The Regulation of Digital Currency in China

Past, Present, and Future

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Abstract

China has been at the forefront of experimenting with digital currencies, starting from the decentralized cryptocurrencies (cryptos) in the late 2000s to the most recent state-controlled central bank digital currency (CBDC). This article reviews China's history of digital currencies and examines its unique regulatory approach to both cryptos and CBDC. Reflecting on China's concerns and ambitions, this article further explores the anticipated future of digital currencies in China with a particular focus on China's regulatory developments. It concludes that e-CNY, a state-controlled CBDC, is China's future of money, although that means China must navigate an increasingly complex regulatory landscape.

Keywords: China's digital currency regulation, China's regulatory approach to cryptocurrency, future of money, central bank digital currency, e-CNY.

A Introduction

Money has been an important part of human society for thousands of years.[1] It has evolved from a barter system in which people directly exchanged goods and services for other goods and services[2] to a monetary system in which people used seashells, metals, and other items as mediums of exchange.[3] In modern economies, coins and banknotes are widely accepted as payments; the value of coins and banknotes was backed with physical assets, most commonly gold, at an equivalent value.[4] Personal checks, as well as credit and debit cards, were invented to facilitate monetary

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1 See generally, B. Grun & E. Simpson, *The Timetables of History: A Horizontal Linkage of People and Events*, 4th ed., Touchstone Books, 2005, pp. 1-848.

2 M. Alvarez, 'A Comparative Analysis of Cryptocurrency Regulation in the United States, Nigeria, and China: The Potential Influence of Illicit Activities on Regulatory Evolution', *The ILSA Journal of International & Comparative Law*, Vol. 25, 2018, p. 34.

3 K.A. Houser & C. Baker, 'Sovereign Digital Currencies: Parachute Pants or the Continuing Evolution of Money', *The New York University Journal of Law & Business*, Vol. 18, 2022, p. 532.

4 C.K. Elwell, 'Brief History of the Gold Standard (GS) in the United States,' *CRS Report for Congress*, 2011, p. 1, https://sgp.fas.org/crs/misc/R41887.pdf.

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transactions.[5] More recently, a new form of exchange medium, digital currencies, has emerged, and is rapidly 'reshaping the financial, monetary, and regulatory landscape'.[6]

Digital currencies were first launched in 2009 in the form of cryptocurrency (crypto), which is built on blockchain technology.[7] Unlike fiat money, cryptos are privately issued and managed by decentralized ledgers.[8] As cryptos are taking the world by storm, governments have realized the urgency of providing an alternative to the existing form of money.[9] They have shown a strong interest in adopting their own central bank digital currencies (CBDC) – a digital form of money backed and controlled by governments and their central banks.[10] The Atlantic Council's CBDC tracker indicates, as of January 2023, eleven countries have issued CBDCs, such as the Bahamas' sand dollar and Nigeria's eNaira.[11] Seventeen countries, including China, have launched trial programmes. Seventy-two countries are actively researching on or developing their own state-controlled digital currencies.[12] These economies altogether account for over 95 per cent of global GDP.[13]

As of early 2023, decentralized cryptos remain dominant in the currency revolution; CBDCs, however, are quickly catching up. Dr. Kristalina Georgieva, Managing Director of the International Monetary Fund, observes that digital currencies are likely to be 'the future of money'.[14] Professor Eswar Prasad also 'foresees the end of physical cash' and reveals that digital currencies are transforming the financial and monetary sectors.[15] It is clear that digital currencies are changing how people and societies think about money.

As one of the largest economies in the world, the People's Republic of China (China) is 'a major figure' in the digitalization of money.[16] Since the world's first release of crypto in 2009, China has piloted different approaches to digital

5 B.Z. Yang, 'What Is (Not) Money? Medium of Exchange ≠ Means of Payment,' *The American Economist*, Vol. 51, No. 2, 2007, pp. 101-104. https://doi.org/10.1177/056943450705100213.

6 W. Shen & H. Wang, 'Global Stablecoins and China's CBDC: New Moneys with New Impacts on the Financial System?', *The Review of Banking and Financial Law*, Vol. 41, 2021, p. 255.

7 M. Crosby et al., 'BlockChain Technology: Beyond Bitcoin', *Sutardja Center for Entrepreneurship & Technology Technical Report*, 2015, p. 3, https://scet.berkeley.edu/wp-content/uploads/BlockchainPaper-1.pdf (discussing Blockchain technology and how it works).

8 Shen & Wang, 2021, p. 255.

9 Atlantic Council, 'Central Bank Digital Currency Tracker', https://www.atlanticcouncil.org/cbdctracker/ (last accessed 4 January 2022).

10 K. Georgieva, 'The Future of Money: Gearing up for Central Bank Digital Currency', 9 February 2022, https://www.imf.org/en/News/Articles/2022/02/09/sp020922-the-future-of-money-gearing-up-for-central-bank-digital-currency.

11 Atlantic Council, 'Central Bank Digital Currency Tracker', https://www.atlanticcouncil.org/cbdctracker/ (last accessed 4 January 2022).

12 *Id.*

13 *Id.*

14 Georgieva, 2022.

15 E.S. Prasad, *The Future of Money: How the Digital Revolution Is Transforming Currencies and Finance*, 1st ed., Cambridge, Harvard University Press, 2021, pp. 1-496.

16 S.T. Edgell, 'Toto, I've A Feeling the Environment Isn't Safe from Cryptocurrency Anymore: The Degrading Ecological Effects of Bitcoin and Digital Currencies', *Villanova Environmental Law Journal*, Vol. 32, 2021, pp. 81-82.

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currencies; it has progressed through three main phases. In the early days, China attempted to regulate cryptos; it then moved on to restricting and ultimately outlawing cryptos and banning all transactions in the 2010s. Most recently, it has geared up to roll out its own state-controlled digital currency (known as ‘e-CNY’). Due to the size of the Chinese economy, China’s interests and ambitions in digital currencies are most likely to have a huge impact on international financial and monetary systems; they may even reshape global regulation and policies.[17] Thus, this article turns its focus to China.

This article investigates China’s unique regulatory approach to digital currencies. Following the introduction, the rest of this article is divided into four sections. Section B briefly reviews the history of digital currencies in China. Section C proceeds to examine China’s regulatory approach to both cryptos and CBDC, particularly how the Chinese approach has evolved over time. Reflecting on China’s concerns and ambitions, Section D further explores the anticipated futures of digital currencies in China with a particular focus on the regulatory developments. Finally, Section E concludes the article by predicting how China may deal with digital currencies and some of the potential challenges.

B The History of Digital Currencies in China

China’s history of digital currencies is largely divided into two periods: decentralized cryptos in the early days and the recent shift towards the rather nascent CBDC initiatives. The following section unfolds the history of both periods.

I Decentralized Cryptos

After the launch of the first crypto-Bitcoin in 2009,[18] China quickly became the world’s largest[19] and most active crypto market;[20] the Chinese yuan (RMB) was widely used on crypto’s trading platforms.[21] Data show that during its peak years, China represented over 90 per cent of the global trading in Bitcoin – the leading crypto by market capitalization since its first release.[22] Back then, 80 per cent of global Bitcoin transactions were conducted in Chinese yuan.[23] Chinese charities even accepted Bitcoin donations for earthquake relief.[24] However, as the top

17 S. Davidson, ‘Digital Dynasties: How China’s Cryptocurrency Could Unseat the Dollar’, *Harvard International Review*, August 29, 2022, https://hir.harvard.edu/digital-dynasties-how-chinas-cryptocurrency-could-unseat-the-dollar/; see also Shen & Wang, 2021, p. 255.

18 Alvarez, 2018, p. 37; see also M.P. Ponsford, ‘A Comparative Analysis of Bitcoin and Other Decentralized Virtual Currencies: Legal Regulation in the People’s Republic of China, Canada, and the United States’, *Hong Kong Journal of Legal Studies*, Vol. 9, 2015, p. 30.

19 Edgell, 2021, pp. 81-82.

20 D.T. Morton, ‘The Future of Cryptocurrency: An Unregulated Instrument in an Increasingly Regulated Global Economy’, *The Loyola University Chicago International Law Review*, Vol. 16, 2020, pp. 136-137.

21 *Id*.

22 *Id*.

23 R. Hoffmann, ‘China’s Cryptocurrency and Blockchain Regulatory Environment’, https://www.ecovis.com/focus-china/chinas-cryptocurrency/ (last accessed 2 December 2022).

24 J. Cassidy, M.H.A. Cheng & T. Le, ‘It’s aA Bird! It’s a Plane! No, It’s a Cryptocurrency!’, *Journal of International Taxation*, Vol. 31, 2020, p. 51 (noting that the use of Bitcoin had gained nation-wide

Chinese regulators introduced a ban in 2017, the 'crypto powerhouse'[25] suddenly collapsed. In fact, crypto transactions in China plummeted to a single digit per cent range, with some statistics showing 'a mere one per cent of global trading',[26] and others showing a 7 per cent of global trading.[27]

II Piloting e-CNY

China's initiative in launching its own state-controlled digital currency can be traced back to 2014 when its central bank – the People's Bank of China (PBOC), established a Working Group to research 'the issuance framework, key technologies, issuance and circulation environment, and international experience'.[28] This was a significant step forward for China and placed it as a world leader in this space.

In 2016, the PBOC further created the Digital Currency Institute aiming to develop 'the first-generation of digital fiat currency': e-CNY.[29] According to the PBOC, e-CNY is a digitalized version of China's legal currency RMB;[30] '[t]he issuance and circulation is identical with physical RMB, while the value of the former is transferred in a digital form'.[31] In other words, e-CNY has the identical valuation as physical RMB, and essentially 'forms part of the monetary base (M0) of China'.[32] It is tantamount to legal tender as a digital currency rather than in a traditional physical form.

As this ground-breaking initiative continued to unfold, in 2017, the State Council officially authorized the PBOC to take a leadership role in team collaboration.[33] Since that time, the PBOC has worked closely with commercial institutions, such as commercial banks, and fintech companies, in testing and refining e-CNY.[34] Following the completion of system testing in April 2020, China rolled out the e-CNY pilot programme in four cities: Chengdu, Shenzhen, Suzhou, and Xiong'an.[35] The initial trials appeared to be successful as China continued to broaden the scope of the pilot programmes. As of 31 August 2022, China expanded

popularity after the One Foundation, a Chinese charity founded by the movie star Jet Li, announced that it was accepting Bitcoin for donations to an earthquake appeal); see also Y. Zhang & D. He, 'Jet Li's One Foundation Goes Public', *China Daily*, 12 January 2011.

25 Edgell, 2021, pp. 81-82.

26 Morton, 2020, pp. 136-137.

27 Alvarez, 2018, p. 49; see also Ponsford, 2015, p. 36.

28 Working Group on E-CNY Research and Development of the People's Bank of China, 'Progress of Research & Development of E-CNY in China', July 2021, p. 1, www.pbc.gov.cn/en/3688110/3688172/4157443/4293696/2021071614584691871.pdf.

29 *Id.*, p.13.

30 H. Dent, 'International Trade Law Concerns with China's Digital Currency: How Sovereign-Issued Stablecoin Can Destabilize International Trade', *The Georgetown Journal of International Law*, Vol. 51, 2020, p. 924.

31 Working Group on E-CNY Research and Development of the People's Bank of China, 2021, p. 3.

32 A. Huld, 'China Launches Digital Yuan App – All You Need to Know', *China Briefing*, 22 September 2022, httpswww.china-briefing.com/news/china-launches-digital-yuan-app-what-you-need-to-know/; see also Cassidy et al., 2020, p. 51.

33 Working Group on E-CNY Research and Development of the People's Bank of China, 2021, p. 1.

34 *Id.*

35 J. Xu, 'Developments and Implications of Central Bank Digital Currency: The Case of China e-CNY', *Asian Economic Policy Review*, Vol. 17, No. 2, 2022, pp. 235-250.

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the e-CNY trials to twenty-three cities across the country. 360 million e-CNY transactions were completed, amounting to over RMB100 billion in transaction value.[36] Furthermore, China linked e-CNY to major Chinese e-commerce platforms like Alipay and WeChat Pay;[37] it also extended the use of e-CNY to different sectors, such as utility payments, transportation, retail, government services, and food and catering services.[38] Many scholars, such as Professors Wei Shen and Heng Wang, suggest that China is to conclude the trial soon and likely to become the first major economy in the world that officially launches a CBDC.[39]

C China's Regulatory Approach to Digital Currencies

As compared with most other countries in the world, China's regulatory approach to digital currencies is rather unconventional,[40] and may also appear to be inconsistent. As noted, since 2009, it has evolved from attempting to regulate, to restricting and then banning crypto transactions, to taking the initiative to develop its own state-controlled digital currency.[41] The shift in stance reflects China's concerns and ambitions pertaining to the development and adoption of digital currencies. China has been seeking a fine balance between control of currency and being at the forefront of such key technologies and their possible global adoption to the RMB currency. As Ms Alice Ekman, Senior Analyst at the European Union Institute for Security Studies, notes: 'China was initially cautious…',[42] but 'after … observing the emergence of blockchain technology…', the Chinese Government has 'increasingly seen it as an opportunity', and acknowledged that it could 'become an economic, political and geopolitical asset for the country, if "guided" well'.[43] The following section examines China's shift in digital currency stance, particularly from a regulatory perspective.

I. General Principles on Currency Regulation in China

In a general sense, China has passed a series of laws and regulations governing the issuance and administration of Chinese currency RMB. The Law of the People's

36 S. Chen, 'E-CNY Transactions Have Exceeded RMB 100 Billion' <试点地区数字人民币交易额破千亿元>, 13 October 2022, https://news.cctv.com/2022/10/13/ARTIvB8XinYJAt4t1gdn0XPN221013.shtml.

37 C. Feng, 'China Digital Currency: Leading Mobile Payment Apps Alipay, WeChat Pay Install New Features to Help Widen e-CNY Roll-out', *South China Morning Post*, 6 May 2022, https://www.scmp.com/tech/big-tech/article/3176812/china-digital-currency-leading-mobile-payment-apps-alipay-wechat-pay.

38 Xu, 2022, pp. 235-250.

39 Shen & Wang, 2021, p. 255.

40 Cassidy et al., 2020, p. 50 (for example, noting that '[t]he regulation of Bitcoin in China has a turbulent history'.

41 *Id*.

42 Alice Ekman, 'China's Blockchain and Cryptocurrency Ambitions, The First-Mover Advantage', July 2021, p. 1, www.iss.europa.eu/sites/default/files/EUISSFiles/Brief_15_2021.pdf.

43 *Id*.

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Republic of China on the People's Bank of China (Law on PBOC),[44] and the Regulation of the People's Republic of China on the Administration of Renminbi (Regulation on the Administration of RMB)[45] are the most important pieces of legislation, although there are many others.

The Law on PBOC, first passed In 1995 and amended in 2003, designates the PBOC as the sole authority responsible for the issuance and administration of Chinese currency (Arts. 4 and 20).[46] Following this general principle on currency regulation, Article 20 prohibits all other entities and individuals from issuing tokens or coupons competing with or replacing RMB.[47] Article 16 also specifies that the only legal tender in China is RMB.[48] A few years later, the State Council passed the Regulation on the Administration of RMB (1999) to support the enforcement of the Law on PBOC. Particularly this regulation seeks to 'maintain…the credit standing of RMB and stabilize… the financial order'.[49]

Both the law and the accompanying regulation mentioned above are still in force, implying that China does not recognize cryptos as legal tender. By contrast, the state-controlled digital currency e-CNY holds a different status. Issued and administered by the PBOC, e-CNY, as noted, is China's legal tender in the digital form.[50]

II China's Regulatory Approach to Cryptos

As Professor Julie Cassidy and others observe:

> [c]ryptocurrencies are quite alien to existing legal concepts and this makes it difficult for regulators to determine which aspects (if any) require regulation and, if so, how to control and monitor these activities.[51]

This has been the case for China, among many other major economies.[52] To date, China has yet to pass any legislation on cryptos. Nevertheless, its top regulators have issued a number of notices, warnings, and announcements regulating this

44 Law of the People's Republic of China on the People's Bank of China <中华人民共和国中国人民银行法>, passed in 1995 and amended in 2003, www.pbc.gov.cn/english/130733/2941519/2015082610501049304.pdf [hereinafter Law on PBOC].

45 Regulation of the People's Republic of China on the Administration of Renminbi <中华人民共和国人民币管理条例>, 2000, www.lawinfochina.com/Display.aspx?LookType=3&Lib=law&Cgid=26937&Id=4705&SearchKeyword=&SearchCKeyword=&paycode= [hereinafter Regulation on the Administration of RMB].

46 Law on PBOC, Arts. 4, 20.

47 *Id*., Art. 20.

48 *Id*., Art. 16; see also R. Xie, 'Why China Had to "Ban" Cryptocurrency but the U.S. Did Not: A Comparative Analysis of Regulations on Crypto-Markets between the U.S. and China', *Washington University Global Studies Law Review*, Vol. 18, 2019, p. 472.

49 Regulation on the Administration of RMB, 2000, Art. 1.

50 R. Hoffmann, 'China's Cryptocurrency and Blockchain Regulatory Environment', https://www.ecovis.com/focus-china/chinas-cryptocurrency/ (last accessed 2 December 2022).

51 Cassidy et al., 2020, p. 45.

52 *Id*., p. 48.

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emerging asset class. There clearly is tension in regulating and restricting cryptos, whilst promoting e-CNY as an alternative.

1 *Defining Crypto's Legal Status in the Late 2000s*

In the late 2000s, following the above general principles, China did not bestow cryptos with the status of legal tender. However, it did not declare crypto illegal or prohibit trading either. At that point in time, cryptos were purely seen as a taxation issue. The Chinese regulators focused on the categorization of cryptos, particularly Bitcoin, in the context of individual income tax.[53] According to *Letter No. 818* issued by the State Taxation Administration (STA), Bitcoin was defined as a commodity; any capital gains from Bitcoin transactions were deemed as taxable income in China.[54]

In 2009, joining the STA, the PBOC also confirmed the legal status of cryptos. In the *Administrative Measures for Electronic Currency Issuance and Clearing Measures: Exposure Draft* (ED),[55] the PBOC defined digital currency and clarified that Bitcoin and other cryptos were not a form of digital currency within its interpretation.[56] That means cryptos were not recognized by commercial institutions as a medium of exchange. This acted as a natural inhibitor for the development of cryptos, compared with the state-supported e-CNY.

2 *Imposing Restrictions on Crypto Transactions in 2013*

As previously noted, China has never been a strong advocate for cryptos, but it has been cautiously monitoring this blockchain-based digital innovation since its first release.[57] As time went by, China gradually realized that cryptos were often associated with financial crimes, such as fraud, and cross-border money laundering.[58] There was also a concern that cryptos, issued by private ledgers, may abuse China's financial institutions, and undermine economic stability when they dominate the finance industry.[59] Thus, security and control are key elements of the monitoring of crypto developments.

In response to these concerns, in December 2013, the PBOC, along with the Chinese Ministry of Industry and Information Technology, the Banking Regulatory

53 *Id*., 2020, p. 50.

54 State Taxation Administration, 'Income Tax on Virtual Currency Trading on the Internet' <关于个人通过网络买卖虚拟货币取得收入征收个人所得税问题的批复>, Letter No. 818, 2008, www.chinatax.gov.cn/chinatax/n810341/n810765/n812171/200810/c1191096/content.html; see also Cassidy et al., 2020, p. 50.

55 Cassidy et al., 2020, pp. 50-51.

56 *Id*.

57 Ekman, 2021, pp. 1-2.

58 J. Jiang, 'Regulating Blockchain? A Retrospective Assessment of China's Blockchain Policies and Regulations', *Tsinghua China Law Review*, 2020, pp. 313-326; see also Edgell, 2021, p. 82 (China is worried about 'fraudulent tactics associated with the unlawful issuance of currencies, such as Ponzi schemes and multi-level marketing').

59 Alvarez, 2018, p. 53. (China 'perceives [cryptos] as a menace to … stability of financial institutions'); see also A.F. Aysan & F.N. Kayani, 'China's Transition to A Digital Currency Does It Threaten Dollarization?', *Asia and the Global Economy*, Vol. 2, No. 1, January 2022. https://doi.org/10.1016/j.aglobe.2021.100023.

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Commission, the Securities Regulatory Commission, and the Insurance Regulatory Commission, published an official statement on Bitcoin: *The Notice on Preventing Bitcoin Risks No. 289 (2013)* (the 2013 Notice).[60] The 2013 Notice represents the Chinese Central Government's official opinion on cryptos.[61] It highlights two key points. These are:

First, the 2013 Notice reaffirms the legal status of Bitcoin. Article 1 of the Notice states: although Bitcoin is commonly referred to as 'currency', it is not 'currency' per se. Bitcoin is only a 'virtual commodity' rather than a legal tender, and thus, cannot be used as a medium of exchange for goods and services in China.[62] In fact, in 2019, Hangzhou Internet Court, a specialized court established in August 2017, handed down China's first decision involving the legal status of Bitcoin. The court's finding was consistent with the 2013 Notice; it recognized Bitcoin as a 'virtual commodity' rather than a legal currency.[63] This was a significant decision and outcome desired by the government.

Second, the 2013 Notice imposes restrictions on Bitcoin trading in China. Article 2 prohibits financial and payment institutions from engaging in Bitcoin-related businesses, such as Bitcoin transactions, accepting Bitcoin payments, and providing relevant services.[64] Articles 3 and 4 further outline the responsibilities of Chinese online platforms that provide Bitcoin-related businesses. For example, they must register with relevant government authorities, and they must comply with Chinese anti-money laundering laws and regulations.[65] Furthermore, Articles 3 and 4 suggest that the public is allowed to trade Bitcoins as 'virtual commodities',[66] however, at their own risk. The public is warned to exercise caution to avoid getting involved in Bitcoin-related crimes, such as fraud, and money laundering.[67]

3 The 2017 Ban

As cryptos gained more popularity throughout China, the Chinese Government noticed the increasing illegal use of Bitcoin, Ethereum, and other cryptos within the country. This was a major concern for the Chinese Government. Thus it felt the need to impose more stringent restrictions on crypto trading and other related activities.[68] In September 2017, the PBOC, the Central Cyberspace Affairs

60 People's Bank of China, Ministry of Industry and Information Technology, China Banking Regulatory Commission, China Securities Regulatory Commission and China Insurance Regulatory Commission, 'The Notice on Preventing Bitcoin Risks No. 289' <人民银行等五部委发布关于防范比特币风险的通知>, 5 December 2013, www.gov.cn/gzdt/2013-12/05/content_2542751.htm [hereinafter the 2013 Notice]; see also Cassidy et al., 2020, p. 51.

61 R. Hoffmann, 'China's Cryptocurrency and Blockchain Regulatory Environment', https://www.ecovis.com/focus-china/chinas-cryptocurrency/ (last accessed 2 December 2022).

62 The 2013 Notice, Art. 1; see also Morton, 2020, p. 136.

63 Hoffmann, 2022.

64 The 2013 Notice, Art. 2.

65 *Id*., at Arts. 3 and 4.

66 Xie, 2019, pp. 474-475.

67 The 2013 Notice, Arts. 3 and 4.

68 PBOC et al., 'Notice on Preventing ICO Risks'<人民银行等七部门关于防范代币发行融资风险的公告>, 4 September 2017, Art.1, www.gov.cn/xinwen/2017-09/04/content_5222657.htm.

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Administration, the Ministry of Industry and Information Technology, the State Administration for Industry and Commerce, the Banking Regulatory Commission, the Securities Regulatory Commission, and the Insurance Regulatory Commission jointly issued *the Announcement on Preventing the Financial Risks of Initial Coin Offerings* (the 2017 Announcement).[69] As compared with the 2013 Notice, the 2017 Announcement explicitly expands the regulation to encompass not only Bitcoin but also other cryptos.

The 2017 Announcement affirms that all cryptos, like Bitcoin, are not legal tenders in China and cannot be used as mediums of exchange.[70] Article 1 declares that initial coin offerings (ICOs), as well as crypto-based fundraising and financing activities,[71] are illegal by nature.[72] Institutions and individuals are strictly prohibited from participating in ICOs.[73] All domestic crypto trading platforms must be shut down immediately.[74] Furthermore, financial and payment institutions are also banned from holding or trading cryptos or engaging in any crypto-related businesses. Violations of this crypto ban may result in criminal penalties.[75]

Given that China has yet to pass legislation on cryptos, it entirely relies on the existing regulatory framework to hold violators liable for breaches of the ban. Relevant laws and regulations include, for example, the Chinese Criminal Law, the Law of the People's Republic of China on the People's Bank of China (2003 amendment), the Law of the People's Republic of China on Commercial Banks (2015 Amendment), the Law of the People's Republic of China on Securities (2019 amendment), the Cybersecurity Law of the People's Republic of China, the Regulation on Telecommunications of the People's Republic of China, and the Measures for Banning Illegal Financial Institutions and Illegal Financial Activities.[76] For example, in November 2020, Yancheng Intermediate Court in eastern China handed down a decision relating to crypto trading. Top operators of the PlusToken were accused of organizing and leading Multi-Level Marketing (MLM), which is prohibited by Article 224 of the Chinese Criminal Law. They were later found guilty of defrauding investors and sentenced to imprisonment for up to 11 years.[77]

4 After the 2017 Ban

The 2017 Announcement is only applicable to domestic crypto trading platforms, and financial and payment institutions. This is an important distinction as it is still possible for Chinese investors to bypass domestic bans and engage in online crypto transactions through overseas trading platforms that are outside of Chinese

69 *Id*.
70 *Id*., at Art. 1.
71 *Id*., at Arts. 1 &2.
72 *Id*., at Art. 1.
73 *Id*., at Art. 2.
74 *Id*., at Arts. 1 &2.
75 *Id*.
76 *Id*., at Preamble.
77 J. Xin & S. Lei, 'Decision on PlusToken Appeal: 320,000 Bitcoins Were Seized' <'币圈第一大案'PlusToken二审宣判：查获32万个比特币>, *Sina Finance News*, 28 November 2021, https://finance.sina.cn/blockchain/2020-11-28/detail-iiznezxs4161300.d.html.

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jurisdiction. To discourage that approach, top Chinese regulators issued two further announcements in 2018 and 2021, respectively; they reminded Chinese investors of the risks of trading cryptos through overseas platforms.

In August 2018, the PBOC, the Ministry of Public Security, the Central Cyberspace Affairs Commission, and the State Administration for Market Regulation jointly published *The Risk Warning on Illegal Fundraising under the Guise of 'Virtual Currency' and 'Blockchain'* ('the 2018 Risk Warning'). This formally alerted Chinese investors of the risks of falling victim to online investment scams.[78] The 2018 Risk Warning specifically highlights the dangers of Ponzi Schemes[79] and other online investment scams that have been run by overseas crypto trading platforms.[80]

In September 2021, the PBOC, along with nine other Chinese regulators issued *the Notice on Further Preventing and Managing the Risks of Crypt Trading No. 237* ('the 2021 Notice').[81] The 2021 Notice is the most comprehensive crypto regulation to date. It is composed of five main parts. Part I reiterates that cryptos are not legal tenders in China and declares that all crypto transactions are illegal. Any entities and individuals involved in crypto trading may face administrative and criminal penalties. The 2021 Notice also states that providing online services to Chinese residents via overseas crypto trading platforms is deemed to be an illegal financial activity and subject to criminal liability.[82] To prevent crypto-related crimes and protect investors and economic stability, Part II establishes risk management mechanisms that involve both national and local governments.[83] Part III and Part IV strengthen risk monitoring and warning system, as well as management systems, respectively. Finally, Part V strives to improve the enforcement of the 2021 Notice, particularly through a campaign to raise public awareness and educate the public about crypto risks.[84]

III China's Transition to e-CNY

As mentioned above, China's strengthening of crypto regulations and its transition to centralized e-CNY arise from two main considerations. The 2013 Notice, the 2017 Ban, the 2018 Risk Warning as well as the most comprehensive crypto

78 'The Risk Warning on Illegal Fundraising under the Guise of "Virtual Currency" and "Blockchain"', <关于防范以'虚拟货币''区块链'名义进行非法集资的风险提示>, *CCTV Finance News*, 24 August 2018, http://jingji.cctv.com/2018/08/24/ARTIPl6twTdOtOpvnbysFEzF180824.shtml [hereinafter CCTV Finance News Risk Reminder].

79 M. Vasek & T. Moore, 'Analyzing the Bitcoin Ponzi Scheme Ecosystem', *in* A. Zohar et al. (Eds.), *Financial Cryptography and Data Security*, Springer Berlin Heidelberg, 2019. https://doi.org/10.1007/978-3-662-58820-8_8.

80 CCTV Finance News Risk Reminder, 2018.

81 PBOC et al., 'The Notice on Further Preventing and Managing the Risks of Crypt Trading No 237' <关于进一步防范和处置虚拟货币交易炒作风险的通知>, 15 September 2021, www.gov.cn/zhengce/zhengceku/2021-10/08/content_5641404.htm.

82 PBOC, 'The Notice on Further Preventing and Managing the Risks of Crypt Trading'<关于进一步防范和处置虚拟货币交易炒作风险的通知>, 24 September 2021, http://m.safe.gov.cn/safe/2021/0924/19911.html.

83 *Id.*

84 *Id.*

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regulation issued in 2021 all demonstrate China's concerns as well as a strong commitment to curtailing the growing illicit activities associated with cryptos, such as fraud, tax evasion, and money laundering.[85] Furthermore, China is also deeply worried that cryptos disturb the Chinese financial system and undermine government authority. As Professors Kimberly A. Houser and Colleen Baker observe: China is facing the challenges of 'capital leaving the country, tax evasion, financial instability due to fluctuating prices, and the reduced ability for the government to implement monetary policy'.[86] It is no surprise that the Chinese Government has taken a hard stand against cryptos. However, as Prasad notes: the world is going through a revolution; the revolution is 'transforming the nature of money',[87] and reshaping financial and monetary policy as well as international payments.[88]

China has also seen this revolution as an opportunity after cautiously observing it for five years. Despite its strong objection to cryptos, China took the initiative to develop its own state-controlled digital currency.[89] Since the launch of the trial program in 2020, China has been actively piloting and promoting the use of e-CNY.[90] Many scholars suggest that the adoption of e-CNY also supports China's pursuit of its international agenda. For example, Houser and Baker note: the launch of e-CNY helps to 'reduce the influence of the U.S. dollar', and 'increase… the importance of China's currency in the world economy'.[91] Harrison Dent also observes: '[a] government-backed digital currency will grant China unprecedented trade leverage'.[92]

China's transition to e-CNY has been guided by the existing legal framework. The institutional design of China's CBDC, according to the Working Group on e-CNY Research and Development, is strictly in compliance with the existing Chinese laws and regulations, such as those regulating the Chinese currency and foreign exchange, data and privacy protection, and anti-money laundering and counter-terrorism financing.[93] For example, pursuant to Articles 16 and 20 of the Law on PBOC,[94] e-CNY is deemed as a legal tender in China given that it is a digital form of RMB issued and administrated by the PBOC.[95] Furthermore, to prevent the

85 Alvarez, 2018, p. 50 (noting that 'the United States Bureau for International Narcotics and Law Enforcement Affairs reported that China had 1,504 money laundering prosecutions in 2015').
86 Houser & Baker, 2022, p. 556; see also M. Chorzempa, 'China, the United States, and Central Bank Digital Currencies: How Important Is It to Be First?', *China Economic Journal*, Vol. 14, 2021, p. 104.
87 C. Wellisz, 'The Currency Revolution', March 2022, https://www.imf.org/en/Publications/fandd/issues/2022/03/Currency-revolution-Prasad; see also Prasad, 2021, pp. 1-496.
88 Prasad, 2021, pp. 1-496; see also Wellisz, 2022.
89 Ekman, 2021, p. 1.
90 Shen & Wang, 2021, pp. 260-261.
91 Houser & Baker, 2022, pp. 591-592.
92 Dent, 2020, p. 919.
93 Working Group on E-CNY Research and Development of the People's Bank of China, 2021, p. 6.
94 The Law on PBOC, 2003, Arts. 16 &20.
95 R. Hoffmann, 'China's Cryptocurrency and Blockchain Regulatory Environment', https://www.ecovis.com/focus-china/chinas-cryptocurrency/ (last accessed 2 December 2022).

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illegal use of the e-CNY, Article 24 of the Cybersecurity Law of the People's Republic of China (2017) requires real-name verification for all e-CNY users.[96]

China has realized the urgent need to regulate this emerging technology. It has been investigating how to strengthen domestic regulation on e-CNY. In October 2020, the PBOC published *the Notice by the People's Bank of China of Request for Public Comments on the Law of the PRC on the People's Bank of China* and made a formal call for the public to make submissions on the proposed reform of the Law on PBOC.[97] One of the major amendments the PBOC proposed was the prohibition of 'RMB-pegged digital tokens' and the explicit legalization of the e-CNY.[98]

In July 2021, the Working Group on e-CNY Research and Development of the People's Bank of China published a report: *Progress of Research & Development of E-CNY in China* (the 2021 Report).[99] In addition to documenting the background and the main objectives of launching the e-CNY, the 2021 Report outlines e-CNY regulatory goals. First, it suggests, 'regulatory measures and requirements' need to be designed specifically to improve the use of e-CNY, and they need to be clear and enforceable.[100] Second, e-CNY regulation should follow three principles: (1) ensuring e-CNY property as a fiat currency; (2) focusing on the true goals of risk prevention; (3) supporting innovative developments in e-CNY.[101] Third, the 2021 Report recommends the PBOC prioritize two tasks: the revision of existing regulation, and the adoption of administrative measures that can enhance the protection of personal information.[102] Although China has a plan in place in terms of e-CNY regulation, it is still entering uncharted territory and needs to be aware of and stay vigilant against any potential challenges and risks, particularly those hidden behind the fast-evolving technology.

D China's Future of Money and the Regulation

I China's Future of Money

As early as 2002, the Organization for Economic Cooperation and Development (OECD) published a book *The Future of Money*, and made two predictions: first, '[m]oney's destiny is to become digital';[103] second, it is a two-stage transformation. The first stage is for coins and banknotes to be replaced by 'more abstract means of payment such as bills of exchange, cheques and credit cards'.[104] The second stage is

96 The Cybersecurity Law of the People's Republic of China, 2017, Art. 24, https://www.hf.cas.cn/zncs/aqbmc/zcfg/bm/202010/W020201014524533250553.pdf.

97 PBOC, 'Notice by the People's Bank of China of Request for Public Comments on the Law of the PRC on the People's Bank of China (Amendment Draft for Consultation)' <中国人民银行关于《中华人民共和国中国人民银行法（修订草案征求意见稿）》公开征求意见的通知>, 2020, www.pbc.gov.cn/goutongjiaoliu/113456/113469/4115077/index.html.

98 *Id.*

99 Working Group on E-CNY Research and Development of the People's Bank of China, 2021, pp. 1-15.

100 *Id.*, at p. 11.

101 *Id.*

102 *Id.*, at p. 15

103 OECD, 'The Future of Money', 17 May 2002, https://doi.org/10.1787/9789264195929-en.

104 *Id.*

the emergence and development of 'virtual money'.[105] As of January 2023, the world has moved beyond the first stage; it is currently going through the second stage in which physical currency is gradually phasing out, and 'virtual money', *i.e.*, digital currencies, are quickly phasing in.[106]

Although Prasad notes, 'the competition between official and private currencies is [still] looming in both the domestic and international arenas',[107] China has already decided what its future money should look like.[108] Its regulatory approach to cryptos and the recent transition to e-CNY clearly suggest: privately issued cryptos have lost the competition in China; the state-controlled CBDC, e-CNY, is China's future of money, at least until another new form of currency is invented as technology continues to advance.

II The Regulation

As for regulation, China seeks to balance the importance of e-CNY, the digital legal tender, whilst still having sufficient regulation to ensure effective administration of e-CNY, prevent illegal activities from being financed, and protect consumers and financial stability.[109] Due to the nature of the technology embedded in digital currencies, many legal issues pertaining to e-CNY are technology-based and often go beyond national borders. This is not unique to China; governments around the world are grappling with these same issues and tensions.[110] Thus, it is worth looking at the broader technology shifts in relation to CBDC regulation, to have a better understanding of what China may take as its next steps for the future of money and regulation.

This article identifies two top priorities for Chinese regulators: data governance (including data security and privacy) and cybersecurity.[111] In fact, as Professor

105 *Id*.

106 Prasad, 2021, pp. 1-496; see also E.S. Prasad 'A New Era of Money', September 2022, https://www.imf.org/en/Publications/fandd/issues/2022/09/A-new-era-for-money-Prasad (noting that 'the era of physical currency, or cash, is drawing to an end, even in low- and middle-income countries; the age of digital currencies has begun').

107 Prasad, 2022; see also Houser & Baker, 2022, pp. 594-595 (noting that some countries, such as China and India, have already decided on their preferred form of digital currency, *i.e.*, ban cryptos in anticipation of issuing their own CBDCs. On the contrary, the United States is unlikely to issue a complete ban on cryptos, but 'there has been a call for increased regulation').

108 Houser & Baker, 2022, pp. 594-595 (noting that China has already decided on their preferred form of digital currency, *i.e.*, ban cryptos in anticipation of issuing their own CBDCs).

109 *E.g.*, see Alvarez, 2018, p. 52 (noting that 'China bases their regulatory decision-making in response to perceived threats of financial crime').

110 Cassidy et al., 2020, p. 45.

111 *E.g.*, see A. Gump, 'Top 10 Topics for Directors in 2020', 2020, https://www.akingump.com/en/experience/practices/corporate/ag-deal-diary/top-10-topics-for-directors-in-2020-executive-summary.html (cybersecurity is ranked as one of the top issues for corporate directors); see also EY Center for Board Matters, 'Eight Priorities for Boards in 2020 – Harvard Law School Forum on Corporate Governance', 2020, https://corpgov.law.harvard.edu/2020/01/14/eight-priorities-for-boards-in-2020/ (the EY Centre for Board Matters also ranked cybersecurity and data privacy as one of the top issues for governance boards.)

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Michael A. Adams and Ms. Susan Bennett observe, in the age of digital disruption,[112] data governance and cybersecurity are some of the 'new governance challenges' faced by governments and regulators.[113] They note: '[i]nformation governance, data protection and security, privacy, cybersecurity, and artificial intelligence ('AI') have all become critical topics for … governments globally to consider'.[114]

1 *Data Governance*

As noted, the Chinese Cybersecurity Law requires real-name verification for e-CNY users.[115] To open an e-CNY wallet, users must provide personal information for verification purposes. During the trials, four types of e-CNY 'wallets' (also known as 'digital wallets') are made available to users; different wallets require different verification documents, depending on transaction caps.[116] Class 1 and Class 2 'wallets' allow for large (up to RMB50,000 for a single transaction) or unlimited transactions; both require the verification of users' national IDs, mobile telephone numbers, and bank accounts.[117] Class 1 goes one step further mandating in-person visits to the banks.[118] Class 3 and Class 4 'wallets' are designed for small transactions, with single transactions of up to RMB5,000 and RMB2,000, respectively.[119] Class 3 wallets require the verification of national IDs and mobile numbers; Class 4 wallets only require the verification of mobile numbers – which are also attached to national IDs.[120] As users must disclose a broad range of sensitive information to be able to sign up for digital wallets and use e-CNY, there is a growing concern about data security and privacy.[121] Chinese regulators have recognized this concern[122] and pledged to address it by making clear and enforceable laws and by developing effective data governance frameworks.[123]

In November 2022, the PBOC published a report ('the 2022 PBOC report') detailing China's approach to e-CNY's data governance: managed anonymity (*kekongniming*).[124] This approach highlights two aspects. First, data governance is 'managed'. To prevent financial crimes and other risks associated with the use of

112 M.A. Adams, 'Theoretical Frameworks and Governance of Information', *in* M. Perry et al. (Eds.), *Legal Issues in Information Technology*, Thomson Reuters, 2022, p. 12.

113 M.A. Adams & S. Bennett, 'Information Governance Key to Good Corporate Governance', *Governance Directions*, Vol. 72, No. 4, May 2020, https://www.sibenco.com/ig-good-corporate-governance/.

114 *Id*.

115 The Cybersecurity Law of the People's Republic of China, 2017, Art. 24.

116 F. Tang, 'China's Digital Yuan: Beijing Vows Stronger Laws, Clear Limits on Monitoring e-CNY Wallets', *China Macro Economy*, 10 October 2022, https://www.scmp.com/economy/article/3195447/china-digital-yuan-beijing-vows-stronger-laws-clear-limits-monitoring-e-cny.

117 J. Chen, PBOC Changchun Mu Explains the Four Types of e-CNY Wallets <央行穆长春详解四类数字人民币钱包>, *SinaNews*, 11 June 2021, https://finance.sina.com.cn/money/bank/bank_hydt/2021-06-11/doc-ikqcfnca0521485.shtml.

118 *Id*.

119 *Id*. In January 2023, RMB 5,000 were equivalent to approximately USD 740.

120 *Id*.

121 Tang, 2022.

122 C. Mu, 'Balancing Privacy and Security: Theory and Practice of the E-CNY's Managed Anonymity', 2022, p. 2, www.pbc.gov.cn/en/3688006/4706656/4696666/2022110110364344083.pdf.

123 Tang, 2022.

124 Mu, 2022, pp. 1-2.

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e-CNY, the PBOC requests personal information 'necessary for the services and operations'.[125] User data can be tracked when suspicious transactions or violations of Chinese laws arise.[126] Relevant authorities can only access users' personal information for investigative purposes and with a warrant. Furthermore, pursuant to the Cybersecurity Law and the Personal Information Protection Law, authorities need to 'take security protection measures' in accessing personal information to ensure data security and privacy.[127] The second aspect of the Chinese approach is 'anonymity'. The PBOC uses 'ID anonymization technology' to de-identify users' personal information and protect the information from unauthorized third parties, such as online vendors and suppliers.[128]

China's existing approach considers two key aspects of data governance: protection of personal information as well as risk and crime prevention.[129] In theory, this approach strikes a fine balance that is most likely to produce perfect or near-perfect results at both ends. However, in practice, China faces a crucial challenge: constant technological disruptions in the enforcement of data governance regulation. This challenge is unavoidable, as technology is moving faster than ever before, often at a rate that the law struggles to keep up with.[130] China must pay close attention to this challenge while developing the e-CNY regulatory frameworks.

Although China has passed the Cybersecurity Law, and the Personal Information Protection Law, and it has developed the 'managed anonymity' approach specifically for the protection of e-CNY data security and privacy, it is still exploring and navigating unknown territory. As the pioneer of CBDCs, China cannot draw on the precedents or experience of others. In fact, the rest of the world is watching closely how China rolls out its digital currency, what data governance challenges China may run into, and what security measures need to be put in place to guard against cyberattacks, fraudulent activities, and other risks and crimes. In the age of digital disruption, anything, both expected and unexpected, can happen in the use and administration of CBDCs. As the PBOC acknowledges, Chinese regulators are closely monitoring e-CNY transactions; data governance regulation needs to 'continue to be refined going forward'.[131]

2 *Cybersecurity*

Cybersecurity is a major concern for countries that are looking to develop and launch their CBDCs. For example, in the United States, Federal Reserve Chair

125 *Id*., p. 2.
126 Tang, 2022.
127 Mu, 2022, p. 3.
128 *Id*., p. 2.
129 *Id*.
130 J. Griffith, 'A Losing Game: The Law Is Struggling to Keep Up with Technology', 2019, https://sites.suffolk.edu/jhtl/2019/04/12/a-losing-game-the-law-is-struggling-to-keep-up-with-technology/; see also M. Gorbis, 'Innovation Is Happening Faster Than We Can Adapt', *The New York Times*, 22 July 2015, https://www.nytimes.com/roomfordebate/2015/07/22/is-silicon-valley-saving-the-world-or-just-making-money/innovation-is-happening-faster-than-we-can-adapt.
131 Mu, 2022, p. 1.

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Jerome Powell saw cyberattacks as 'the number-one threat to the global financial system'.[132] He expressed his concern that hackers may 'shut down a major payment processor' and 'hamstring… the flow of money from one financial institution to another'.[133] Similarly, in the United Kingdom, the House of Lords Economic Affairs Committee (HLEAC) published a report in January 2022, and warned the UK Parliament of two critical security threats posed by a CBDC:

> First, individual accounts could be compromised through weaknesses in cybersecurity. Second, the centralized CBDC ledger, which would be a critical piece of national infrastructure, would be a target for attack from hostile state and non-state actors. While no design can guarantee absolute security, any CBDC system will need to be adaptable to emerging security threats and technological change, including fast-developing quantum computing.[134]

Lord Forsyth of Drumlean, Chair of the HLEAC, argued that these security challenges are some of the compelling reasons why the UK should not rush to launch a CBDC.[135]

In fact, cyber threats exist not only in the CBDC systems, but also in all other sectors. Data breaches and cybercrimes are on the rise globally. For example, cyber ramson threats have been made to 1,500 key bodies in Australia in 2021, including, for example, governments, healthcare providers, universities, law firms, and many other entities.[136] During the 2021–2022 financial year, the Australian Cyber Security Centre (ACSC) received over 76,000 cybercrime reports, which was up by 13 per cent from the previous year.[137] Recently, cyberattacks have also hit the UK

132 B. Fung, 'Cyberattacks Are the Number-one Threat to the Global Financial System, Fed Chair Says', *CNN Business*, 12 April 2021, https://edition.cnn.com/2021/04/12/business/jerome-powell-cyberattacks-global-threat/index.html.

133 *Id*.

134 UK Parliament House of Lords Economic Affairs Committee, 'Central Bank Digital Currencies: A Solution in Search of a Problem?', 13 January 2022, https://www.parliament.uk/business/lords/media-centre/house-of-lords-media-notices/2022/january-2022/central-bank-digital-currencies-a-solution-in-search-of-a-problem/.

135 *Id*.

136 'Cyber Ransom Threat to 1500 Key Bodies', *The Australian*, 15 September 2021, https://www.theaustralian.com.au/subscribe/news/1/?sourceCode=TAWEB_WRE170_a_GGL&dest=https%3A%2F%2Fwww.theaustralian.com.au%2Fbusiness%2Ftechnology%2Fcyber-ransom-threat-to-1500-key-bodies%2Fnews-story%2F7927aca830e2bf820fcc7c6865e3072d&memtype=anonymous&mode=premium&v21=dynamic-high-test-score&V21spcbehaviour=append.

137 Australian Cyber Security Center, 'ACSC Annual Cyber Threat Report, July 2021 to June 2022', 4 November 2022, https://www.cyber.gov.au/acsc/view-all-content/reports-and-statistics/acsc-annual-cyber-threat-report-july-2021-june-2022.

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Foreign Ministry,[138] Prime Minister's office in Malaysia,[139] and the Vanuatu Government.[140]

The world is experiencing a heightened level of hacking, virus, or other malicious cyber activities. However, as Professor Giulia Fanti and others point out: 'CBDCs may pose security risks, but responsible design can turn them into opportunities'.[141] Effective cybersecurity is key to regulatory success, particularly given that e-CNY, once officially launched, will become a core component of China's financial system.

It is also important to note that although China has passed the Cybersecurity Law,[142] this law is not designed to understand and address the specific and sometimes novel cybersecurity risks associated with e-CNY.[143] In response to this challenge, China may consider developing a special regulatory and institutional framework that allows for the integration of new technologies into e-CNY cybersecurity monitoring and management. As Fanti and others argue, '[t]echnology enables central banks to ensure that both cybersecurity and privacy protection are embedded in any CBDC design.'[144] In fact, Changchun Mu, the Director-General of the Digital Currency Institution at the PBOC has also endorsed the adoption of innovative technologies in strengthening risk monitoring and control.[145] He asserts that risk management of e-CNY involves the extensive use of 'big data, artificial intelligence, cloud computing and other technologies'; this applies to not only cybersecurity management but also to financial risk management associated with e-CNY.[146]

Furthermore, globalization and emerging technology behind the CBDCs have determined that cyber threats inevitably go beyond national borders. Individuals and entities from anywhere in the world can find loopholes and gain unauthorized access to 'steal, expose, alter, disable or destroy information'[147] held within the e-CNY system or any other CBDC systems. There is an urgent need for international

138 'UK Foreign Ministry Suffered Serious Cyber Attack Earlier This Year – Documents', *Reuters*, 9 February 2022, https://www.reuters.com/world/uk/uk-foreign-ministry-suffered-serious-cyber-attack-earlier-this-year-documents-2022-02-08/.

139 'Malaysian PM's Messaging Accounts Hacked as Officials Deny Data Breach Crisis', *AsiaOne*, 10 August 2022, https://www.asiaone.com/malaysia/malaysian-pms-messaging-accounts-hacked-officials-deny-data-breach-crisis (Prime Minister's personal accounts were 'hacked and abused by "irresponsible parties" to scam people'.)

140 Y. Zhuang, '3 Weeks After Hack, This Country's Government Is Still Off-line', *The New York Times*, 28 November 2022, https://www.nytimes.com/2022/11/28/world/asia/vanuatu-hack-cyberattack.html#:~:text=The%20government%20of%20the%20Pacific,and%20paper%20to%20conduct%20business.

141 G. Fanti et al., 'Central Bankers' New Cybersecurity Challenge', *IMF Publications*, September 2022, httpswww.imf.org/en/Publications/fandd/issues/2022/09/Central-bankers-new-cybersecurity-challenge-Fanti-Lipsky-Moehr.

142 The Cybersecurity Law of the People's Republic of China, 2017, Art. 24.

143 Fanti et al., 2022 (discussing the general issue faced by CBDC regulation).

144 *Id*.

145 Mu, 2022, p. 10.

146 *Id*.

147 IBM, 'What Is a Cyberattack', https://www.ibm.com/au-en/topics/cyber-attack (last accessed 4 January 2023).

collaboration in this space, particularly when major economies in the world are all looking to release their own CBDCs.[148]

E Conclusion

At the beginning of 2023, China has banned decentralized cryptos and is in a global race to launch its own state-controlled digital currency: e-CNY, which is China's future of money. The recent success of the trial programmes and linking e-CNY to major Chinese e-commerce platforms like Alipay and WeChat Pay is a major step forward. It is not difficult to see e-CNY being officially rolled out in China and globally in the near future. As Ekman observes: China 'is gaining a first-mover advantage that will be hard for competitors to overcome'.[149]

Although existing legal frameworks continue to guide China through its transition to e-CNY, Chinese authorities have been investigating regulatory responses to address new legal and technological challenges arising from the use and administration of e-CNY. Particularly China seeks to balance the needs and demands of e-CNY with the regulatory burden of crime and risk prevention (including ensuring financial stability).[150] Striking the right balance is crucial for the effective regulation of e-CNY. It is also important to note that technology is evolving rapidly; regulatory developments need to be flexible enough to stay current with the fast-changing technology. China is entering unchartered territory with many hidden challenges and risks; there remains a long way ahead in terms of digital currency developments and regulation. Roll out of e-CNY may be one of the next big steps but it certainly will not be the last.

148 Fanti et al., 2022.
149 Ekman, 2021, p. 1.
150 Bank of Canada et al., 'Central Bank Digital Currencies: Financial Stability Implications', September 2021, https://www.bis.org/publ/othp42_fin_stab.pdf, at 6 (noting that CBDCs, if not well managed, may become a source of financial disruption and have a detrimental impact on financial stability).

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