Ni Wo (观察 | 央行数字货币如何影响你我) [Observation | How Will CBDC Affect You and Me], Renmin Wang (人民网) [PEOPLE'S DAILY ONLINE] (June 8, 2020), <http://blockchain.people.com.cn/n1/2020/0608/c417685-31739212.html> [<https://perma.cc/8DRJ-T5VB>].

³⁹ Li Guohui (李国辉) & Ma Meiruo (马梅若), Shuzi Renminbi Yanfa Shidian Qude Jiji Jinzhan: Yanghang Juxing “Zhongguo Shuzi Renminbi De Yanfa Jinzhan Baipishu” Meiti Chui Feng Hui (数字人民币研发试点 得积极进展 央行举行《中国数字人民币的研发进展白皮书》媒体吹风会) [Positive Progress Has Been Made in the E-CNY Research & Development Pilot: Central Bank Held a Media Briefing on the White Paper on Progress of Research & Development of E-CNY in China], Jimong Shibao-Zhongguo Jinrong Xinwen Wang (金融时报-中国金融新闻网) [FIN. TIMES-CHINA FIN. NEWS NETWORK] (July 19, 2021), https://www.financialnews.com.cn/jg/dt/202107/t20210719_223623.html [<https://perma.cc/F3LW-RB8T>].

⁴⁰ Mookerjee, *supra* note 3.

⁴¹ *Digital Yuan: What is It and How Does It Work?*, *supra* note **Error! Bookmark not defined.**

⁴² Li & Ma, *supra* note 39.

⁴³ DEUTSCHE BANK, *supra* note 29.

⁴⁴ Du Xiaotong (杜晓彤) & Li Yingchao (李颖超), Shuzi Renminbi Jiang Quanmian Zouxiang Dazhong? Canyu Liutong Yinhang Zhengzai Zengjia, Hai You 11 Jia Yi Huozhun Yindao Kehu Tiyan (数字人民币将全面走向大众? 参与流通银行正在增加, 还有 11 家已获准引导客户体验) [Will the E-CNY Go to the Public in an All-Round Way? Participating Banks in Circulation Are Increasing, and 11 More Have Been Approved to Guide the Customer Experience], Zhengquan Shibao (证券时报) [SEC. TIMES] (Aug. 17, 2021), https://news.stcn.com/sd/202108/t20210817_3550237.html [<https://perma.cc/GBM7-H879>].

⁴⁵ Jack Martin, *Alipay Patents Reveal More Details About China's Forthcoming CBDC*, COINTELEGRAPH (Mar. 24, 2020), <https://cointelegraph.com/news/alipay-patents-reveal-more-details-about-chinas-forthcoming-cbdc> [<https://perma.cc/SA6F-74QY>].

They will join the e-CNY system to provide “e-CNY circulation services and retail management, including innovation on payment product design, system development, scenario expansion, marketing, business processing as well as operation and maintenance.”⁴⁶ Tier 2.5 institutions are expected to cooperate with one or more of authorized operators.⁴⁷ After the e-CNY wallet is opened, the user can then access a variety of services provided by both the issuing bank (one of the tier 2 institutions) and tier 2.5 institutions.⁴⁸ For instance, ride hailing service, Didi Chuxing, and food delivery business, Meituan Dianping, are involved in the CBDC trial.⁴⁹ Tiers 2 and 2.5 institutions are e-CNY intermediaries, many of which have been involved in the development of the e-CNY ecosystem’s “payments solutions and functions.”⁵⁰

End users include businesses and the public.⁵¹ Individual end-users will not be charged by commercial banks for the e-CNY exchange and circulation services.⁵² It seems that the issue of fees

⁴⁶ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 8.

⁴⁷ Du & Li, *supra* note 44.

⁴⁸ DEUTSCHE BANK, *supra* note **Error! Bookmark not defined.**

⁴⁹ Alun John, *Explainer: How Does China's Digital Yuan Work?*, REUTERS (Oct. 19, 2020), <https://www.reuters.com/article/us-china-currency-digital-explainer-idUSKBN27411T> [<https://perma.cc/J62U-VDL5>].

⁵⁰ Gabriel Soderberg et al., *Behind the Scenes of Central Bank Digital Currency*, IMF FINTECH NOTES, Feb. 2022, at 1, 16.

⁵¹ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 4–5.

⁵² Rajesh Bansal & Somya Singh, *China's Digital Yuan: An Alternative to the Dollar-Dominated Financial System* 1, 5 (Carnegie Endowment for Int'l Peace, Working Paper, 2021), https://carnegieendowment.org/files/202108-Bansal_Singh_-_Chinas_Digital_Yuan.pdf [<https://perma.cc/H3SL-8JY7>]; Guo Jian (郭建), Zhong Jin: Shuzi Renminbi Quanmian Tuiguang Dui Zhifu Tixi De Qianzai Yingxiang (中金: 数字人民币全面推广对支付体系的潜在影响) [CICC: The Potential Impact of the Full Promotion of the Digital Renminbi on the Payment System], SINA WEIBO (新浪微博) (July 29, 2021, 8:03 AM), <https://finance.sina.com.cn/money/forex/forexinfo/2021-07-29/doc-ikqcfnc9634052.shtml> [<https://perma.cc/YV9U-KKL3>]; Reuters Staff, Zhongguo Yanghang Guanyuan: Shuzi Renminbi Ying Jianchi Yanghang Zhongxin Hua Jianguan Fangzhi Huobi Faxing Quan Pangluo (中国央行官员: 数字人民币应坚持央行中心化监管 防止货币发行权旁落) [China's Central Bank Official: E-CNY Should Adhere to Central Bank Supervision to Prevent Currency Issuance Power from Falling Behind], REUTERS (Oct. 25, 2020), <https://www.reuters.com/article/pboc-official-digital-rmb-1025-sun-idCNKBS27B00L> [<https://perma.cc/D5W9-XM7W>].

collected by tiers 2 and 2.5 institutions on businesses will be decided by the market.⁵³

2.2. *Loosely Coupled with Bank Accounts*

A major feature of e-CNY is its loose coupling with bank accounts.⁵⁴ E-CNY is “a value-based, quasi-account-based and account-based hybrid payment instrument,” with “loosely-coupled account linkage.”⁵⁵ Said differently, e-CNY is “based on broad accounts, loosely coupled with bank accounts.”⁵⁶ However, there seems to be limited elaboration further on what “loosely-coupled account linkage” means.⁵⁷ E-CNY wallets may be used without opening or linking to a bank account in some circumstances that provide rather basic functions:⁵⁸ unbanked individuals may access “basic financial services provided via [an] e-CNY wallet,” and foreign visitors may open an e-CNY wallet “to meet daily payment needs without opening a domestic bank account.”⁵⁹

2.3. *Managed Anonymity*

Managed anonymity is a major feature of e-CNY.⁶⁰ According to the PBOC, managed anonymity means that the CBDC system “does not provide information to third parties or other government agencies unless stipulated otherwise in laws and regulations.”⁶¹ For

⁵³ See Reuters Staff, *supra* note 52 (stating that fees must be resolved by operating agencies, service agencies, and merchants by a market-oriented mechanism).

⁵⁴ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 13.

⁵⁵ *Id.* at 3.

⁵⁶ *Id.* at 6.

⁵⁷ Bharathan, *supra* note 20.

⁵⁸ Karen Yeung, *What Is China's Cryptocurrency Alternative Sovereign Digital Currency and Why Is It Not Like Bitcoin?*, S. CHINA MORNING POST (May 13, 2020), <https://www.scmp.com/economy/china-economy/article/3083952/what-chinas-cryptocurrency-sovereign-digital-currency-and-why> [https://perma.cc/X7PZ-SUSU].

⁵⁹ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 5.

⁶⁰ *Id.* at 13.

⁶¹ *Id.* at 7.

a digital wallet app, where the user's identity has been verified, the PBOC will know the user's identity.⁶² In contrast, transactions conducted through the e-CNY wallet app will only transmit the wallet ID, with neither the transaction parties nor the sub-wallet account bank knowing the user's identity.⁶³ This means that users may be able to "hide their identity from counterparties," making it "more difficult for online platforms to collect user information."⁶⁴

The regulation in this regard is yet to be seen. According to the Law of the People's Republic of China on People's Bank of China ("PBOC") (Amendment Draft for Consultation) of 2020 (the "2020 Amendment Draft"), the PBOC and its branches may ask the regulated entity to provide data and information as required by regulation.⁶⁵ The PBOC should, under the 2020 Amendment Draft, establish a regulatory information sharing mechanism with the member institutions of the Financial Stability and Development Committee under the State Council.⁶⁶ However, it is not clear whether and how evolving rules on the sharing of government information among government agencies (such as the Notice of the State Council on Issuing the Interim Measures for the Administration of Sharing of Government Information Resources) will apply to e-CNY.⁶⁷

⁶² Olsson et al., *supra* note 18.

⁶³ *Id.*

⁶⁴ *Digital Yuan: What is It and How Does It Work?*, *supra* note **Error! Bookmark not defined.**

⁶⁵ Zhonghua Remin Gongheguo Zhongguo Remin Yinhang Fa (Xiuding Caoan Zhengqiu Yijiangao) (中华人民共和国中国人民银行法(修订草案征求意见稿)) [Law of the People's Republic of China on the People's Bank of China (Amendment Draft for Consultation)] (drafted by the Nat'l People's Cong., Oct. 23, 2022) [hereinafter *People's Bank of China Draft*], art. 51, https://www.gov.cn/zhengce/zhengceku/2020-10/24/content_5553847.htm [<https://perma.cc/82HF-JM2L>].

⁶⁶ *Id.* art. 52.

⁶⁷ Jiang Jiaying & Karman Lucero, Background and Implications of China's Central Bank Digital Currency: E-CNY 18 (Mar. 22, 2021) (unpublished manuscript) (available [online](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3774479) at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3774479 [<https://perma.cc/WK67-7KJ3>]).

3. CORE FEATURES OF E-CNY

China's CBDC approach can be understood in terms of three core features of the e-CNY: the role of the state (including the prohibition of cryptocurrencies), the possible cross-border use of e-CNY, and China's proactive efforts in international governance concerning CBDC.

3.1. *The Role of the State*

E-CNY is a state-led initiative, echoing the development of digital currency which is indicated in China's fourteenth Five-Year Plan and is regarded as part of structural reforms on the financial supply side.⁶⁸ The government is proactive in various aspects of CBDC, including local governments reportedly giving away funding to residents to trial the e-CNY.⁶⁹ Major factors in selecting e-CNY pilot areas include both national and regional development strategies.⁷⁰

The legal concept of money is based on the state's power to regulate the monetary system.⁷¹ CBDC concerns the "very fundamental relationship between money, the State, and the law."⁷² This part focuses on the state's role in CBDC-related regulation: China's prohibition of cryptocurrencies and the centralized governance model regarding e-CNY.

⁶⁸ Zhonghua Renmin Gongheguo Guomin Jingji He Shehui Fazhan Di Shisi Ge Wunian Guihua He 2035 Nian Yuanjing Mubiao Gangyao (中华人民共和国国民经济和社会发展第十四个五年规划和2035年远景目标纲要) [Outline of the People's Republic of China 14th Five-Year Plan for National Economic and Social Development and the Long-Range Objectives Through the Year 2035] (promulgated by Nat'l People's Cong., Mar. 12, 2021), ch. 21 § 3 [hereinafter Five Year Plan], http://www.gov.cn/xinwen/2021-03/13/content_5592681.htm [<https://perma.cc/C7B5-RL27>].

⁶⁹ Yeung & Mullen, *supra* note 5.

⁷⁰ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 13.

⁷¹ Kiff et al., *supra* note 1, at 38.

⁷² Wouter Bossu et al., *Legal Aspects of Central Bank Digital Currency: Central Bank and Monetary Law Considerations* 5 (IMF, Working Paper No. 2020/254, 2020), <https://www.imf.org/en/Publications/WP/Issues/2020/11/20/Legal-Aspects-of-Central-Bank-Digital-Currency-Central-Bank-and-Monetary-Law-Considerations-49827> [<https://perma.cc/Y8CJ-4TCH>].

3.1.1. *The Prohibition on Cryptocurrencies*

China's CBDC approach should be viewed through a functional lens. Its regulation of cryptocurrencies and CBDC is like two sides of a coin, cryptocurrencies being regarded as the opposite of CBDC.⁷³ Cryptocurrencies are typically understood to include stablecoins and other cryptocurrencies (e.g., Bitcoin).⁷⁴ Cryptocurrencies consist of "open" cryptocurrencies (e.g., Bitcoin and Ether) that "operate outside the jurisdiction and direct control of the state or any single entity," and "corporate or consortium-managed digital currencies."⁷⁵ E-CNY is managed by the PBOC, contrasted with most cryptocurrencies that aim to decentralize power traditionally reserved by the state.⁷⁶ To some extent, e-CNY is driven by the response to cryptocurrencies and, relatedly, the risk of capital flight.⁷⁷

China does not permit the parallel development of decentralized cryptocurrencies and CBDC. In the 2020 Amendment Draft, the PBOC proposed to confirm e-CNY's legal tender status as the digital form of RMB.⁷⁸ The 2020 Amendment Draft also forbids and

⁷³ James Kyngé & Sun Yu, *Virtual Control: The Agenda behind China's New Digital Currency*, FIN. TIMES (Feb. 17, 2021), <https://www.ft.com/content/7511809e-827e-4526-81ad-ae83f405f623> [https://perma.cc/9TUK-SU73].

⁷⁴ *Cryptocurrencies: The Risks of Investing in Crypto*, MONEYSMART, <https://moneysmart.gov.au/investment-warnings/cryptocurrencies-and-icos> (last visited Nov. 20, 2022).

⁷⁵ ASHTON DE SILVA ET AL., RMIT UNIV., CENTRAL BANK DIGITAL CURRENCIES (CBDCs): A COMPARATIVE REVIEW 4 (2021)

⁷⁶ Karen Yeung, *What Is China's Sovereign Digital Currency?*, S. CHINA MORNING POST (May 13, 2020, 10:35 AM), <https://www.scmp.com/economy/china-economy/article/3083952/what-chinas-cryptocurrency-sovereign-digital-currency-and-why> [https://perma.cc/4AXF-UPDE].

⁷⁷ Karen Yeung, *China Not Among Major Central Banks in Talks on Global Digital Currency Principles*, SOUTH CHINA MORNING POST (Oct. 9, 2020, 7:00 PM), https://www.scmp.com/economy/china-economy/article/3104905/china-not-among-major-central-banks-talks-global-digital?utm_medium=email&utm_source=mailchimp&utm_campaign=enlz-scmp_china&utm_content=20201009&tpcc=enlz-scmp_china&MCUID=b2992489b1&MCCampaignID=c2e928c32f&MCAccountID=3775521f5f542047246d9c827&tc=5 [https://perma.cc/A96B-QK9L].

⁷⁸ People's Bank of China Draft, arts. 18–19; Soderbeg et al., *supra* note 50, at 18.

imposes fines on the production, circulation, and sale of substitute currencies in digital and physical forms, which seem to include RMB-pegged digital tokens.⁷⁹ More recently, China has prohibited all activities concerning private virtual currencies through a notice issued by ten agencies including the Supreme People's Court (hereinafter "SPC").⁸⁰ This would likely affect not only administrative decisions but also court judgments as the notice was issued by the administrative agencies and SPC.

The crackdown on cryptocurrencies is a distinctive aspect of China's CBDC approach, differing from many economies in which CBDC and cryptocurrencies could co-exist. This seems to reflect "China's 'state-centric' monetary system."⁸¹

3.1.2. A Centralized Governance Model

E-CNY is managed under a centralized model,⁸² and it is observed to be "hypercentralized."⁸³ According to a then PBOC deputy governor, central governance of e-CNY is meaningful for several reasons: (i) maintaining the role of fiat currency and the authority to issue currency; (ii) enhancing efficiency in payment systems and improving monetary policy transmission (e.g., e-CNY's

⁷⁹ Zhonghua Remin Gongheguo Zhongguo Remin Yinhang Fa (中华人民共和国中国人民银行法) [Law of the People's Bank of China on the People's Bank of China] (promulgated by the Nat'l People's Cong., Mar. 18, 1995, rev'd by the Standing Comm. Nat'l People's Cong., Dec. 27, 2003), arts. 4.3, 42-46, http://www.gov.cn/test/2005-06/28/content_10577.htm [<https://perma.cc/W2CR-R8C7>]; Soderberg et al., *supra* note 50, at 18.

⁸⁰ Eleanor Olcott & Eva Szalay, *China Expands Crackdown by Declaring All Crypto Activities 'Illegal'*, FIN. TIMES (Sept. 24, 2021), <https://www.ft.com/content/31f7edf7-8e05-46e1-8b13-061532f8db5f> [<https://perma.cc/X3MJ-LS3E>]; *Notice on Further Preventing and Resolving the Risks of Virtual Currency Trading and Speculation*, PEOPLE'S BANK OF CHINA (Sept. 15, 2021), <http://www.pbc.gov.cn/en/3688253/3689012/4353814/index.html> [<https://perma.cc/QT5B-FSAA>].

⁸¹ Christopher A. McNally & Julian Guin, *A Novel Pathway to Power? Contestation and Adaptation in China's Internationalization of the RMB*, 24 REV. INT'L POL. ECON. 599, 601 (2017).

⁸² WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 13.

⁸³ Aditi Kumar & Eric Rosenbach, *Could China's Digital Currency Unseat the Dollar?*, FOREIGN AFFS. (May 20, 2020), <https://www.foreignaffairs.com/print/node/1126052> [<https://perma.cc/33VL-CQK6>].

“settled upon payment” to speed up currency circulation); and (iii) ensuring financial stability (e.g., the use of big data and AI to inhibit illicit activities).⁸⁴ CBDC would strengthen the role of the state, which includes related agencies (e.g., taxation authorities), and provide the PBOC with “tight centralized control over digital money.”⁸⁵ The analysis here focuses on the PBOC, which issues e-CNY and manages the whole CBDC life cycle through the e-CNY systems’ operation, regulation, infrastructure and data.⁸⁶

First, the PBOC is at the center of the operation of the e-CNY system, including taking care of CBDC issuance and disposal.⁸⁷ To illustrate, there is the PBOC’s central ledger,⁸⁸ the “core” of e-CNY.⁸⁹ E-CNY wallets also provide a prime example. The use of e-CNY usually requires downloading the PBOC’s e-CNY app that is the core node of the e-CNY system, and the central bank is the core entry and clearing center for e-CNY.⁹⁰ Moreover, all cross-institutional transactions need to go through the PBOC for the value transfer to occur.⁹¹

Second, the PBOC plays the leading role in regulation and setting rules and standards relating to CBDC. The 2020 Amendment Draft provides the central bank with powers spanning across the planning, organization and supervision of the payment system,

⁸⁴ Fan Yifei (范一飞), Guanyu Shuzi Renminbi M0 Dingwei de Zhengce Hanyi Fenxi (关于数字人民币 M0 定位的政策含义分析) [Analysis on the Policy Implications of the M0 Status of E-CNY], *Renmin Ribao* (人民日报) [PEOPLE’S DAILY] (Sept. 15, 2020, 2:25 PM), <http://blockchain.people.com.cn/n1/2020/0915/c417685-31862262.html> [<https://perma.cc/ATA5-Q6HZ>].

⁸⁵ Narayanan Somasundaram, *Will China’s Digital Yuan Vanquish the Dollar?*, NIKKEI ASIA (Aug. 11, 2021, 6:00 AM), https://asia.nikkei.com/Spotlight/The-Big-Story/Will-China-s-digital-yuan-vanquish-the-dollar?del_type=1&pub_date=20210811190000&seq_num=2 [<https://perma.cc/22JY-C228>].

⁸⁶ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 3.

⁸⁷ *Id.* at 8.

⁸⁸ Jan Knoerich, *China’s New Digital Currency: Implications for Renminbi Internationalization and the US Dollar*, in THE (NEAR) FUTURE OF CENTRAL BANK DIGITAL CURRENCIES: RISKS AND OPPORTUNITIES FOR THE GLOBAL ECONOMY AND SOCIETY 145, 149 (Nicola Bilotta & Fabrizio Botti eds., 2021).

⁸⁹ Soderberg et al., *supra* note 50, at 17.

⁹⁰ Wang Yongli (王永利), *Shuzi Renminbi Keneng Dailai de Zuida Bianhua* (数字人民币可能带来的最大变化) [The Biggest Change that e-CNY May Bring], SINA (Nov. 2, 2020, 8:08 AM), <https://finance.sina.cn/zl/2020-11-02/zl-iznctkc8953792.d.html> [<https://perma.cc/45E4-V2KU>].

⁹¹ Li & Ma, *supra* note 39.

along with responsibility for the cybersecurity of e-CNY.⁹² The PBOC also supervises CBDC exchange and circulation⁹³ (including anti-money laundering (“AML”) regulation)⁹⁴ and regulates authorised operators and other commercial institutions.⁹⁵ According to a then PBOC deputy governor, the centralized governance of e-CNY requires the setting of standards (i.e., technical, business, security and operational standards).⁹⁶ The PBOC is responsible for setting rules for e-CNY wallets and managing e-CNY wallet ecosystem.⁹⁷ Commercial banks and licensed non-bank payment institutions must obtain the PBOC’s recognition and support, and must meet compliance and regulatory requirements (e.g., AML, risk management) to take part in China’s CBDC payment system.⁹⁸ Authorized operators providing exchange services operate under the “quota management of the PBOC.”⁹⁹

Third, the PBOC is at the center of the system’s infrastructure. Centralized governance of e-CNY involves the development of e-CNY infrastructure (including the connection of different operating institutions).¹⁰⁰ The PBOC is responsible for “inter-institution connect.”¹⁰¹ Regarding the monitoring of e-CNY transactions, the PBOC is expected to establish three centers for authentication, registration, and big data analysis respectively.¹⁰²

Fourth, the PBOC plays a central role in many other aspects such as technology and data. The PBOC is observed to be “rel[ying] to a greater extent on internal resources [in acquiring technology] and

⁹² Soderberg et al., *supra* note 50, at 17–18.

⁹³ Li & Ma, *supra* note 39.

⁹⁴ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 10.

⁹⁵ Bharathan, *supra* note 20.

⁹⁶ Fan, *supra* note 84.

⁹⁷ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 8–9.

⁹⁸ *Id.* at 6.

⁹⁹ *Id.* at 8.

¹⁰⁰ Fan, *supra* note 84.

¹⁰¹ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 8.

¹⁰² Jinze & Etienne, *First Look: China’s Central Bank Digital Currency*, BINANCE RSCH. (Aug. 28, 2019), <https://research.binance.com/en/analysis/china-cbdc> [<https://perma.cc/D38K-3L88>]; Shen Wei & Hou Liyang, *China’s Central Bank Digital Currency and Its Impacts on Monetary Policy and Payment Competition: Game Changer or Regulatory Toolkit?*, 41 COMPUT. L. & SEC. REV. 1, 6.

has different contractors for different areas as necessary," which provides "more control over the development process."¹⁰³

Centralized governance of e-CNY also involves the management of e-CNY information.¹⁰⁴ E-CNY will likely "revolutionize" the regulator's capacity to "scrutinize the nation's payment and financial system" with additional powers to track how money is used.¹⁰⁵ The central bank could have access to CBDC transaction data and data regarding e-CNY digital wallets, but authorized operators will no longer be able to access all transaction information as was the case before the rolling out of e-CNY; if e-CNY wallets of the payer and payee are opened at different authorized operators, each authorized operator would not have all the information of both parties to the transaction, reflecting e-CNY's managed anonymity feature.¹⁰⁶ Under the loose coupling of accounts, CBDC operating agencies will "submit transaction data to the central bank via asynchronous transmission," enabling the central bank to "keep track of necessary data."¹⁰⁷ Conversely, the managed anonymity feature of e-CNY will hinder an online platform's collection of user information.¹⁰⁸ E-CNY's "touch and touch" function, enabling two end users to touch their mobile devices to conduct a fund transfer, "leav[es] no payment record with a third party or the banking system."¹⁰⁹ Managed anonymity features aside, e-CNY helps the state secure a central role in the financial system and fintech industry (including a huge e-payments market).¹¹⁰

¹⁰³ Soderberg et al., *supra* note 50, at 16.

¹⁰⁴ Fan, *supra* note 84.

¹⁰⁵ Yeung, *supra* note 76.

¹⁰⁶ Wang, *supra* note 90; Karen Yeung, *China's E-Yuan Like 'A Double-Edged Sword', and Mishandling It Carries Considerable Financial Risks*, S. CHINA MORNING POST (July 18, 2021, 10:00 PM), <https://www.scmp.com/economy/china-economy/article/3141435/chinas-e-yuan-double-edged-sword-and-mishandling-it-carries> [<https://perma.cc/TZ3N-JG3X>].

¹⁰⁷ Yifei Fan, *Some Thoughts on CBDC Operations in China*, CENT. BANKING (Apr. 1, 2020), <https://www.centralbanking.com/fintech/cbdc/7511376/some-thoughts-on-cbdc-operations-in-china> [<https://perma.cc/3ALX-RY8Y>].

¹⁰⁸ *Digital Yuan: What is It and How Does It Work?*, *supra* note **Error! Bookmark not defined.**, at 5.

¹⁰⁹ Yeung, *supra* note 76.

¹¹⁰ Kyngé & Yu, *supra* note 73; ALEX HE, DIGITAL RMB: A POSSIBLE WAY TO REASSERT DATA CONTROL IN THE DIGITAL ECONOMY 4 (2021), <https://www.cigionline.org/publications/digital-rmb-a-possible-way-to-reassert-data-control-in-the-digital-economy/> [<https://perma.cc/L5UJ-HYN4>].

3.2. *The Possible Cross-Border Use of e-CNY*

The PBOC has emphasized “the importance of exploring cross-border payments with CBDC,”¹¹¹ likely involving retail and wholesale use cases outside Mainland China. For instance, Hong Kong’s forthcoming pilot scheme for e-CNY use will involve retail use in some contexts like shopping and dining for certain individual users in Hong Kong and Hongkongers living in the Greater Bay Area.¹¹² The PBOC is also involved in the Multiple CBDC Bridge project (mCBDC Bridge, or mBridge), a wholesale CBDC “co-creation” project that explores the capabilities of DLT and that focuses on cross-currency cross-border payments.¹¹³ Here, the PBOC has collaborated with regulators in Hong Kong, Thailand and the United Arab Emirates (UAE) as well as the Bank for International Settlements (BIS) under this mCBDC Bridge.¹¹⁴

The possible cross-border use of e-CNY is explored through new and existing mechanisms, multi-level efforts, and the technology and networks that China is involved in. The improvement of international payment is one of the three objectives of China’s CBDC.¹¹⁵ The PBOC believes that China’s CBDC is “technically ready for cross-border use,”¹¹⁶ and the bank is to beginning to explore cross-border use, including “pilot cross-border payment programs.”¹¹⁷ E-CNY may also gain international use due to, *inter alia*, network effects and common infrastructure and standards.¹¹⁸ If everything goes smoothly, e-CNY could be used in international

¹¹¹ Soderberg et al., *supra* note 50, at 25.

¹¹² Enoch Yiu, *Hong Kong Sets Stage for E-CNY Use, to Launch Pilot ‘Soon after Spring Festival’*, S. CHINA MORNING POST (Feb. 7, 2022), <https://www.scmp.com/print/business/banking-finance/article/3166109/hong-kong-sets-stage-e-cny-use-launch-pilot-soon-after> [<https://perma.cc/8XLP-TLK4>].

¹¹³ BANK FOR INT’L SETTLEMENTS [BIS], *Multiple CBDC (mCBDC) Bridge* (2021), https://www.bis.org/about/bisih/topics/cbdc/mcbdc_bridge.htm [<https://perma.cc/6YGN-B5SB>].

¹¹⁴ BIS INNOVATION HUB H.K. CTR., *supra* note 12, at 7.

¹¹⁵ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 5–6.

¹¹⁶ *Id.* at 5.

¹¹⁷ *Id.*

¹¹⁸ Diana Choyleva, *China Advances in Challenge to Dollar Hegemony*, FIN. TIMES (June 30, 2021), <https://www.ft.com/content/efa3ec2b-5be8-413f-b23c-cc9b9bff1261> [<https://perma.cc/H4UU-DR98>].

contexts including cross-border retail payment (e.g., tourism,¹¹⁹ e-commerce, and business visits),¹²⁰ real-time cross-border foreign exchange payments (as explored in the m-CBDC Bridge), remittance,¹²¹ and possibly the Belt and Road Initiative (BRI) projects (e.g., RMB loans and investments).¹²² E-CNY will likely be first used in business-to-consumer (B2C) and then in cross-border flows in the medium-to-long term.¹²³

3.2.1. *The Use of Existing and New Mechanisms*

China appears to utilize existing and new mechanisms to explore the cross-border use of CBDC.¹²⁴ Its efforts often focus on finance and technology and the development of infrastructure.

In relation to finance, China engages with existing financial systems including SWIFT, the global financial messaging system.¹²⁵ China established a joint venture with SWIFT in 2021, which is regarded as part of the efforts to explore the international use of China's CBDC and propel RMB internationalization.¹²⁶ For instance, the joint venture will establish a localized data warehouse

¹¹⁹ Tang, *supra* note 22.

¹²⁰ Zhou Xiaochuan Clarifies Three Major Misunderstandings of the E-CNY, COINYUPPIES (May 22, 2021), <https://coinyuppie.com/zhou-xiaochuan-clarifies-three-major-misconceptions-about-digital-currencies-in-five-major-ways-with-full-speech/> [<https://perma.cc/W9NR-F8G4>]. Bansal & Singh, *supra* note 52, at 7.

¹²¹ *Id.* at 15; Bansal & Singh, *supra* note 52, at 15.

¹²² Lo Chi, *The Crypto-Renminbi Challenge to the Dollar*, 34 INT'L ECON., 50, 70 (2020).

¹²³ JASON EKBERG & MICHAEL HO, A NEW DAWN FOR DIGITAL CURRENCY: WHY CHINA'S ECNY WILL CHANGE THE WAY MONEY FLOWS FOREVER 3 (2021), <https://www.oliverwyman.com/our-expertise/insights/2021/may/a-new-dawn-for-digital-currency.html> [<https://perma.cc/29GG-5L6K>].

¹²⁴ See, e.g., Reuters Staff, *SWIFT Sets up JV with China's Central Bank*, REUTERS (Feb. 4, 2021, 12:12 AM), <https://www.reuters.com/article/china-swift-pboc-idUSL1N2KA0AK> [<https://perma.cc/R7K9-CZEA>] (describing a joint venture between SWIFT and the Chinese central bank's digital currency research institute and clearing center).

¹²⁵ *Id.*

¹²⁶ *Id.*; Bansal & Singh, *supra* note 52, at 12; Karen Yeung, *China's SWIFT Joint Venture Shows Beijing Eyeing Global Digital Currency Use, to Internationalise Yuan*, S. CHINA MORNING POST (Feb. 4, 2021), <https://www.scmp.com/economy/china-economy/article/3120582/chinas-swift-joint-venture-shows-beijing-eyeing-global> [<https://perma.cc/T8X3-MD67>].

to “monitor and analyze cross-border payment messaging.”¹²⁷ Meanwhile, China’s CBDC is observed to reflect greater efforts to promote an “independent payments system based on its Cross-Border Inter-Bank Payments System (CIPS).”¹²⁸

Concerning technology, new mechanisms may be adopted to promote the CBDC. Blockchain provides a good example. The PBOC Digital Currency Institute (DCI) is developing a trade finance blockchain platform.¹²⁹ China’s government-backed initiative, the Blockchain Service Network (hereinafter “BSN”), may also help promote the use of CBDC.¹³⁰ Aiming to reduce the costs of using blockchains by individuals and SMEs, the BSN reportedly plans to develop an international network to support future CBDCs.¹³¹ China also launched the Global Initiative on Data Security in 2020.¹³²

¹²⁷ *China Central Bank Says New SWIFT JV Will Set Up Localized Data Warehouse*, REUTERS (Mar. 23, 2021, 4:55 AM), <https://www.reuters.com/world/china/china-central-bank-says-new-swift-jv-will-set-up-localized-data-warehouse-2021-03-23/> [<https://perma.cc/H2Q6-U2DU>].

¹²⁸ Nikhil Raghuvvera, *Design Choices of Central Bank Digital Currencies Will Transform Digital Payments and Geopolitics*, ATL. COUNCIL (Apr. 23, 2020), <https://www.atlanticcouncil.org/blogs/geotech-cues/design-choices-of-central-bank-digital-currencies-will-transform-digital-payments-and-geopolitics/> [<https://perma.cc/7W9X-GW6J>].

¹²⁹ Yanghang Shuyansuo Tan Qukuailian: Jishu Shang Qu Zhongxinhua Bu Dengyu Guanli Qu Zhongxinhua (央行数研所谈区块链：技术上去中心化并不等于管理去中心化) [PBOC Digital Currency Research Institute on Blockchain: Technical Decentralization Does Not Mean Decentralization of Management], 21 Shinji Jingji Baodao (21 世纪经济报道) [21ST CENTURY BUS. HERALD] (Sept. 13, 2021) [hereinafter “PBOC Digital Currency Research Institute”, <https://finance.sina.com.cn/blockchain/roll/2021-09-13/doc-iktzscyx3969921.shtml>] [<https://perma.cc/QNN7-7R8E>].

¹³⁰ Bansal & Singh, *supra* note 52, at 12; Michael Gu, *China’s Blockchain Service Network (BSN) Guide*, BOXMINING (May 14, 2020), <https://boxmining.com/blockchain-service-network-china/> [<https://perma.cc/LBE6-ZTME>]; *China’s BSN Blockchain Network Plans Multinational CBDC Pilot This Year*, LEDGER INSIGHTS (Jan. 15, 2021) [hereinafter *China’s BSN*], <https://www.ledgerinsights.com/china-bsn-blockchain-network-plans-multinational-cbdc-pilot-this-year/> [<https://perma.cc/2BBQ-SH7T>].

¹³¹ *China’s BSN*, *supra* note 130.

¹³² *Full Text: Global Initiative on Data Security*, CHINA.ORG.CN (Sept. 15, 2020), http://www.china.org.cn/chinese/2020-09/15/content_76704524.htm [<https://perma.cc/NU2N-YTCU>].

3.2.2. Multi-Level Efforts

China is exploring the cross-border use of CBDC at different levels. E-CNY trials in China are regarded by the PBOC as a basis for the pilot cross-border payment programs related to e-CNY.¹³³ For example, China's Xiongan New Area is planning for the cross-border use of digital yuan.¹³⁴ The 2022 Winter Olympics also involved a CBDC pilot.¹³⁵ Business and trade use cases may also see increased testing.¹³⁶

Outside Mainland China, the DCI has signed a memorandum with the Hong Kong Monetary Authority, with e-CNY cross-border payment technical testing having been conducted.¹³⁷ At the time of writing, Hong Kong reportedly plans to conduct e-CNY pilots with certain restaurants and shops.¹³⁸ It seems that the Macau government will also work with the PBOC to "study the feasibility of issuing a digital currency."¹³⁹ As an example of bilateral efforts, the possibility of Chinese tourists using China's CBDC abroad is reportedly being explored by China and Singapore.¹⁴⁰

In addition, the PBOC has collaborated with regulators in Hong Kong, Thailand, and the UAE as well as the BIS under the mCBDC Bridge.¹⁴¹ Multiple CBDC systems are being explored through the mCBDC Bridge that involves a prototype "to support real-time cross-border foreign exchange PvP [payment versus payment] transactions in multiple jurisdictions, operating 24/7."¹⁴² The PBOC

¹³³ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 5.

¹³⁴ *China's BSN*, *supra* note 130.

¹³⁵ Yang Jing & AnnaMaria Andriotis, *At the Winter Olympics, Beijing's Digital Yuan Push Puts Visa in a Bind*, WALL ST. J. (Feb. 9, 2022, 9:05 PM), <https://www.wsj.com/articles/beijings-digital-currency-push-at-winter-olympics-puts-visa-in-a-bind-11644402602> [<https://perma.cc/X8B4-8756>].

¹³⁶ *Do Digital Yuan Trial Figures Signal More Business Usage?*, LEDGER INSIGHTS (Nov. 2, 2020), <https://www.ledgerinsights.com/digital-yuan-trial-figures-business-usage-ecny-cbdc/> [<https://perma.cc/R36L-2VNL>].

¹³⁷ BIS INNOVATION HUB H.K. CTR., *supra* note 12, at 14.

¹³⁸ Yiu, *supra* note 112.

¹³⁹ Yeung & Mullen, *supra* note 5.

¹⁴⁰ Hu Yue & Denise Jia, *China's Didi Teams with Central Bank on Digital Currency Trial*, NIKKEI ASIA (July 9, 2020), <https://asia.nikkei.com/Spotlight/Caixin/China-s-Didi-teams-with-central-bank-on-digital-currency-trial> [<https://perma.cc/32BG-SLY6>].

¹⁴¹ BIS INNOVATION HUB H.K. CTR., *supra* note 12, at 7.

¹⁴² Raphael Auer et al., *supra* note 30, at 1, 8.

also engages with international standards development organizations.¹⁴³

3.2.3. Taking Advantage of Technology and Network

New technology will help e-CNY lower costs and improve convenience and efficiency in commerce. CBDC frameworks may be leveraged to enhance international payments (e.g., the conversion of CBDCs)¹⁴⁴ and lower costs (such as e-CNY lowering transaction costs for international users compared with cash).¹⁴⁵ E-CNY seemingly aims to further the efficiency and reduce the cost of inter-bank settlements, which is linked with the international acceptance of e-CNY.¹⁴⁶ The m-CBDC Bridge is exploring the use of CBDC and blockchain technology in cross-border foreign currency payments, aiming to make such payments simpler and less expensive.¹⁴⁷ CBDC may also streamline communication processes. Many problems with international fund transfers are attributable to the “communication hops” and numerous updates to ledgers across many intermediaries.¹⁴⁸ CBDCs may enable countries to transact separately, which “would lower demand for correspondent banking services and SWIFT international financial messaging and payment systems.”¹⁴⁹ Moreover, CBDC may reduce the cost of liquidity management.¹⁵⁰ For cross-border payment through traditional money, liquidity management is usually done through prefunding

¹⁴³ Bharathan, *supra* note 20.

¹⁴⁴ *The Bank of Japan’s Approach to Central Bank Digital Currency*, BANK OF JAPAN (Oct. 9, 2020), https://www.boj.or.jp/en/announcements/release_2020/data/rel201009e1.pdf, [https://perma.cc/MRS5-YSPK].

¹⁴⁵ Yeung, *supra* note 76.

¹⁴⁶ ROBIN HUI HUANG, *FINTECH REGULATION IN CHINA: PRINCIPLES, POLICIES AND PRACTICES* 285 (2021).

¹⁴⁷ Somasundaram, *supra* note 85.

¹⁴⁸ Bansal & Singh, *supra* note 52, at 7.

¹⁴⁹ Zhang Tao, Deputy Managing Director, IMF, Remarks during CAFIN Webinar Series on Financial Risks, Innovation and Inclusion in a Post-COVID World (Oct. 30, 2020), in *New Forms of Digital Money: Implications for Monetary and Financial Stability*, IMF (Oct. 30, 2021), <https://www.imf.org/en/News/Articles/2020/10/30/sp103020-new-forms-of-digital-money>.

¹⁵⁰ Bansal & Singh, *supra* note 52, at 7.

(i.e., keeping balances in relevant accounts), which is costly.¹⁵¹ That said, cross-border use of e-CNY faces similar challenges to existing currencies, such as capital controls.¹⁵²

China will likely take advantage of its network, such as its trade and payment networks, to promote CBDC.¹⁵³ E-CNY may continue China's use of its leading role in trade to increase demand for RMB in trade settlement.¹⁵⁴ For instance, cross-border use of e-CNY and e-HKD could be impactful given the large volume of trade between Hong Kong SAR and Mainland China.¹⁵⁵ Notably, BRI-related projects and transactions also promote RMB settlement.¹⁵⁶ If everything goes smoothly, CBDC might be used in BRI projects (e.g., RMB loans and investments).¹⁵⁷ With many BRI projects being implemented by Chinese businesses, "the contractor payments could be made using the digital yuan, without routing the money through foreign governments."¹⁵⁸ China could "increasingly bill in yuan" given its large-volume trade with Asian and African states,¹⁵⁹

¹⁵¹ Morten Linnemann Bech et al., *Payments without Borders*, BIS Q. REV., Mar. 2020, at 53, 61 (2020).

¹⁵² See, e.g., *Peking Professor Warns Re Rapid Internationalization of China's Digital Yuan*, LEDGER INSIGHTS (July 20, 2021), <https://www.ledgerinsights.com/peking-professor-warns-rapid-internationalization-of-china-digital-yuan/> [https://perma.cc/P9B7-5RNM] (noting that internationalizing e-CNY would result in "a relaxation in capital controls by using the currency for cross border payments [that] could be destabilizing").

¹⁵³ See Zennon Kapron, *China's Central Bank Digital Currency Will Strengthen Alipay And WeChat Pay, Not Replace Them*, FORBES (May 24, 2020, 8:57 PM), <https://www.forbes.com/sites/zennonkapron/2020/05/24/chinas-central-bank-digital-currency-will-strengthen-alipay-and-wechat-pay-not-replace-them/#418342086b69> [https://perma.cc/42Z2-JK8K] (stating that Beijing is not looking to replace existing systems, such as Alipay and WeChat Pay, but rather looking to integrate them with DCEP).

¹⁵⁴ Knoerich, *supra* note 88.

¹⁵⁵ Ian De Bode et al., *CBDC and Stablecoins: Early Coexistence on an Uncertain Road*, in THE 2021 MCKINSEY GLOBAL PAYMENTS REPORT 14, 21 (2021), <https://www.mckinsey.com/~media/mckinsey/industries/financial%20services/our%20insights/the%202021%20mckinsey%20global%20payments%20report/2021-mckinsey-global-payments-report.pdf> [https://perma.cc/6UN6-Q34A].

¹⁵⁶ See Tsang Cheng-Yun & Chen Ping-Kuei, *Policy Responses to Cross-border Central Bank Digital Currencies – Assessing the Transborder Effects of Digital Yuan*, 17 CAP. MKTS. L.J. 237, 247-48 (2021) (stating that "[s]ome studies have confirmed that BRI countries prefer RMB settlement more than the non-BRI countries do").

¹⁵⁷ Lo, *supra* note 122, at 70.

¹⁵⁸ Bansal & Singh, *supra* note 52, at 14.

¹⁵⁹ Somasundaram, *supra* note 85.

and e-CNY may be promoted in a network of international trade built through the BRI.¹⁶⁰

China's outbound tourism could also serve to promote the international use of e-CNY.¹⁶¹ According to an investment strategist, it is even possible that a "Chinese tourist [could] settle with e-RMB if the oversea [sic] hotel has an e-RMB machine installed that transacts directly through the PBOC settlement system."¹⁶²

China could also distribute e-CNY through pre-existing payment platforms (e.g., Alipay wallets) and ride on current acceptance infrastructure and networks to improve the scalability of e-CNY.¹⁶³ E-CNY could be used through Alipay,¹⁶⁴ and is also connected with China UnionPay Merchant Services, which is affiliated with China UnionPay (a leading payment provider).¹⁶⁵ One may argue that, theoretically, e-CNY could be used overseas through Chinese payment apps and services.¹⁶⁶

3.3. Proactiveness in International Governance

China is proactive in international governance relating to CBDC. As part of the efforts regarding "the promotion of the construction

¹⁶⁰ Martin Farrer, *Currency and Control: Why China Wants To Undermine Bitcoin*, GUARDIAN (July 8, 2021), <https://www.theguardian.com/world/2021/jul/09/currency-and-control-why-china-wants-to-undermine-bitcoin> [https://perma.cc/47QK-7DSH].

¹⁶¹ Francis Shin, *Post-Pandemic Tourism Could Boost China's New Digital Currency*, NAT'L INT. (Feb 3, 2021), <https://nationalinterest.org/blog/buzz/post-pandemic-tourism-could-boost-china%E2%80%99s-new-digital-currency-177572> [https://perma.cc/Y9H5-NZTK].

¹⁶² Anthony Chan, *Implications of China's Sovereign Digital Currency*, UBP (Jun 18, 2020), <https://www.ubp.com/pt/newsroom/implications-of-chinas-sovereign-digital-currency> [https://perma.cc/QGX9-TA3M].

¹⁶³ Bansal & Singh, *supra* note 52.

¹⁶⁴ *Digital Yuan Takes Another Step Forward With Alipay Availability*, LEDGER INSIGHTS (May 1, 2021), <https://www.ledgerinsights.com/china-digital-yuan-currency-ecny-cbdc-alipay-availability/> [https://perma.cc/8ZW7-USE4].

¹⁶⁵ *UnionPay Business Access Digital RMB Interconnection Platform*, EQUALOCEAN (Oct. 29, 2021, 10:44 AM), <https://equalocean.com/briefing/20211029230090708> [https://perma.cc/FXJ5-RUXY].

¹⁶⁶ See, e.g., Knoerich, *supra* note 88, at 159 (suggesting that DCEP could expand payments in RMB by providing a way to circumvent the SWIFT payment system).

of a community of common destiny in cyberspace” in China’s recent Five-Year Plan, there is a plan for China to “actively participate” in rulemaking across “data security, digital currency, digital tax, and standards on digital technology.”¹⁶⁷

China appears to play an active role in formulating emerging standards related to CBDC at various venues and organizations. China has called for the G20 to address the development of CBDC standards and principles while confronting the various risks and challenges.¹⁶⁸ China is represented in the Future of Payments Working Group that derives from the G20 roadmap to improve cross-border payments,¹⁶⁹ with the PBOC actively participating in developing international standards.¹⁷⁰ China is participating in CBDC concept- and standard-setting through standard-setting bodies (SSBs, dealing with topics ranging from CBDC definition and categories, issues affecting CBDC and virtual currencies, to regulation).¹⁷¹ At the International Telecommunication Union (ITU), China appears to lead research and the standardization of the CBDC ecosystem and reference architecture.¹⁷² China “was the first to add digital currency-related content to the repository for ISO 20022, a new global standard covering financial information transferred between financial institutions that includes payment transactions, securities trading and settlement information, and credit and debit card information.”¹⁷³ Relating to the

¹⁶⁷ Five Year Plan, *supra* note 68, ch. 18, § 4.

¹⁶⁸ Xi Jinping, President of the People’s Republic of China, Remarks at Session I of the 15th G20 Leaders’ Summit: Together, Let Us Fight COVID-19 and Create a Better Future (Nov. 21, 2020), https://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1834379.shtml [https://perma.cc/22MQ-EYZ4].

¹⁶⁹ Soderberg et al., *supra* note 50, at 14.

¹⁷⁰ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 14.

¹⁷¹ Chen Jia, *China Promotes Global Digital Fiat Currency Standardization*, CHINA DAILY (Dec. 8, 2018, 9:40 AM), http://english.www.gov.cn/state_council/ministries/2018/12/08/content_281476424565376.htm [https://perma.cc/HQ7R-BLLW].

¹⁷² Yao Qian (姚前), Quanguo Jinrong Biaozhunhua Jishu Weiyuanhui Mishu Zhang Yao Qian Biaozhun Xianxing Yingling Jinrong Zou Chuqu (全国金融标准化技术委员会秘书长 姚前 标准先行 引领金融走出去) [National Financial Standardization Technical Committee Secretary General Yao Qian: Prioritizing Standards, Promoting Going-Out of Finance] WECHAT (Nov. 1, 2018), <https://mp.weixin.qq.com/s/EW5asUXbIUHZmvISyY48Rg> [https://perma.cc/WHV6-QTQR].

¹⁷³ Hu Yue et al., *In Depth: China’s Digital Currency Ambitions Lead the World*, NIKKEI ASIA (Dec 3, 2020), <https://asia.nikkei.com/Spotlight/Caixin/In-depth->

interoperability of CBDC, ISO 20022 is among notable common data and message standards and will likely play a role in “enabling interoperability with other payment systems.”¹⁷⁴ The PBOC has discussed cutting-edge issues with not only multinational financial institutions but also regulators of different economies and universities.¹⁷⁵ China has “introduced standards” on CBDC in certain economies involved in the BRI,¹⁷⁶ and it is reported that the Legal Entity Identifier will be both used in China’s CBDC ecosystem as part of the BRI.¹⁷⁷

In addition, China proposes international principles for CBDC design, addressing various issues including the international use of CBDC and monitoring and information sharing.¹⁷⁸ The PBOC has reportedly raised these proposals with “other central banks and monetary authorities.”¹⁷⁹ China appears to propose the principle of “no detriment,” “compliance,” and “interconnectivity” for CBDC regulation,¹⁸⁰ which involves CBDC’s cross-border use.¹⁸¹ The first requirement of “no detriment,” also seemingly called the “do not harm”¹⁸² or “no disruption” principle,¹⁸³ means that one state’s CBDC should not disrupt other states’ currency sovereignty and their monetary and financial stability, along with consumer protection and fair competition.¹⁸⁴ This appears to involve avoiding

China-s-digital-currency-ambitions-lead-the-world [https://perma.cc/X3ZS-4PE5].

¹⁷⁴ BANK FOR INT’L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES: FOUNDATIONAL PRINCIPLES AND CORE FEATURES 14 (2020).

¹⁷⁵ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 14.

¹⁷⁶ Chen, *supra* note 171.

¹⁷⁷ Manesh Samtani, *PBOC Publishes Roadmap for Full LEI Adoption in China*, REGUL. ASIA (Dec 18, 2020), [https://www.regulationasia.com/pboc-publishes-roadmap-for-full-lei-adoption-in-china/?ct=t\(21Dec2020-RA\)&goal=0_d30b640721-39debbd537-116648885&mc_cid=39debbd537&mc_eid=f71d230703](https://www.regulationasia.com/pboc-publishes-roadmap-for-full-lei-adoption-in-china/?ct=t(21Dec2020-RA)&goal=0_d30b640721-39debbd537-116648885&mc_cid=39debbd537&mc_eid=f71d230703) [https://perma.cc/MV74-MJ2K].

¹⁷⁸ Tom Wilson & Marc Jones, *China Proposes Global Rules for Central Bank Digital Currencies*, REUTERS (Mar 25, 2021), <https://www.reuters.com/article/us-cenbanks-digital-china-rules-idUSKBN2BH1TA> [https://perma.cc/J3QK-Q87T].

¹⁷⁹ *Id.*

¹⁸⁰ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 5.

¹⁸¹ Soderberg et al., *supra* note 50, at 14, 25.

¹⁸² BIS INNOVATION HUB H.K. CTR., *supra* note 12, at 14.

¹⁸³ Soderberg et al., *supra* note 50, at 14.

¹⁸⁴ WORKING GRP. ON E-CNY RSCH & DEV., *supra* note 13, at 5-6.

negative spillover effects on the economies of China and other jurisdictions (e.g., currency substitution).¹⁸⁵

The second requirement is “compliance,” requiring CBDC cross-border payments system to be compliant with the regulations of all connected jurisdictions (e.g., capital management, foreign exchange regulation).¹⁸⁶ Additionally, information flow and funds flow between jurisdictions may be synchronized to promote trade, bolster the real economy and deter illicit activities (e.g., satisfying AML and countering the financing of terrorism (“CTF”) requirements (together AML/CTF), addressing tax evasion).¹⁸⁷ The synchronization of information and fund flows would “facilitate regulators to monitor the transactions for compliance.”¹⁸⁸

The third requirement is “interconnectivity”: cross-border payments should, instead of a single CBDC being used for transactions on both sides of the border, involve interoperability between different jurisdictions’ domestic CBDC systems and between domestic CBDC systems and existing payment systems.¹⁸⁹ Here, the PBOC “prefers a system where domestic CBDCs are converted to other currencies as payments cross borders.”¹⁹⁰ According to the DCI Director-General Mu Changchun, PBOC “also propose[s] a scalable and overseen foreign exchange platform supported by DLT (distributed ledger technology like blockchain) or other technologies.”¹⁹¹

China works on broader issues related to CBDC, particularly technology, and has been proactive in engaging in international standard-setting for new technologies.¹⁹² For instance, the BSN reportedly “envisages” a “standardized digital currency transfer method and payment procedure.”¹⁹³ If the BSN manages to develop

¹⁸⁵ Soderberg et al., *supra* note 50, at 14, 25.

¹⁸⁶ WORKING GRP. ON E-CNY RSCH & DEV., *supra* note 13, at 5–6.

¹⁸⁷ Soderberg et al., *supra* note 50, at 14 .

¹⁸⁸ Wilson & Jones, *supra* note 178.

¹⁸⁹ WORKING GRP. ON E-CNY RSCH & DEV., *supra* note 13, at 5–6; Soderberg et al., *supra* note 50, at 14.

¹⁹⁰ Soderberg et al., *supra* note 50, at 15.

¹⁹¹ Wilson & Jones, *supra* note 178.

¹⁹² See *Chinese Standards Going Global an Unavoidable Trend*, GLOBAL TIMES (Apr. 28, 2020), <https://www.globaltimes.cn/content/1187060.shtml> [<https://perma.cc/79YA-2ZK6>] (explaining that China has been proactive in international standard-setting for new technologies).

¹⁹³ *China's BSN*, *supra* note 130.

its network at scale, this may impact international standards.¹⁹⁴ The DCI is proactive in developing the blockchain standard system, and leads a number of working groups and standardization projects in standardization organizations at both home and abroad.¹⁹⁵

4. CHINA'S CBDC APPROACH: SELECTIVE RESHAPING?

Based on these features, China may selectively reshape international economic governance through e-CNY, particularly the US dollar-based international financial system and order. It is due to, inter alia, the development of CBDC systems and possible reduced reliance on the dollar.¹⁹⁶

4.1. What Is "Selective"?

CBDC is an area in which China has an advantage in both technology as well as in standards. Potentially, China could utilize its first-mover advantage in usage and technology. For instance, digital yuan may "enable China to internationalize digital currency payments before other countries' CBDCs emerge."¹⁹⁷ This is based on China's strengths, not only in CBDC, but also within the related areas of FinTech and e-commerce, more generally.¹⁹⁸ Being selective is not uncommon in China's practice of economic governance - China is also selective in its deregulation efforts.¹⁹⁹

CBDC involves an emerging new technology, lacking in the areas of international standards, practical experience and design.²⁰⁰ E-CNY is "at the most advanced stage" within existing CBDC

¹⁹⁴ *Id.*

¹⁹⁵ PBOC Digital Currency Research Institute, *supra* note 129.

¹⁹⁶ *See, e.g.,* Somasundaram, *supra* note 85.

¹⁹⁷ Knoerich, *supra* note 88, at 161.

¹⁹⁸ *See generally* Bryan Tan, *The BRI's Digital Silk Road, in* ASEAN AND THE BELT AND ROAD INITIATIVE - CONNECTIVITY THROUGH LAW AND COMMERCE 289 (Basil C. Bitas ed. 2021) (analysing the practice and issues of the Digital Silk Road).

¹⁹⁹ Christopher A. McNally, *Chaotic Mélange: Neo-Liberalism and Neo-Statism in the Age of Sino-Capitalism*, 27 REV. INT'L POL. ECON. 281, 287 (2020).

²⁰⁰ Bansal & Singh, *supra* note 45, at 10; Soderberg et al., *supra* note 50, at 24.

projects,²⁰¹ and its trial has extended its lead over different economies' efforts in exploring a CBDC.²⁰² The PBOC, state-owned enterprises (SOEs), and government subsidiaries had reportedly filed over eighty patents relating to CBDC through 2020.²⁰³

For standards, the PBOC's standard system spans from "general requirements, business operation, interoperability, wallet, security and regulation."²⁰⁴ CBDC is closely linked with digital payment.²⁰⁵ China's digital payment development is, arguably, moving faster than the rest of the world, "with payment systems even in countries with far wealthier populations, such as the United States, lagging on ease, efficiency, and cost."²⁰⁶

4.2. What Is "Reshaping"?

E-CNY may lead to a multifaceted reshaping of the international financial order. Reshaping in this context includes: China's reduced reliance on the U.S. dollar, the impact of China's technology and standards on both bilateral and multilateral frameworks concerning FinTech and CBDC, and other related impacts on the international financial order (e.g., the possible emergence of currency "zones").²⁰⁷

4.2.1. The Reduced Reliance on the Dollar

By utilizing technology and a China-led network, e-CNY will likely reduce reliance on the U.S. dollar-based international financial

²⁰¹ Raphael Auer et al., *Rise of the Central Bank Digital Currencies: Drivers, Approaches and Technologies* 22 (BIS, Working Papers No. 880, Aug. 2020).

²⁰² See generally John, *supra* note 49 (explaining that China's successful trial program puts China in the lead of the global race to develop a digital currency).

²⁰³ Hannah Murphy & Yang Yuan, *Patents Reveal Extent of China's Digital Currency Plans*, *FIN. TIMES*, (Feb. 12, 2020), <https://www.ft.com/content/f10e94cc-4d74-11ea-95a0-43d18ec715f5> [<https://perma.cc/9TUK-SU73>].

²⁰⁴ WORKING GRP. ON E-CNY RSCH & DEV., *supra* note 13, at 13.

²⁰⁵ *Id.* at 2.

²⁰⁶ ESWAR S. PRASAD, *THE FUTURE OF MONEY: HOW THE DIGITAL REVOLUTION IS TRANSFORMING CURRENCIES AND FINANCE* 15 (2021).

²⁰⁷ See Chan, *supra* note 162 (detailing the impact of the internalization of Chinese digital currency).

system.²⁰⁸ For technology, CBDC builds on FinTech that may reshape, amongst others, “global production and financial networks.”²⁰⁹ It has been said that “digitization of the entire monetary base and a speedy payments framework” would reduce reliance on the U.S. dollar-based international financial system.²¹⁰ New technology provides an opportunity for developing countries, such as China, to adopt more efficient transaction methods than those of even wealthier nations.²¹¹ It will be arguably easier for new technologies to start from a clean slate, as opposed to encountering headwinds from vendors and users of pre-existing technologies.²¹²

Particularly, cross-border payment is arguably the area in which China’s CBDC could maximize its effects and thus help develop a new international settlement system.²¹³ E-CNY has the “potential to shift the world payments system in favor of the RMB, [and may] provide a completely new and different mechanism, entirely removed from these traditional payments systems.”²¹⁴ The currency may be used outside China’s borders, particularly by economies with close links with China.²¹⁵ E-CNY could potentially enable the direct exchange of currencies and bypass the use of the U.S. dollar if an efficient peer-to-peer transfer in e-CNY becomes commonly accepted in international business.²¹⁶ China’s CBDC would introduce a new payment rail, the system transferring funds between payers and payees, that could arguably reduce reliance on the U.S. dollar and dollar-dominated payment rails.²¹⁷

²⁰⁸ Yeung, *supra* note 77.

²⁰⁹ Karen P.Y. Lai & Michael Samers, *Towards an Economic Geography of FinTech*, 45 PROGRESS HUM. GEOGRAPHY 720, 721 (2021).

²¹⁰ Daniel Tenengauzer et al., *An Existential Threat to the US Dollar*, BNY MELLON (Sept. 2020), <https://www.bnymellon.com/us/en/insights/aerial-view-magazine/an-existential-threat-to-the-us-dollar.html> [<https://perma.cc/BM5M-FRTG>].

²¹¹ PRASAD, *supra* note 206, at 15.

²¹² *Id.*

²¹³ Wu Yanting, Shuzi Renminbi Weihe Jiasu Pao (数字人民币为何加速跑) [Why Does the Digital RMB Accelerate?], OUTLOOK WKLY. (Feb. 1, 2021).

²¹⁴ Knoerich, *supra* note 88, at 160.

²¹⁵ See, e.g., BANK FOR INT’L SETTLEMENTS, PROJECT MBRIDGE: CONNECTING ECONOMIES THROUGH CBDC 13–15 (2022), <https://www.bis.org/publ/othp59.pdf> [<https://perma.cc/77PW-PC5V>] (describing a pilot program between banks in Mainland China, Hong Kong, Thailand, and the UAE to permit cross border settlements in their respective CBDCs).

²¹⁶ Somasundaram, *supra* note 78.

²¹⁷ Bansal & Singh, *supra* note 52, at 10.

For the China-led network of trade and investment, China will likely build on such a network to reduce reliance on the US dollar.²¹⁸ The reach of e-CNY may be expanded along the BRI as a possible U.S. dollar alternative.²¹⁹ If properly managed, e-CNY transfers may simplify “cross-border RMB-denominated settlement”, with lower currency exchange costs by reducing the need of an intermediary currency (particularly the U.S. dollar), yielding improved efficiency and convenience.²²⁰ As trade with China may be billed in RMB, this has been dubbed by Charles Gave as: “Asia’s new monetary order”, claiming that “‘parallel infrastructure’ is now in place” that permits states to “move between currencies.”²²¹ E-CNY may be used by investors for investment relating to China or in economies with volatile currencies, with “underdeveloped financial infrastructures.”²²² E-CNY may also be attractive to some emerging markets if cross-border payments become more efficient and less costly and if these markets intend to “reduce their dependence on the dollar for geostrategic reasons.”²²³

Besides the trade and investment discussed above, China may use its financial network to reduce its reliance on the U.S. dollar, such as through payment systems and swap lines. For example, e-CNY is observed to link with the country’s efforts to develop a new payment system based on CIPS.²²⁴ CIPS is, to some degree, “an international payment system for RMB”²²⁵ that could “reduce exposure of China’s global payments data to the United States.”²²⁶ China’s CBDC system may also be integrated with RMB swap lines

²¹⁸ See, e.g., Stephen Bartholomeusz, *China’s Long March Towards World Currency Domination*, SYDNEY MORNING HERALD (June 30, 2022, 11:57 AM), <https://www.smh.com.au/business/markets/china-s-long-march-towards-world-currency-domination-20220630-p5axvz.html> [https://perma.cc/SDN3-P3R2] (“China is slowly putting together the architecture, infrastructure and relationships to build, not a global challenger to US dollar primacy at this stage, but a regional one”).

²¹⁹ Zetsche et al., *supra* note 24, at 6.

²²⁰ Knoerich, *supra* note 88, at 158, 160.

²²¹ Somasundaram, *supra* note 85.

²²² Knoerich, *supra* note 88, at 158–59.

²²³ Somasundaram, *supra* note 85.

²²⁴ Raghuvveera, *supra* note 128.

²²⁵ Kai Guo et al., *RMB Internationalization*, in THE HANDBOOK OF CHINA’S FINANCIAL SYSTEM 229, 244 (Marlene Amstad et al. eds., 2021).

²²⁶ Reuters Staff, *supra* note 124.

to promote the use of RMB.²²⁷ Over thirty swap lines involving China were established by 2020, “exceeding the number of swap lines of [many] other states” (with the U.S. having less than half of this number).²²⁸ These RMB swap lines are attributable to China’s global role as a major supplier of goods, its investment and credit in developing economies, as well as its efforts to internationalize RMB.²²⁹ These swap lines may reduce the reliance on the U.S. dollar as they involve the currencies of states to the swap arrangements.

4.2.2. *Shaping Future CBDC Frameworks*

China’s technology, standards, and infrastructure may play an important role in bilateral and multilateral frameworks related to CBDC and related FinTech. Through the potential issuance of CBDC, central banks would play a greater role in the “regulatory and policy landscapes of FinTech.”²³⁰ The knowledge and information of various actors may influence the emergence and maintenance of international regimes as well as agenda setting.²³¹ For China, “the PBOC has built a relatively complete standard system.”²³² Through e-CNY, China is said to be “the first country to make a bold statement about the future of global payments and the type of data the government should have access to.”²³³ China’s early push for CBDC helps develop a first-mover advantage in shaping the evolution of the international payments infrastructure that is

²²⁷ Stephen O’Neal, *Global Compatibility Is a Key Factor in the CBDC Race, Says Expert*, COINTELEGRAPH (July 7, 2020), <https://cointelegraph.com/news/global-compatibility-is-a-key-factor-in-the-cbdc-race-says-expert>.

²²⁸ Knoerich, *supra* note 88, at 153.

²²⁹ See generally Somasundaram, *supra* note 85 (explaining that RMB swap lines are well-suited to China’s global role and importance).

²³⁰ Lai & Samers, *supra* note 209, at 722.

²³¹ Derrick L. Cogburn, *Contending Perspectives on Multistakeholder Global Governance: Theory, Conceptual Framework, Data, and Methods*, in TRANSNATIONAL ADVOCACY NETWORKS IN THE INFORMATION SOCIETY: PARTNERS OR PAWNS? 23, 28 (2017).

²³² WORKING GRP. ON E-CNY RSCH & DEV., *supra* note 13, at 13.

²³³ Christian Catalini & Jai Massari, *Stablecoins and the Future of Money*, HARV. BUS. REV., (Aug. 10, 2021), <https://hbr.org/2021/08/stablecoins-and-the-future-of-money> [<https://perma.cc/6MBE-8R9Y>].

important for cross-border remittances and trade.²³⁴ China will likely play an influential role in shaping new rules and standards for CBDC (such as those on cross-currency and cross-border payments),²³⁵ and the ways CBDCs are exchanged and traded in the international system.²³⁶ China will also likely affect the direction of technological development.²³⁷ As discussed above, China's proactive efforts in international governance may affect emerging standards related to CBDC (e.g., ISO 20022).

4.2.3. Other impacts

E-CNY may affect international economic order in other ways. China's currency management may affect "the ideational and institutional underpinnings of international monetary relations".²³⁸ Indeed, given various factors, including China's economic heft, e-CNY could likely impact the international financial and monetary system as a whole.²³⁹ E-CNY may also affect the design, policy choice and regulatory arrangements of other states concerning CBDC (such as "reshaping domestic finance").²⁴⁰ BRI states may learn from and develop CBDCs compatible with e-CNY,²⁴¹ and e-CNY may contribute to the possible emergence of currency "zones" in the world economy.²⁴² If connectivity is developed, it may be

²³⁴ Biswajit Banerjee, *Digital Currencies and Cross-Border Policy Cooperation and Coordination*, 2 G20 DIGEST 23, 30–31 (2020).

²³⁵ He, *supra* note 110, at 1.

²³⁶ Bansal & Singh, *supra* note 52, at 12.

²³⁷ Knoerich, *supra* note 88, at 161.

²³⁸ McNally & Gruin, *supra* note 81, at 601.

²³⁹ Michael A. Peters et al., *Cryptocurrencies, China's Sovereign Digital Currency (DCEP) and the US Dollar System*, 54 EDUC. PHIL. & THEORY 1713, 1717 (2020); Bansal & Singh, *supra* note 52, at 1.

²⁴⁰ Eswar Prasad, *China's Digital Yuan – Premiering Globally at the Beijing Olympics – Could Become a Model for Other Countries*, FORTUNE (Feb. 1, 2020, 7:30 PM), <https://fortune.com/2022/02/01/china-digital-yuan-beijing-winter-olympics-cbdc-pboc-renminbi-eswar-prasad/> [<https://perma.cc/EH65-EDVH>].

²⁴¹ Tsang & Chen, *supra* note 156, at 21.

²⁴² Chan, *supra* note 162.

difficult to break, even if interests change.²⁴³ E-CNY, even if not widely used, may be “geopolitically significant.”²⁴⁴

4.3 Concluding Thoughts on Selective Reshaping

The three core features of e-CNY (the role of the state, possible cross-border use, and China’s proactive efforts in international CBDC governance) contribute to the possibility of selective reshaping. The role of state is the crucial driving force or “engine” behind e-CNY and lays a foundation for e-CNY’s possible international use and impact. There are “state-driven incentives” behind the e-CNY that could promote various aspects including the scalability of digital payments.²⁴⁵ E-CNY enables China to form a state-led design of digital currency, regulation, and ecosystem, giving the state the crucial role of shaping the future evolvement of these areas such as digital payment. To illustrate, e-CNY may assist the government in penetrating China’s strong consumer internet applications market.²⁴⁶ China’s CBDC appears to echo China’s efforts to put forward Chinese initiatives and plans in international economic governance and to enhance its capacity in global financial governance.²⁴⁷ For instance, CBDC may enable international transactions to be “better controlled.”²⁴⁸

The possible international use of e-CNY and China’s proactive efforts in affecting international governance are the main pathways for possible selective reshaping. E-CNY fits with China’s major policy initiative to internationalize RMB.²⁴⁹ It is observed that such international use would promote the role of RMB in international

²⁴³ Choyleva, *supra* note 118.

²⁴⁴ BRIANA BOLAND, CHINA BULLETIN: LOCAL AND GEOPOLITICAL IMPLICATIONS OF THE DIGITAL YUAN, 1, 16 (2021), <https://www.dentons.com/en/insights/newsletters/2021/june/15/dentons-flashpoint/-/media/a052eb3a7a674e88b8e299d6b9418e7a.ashx> [<https://perma.cc/CK35-USEF>].

²⁴⁵ Bansal & Singh, *supra* note 45, at 9.

²⁴⁶ SUNDEEP GANTORI ET AL., INFORMATION TECHNOLOGY: UNDERSTANDING CHINA’S DIGITAL CURRENCY AND BLOCKCHAIN INITIATIVES 7 (2020).

²⁴⁷ Five Year Plan, *supra* note 68, ch. 62, § 1..

²⁴⁸ Knoerich, *supra* note 88, at 151.

²⁴⁹ Yeung, *supra* note 76.

transactions (e.g., pricing and settlement), financing of projects in the region, and its acceptance as a reserve currency.²⁵⁰

E-CNY seems to be China's latest major effort to reshape the international monetary system. It follows efforts such as RMB's inclusion in Special Drawing Rights (an international reserve asset created by the IMF) in 2016.²⁵¹ E-CNY is observed to be critical in reconfiguring the global monetary system,²⁵² being "a key component of an alternative to the dollar-based order."²⁵³

5. THE SUSTAINABILITY OF CHINA'S CBDC APPROACH

CBDC systems, along with innovation, provide a unique opportunity to reshape the international financial system.²⁵⁴ CBDC systems, including their cross-border use, start with a clean slate.²⁵⁵ For digital money, "the field is on the cusp of major changes that have the potential to reshape cross-border payments and remittances."²⁵⁶

From the perspective of possible CBDC international use, the sustainability of China's CBDC approach (selective reshaping) would face economic, political economy, as well as legal and regulatory factors. Multiple factor analysis provides a holistic view of the future of China's CBDC approach. These factors should not be seen as mutually exclusive. Instead, these factors are related. For instance, resilience standards are related to economic factors of costs (e.g., costs concerning CBDC design to build resilience), and also involve legal considerations (e.g., rules on the roles of different

²⁵⁰ Banerjee, *supra* note 234, at 31; Olsson et al., *supra* note 18.

²⁵¹ McNally & Gruin, *supra* note 81, at 600.

²⁵² Zetsche et al., *supra* note 24, at 6.

²⁵³ Somasundaram, *supra* note 85.

²⁵⁴ G7, PUBLIC POLICY PRINCIPLES FOR RETAIL CENTRAL BANK DIGITAL CURRENCIES 3 (2021).

²⁵⁵ BANK FOR INT'L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES FOR CROSS-BORDER PAYMENTS: REPORT TO THE G20 3 (2021) [hereinafter CPMI REPORT].

²⁵⁶ Kristalina Georgieva, Managing Director Washington, D.C., IMF, Opening Remarks at iLab Spring Meetings Virtual Workshop: Leveraging Digital Money to Facilitate Remittances (Apr. 14, 2021), <https://www.imf.org/en/News/Articles/2021/04/14/sp041421-leveraging-digital-money-to-facilitate-remittances>.

actors to ensure resilience).²⁵⁷ They concern domestic and, more importantly, international aspects, since China's rising role in international governance is bound by its own "structural and social conditions" and those internationally.²⁵⁸ These factors will both affect and be affected by e-CNY. Meanwhile, these factors are not exhaustive. For instance, cultural factors may concern users and other stakeholders, involving preferences such as those over different payment methods.²⁵⁹

Given the lack of detailed information and the fast development of e-CNY, this part provides broad and primary examples to illustrate the open issues that deserve attention and works to provide a framework to analyze the future of China's CBDC approach.

5.1 Economic Factors

Various economic factors would affect the performance of e-CNY. These factors pertain to economic efficiency and welfare.²⁶⁰ They raise crucial questions including CBDCs' operational arrangements (including operation costs and tasks), the public-private sector relationship, and consumer welfare (e.g., adoption costs concerning CBDC).²⁶¹

5.1.1. CBDC-Related Costs

Costs related to CBDC would affect different stakeholders (e.g., businesses and end-users) and e-CNY's operation. On the one hand, CBDC may reduce transaction costs compared to traditional

²⁵⁷ See, e.g., BANK FOR INT'L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES: SYSTEM DESIGN AND INTEROPERABILITY 6 (2021) (discussing factors used to determine resilience of a CBDC system).

²⁵⁸ Nana de Graaff et al., *China's Rise in a Liberal World Order in Transition – Introduction to the FORUM*, 27 REV. INT'L POL. ECON. 191, 192 (2020).

²⁵⁹ Soderberg et al., *supra* note 50, at 25; Pierre L. Siklos, *Central Bank Digital Currency and Governance: Fit for Purpose?*, CENTRE FOR INT'L GOVERNANCE INNOVATION, at 2 (2021).

²⁶⁰ Alex Cukierman, *Reflections on Welfare and Political Economy Aspects of a Central Bank Digital Currency*, 88 MANCHESTER SCH. 114, 117–18 (2020).

²⁶¹ Auer et al., *supra* note 30, at 10–11.

currency.²⁶² A properly managed CBDC could reduce current frictions that hamper local and global transactions for individuals and firms.²⁶³ On the other hand, costs arise from different aspects, including the system's operation and development, regulation, technical design and interconnection with different systems. CBDC issuance "would require capital expenditure and impose running costs".²⁶⁴ The PBOC has recognized that this resource-intensive nature of CBDC acts as a constraint, particularly on its scalability.²⁶⁵ The regulation of the CBDC, such as data regulation, would also affect costs. Stringent restrictions on data use by businesses may affect potential business models in a CBDC ecosystem and increase costs to end-users (such as indirect fees).²⁶⁶ Sophisticated technical design (e.g., the CBDC ledger) may work to promote the CBDC adoption but will also raise costs.²⁶⁷ CBDC also involves interconnections with other systems and the apportionment of costs and revenues across the system.²⁶⁸

In particular, the costs to businesses are considerable and some may be passed to end-users. The fee arrangement of e-CNY is as follows: the PBOC does not charge intermediaries or end-users fees; intermediaries are prohibited from charging individual users; but intermediaries may charge merchants (as an incentive for businesses to enter the market, with fees kept in check).²⁶⁹ While tier two institutions will invest in equipment and technology,²⁷⁰ it is to be seen whether and how tier 2.5 institutions would take on these responsibilities. Evidently, firms will require viable business models to recover CBDC-related capital expenditures and running costs.²⁷¹ Different jurisdictions have identified cost recovery and incentivizing private sector participation as open issues in CBDC

²⁶² *Central Bank Digital Currency Tracker*, *supra* note 2.

²⁶³ Siklos, *supra* note 259, at 1.

²⁶⁴ BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 13.

²⁶⁵ Soderberg et al., *supra* note 44, at 24.

²⁶⁶ *G7*, *supra* note 254, at 21.

²⁶⁷ BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 13.

²⁶⁸ *Id.* at 16.

²⁶⁹ Soderberg et al., *supra* note 50, at 11.

²⁷⁰ Zhou Xiaochuan, *Understanding China's Central Bank Digital Currency*, CF40 (Dec. 13, 2020), http://www.cf40.com/en/news_detail/11481.html [<https://perma.cc/5V75-ENTW>]; BIS INNOVATION HUB H.K. CTR., *supra* note 9, at 13.

²⁷¹ BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 13.

development.²⁷² CBDCs also require higher business continuity and resilience standards for intermediaries, increasing costs for intermediaries who may in turn invest less in this regard than “is systemically optimal”.²⁷³ These costs would involve Chinese and even foreign entities and largely depend on the CBDC design, which is as yet unfinalized.²⁷⁴

5.1.2. *The Implications for Markets*

E-CNY’s implications for markets will affect the sustainability of China’s CBDC approach. Market implications affect not only businesses but also users’ choice of e-CNY in particularly currency and payment markets. CBDC will likely bring institutional change while the private sector continues to adopt fintech innovations.²⁷⁵ Examples include the possible substantial changes to the retail payments system.²⁷⁶ E-CNY has advantages (e.g., lower cost, offline function) compared with third-party mobile payment platforms in China, while these payment platforms have been incorporated into the e-CNY payment system.²⁷⁷ Given the great inertia in retail payment behaviors and the convenience of private payment services,²⁷⁸ it remains to be seen whether e-CNY will change user habits. Legal reform may also be relevant to the uptake of e-CNY. Payment platforms (and relatedly, big tech firms) will have much less access to data than before in the e-CNY ecosystem, and this will affect their pre-existing competitiveness based on data.²⁷⁹ Another issue is that the introduction of authorized operators in e-CNY narrows market players, compared with fiat money distributed by all commercial banks and other actors (e.g., exchanges). It also remains to be seen whether and how e-CNY can avoid financial disintermediation. Time will tell whether CBDC will bring major policy changes and whether it could dislocate the existing industry

²⁷² Soderberg et al., *supra* note 50, at 26.

²⁷³ BANK FOR INT’L SETTLEMENTS, *supra* note 174, at 6.

²⁷⁴ *Id.*

²⁷⁵ Cukierman, *supra* note 260, at 117–18.

²⁷⁶ Tsang & Chen, *supra* note 156, at 6.

²⁷⁷ He, *supra* note 110, at 3.

²⁷⁸ Auer, et al., *supra* note 30, at 10–11.

²⁷⁹ He, *supra* note 110, at 5.

structure for example in relation to banking.²⁸⁰ Relating to international use of CBDC, it has been stated that “depending on its attributes, a domestic CBDC could potentially compete with private digital currencies, foreign CBDCs, private payment platforms, or banks.”²⁸¹ CBDC thus may affect markets both in terms of businesses and users.

5.1.3. Macro-Financial Implications

Macro-financial implications of CBDC around the issuing state and other jurisdictions involved may affect the sustainability of China’s CBDC approach. These macro-financial implications include potential financial stability risks, contagion effects, capital flow volatility, currency substitution risk, and the configurations of reserve currency by central banks.²⁸² Even if a CBDC is solely intended for domestic use, it will have implications going “beyond borders.”²⁸³ This is recognized in a principle stated in the PBOC’s work on cross-border payments for CBDC, which seeks to “avoid negative spillover effects” on China and other states, e.g., currency substitution.²⁸⁴

5.1.4. Other Economic Factors

Other economic factors affect the e-CNY’s possible reshaping of the international financial order. In particular, economic factors (e.g., confidence in the overall stability of a currency’s value,

²⁸⁰ See GANTORI ET AL., *supra* note 246, at 11 (“[I]nvestors need to closely monitor the long term disruptive trends, as further significant policy changes may dislocate the current industry structure.”).

²⁸¹ MARC LABONTE & REBECCA M. NELSON, CONG. RSCH. SERV., R46850, CENTRAL BANK DIGITAL CURRENCIES: POLICY ISSUES, Summary (2022).

²⁸² See CPMI REPORT, *supra* note 255, at 1 (listing “a range of macro-financial implications” that introducing a CBDC could have).

²⁸³ *Id.* at 19.

²⁸⁴ Soderberg et al., *supra* note 50, at 14.

liquidity, the issuing state's transactional network) affect the currency's international position.²⁸⁵

A key feature of e-CNY is China's utilization of its transaction network to promote the currency (as discussed above). In the network, the possible contexts of CBDC international use include retail usage (e.g., payments in retail CBDCs across borders),²⁸⁶ international remittances, as well as trade in goods and services.²⁸⁷ The scale of the transactional network of a currency issuing state in the international economy will affect international use of its currency.²⁸⁸ Trade provides a primary example. The use of a currency in world trade, especially for invoicing, is important for enhancing the systemic importance of the currency's role in international commerce.²⁸⁹

However, the cross-border use of e-CNY mainly hinges on RMB internationalization policy.²⁹⁰ RMB internationalization continues to face challenges, such as the development of the domestic financial markets and convertibility (especially in the capital account, due to capital controls).²⁹¹ For instance, "[d]eep capital markets with a large availability of safe assets and hedging capabilities" are important for an international currency.²⁹² Many economists are sceptical as to whether the impact of e-CNY could overcome challenges posed by the yuan's convertibility.²⁹³ E-CNY is likely to face similar roadblocks in its cross-border use.

5.2. Political Economy Factors

Political economy issues, including the role of the state, financial liberalization, and international political power, affect currency,

²⁸⁵ Chey Hyung-kyu, *Theories of International Currencies and the Future of the World Monetary Order*, 14 INT'L STUD. REV. 51, 58-59 (2012) (discussing how could economic factors become "major determinants of currency internationalization").

²⁸⁶ CPMI REPORT, *supra* note 255, at 9.

²⁸⁷ BANK FOR INT'L SETTLEMENTS, *supra* note 215, at 12.

²⁸⁸ Chey, *supra* note 285, at 58-9.

²⁸⁹ See Auer et al., *supra* note 30, at 10 ("[R]eserve currencies gain ground through . . . use in international trade, particularly for invoicing.").

²⁹⁰ Tsang & Chen, *supra* note 156, at 247.

²⁹¹ Chey, *supra* note 285, at 61.

²⁹² Auer et al., *supra* note 30, at 10.

²⁹³ Yeung, *supra* note 76.

particularly currency internationalization.²⁹⁴ The analysis below focuses on the role of state that is a feature of China's CBDC practice, and the new landscape of emerging digital currencies particularly other CBDCs, which will affect the outcome of China's proactiveness in international governance.

5.2.1. *The Relationship between the State and Market*

The relationship between the state and market in China is different from many other states where the role of the state is less prominent. China is observed to develop "CBDC with Chinese characteristics."²⁹⁵ For example, the centralized governance model of e-CNY is consistent with China's traditional "state-centric modes of governance,"²⁹⁶ including "centralis[ing] control of the underlying monetary instrument across all payment systems" and "controlling currency inflows and outflows into the RMB area."²⁹⁷ In other words, the role of the state in e-CNY, as discussed above, echoes China's "unique mode of monetary governance that reflects a different relationship between the state and market" from the West.²⁹⁸ In contrast, the US could "choose[] to leave certain functions to the private sector that China aims to have the public sector provide."²⁹⁹ Given these different models of governance, the development of CBDC involves the complex task of defining roles and finding the proper balance between the responsibilities of the private sector, the public sector and the central bank.³⁰⁰ For instance, CBDC likely implicates the state's role in digital payments.³⁰¹ Theoretically China's monetary system may even both "conflict and

²⁹⁴ Chey, *supra* note 285, at 73.

²⁹⁵ Herbert Poenisch, *CBDC with Chinese Characteristics*, OFF. MONETARY & FIN. INST. F. (Sept. 18, 2020), <https://www.omfif.org/2020/09/cbdc-with-chinese-characteristics/> [<https://perma.cc/NRZ4-VP2L>].

²⁹⁶ McNally & Gruin, *supra* note 81, at 600.

²⁹⁷ Zetsche et al., *supra* note 24, at 6.

²⁹⁸ McNally & Gruin, *supra* note 81, at 599.

²⁹⁹ Chorzempa, *supra* note 28, at 116.

³⁰⁰ BANK FOR INT'L SETTLEMENTS, *supra* note 257, at 12.

³⁰¹ See Soderberg et al., *supra* note 50, at 24 ("[T]he Riksbank sent in a petition to the Swedish Parliament to create a government inquiry into the future role of the state in the digital payments market.").

harmonize with the existing liberal system.”³⁰² The way that e-CNY develops and the interaction between the state and the market in this context is yet to be seen.

5.2.2. Currency and Payment Solution Competition

The way CBDCs operates in international transactions is being explored by different economies. The ECB has reportedly indicated that a digital euro may help enhance the attractiveness and international status of the euro.³⁰³ Cross-border CBDC transactions are being tested by France and Switzerland.³⁰⁴

Other digital currencies and payment rails, including CBDCs possibly issued by other major economies like the US and EU, will likely compete with e-CNY. The emergence of CBDC could intensify the competition between currencies and incentivize central banks to respond (or not) to other states’ CBDC decisions.³⁰⁵

On the one hand, technological evolution may affect power structures.³⁰⁶ Different economies may seek competitive advantages in the international economic order.³⁰⁷ As a first mover, e-CNY may enhance the role of RMB, particularly in the region, if everything goes smoothly. For the configuration of reserve currencies, the changes will evolve faster on a regional, rather than a global, level. This is because “[r]egional patterns, where trade connections are tighter, and political pressures stronger, may instead evolve more

³⁰² McNally & Gruin, *supra* note 81, at 601.

³⁰³ Francesco Canepa, *Digital Euro Could Boost Single Currency’s International Use*, *ECB Says*, REUTERS (June 2, 2021), <https://www.reuters.com/business/digital-euro-could-boost-single-currencys-international-use-ecb-says-2021-06-02/> [<https://perma.cc/KJS6-WWBV>] (“Creating a digital euro could boost the single currency’s international status.”).

³⁰⁴ LABONTE & NELSON, *supra* note 281, at 11.

³⁰⁵ See Auer et al., *supra* note 30, at 9 (“CBDC issuance might also lead to an intensification of the competition between global currencies, and the need for central banks to respond (or not) to CBDC issuance in other jurisdictions”).

³⁰⁶ Marijn Janssen & Haiko van der Voort, *Adaptive Governance: Towards a Stable, Accountable and Responsive Government*, 33 *GOV’T INFO. Q.* 1, 3 (2016).

³⁰⁷ Christopher McNally, *Chaotic Mélange: Neo-Liberalism and Neo-Statism in the Age of Sino-Capitalism*, 27 *REV. INT’L POL. ECON.* 281, 283 (2020).

rapidly.”³⁰⁸ E-CNY is likely to affect economies in the region that “conduct RMB-denominated transactions with China.”³⁰⁹

On the other hand, it is not easy for e-CNY to enhance its role in the international financial system. The RMB is currently of “limited importance” as an international reserve, trade and investment currency, and recent figures show that the reliance on payment infrastructure to promote RMB internationalization faces limits.³¹⁰ Reduced costs in using foreign currencies through CBDC may strengthen established currencies given their significant network effects.³¹¹ Reserve currencies (e.g., the dollar, euro) may “become even more dominant if available digitally at a lower cost and to a wider user base.”³¹² The US dollar and the euro are “deeply enmeshed in the international financial architecture,” making it difficult to substantially change the international financial order.³¹³ Jan Knoerich argues that “[s]ome advanced-economy CBDCs, even if launched belatedly, might draw on their stronger and more internationally integrated financial systems to leapfrog the DCEP.”³¹⁴

Payment solutions are among the major competitors of a CBDC.³¹⁵ For cross-border payments, e-CNY will face competition with the correspondent banking model and dollar-dominated payment rails (e.g., PayPal).³¹⁶

The landscape of the future is unclear. Competition among currencies and payment solutions is likely to affect the promotion of Chinese standards outside China. Whether pre-existing path dependence on the dominant international currency and institutional equilibrium will be broken, which happened when the USD became the world’s reserve currency, is yet to be seen.³¹⁷

³⁰⁸ CPMI REPORT, *supra* note 255, at 18.

³⁰⁹ Tsang & Chen, *supra* note 156, at 247.

³¹⁰ Knoerich, *supra* note 88, at 154.

³¹¹ CPMI REPORT, *supra* note 255, at 16.

³¹² *Id.* at 17.

³¹³ Knoerich, *supra* note 88, at 155.

³¹⁴ *Id.* at 162.

³¹⁵ Shen & Hou, *supra* note 102, at 4.

³¹⁶ Bansal & Singh, *supra* note 52, at 9.

³¹⁷ Weitseng Chen, *Size Matters? Renminbi Internationalization and the Beijing Consensus*, in *THE BEIJING CONSENSUS? HOW CHINA HAS CHANGED WESTERN IDEAS OF LAW AND ECONOMIC DEVELOPMENT* 144, 144 (Weitseng Chen ed., 2017).

5.2.3. Other Political Economy Factors

Other political economy factors (e.g., geo-economic relationships) affect the traditional RMB and its international position.³¹⁸ This also applies to e-CNY. The international use of CBDC may involve sovereign power and international relations, and require significant global coordination.³¹⁹ For instance, the implications of CBDC for different states' monetary sovereignty are to be seen,³²⁰ particularly with a seeming shift towards a "more competitive and conflictual" mindset that can be found in the US regarding its bilateral relationship with China.³²¹ Uncertainties could exist regarding e-CNY's capability of cross-border payments, given the impact of politics on trade and capital flows.³²² Moreover, a risk may exist regarding "a widening gap between countries which are able to more quickly adapt to changing circumstances and countries that lack the means to safeguard themselves from potential adverse effects."³²³ This may affect the reception of CBDC by different economies.

Many questions beyond the scope of this article remain open. Will a more fragmented international financial order emerge? Or will digital currencies lead to a reorientation of the international financial architecture?³²⁴

³¹⁸ See Chey, *supra* note 285, at 58-62 (discussing political economy factors impacting RMB's international position).

³¹⁹ See GANTORI ET AL., *supra* note 246, at 9 ("With CBDCs like DCEP going mainstream, there are complex issues such as sovereign power, interest and global politics, among others, that comes to the fore.").

³²⁰ See Siklos, *supra* note 259, at 2 ("These include the loss of monetary sovereignty or in the status of global reserve currencies . . .").

³²¹ ANTHEA ROBERTS & NICOLAS LAMP, *SIX FACES OF GLOBALIZATION: WHO WINS, WHO LOSES, AND WHY IT MATTERS* 127 (2021).

³²² Amanda Lee, *Which Central Bank Will Launch World's First Digital Currency?*, S. CHINA MORNING POST (Oct. 14, 2020), <https://www.scmp.com/economy/china-economy/article/3105435/which-central-bank-will-launch-worlds-first-digital-currency> [<https://perma.cc/8TYT-QM22>].

³²³ CPMI REPORT, *supra* note 255, at 17.

³²⁴ See Knoerich, *supra* note 88, at 145 ("Central bank digital currencies (CBDCs) are predicted to transform the way ordinary payments will be made in the future.").

5.3. Legal and Regulatory Factors

CBDC is more demanding of regulation than existing currencies, and e-CNY faces risks (e.g., cyber risks) within and across China's borders.³²⁵ It is observed that central banks would need to take on greater operational and oversight responsibilities regarding the CBDC system.³²⁶ Regulation concerns a broad range of policy concerns and domestic and cross-border implementation practices. CBDC will involve the issues of how to address the protection of individual rights (particularly privacy) and consumer protection,³²⁷ financial integrity,³²⁸ data, and law enforcement.³²⁹ Other issues include cybersecurity, possible disintermediation at the time of financial stress, high technical standards and requirements for the PBOC and the commercial institutions in many aspects ranging from resilience and reliability to scalability and throughput.³³⁰ To illustrate, "[d]efending against cyber attacks will be made more difficult as the number of endpoints in a general purpose CBDC system will be significantly larger than those of current wholesale central bank systems."³³¹ E-CNY also needs to manage risks relating to data (e.g., the treatment of payment data, and data flow).

Several legal and regulatory considerations deserve more attention here. First, cross-border transactions of CBDC will likely involve complex issues (such as foreign exchange price-discovery

³²⁵ WEF: *China Says Digital Yuan Doesn't Aim to Challenge Dollar*, LEDGER INSIGHTS (Jan. 28, 2021), <https://www.ledgerinsights.com/wef-china-says-digital-yuan-does-not-aim-to-challenge-dollar/> [<https://perma.cc/644N-FLUW>].

³²⁶ See BANK FOR INT'L SETTLEMENTS, *supra* note 257, at 2 ("[I]n any CBDC system, the central bank would face additional operational or oversight tasks and accompanying challenges regardless of the division of responsibilities among the various actors.").

³²⁷ Gang Yi, Governor, People's Bank of China, Speech at the Hong Kong FinTech Week (Oct. 31, 2022), <https://www.bis.org/review/r221031c.htm> [<https://perma.cc/7XHR-5KEV>].

³²⁸ Noah Walters, *Part 6 – Evaluating CBDC*, DENTONS (Jan. 20, 2021), <https://www.dentons.com/en/insights/articles/2021/january/20/part-6-evaluating-cbdc> [<https://perma.cc/9RZV-6B7D>].

³²⁹ WORLD ECON. F., *PRIVACY AND CONFIDENTIALITY OPTIONS FOR CENTRAL BANK DIGITAL CURRENCY* 11 (2021).

³³⁰ GANTORI ET AL., *supra* note 246, at 8.

³³¹ BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 5.

mechanism).³³² CBDCs generate data and concern digital identity (e.g., those concerning digital wallets).³³³ Meanwhile, CBDCs are likely to be designed initially for domestic payment systems and users.³³⁴ International payments are more complicated than domestic ones due to the involvement of more regulations (like those of foreign exchange settlements), actors, jurisdictions, and time zones.³³⁵ To enhance cross-border payments may also bring risks and challenges that add to the complexity of CBDC transactions.³³⁶ The risks of CBDC's international use include operational and cyber risks, as well as micro-financial and macro-financial risks (e.g., financial stability, contagion effects, and volatile capital flows).³³⁷ All these complex issues require substantial effort and adaptability to have CBDC used in an international context involving different governance models, regulations and financial systems.³³⁸ Rules are needed to address issues like the access and use by non-residents to CBDC, and the definition of standards for cross-currency payments.³³⁹

Second, legal and regulatory factors are closely linked and embedded into technologies. Technology brings opportunities and challenges. CBDC operation and policy goals require a set of complementary technologies to support the core features of CBDC.³⁴⁰ CBDC designs may strengthen regulation, such as enabling issuing central banks to preclude or limit CBDC's use outside the issuing jurisdiction, enabling wallets in recipient states to permit local authorities to impose capital flow regulatory measures, limiting CBDC circulation through programmability, and

³³² BIS: INNOVATION HUB, CONNECTING ECONOMIES THROUGH CBDC 22-23, 36 (2022)

³³³ *Id.* at 25, 28-29.

³³⁴ BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 16 (2020).

³³⁵ *Id.* at 6.

³³⁶ *Id.* at 5-6.

³³⁷ CPMI REPORT, *supra* note 255, at 2, 4; Thomas Conlon, et al., To CBDC or Not to CBDC. That Is the Question 2 (Oct. 11 2022) (unpublished manuscript) (available https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4205402 online at <https://perma.cc/J8XK-RVAS>); Adina Popescu, *Cross-Border Central Bank Digital Currencies, Bank Runs and Capital Flows Volatility* 1-31 (IMF, Working Paper No. WP/22/83, 2022).

³³⁸ *See, e.g.,* Popescu, *supra* note 337, at 28.

³³⁹ *G7*, *supra* note 254, at 14.

³⁴⁰ BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 13.

increasing the effectiveness of capital flow regulation.³⁴¹ However, different technologies will bring complexity around interoperability.

Third, selective reshaping is likely to encounter China-specific regulatory challenges. These challenges include the potential tension between the need for RMB internationalization (e.g., international circulation through expanding capital outflows, capital account liberalization, and a flexible exchange rate) and China's possible concerns over reduced control over capital flows and increased fluctuation in the exchange rate.³⁴² Such tension could also exist in e-CNY as e-CNY is the digital form of RMB.

These complexities set high requirements for law and regulation. As reflected in the major and sometimes overlapping issues below, regulatory and legal responses to these risks are crucial for the long-term sustainability of China's CBDC approach.

5.3.1. Resiliency

Resiliency is critical to the success of e-CNY. The CBDC system will need to deal with cyber risks, technical failure, and counterfeiting.³⁴³ The PBOC recognizes that cyberattacks may be a significant risk if e-CNY becomes systemically significant.³⁴⁴ Maintaining the system's resilience will not be easy since technology faces uncertainties in operation and effect and requires careful experimentation before its wide adoption. To illustrate, it has been stated that it is difficult to estimate future volumes, especially given other developments such as smart device payments and "micro transactions."³⁴⁵ In addition, if specific resilience specifications for CBDC are onerous and could impact its performance (e.g., speed), this will reduce its functionality and use.³⁴⁶

³⁴¹ CPMI REPORT, *supra* note 255, at 15-16.

³⁴² Knoerich, *supra* note 88, at 156, 159.

³⁴³ BANK FOR INT'L SETTLEMENTS, *supra* note 257, at 6.

³⁴⁴ Soderberg et al., *supra* note 50, at 24.

³⁴⁵ BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 14.

³⁴⁶ G7, *supra* note 254, at 23.

5.3.2. Interoperability

China's CBDC "would be connected to existing retail and wholesale payment systems."³⁴⁷ The interoperability between existing and new systems (including infrastructures) is a complex issue faced by CBDC³⁴⁸ and will have domestic and international challenges. Interoperability means "technical or legal compatibility that enables a system or mechanism to be used in conjunction with other systems or mechanisms" and "allows participants in different systems to conduct clear and settle payments or financial transactions across systems without participating in multiple systems."³⁴⁹ For instance, digital yuan is expected to be compatible with DLT or the intermediaries' choice of technology.³⁵⁰ Interoperability involves issues such as lowering the barriers to membership of different systems (such as through common messaging standards and operating times), and developing common business arrangements (such as a designated settlement agent between two systems concerning select payments).³⁵¹

Internationally, interoperability is relevant to CBDC systems of various economies, and to CBDC systems and pre-existing payment systems.³⁵² Interoperability may need to be enabled at wholesale and retail levels, such as it being possibly "enabled between e-CNY and other retail systems and the conversion of e-CNY and other fiat currencies [that] would be processed at virtual borders between digital wallets."³⁵³ For instance, compatibility between currencies is crucial for interoperability (i.e., "technical or legal compatibility")³⁵⁴ by ensuring the efficiency and safety of money transfers.³⁵⁵ Notably, interoperability between cross-border CBDC systems is likely to encounter more hurdles and considerations than that in domestic

³⁴⁷ CPMI REPORT, *supra* note 255, at 8.

³⁴⁸ *Id.* at 19.

³⁴⁹ *Id.* at 21.

³⁵⁰ Soderberg et al., *supra* note 50, at 25.

³⁵¹ See BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 9 ("This would include a range of characteristics from accommodative technical infrastructure to common legal and regulatory frameworks and data and messaging standards").

³⁵² BIS INNOVATION HUB H.K. CTR., *supra* note 12, at 55.

³⁵³ CPMI REPORT, *supra* note 255, at 8.

³⁵⁴ *Id.* at 21.

³⁵⁵ BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 17.

CBDC operations.³⁵⁶ Cross-border interoperability involves challenges like different compliance requirements and consumer protection rules concerning payment.³⁵⁷ A compatible ID scheme, without requiring an international database regarding CBDC end-users, may be needed to combat illicit finance.³⁵⁸

It is to be seen how e-CNY addresses interoperability issues. Interoperability among financial systems is at the core of the third principle of interconnectivity that China proposes regarding CBDC's cross-border use. A key example of China's efforts towards developing interoperability is its involvement in the mCBDC Bridge.³⁵⁹ This project faces roadblocks in aspects like governance.³⁶⁰ The mCBDC Bridge's operating model builds on the Inthanon-LionRock concept.³⁶¹ Under that concept, international payments are "processed through a jointly operated 'corridor network' which links up" separate national wholesale CBDC networks.³⁶² The mCBDC Bridge considers establishing a single mCBDC system across jurisdictions, following a model that "would apply the concept of creating new multilateral payment platforms" and go beyond basic compatibility.³⁶³ This model implies deeper integration and high levels of cooperation that builds on "having a single set of rules, a single technical system, and a single set of participants".³⁶⁴ Such deeper integration would help promote operational functionality and efficiency, but increases operational costs and "the governance and control hurdles (e.g., wider access might allow more efficient settlement but increases other risks) as well as policy issues."³⁶⁵ It is observed that such multi-CBDC design principles require global coordination so as to limit any regulatory arbitrage.³⁶⁶ The requirement of international coordination is challenging regarding CBDC given the different national positions and sensitive issues concerning CBDC (e.g., data and sovereignty).

³⁵⁶ *Id.* at 9.

³⁵⁷ *Id.* at 11.

³⁵⁸ Tsang & Chen, *supra* note 156, at 260.

³⁵⁹ BIS INNOVATION HUB H.K. CTR., *supra* note 12, at 7.

³⁶⁰ BIS: INNOVATION HUB, *supra* note 33, at 33-35.

³⁶¹ *Id.* at 7.

³⁶² CPMI REPORT, *supra* note 255, at 12.

³⁶³ *Id.* at 9-10, 19.

³⁶⁴ *Id.* at 9.

³⁶⁵ *Id.* at 9, 14.

³⁶⁶ Auer et al., *supra* note 30, at 22.

³⁶⁷ As another example, China has built a blockchain-based e-CNY distributed ledger so that operational institutions may perform tasks like cross-institution reconciliations for the exchange of digital currencies with most commercial banks and the general public.³⁶⁸ Here, technical standards for blockchain interconnectivity, blockchain scalability, privacy protection, information security and auditing are all problems that need to be addressed.³⁶⁹

Moreover, there are other challenges such as domestic circumstances and tensions among different considerations. Importantly, domestic circumstances are likely to affect interoperable system designs.³⁷⁰ China's CBDC approach and domestic circumstances are not the same as those of other states. For instance, China's social conditions, the population's familiarity with digital payment, and the scalability of FinTech are helpful for promoting e-CNY,³⁷¹ but such conditions do not necessarily exist in other jurisdictions involved in the international use of e-CNY. Moreover, there is a tension between sharing limited information about CBDC's operation to maintain a "lead" and openly sharing the lessons to promote soft power advantages and interoperability.³⁷² It is to be seen how the e-CNY system would address these issues and interact with the international financial system concerning interoperability.

5.3.3. Adaptability

Adaptability, or flexibility, is an important issue in this discussion. A CBDC ecosystem should be flexible to future demand and be able to interoperate with new systems while maintaining system resilience.³⁷³ Adaptability is also useful to address the various use cases of CBDC. All these explain why a flexible

³⁶⁷ BIS: INNOVATION HUB, *supra* note 33, at 7, 13, 19.

³⁶⁸ Qin Ningwei, *PBoC Has Established an E-CNY Distributed Ledger*, FORKAST (Dec. 7, 2021, 12:02 AM), <https://forkast.news/headlines/pboc-built-ecny-distributed-ledger/> [<https://perma.cc/5BEF-93VT>].

³⁶⁹ *Id.*

³⁷⁰ BANK FOR INT'L SETTLEMENTS, *supra* note 357, at 12.

³⁷¹ Knoerich, *supra* note 88, at 161-62.

³⁷² Chorzempa, *supra* note 28, at 18.

³⁷³ BANK FOR INT'L SETTLEMENTS, *supra* note 257, at 12.

approach is explored by e-CNY. E-CNY benefits from the low issuance cost and low traceability of cryptocurrencies while maintaining the advantages of physical currency (e.g., fiat currency status).³⁷⁴ For e-CNY, institutions in the second-tier are relatively free “to choose the right technology in the distribution layer.”³⁷⁵ Each of the e-CNY pilots is reversible, with each operator having an exit plan.³⁷⁶

It is to be seen how e-CNY will perform on adaptability across daily operations, while striking a balance with stability. “The governance of the daily operations often requires immediate responses,” but this will likely involve uncertainties (caused by factors like the difficulties in predefining every requirement and changes occurring in the operation) and unexpected behavior.³⁷⁷ Equally, flexibility needs to be balanced with stability, which is important for social and economic systems.³⁷⁸ The changes induced by regulatory measures should not risk outcomes (e.g., data leakage³⁷⁹) that are irreversible or unacceptable.³⁸⁰ Potential ways of avoiding irreversible harm involve establishing a strong oversight system to ensure reversibility,³⁸¹ and identifying and choosing among a range of policy options regarding potential and real problems.

³⁷⁴ GANTORI ET AL., *supra* note 246.

³⁷⁵ *Id.*

³⁷⁶ Auer et al., *supra* note 30.

³⁷⁷ Janssen & van der Voort, *supra* note 306.

³⁷⁸ Barbara A. Cosens et al., *The Role of Law in Adaptive Governance*, 22 *ECOLOGY & SOC'Y*, 2017, at 1, 2 (2017).

³⁷⁹ Sebastian Banescu, et al., *4 Key Cybersecurity Threats to New Central Bank Digital Currencies*, *WORLD ECON. F.* (Nov. 20, 2021), <https://www.weforum.org/agenda/2021/11/4-key-threats-central-bank-digital-currencies/#:~:text=Quantum%20computing%20will%20ultimately%20impact,of%20data%20stored%20and%20transmitte> [https://perma.cc/2K66-VTTV].

³⁸⁰ Rosie Cooney & Andrew T.F. Lang, *Taking Uncertainty Seriously: Adaptive Governance and International Trade*, 18 *EUR. J. INT'L L.* 523, 536 (2007).

³⁸¹ *Id.* at 536, 537.

5.3.4. *International Coordination*

The cross-border use of e-CNY needs to address coordination at the international level.³⁸² Domestic laws will play a crucial role in international use of the CBDC. The mobility of CBDC concerns monetary autonomy of states. Sovereignty and compliance with domestic law are highlighted in the first two principles (i.e., no detriment, compliance) that China proposes regarding CBDC cross-border use.³⁸³ They are likely to involve issues ranging from data to foreign exchange. For instance, China may need to satisfy currency exchange regulations of other states for the international use of e-CNY (e.g., the distribution of e-CNY to foreign nationals).³⁸⁴ RMB-invoiced international trade may utilize China's CBDC, "but this is still subject to consultation with other central banks and entities."³⁸⁵

Coordination of regulation is important to address problems in the cross-border operation of CBDCs that are largely attributable to different national laws. International standards for CBDC-related systems and services (such as digital identity repositories) are needed.³⁸⁶ Important issues for the international use of CBDC include the aligning of regulatory frameworks, consistent technical and regulatory standards (including AML/CTF checks), identity management concerning CBDC users, cross-border access to domestic CBDC, and payment system access.³⁸⁷ More generally, international coordination is needed regarding capital flow management, treatment of data and privacy, tax, and payments rules.³⁸⁸ Other relevant issues include rules on settlement finality, participation criteria for payment systems, and rules on the conflict of laws.³⁸⁹ Overall, central banks of the issuing and recipient states would need to agree on and have insights into aggregate cross-border use of CBDC, in the case of account-based currencies.³⁹⁰

³⁸² See GANTORI ET AL., *supra* note 246, at 9 (arguing that DCEP can replace SWIFT if DCEP is widely accepted and utilized globally).

³⁸³ WORKING GRP. ON E-CNY RSCH. & DEV., *supra* note 13, at 5, 6.

³⁸⁴ Bansal & Singh, *supra* note 52, at 14, 15.

³⁸⁵ CPMI REPORTS, *supra* note 255, at 8.

³⁸⁶ BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 7.

³⁸⁷ CPMI REPORTS, *supra* note 255, at 1-4; BIS, *supra* note 257, at 7.

³⁸⁸ Soderberg et al., *supra* note 50, at 15.

³⁸⁹ CPMI REPORTS, *supra* note 255, at 5.

³⁹⁰ Auer et al., *supra* note 30, at 9.

Coordination between institutions like central banks and related public authorities is crucial to understand and manage any unintended effects of CBDC usage (e.g., a CBDC's impact on another jurisdiction's monetary policy or financial stability or use in avoiding rules outside a jurisdiction where sufficient regulation is not in place).³⁹¹ A cross-border CBDC may generate other challenges that have the potential to "spillover" into other economies.³⁹² Coordination and information exchange among different institutions will help to address these issues.

International coordination is challenging, although various projects are working to promote international collaboration on CBDC. Privacy protection provides a prime example. In the economy and the monetary system, the centrality of data (e.g., personal and business data) is increasing.³⁹³ Data bring new challenges for privacy.³⁹⁴ It is argued that other economies using e-CNY "will find it difficult to control or monitor the flow of the Digital Yuan, and will have to take measures to protect the privacy of their domestic users."³⁹⁵ States also have divergent standards on privacy. Ideally central banks would reach agreements on the level of privacy for users making or receiving international payments.³⁹⁶ However, an international dialogue on the degree of anonymity in CBDCs will likely encounter obstacles, given different approaches and divergent interests of major economies, such as the US, the EU, and China.³⁹⁷ In relation to CBDC, the G7 has indicated various general principles regarding data collection and processing: data minimization, transparency and accountability.³⁹⁸ It is to be seen whether a consensus can be reached. Instead, a group of states may adopt common standards and affect other states which need to meet these rules to access the group's CBDC network.³⁹⁹

Behind the challenges in international coordination are the complicated policy trade-offs of different considerations such as

³⁹¹ BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 17.

³⁹² *Id.* at 7; Tsang & Chen, *supra* note 156, at 17.

³⁹³ Auer et al., *supra* note 30, at 6.

³⁹⁴ *Id.*

³⁹⁵ Tsang & Chen, *supra* note 156, at 1.

³⁹⁶ CPMI REPORTS, *supra* note 255, at at 7.

³⁹⁷ Knoerich, *supra* note 88, at 177.

³⁹⁸ BANK FOR INT'L SETTLEMENTS, *supra* note 174, at 6.

³⁹⁹ Knoerich, *supra* note 88, at 177.

security and efficiency. These considerations will affect the setting of regulatory expectations and implementation. To illustrate, the balance between fighting financial crimes and privacy protection will affect whoever may access which parts of transaction data (such as payment data in the context of evolving data protection law) and under what circumstances.⁴⁰⁰ The identification of users is useful to promote the safety and integrity of the payment system through deterring fraud and combating illicit activities such as money laundering.⁴⁰¹ This requires close collaboration with regulators, such as tax authorities.⁴⁰² However, challenges exist regarding how to protect privacy. When CBDC infrastructure needs to substantially expand its capacity due to increased demand, this could “require compromises on some features that might otherwise be desirable (such as computationally demanding privacy techniques or programmable payments) as additional complexities could increase the processing demand on the system.”⁴⁰³ It is to be seen whether and how “policy synergies between anonymity, risk reduction, and financial inclusion” may be realized.⁴⁰⁴ Essentially, the balances of motivations and objects of different states regarding CBDC, as well as national circumstances and capacity (including the characteristics of the payment systems, staffing), vary widely.⁴⁰⁵ These trade-offs may mean that “not all motivations can be realized simultaneously.”⁴⁰⁶ Potential solutions need to be carefully explored and justified to address these issues. This may require a strong regulatory and technological capacity of the issuing jurisdiction and other jurisdictions involved.

5.4. Concluding Thoughts on the Sustainability of China’s Approach

The landscape of selective reshaping is in flux and remains unclear at this stage. E-CNY is a moving target in terms of its

⁴⁰⁰ BANK FOR INT’L SETTLEMENTS, *supra* note 174, at 6.

⁴⁰¹ CPMI REPORTS, *supra* note 255, at 7.

⁴⁰² BANK FOR INT’L SETTLEMENTS, *supra* note 174, at 6.

⁴⁰³ *Id.* at 15.

⁴⁰⁴ Soderberg et al., *supra* note 50, at 26.

⁴⁰⁵ CPMI REPORTS, *supra* note 255, at 3, 4; Soderberg et al., *supra* note 50, at 1, 3.

⁴⁰⁶ BANK FOR INT’L SETTLEMENTS, *supra* note 174, at 5.

operation and development. New regional reserve currencies may arise due to new CBDCs' attractive features.⁴⁰⁷ If properly managed, CBDC will increase efficiency, reduce the risks and costs of cross-border payments (such as reducing the intermediation chains in the payment processes), improve integration, and enhance safety and technical compatibility.⁴⁰⁸ E-CNY may strengthen RMB's role in some regions across the Asia-Pacific. The international use of e-CNY will likely start from a payment infrastructure system, and is more likely to reshape cross-border payment than the investment and reserve currency system due to factors such as the need for greater international liquidity of the RMB.⁴⁰⁹ At the same time, "the credibility and stability of institutions, degree of financial openness, and the rule of law, as well as geopolitical forces, remain essential ingredients to currency internationalization and tend to move slowly."⁴¹⁰ For example, adequate accountability and supervisory arrangements are necessary.⁴¹¹ These will likely help increase the confidence in e-CNY. On the whole, economic, political economy, legal and regulatory factors will affect the trust in e-CNY.

6. CONCLUSION

Analysis of e-CNY requires consideration of the role of the state, the possible extension of e-CNY into cross-border transactions, and China's proactive approach to international governance. Through the implementation of CBDC, China may be able to selectively reshape global finance, which is among the new domains of international relations.⁴¹² However, the long-term sustainability of selective reshaping would be profoundly affected by economic, political economy, legal and regulatory factors. That said, the latest geo-economic tensions may speed up the rolling out of China's CBDC and its use. International economic governance is likely to be reshaped along with reduced reliance on the US dollar by some

⁴⁰⁷ CPMI REPORTS, *supra* note 255, at 18.

⁴⁰⁸ *Id.* at 2, 4.

⁴⁰⁹ Knoerich, *supra* note 88, at 160.

⁴¹⁰ CPMI REPORTS, *supra* note 255, at 17.

⁴¹¹ Cooney & Lang, *supra* note 380, at 536.

⁴¹² Thomas Hale, *Transnational Actors and Transnational Governance in Global Environmental Politics*, 23 ANN. REV. POL. SCI. 203, 206 (2020).

countries like China. A new international payment system and ecosystem parallel to the existing Western-led ones may emerge over time.

The interaction and impact of e-CNY on the international economic governance deserve further research, such as whether and how e-CNY might chart a novel course for the international financial system. Trust in the currency is crucial, and it is affected by many factors including the governance, openness of a currency system, and economic development of the issuing country.⁴¹³ It would be crucial to analyze the development of e-CNY, the influencing factors of China's CBDC approach,⁴¹⁴ and its impact on the future international financial systems.⁴¹⁵

⁴¹³ See Knoerich, *supra* note 88, at 157, 159 (observing that strong economic fundamentals, good financial governance, and an open currency system is a current key characteristic of major reserve currencies).

⁴¹⁴ Heng Wang, How to Understand China's Approach to Central Bank Digital Currency? 1-32 (Apr. 26, 2022) (unpublished manuscript) (available online at https://www.researchgate.net/publication/360189516_How_to_Understand_China%27s_Approach_to_Central_Bank_Digital_Currency [https://perma.cc/CMY5-WDRR]).

⁴¹⁵ Heng Wang & Simin Gao, The Future of the International Financial System: The Emerging CBDC Network and Its Impact on Regulation 11-21, 22-23 (Jan. 2021) (unpublished manuscript) (available online at https://www.researchgate.net/publication/348486110_The_Future_of_the_International_Financial_System_The_Emerging_CBDC_Network_and_Its_Impact_on_Regulation [https://perma.cc/JTD3-P9FL]).