Istituto Affari Internazionali

The Internationalisation of the Chinese Renminbi and China's Digital Currency Plans

by Lorenzo Bencivelli and Michele Savini Zangrandi

ABSTRACT

China has made major reforms to boost the international standing of its currency. The global presence of the renminbi remains contained, however. This is due to China's economic structure (a persistent current account surplus and a partially closed financial account) and the government's grip on the economy. China is also a Central Bank Digital Currency (CBDC) forerunner. The digital yuan (e-cny) is already active in a large scale trial. Many claim that the e-cny could provide a major boost to the internationalisation of the renminbi. However, the internationalisation of the renminbi would require major economic reforms that cannot be bypassed by the deployment of new technologies. The e-cny is therefore unlikely to boost the renminbi's international presence. Yet, its underlying technology could be exported to other countries wishing to deploy their own-currency CBDCs. Much like with telecommunication equipment, this scenario would put China in the position of being a provider of a critical infrastructure. In the longer run, the export of e-cny technology might also facilitate the creation alternative payment networks, though this scenario is not very likely.

China | *Finance* | *Currency* | *Digital policy*

keywords

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1. China's objectives

The internationalisation of the renminbi is a major goal of the People's Republic of China (PRC). This traces back to China's 1993 commitment to full currency convertibility within the century.[1] The reforms that followed included: the managed floating exchange rate mechanism, the partial opening of financial markets, the creation of offshore liquidity pools, swap lines, renminbi commodity benchmarks and renminbi international payments infrastructure. According to at least part of the official narrative, the deployment of a Central Bank Digital Currency (CBDC), that is, a digital form of sovereign currency (the e-cny), is the last step and a potential game changer in this process, sparking a fair degree of concern among observers.[2]

Understanding the potential role of the e-cny requires taking a close look at China's objectives. Issuing an international currency brings undisputable economic benefits. Own-currency invoicing reduces sharply exchange rate risk. Issuing a global currency also allows own-currency borrowing: what Valéry Giscard d'Estaing famously dubbed as the "exorbitant privilege". Finally, there are

[1] Pieter Bottelier and Uri Dadush, "The Future of the Renminbi as an International Currency", in *Carnegie Articles*, 2 June 2011, https://carnegieendowment.org/publications/44338.

[2] There is an official narrative about the international use of the e-cny claiming a significant potential impact on the internationalisation process (see for example Chen Jia, "E-CNY Certain to Promote Renminbi's Internationalization", in *China Daily*, 29 July 2021, https://global.chinadaily.com.cn/a/202107/29/WS610201faa310efa1bd66528b.html). However, the People's Bank of China in its white paper about the adoption of the e-cny is using a more cautious approach, while not excluding the possibility of a boost in the international use of renminbi stemming from a widespread adoption of the CDBC.

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geopolitical benefits, highlighted by the recent developments linked to the Russia's invasion of Ukraine. Jurisdiction over correspondent banks – and thus over US dollar transactions – coupled with the centrality of the US dollar in global trade and finance allows the US to impose significant economic sanctions essentially on a unilateral basis.[3]

Against this backdrop, it would seem more pressing for China to limit its exposure to the "weaponisation" of the US dollar than to use the renminbi as tool of power projection.[4] While renminbi internationalisation constitutes a sufficient condition to achieve this goal, it might be not necessary as alternative solutions, such as the construction of payment rails beyond the reach of US jurisdiction, might suffice.

Should the e-cny prove a success in the internal market, its underlying technology could be made available to countries wishing to implement local-currency CBDC.[5] Much like the export of telecommunication equipment, this would enhance China's position both, as a global provider of critical infrastructure and as an international standard setter. Further, the development of a network of CBDCs based on e-cny technology might at some point reach sufficient scale to constitute an alternative payment system.[6]

The likelihood of these developments, however, need not be over-stated. The case for CBDCs is far from settled and the complexities of running a globally significant multi-CBDC arrangements would be substantial.[7] Therefore, this paper argues that the e-cny is not a game changer in renminbi internationalisation. This paper nonetheless argues that the e-cny could play a role in China's external power projection as a technology export. In the short run, this might grant China a role a provider of critical infrastructure. In the longer run, the export of e-cny technology

[3] Marco Cipriani, Linda S. Goldberg and Gabriele La Spada, "Financial Sanctions, SWIFT, and the Architecture of the International Payment System", in *Journal of Economic Perspectives*, Vol. 37, No. 1 (Winter 2023), p. 31-52, https://doi.org/10.1257/jep.37.1.31.

[4] Nicola Bilotta, "An International Digital Yuan: (Vane) Ambitions, (Excessive) Alarmism and (Pragmatic) Expectations", in *IAI Commentaries*, No. 21|44 (October 2021), https://www.iai.it/en/node/14157.

[5] An example of payment technology export, which does not involve CBDC, is that of India's UPI, that building on its domestic success has recently started to offer its technology internationally. For UPI's expansion see "India's UPI Is Starting to Think Globally", in *Kapronasia Blog*, 12 July 2022, https://www.kapronasia.com/india-payments-research-category/india-s-upi-is-starting-to-think-globally.html. On India's payment architecture, see also Derryl D'Silva et al., "The Design of Digital Financial Infrastructure: Lessons from India", in *BIS Papers*, No. 106 (December 2019), https://www.bis.org/publ/bppdf/bispap106.htm; and Yan Carrière-Swallow, Vikram Haksar and Manasa Patnam, "India's Approach to Open Banking: Some Implications for Financial Inclusion", in *IMF Working Papers*, No. 21/52 (February 2021), https://www.imf.org/en/Publications/WP/Issues/2021/02/26/Indias-Approach-to-Open-Banking-Some-Implications-for-Financial-Inclusion-50049.

[6] Zoltan Pozsar, "Great Power Conflict Puts the Dollar's Exorbitant Privilege under Threat", in *Financial Times*, 20 January 2023, https://www.ft.com/content/3e05b491-d781-4865-b0f7-777bc95ebf71.

[7] Barry Eichengreen, "Digital Currencies—More than a Passing Fad?", in *Current History*, Vol. 121, No. 831 (January 2022), p. 24-29, https://eml.berkeley.edu/~eichengr/CURH121831_04_Eichengreen.pdf.

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might also facilitate the creation alternative payment networks. This scenario is however unlikely due to legal, economic and political hurdles.

2. Renminbi internationalisation, thus far

The internationalisation of the renminbi has proceeded in fits and starts.[8] A first phase is the period ended at the end of 2015 when, boosted by a set of reforms, the renminbi's international position reached its peak. The decision in the same year by the G20 countries to include the renminbi in the Special Drawing's Right (SDR) basket of the International Monetary Fund (IMF) was hailed as an acknowledgment of the PRC's graduation as a monetary global power, an objective long coveted by China's leadership.[9] The tide however had started to turn already in summer 2015, when a further exchange rate liberalisation triggered capital outflows and a sharp devaluation. The currency regained footing through reintroduced capital controls and aggressive foreign exchange interventions,[10] but its international standing suffered a substantial setback. A new wave of liberalisation started in 2019, but this too was stifled by the pandemic and recent bouts of volatility.

Growth in international renminbi usage went (and still goes) hand in hand with China's capital account liberalisation. Up to 2015 China implemented several reforms (accompanied by an intense lobbying activity) to convince major international partners to include renminbi into the SDR basket. The unwinding of many of these reforms in order to manage the late exchange rate of the second half of 2015 crisis explains in large part the stagnation in renminbi internationalisation that followed. Under most metrics the internationalisation of the renminbi appears indeed stalled. Global payments in renminbi reflect this trend: according to SWIFT, the Brussels-based system of interbank messaging, the share of international transactions settled in renminbi grew steadily until the end of 2015 to little less than 3 per cent and stalled thereafter at around 2 per cent, far behind the US dollar and the euro. The renminbi's role in international payments appears particularly low if one considers the sheer size of China's economy (Figure 1).

[8] For an excellent account also see Barry Eichengreen et al., "Is Capital Account Convertibility Required for the Renminbi to Acquire Reserve Currency Status", in *Banque de France Working Papers*, No. 892 (November 2022), https://publications.banque-france.fr/en/node/478182.

[9] The then IMF Managing Director, Christine Lagarde, described it as "a recognition of the progress that the Chinese authorities have made in the past years in reforming China's monetary and financial systems. The continuation and deepening of these efforts will bring about a more robust international monetary and financial system, which in turn will support the growth and stability of China and the global economy." See International Monetary Fund (IMF), *Press Release: IMF's Executive Board Completes Review of SDR Basket, Includes Chinese Renminbi*, 30 November 2015, https://www.imf.org/en/News/Articles/2015/09/14/01/49/pr15540. Some observers, however, were more critical and noted that the recognition was more in light of pledged reforms than of actual ones. See Edwin M. Truman, "Christine Lagarde and the SDR Basket", in *PIIE RealTime Economics*, 17 November 2015, https://www.piie.com/node/8714.

[10] It took one and half year and about 1 trillion US dollars to stem the 12 per cent depreciation started in August 2015.

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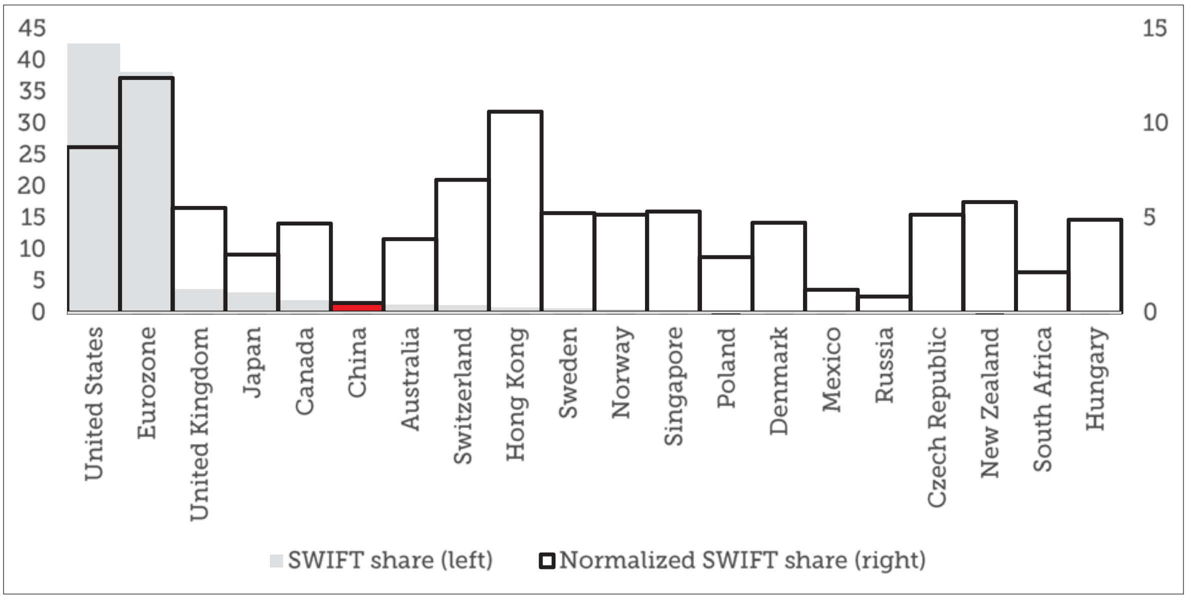
Figure 1 | Currency internationalisation, scaled by economic size



Note: SWIFT data refers to December 2021, intra Eurozone transactions excluded. SWIFT data is normalised by the country's share of global nominal GDP in 2021.
Source: Authors' calculations on SWIFT RMB Tracker, World Bank World Development Indicators.

The most evident characteristic of renminbi internationalisation so far is that most renminbi international transactions are trade-related and very few settle financial transactions. The share of China's trade settled in renminbi peaked at 30 per cent in 2015, dropped to 10 per cent with the 2015 crisis and climbed slowly back to 15 per cent immediately before the 2019 Covid pandemic outbreak (Figure 2). In March 2022, in a context of shrinking value of the traded goods the share of trade settled in renminbi jumped to about 20 per cent and went even higher at the beginning of 2023, probably supported by the settlement of energy exports from Russia. While no data is available on renminbi settlement of trade among countries other than China, this is likely to be negligible.

Trade in renminbi, coupled with capital account restrictions, has generated pools of offshore liquidity.[11] To date, offshore renminbi deposits amount to roughly 1.3 trillion renminbi (little more than 200 billion US dollars), the overwhelming majority of which still resides in Hong Kong (Figure 3). Additional liquidity pools also exist in South Korea, Singapore, Taiwan and the UK. Much like renminbi trade, offshore deposits increased rapidly up to 2015, and dropped as consequence of the 2015 rate crisis. To date, the stock of offshore currency remains below the 2015 peak.

[11] Offshore renminbi (renminbi held in banks abroad, also identified as CNH) is legally different from onshore renminbi (also identified as CNY); the two are exchangeable, subject to limits and conditions, at a managed rate.

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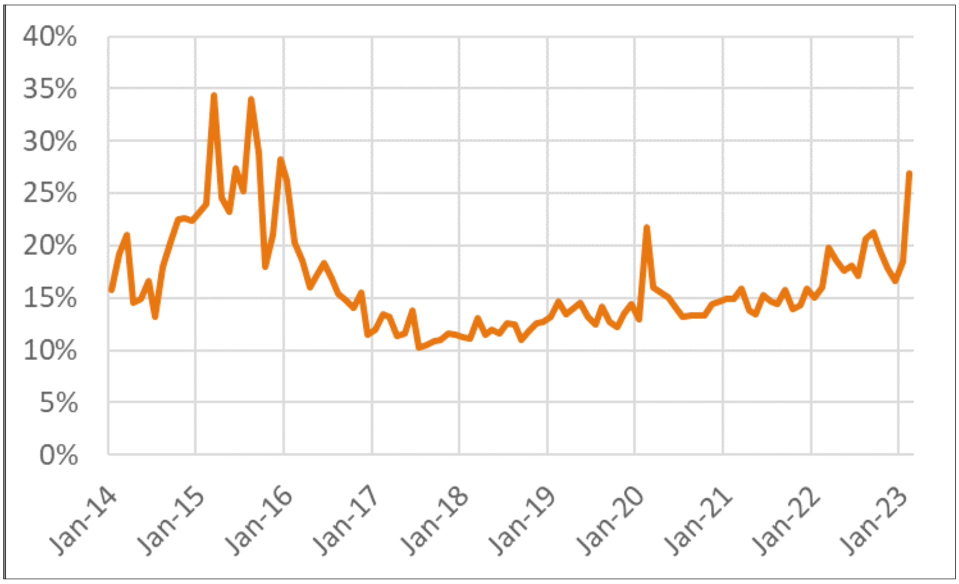
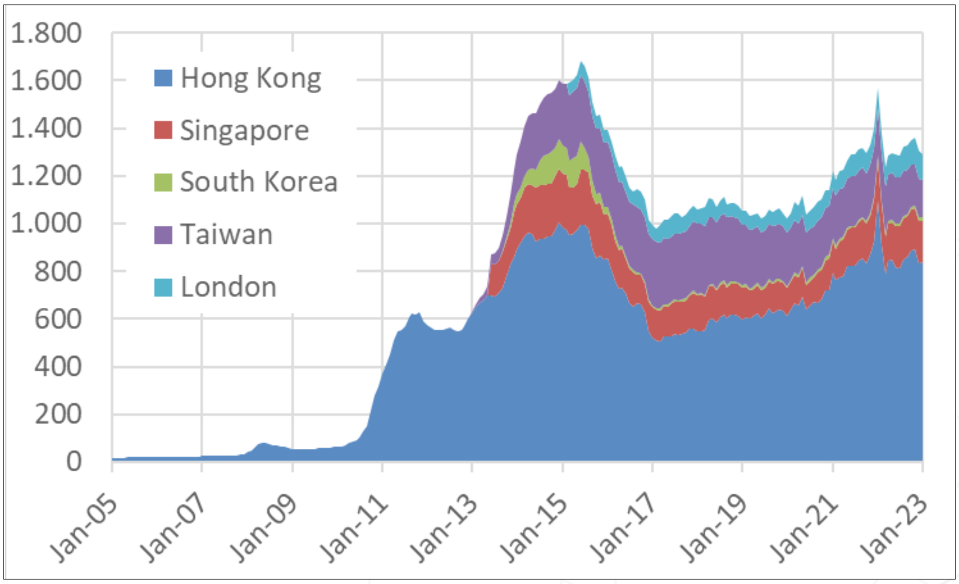
Figure 2 | Share of trade settled in renminbi



Source: The People's Bank of China and China Custom.

Figure 3 | Offshore renminbi deposits (billion)



Source: National sources and Bloomberg.

China promotes the creation of liquidity pools with the aim of facilitating trade settlements and fostering offshore renminbi bond issuance. Offshore pools are backstopped by more than 30 currency swap agreements for a cumulative value of over 4 trillion renminbi (over 600 billion US dollars). Renminbi swap lines peaked in number and value in 2016 (Figure 4), declined between 2016 and 2020 – when the People's Bank of China (PBoC), the central bank, rolled over maturing agreements

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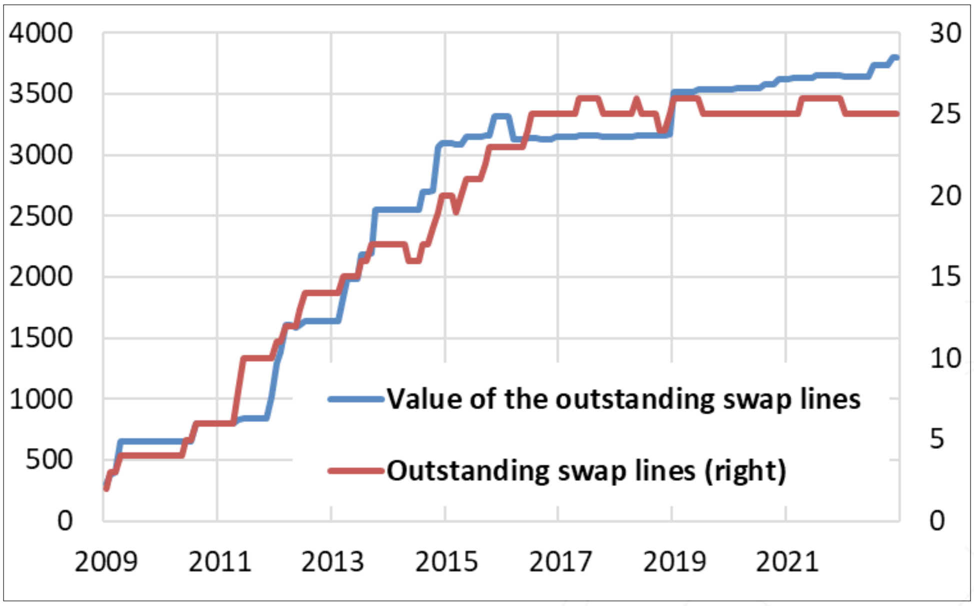
but did not sign any new ones – and increased again thereafter on the back of a renewed wave of liberalisation.

Renminbi swap lines serve a strategic purpose in the currency's internationalisation. The value of the swap lines correlates closely with trade volume, indicating their function in supporting the use of renminbi settlement. This is visible from Figure 5 which plots the (logs of) the value of bilateral swap lines against the average of China's exports to the other swap signatories over the 2018–2020 period. Indeed, evidence shows that swap agreements increase the likelihood of renminbi invoicing of bilateral trade. The adoption of a currency swap appears to increase the amount of trade invoiced in renminbi between China and the other signatory by 14 per cent on average; countries neighbouring those with a swap line in force are also more likely to invoice their own bilateral trade with China in renminbi.[12] In addition, bilateral swap lines have been used as liquidity backstop for local currencies against speculative attacks[13] because, unlike IMF facilities, swap lines entail no conditionality and can be activated more rapidly.

Figure 4 | Number and amount of the swap lines (number and billion renminbi)



Source: The People's Bank of China.

[12] Ricardo Reis and Bahaj Saleem, "Jumpstarting an International Currency", in *VoxEU*, 21September 2020, https://cepr.org/node/358739.

[13] Camila Russo, "Argentina Gets Reserves Boost From China Currency Swap", in *Bloomberg*, 30 October 2014, https://www.bloomberg.com/news/articles/2014-10-30/argentina-gets-reserves-boost-from-china-currency-swap.

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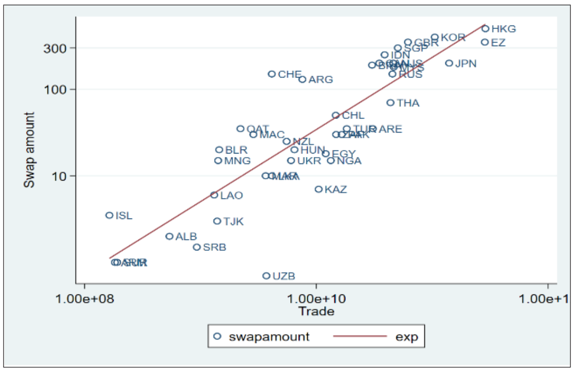
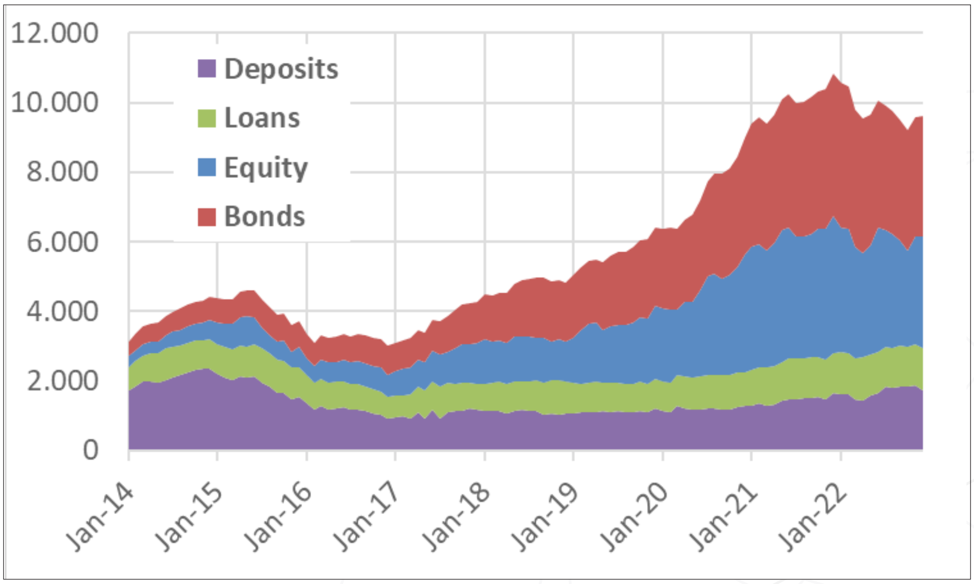
Figure 5 | Swap lines and bilateral export



Source: The People's Bank of China and COMTRADE.

Beyond trade, the renminbi plays a limited international role. This is visible in the limited foreign holdings of renminbi assets, in the limited foreign renminbi issuance and, ultimately, in its limited take-up as a reserve currency. Despite the impressive growth spurred by the progressive opening of financial markets,[14] particularly through the stock and bond connect programmes, foreign holdings of domestic assets remain limited at around 3–4 per cent of the whole economy assets (Figure 6).

Figure 6 | Foreign holding of renminbi assets (billion renminbi)



Source: The People's Bank of China.

[14] See also Stefano Antonelli et al., "Benchmark Effects from the Inclusion of Chinese A-shares in the MSCI EM Index", in *Economics Letters*, Vol. 216 (July 2022), Article 110600, https://doi.org/10.1016/j.econlet.2022.110600.

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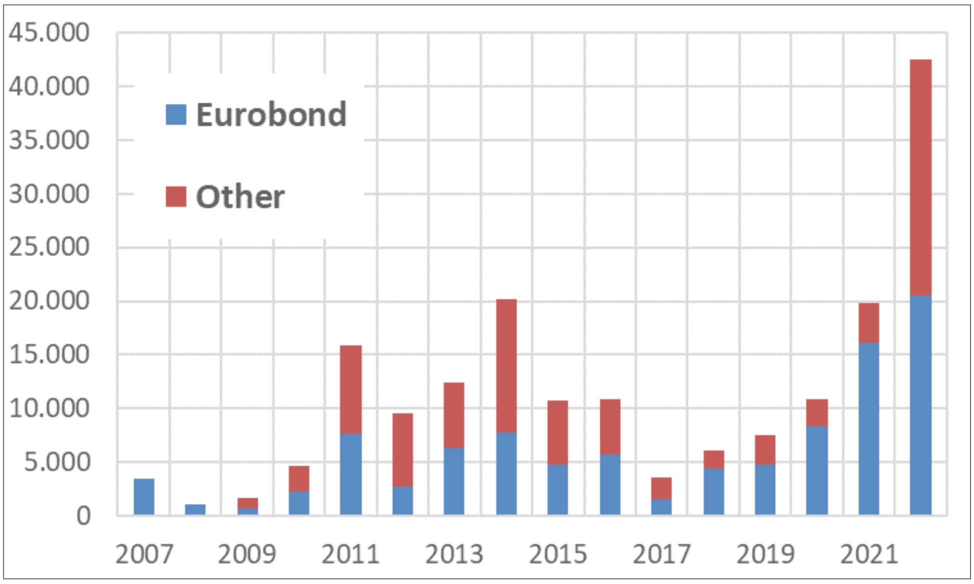
Offshore bond issuance in renminbi from non-financial corporations stood at just about 40 billion US dollars in 2022 (Figure 7). Markets of issuance are mostly Hong Kong and the Eurobond.[15] As for official reserves, official claims in Chinese renminbi have grown from 0.8 per cent of global reserves in 2016 to 2.6 per cent in 2021, mostly at the expenses of the US dollar share (which remains by far the first currency for allocated reserves with a share close to 55 per cent).[16]

Figure 7 | Offshore renminbi issuance (million US dollars)



Note: Red bars include Hong Kong, Thailand, Taiwan and US.
Source: Refinitiv.

There are multiple reasons for the limited international role of the renminbi, and they can all be pinned on the Chinese leadership's persistent grip on the economy. China's structural current account surplus and its partially closed capital account are not conducive to global liquidity provision. In addition, concerns remain with the country's long run policy predictability – as exemplified by the recent shutdown of critical sectors to foreign investment and the uncertainty over the ability of domestic firms to list abroad. Looking ahead, these limitations appear fundamental constraints to the renminbi's international growth.[17]

[15] The predominantly sovereign and quasi sovereign nature of the largest issuers reflects largely the political driver of such operations and the likely limited economic appeal.

[16] IMF Currency Composition of Official Foreign Exchange Reserves (COFER) database: https://data.imf.org/?sk=E6A5F467-C14B-4AA8-9F6D-5A09EC4E62A4.

[17] See Daniel H. Rosen, "China's Economic Reckoning", in *Foreign Affairs*, Vol. 100, No. 4 (July/August 2021), p. 20-29. A different, albeit not incompatible view – which sees China's slow pace as favouring stability and builing the renminbi's reputation as a reserve currency – is expressed in Christopher Clayton et al., "Internationalizing Like China", in *NBER Working Papers*, No. 30336 (January 2023), https://www.nber.org/papers/w30336.

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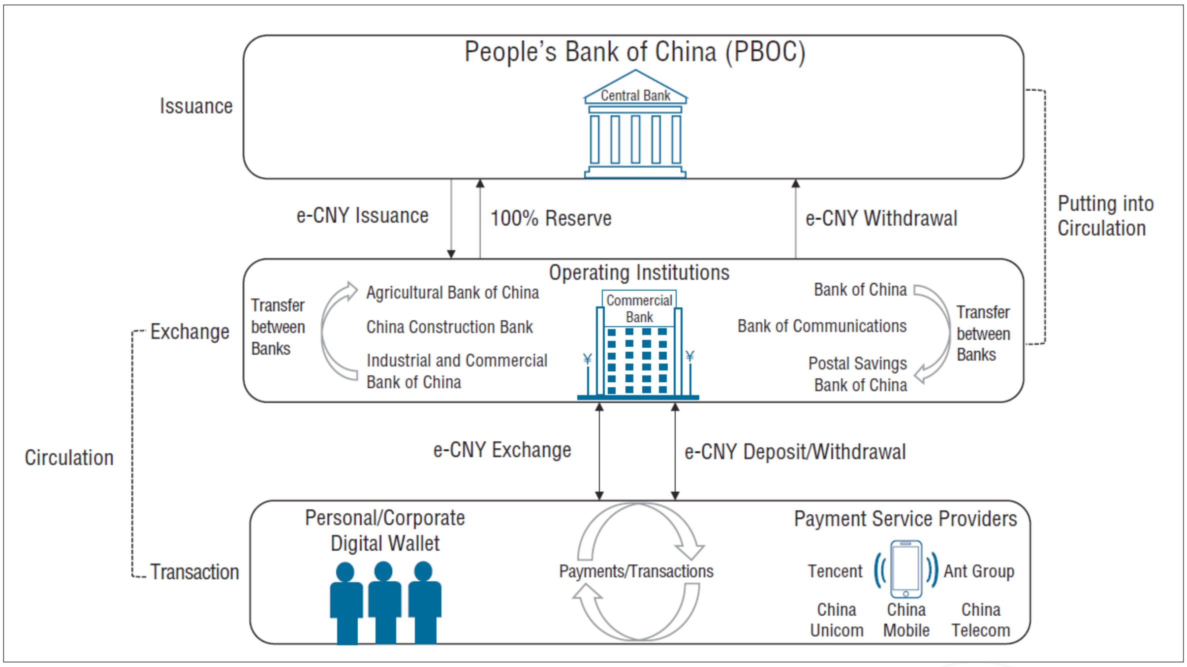
3. Enter the e-cny

China might be the first large economy to issue its own CBDC. China has been actively working on the e-cny since 2014, when the PBoC set up its Digital Currency Institute (DCI). The e-cny, already on trial in several major cities, saw its highest profile trial at the Beijing Winter Olympics of February 2022.

Figure 8 | E-cny two tier structure



Source: Darrel Duffie and Elizabeth Economy (eds), *Digital Currencies. The US, China, and the World at a Crossroads*, Stanford, Hoover Institution Press, 2022, p. 25, https://www.hoover.org/node/92996.

The e-cny is (much like cash) a non-interest-bearing liability of the central bank. In the e-cny design, central bank liabilities are made available to the public through a tier of selected financial intermediaries, including mobile payment behemoths Alipay and Tencent (Figure 8).

From the user's perspective, e-cny wallets are embedded in the home-banking apps of the intermediaries. Users can "purchase" e-cny from their financial intermediary, which is loaded on their e-cny wallet. E-cny holdings and transactions might be subject to limits depending on the type of identification provided to the intermediary, with the general provision that more information on the account holder grants higher balance and transaction limits (Table 1). Transactions can also be carried out "offline", within certain limits.

To date, the e-cny is available in a number of pilot cities, and plays a relatively marginal role. Official statements report that between the launch of the project and December 2021, 261 million users carried out transactions for a total of approximately 12 billion US dollars.[18] In the first eight months of 2022, reports indicate transactions for an additional 2 billion US dollars. These figures are dwarfed by the volumes recorded by the country's digital providers.[19] Reports suggest that while units of e-cny made freely available as part of trials have been spent or converted, existing accounts show little activity once the initial grant is exhausted.[20] The most likely reason for this lie in the difficulty in penetrating the payments market,[21] and the e-cny's lack of distinctive advantages relative to existing digital payment options.

Table 1 | Categories of e-cny accounts

<table>
<tr><th></th><th>Cat. 1</th><th>Cat. 2</th><th>Cat. 3</th><th>Cat. 4</th><th>Cat. 5</th></tr>
<tr><td>Sign up</td><td>In person</td><td>Remote</td><td>Remote</td><td>Remote</td><td>Remote</td></tr>
<tr><td>Authentication</td><td>ID and phone number</td><td>ID and phone number</td><td>ID and phone number</td><td>e-mail and phone number*</td><td>e-mail and foreign phone number*</td></tr>
<tr><td>Connected account</td><td>Yes</td><td>Yes</td><td>No</td><td>No</td><td>No</td></tr>
<tr><td>Balance limit</td><td rowspan="4">None</td><td>500,000</td><td>20,000</td><td>10,000</td><td>1,000</td></tr>
<tr><td>Transaction limit</td><td>50,000</td><td>5,000</td><td>2,000</td><td>500</td></tr>
<tr><td>Daily limit</td><td>100,000</td><td>10,000</td><td>5,000</td><td>1,000</td></tr>
<tr><td>Annual limit</td><td>500,000</td><td>100,000</td><td>50,000</td><td>10,000</td></tr>
</table>

*Phone numbers generally require ID registration.
Source: Darrel Duffie and Elizabeth Economy (eds), *Digital Currencies*, cit., p. 30.

Indeed, the PRC enjoys one of the most advanced markets for digital payments. According to the PBoC, as of 2018, over 80 per cent of adults were using electronic payments. Even in rural areas the share of usage is over 70 per cent.[22] In major urban areas, almost all small-value daily transactions are conducted through mobile payments, usually through one of the two dominant platforms, WeChat Pay or AliPay. These services enjoy huge shares of the digital payments market,

[18] China's State Council Information Office, *SCIO Press Conference on China's Financial Statistics in 2021*, 21 January 2022, http://english.scio.gov.cn/m/pressroom/2022-01/21/content_78004381_9.htm.

[19] Jamie Crawley, "China's CBDC Transactions Reach $14B as Uptake Slows: Report", in *CoinDesk*, 13 October 2022, https://www.coindesk.com/policy/2022/10/13/chinas-cbdc-transactions-reach-14b-as-uptake-slows-report.

[20] Julianna Wu, "I Spent a Week Using China's Digital Yuan, Here's How It Went", in *KrASIA*, 7 July 2021, https://kr-asia.com/i-spent-a-week-using-chinas-digital-yuan-heres-how-it-went.

[21] Retail payments is a two-sided market. In a two-sided market, an operator serves two markets simultaneously. In retail payments for instance, an intermediary needs to provide payment services to retail users and acceptance services to merchants. These markets are characterised by very strong economies of scale, and are therefore notoriously difficult to penetrate.

[22] China's State Council, *Central Bank Report: Nearly 90% of Adults Have Active Accounts, and Over 80% Use Electronic Payments* [in Chinese], 22 October 2019, http://www.gov.cn/xinwen/2019-10/22/content_5443495.htm.

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offering at the same time a wide array of ancillary services.[23] Against this backdrop, a market-driven adoption of the e-cny as a means of payment appears an uphill battle.

Given the advanced state of digital payments in the PRC, other reasons might motivate the issuance of e-cny. First, issuance of the e-cny might be driven by the desire to curb the power of domestic tech operators. The PBoC has a fraught relationship with tech operators and has taken major steps to reduce their sway in the financial sector. In 2017, the PBoC established a centralised clearing house, reducing tech operators' ability to monetise payment data. In the same year, it required payment balances to be deposited at the central bank, depriving tech operators of large reserves of liquidity. In 2020 the Initial Public Offering for Ant Financial (Alipay's owner) was suspended and the companied fined 2.8 billion US dollars for antitrust violation.

Second, the e-cny might bolster Chinese authorities' efforts at digitally–enabled surveillance.[24] As the authorities reportedly struggled to access data under the control of tech operators,[25] the e-cny would increase government access to personal financial data.[26]

The progress of the e-cny sparked reactions of concern,[27] particularly in the United States, where two bills were introduced in Congress to monitor[28] and counter[29] e-cny developments. Concerns were also expressed by the G7, which insisted that CBDCs be based on the rule of law and data privacy.[30]

[23] Martin Chorzempa, *Hearing on "An Assessment of the CCP's Economic Ambitions, Plans, and Metrics of Success"*, Testimony before the US-China Economic and Security Review Commission, 15 April 2021, https://www.uscc.gov/sites/default/files/2021-04/Martin_Chorzempa_Testimony.pdf.

[24] Dahlia Peterson, "How China Harnesses Data Fusion to Make Sense of Surveillance Data", in *TechStream*, 23 September 2021, https://www.brookings.edu/techstream/how-china-harnesses-data-fusion-to-make-sense-of-surveillance-data.

[25] Yuan Yang and Nian Liu, "Alibaba and Tencent Refuse to Hand Loans Data to Beijing", in *Financial Times*, 19 September 2019, https://www.ft.com/content/93451b98-da12-11e9-8f9b-77216ebe1f17.

[26] Darrel Duffie and Elizabeth Economy (eds), *Digital Currencies*, cit.

[27] See ibid. and Yaya J. Fanusie and Emily Jin, "China's Digital Currency. Adding Financial Data do Digital Authoritarianism", in *CNAS Reports*, January 2021, https://www.cnas.org/publications/reports/chinas-digital-currency.

[28] US Senate, *A Bill to Require a Study on the National Security Implications of the People's Republic of China's Efforts to Create an Official Digital Currency*, 29 July 2021, https://www.congress.gov/bill/117th-congress/senate-bill/2543.

[29] US Senate, *Defending Americans from Authoritarian Digital Currencies Act*, 25 May 2022, https://www.congress.gov/bill/117th-congress/senate-bill/4313.

[30] G7, *Public Policy Principles for Retail Central Bank Digital Currencies (CBDCs)*, 13 October 2021, http://www.g7.utoronto.ca/finance/211014-documents.html.

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4. What role for the e-cny in renminbi internationalisation?

The e-cny can play a role in renminbi internationalisation either as an asset class, through trade settlements or through retail payments.

As an asset class, the e-cny could contribute to the opening of the capital account. For this to happen, however, foreign holding of e-cny would need to be less restrictive than it is currently the case for foreign holdings of domestic assets, and its risk-weighted returns would need to be commensurate. Today, there are restrictive limits on non-resident holdings of e-cny, which will likely remain in place. E-cny balances and transaction volumes available to foreigners are limited to 10,000 renminbi (a little less than 1,500 US dollars). This is a small sum compared to the investment quotas in the onshore bond and stock markets. The e-cny, in addition, pays no returns.

As a means of trade settlement – since trade tends not to be settled in cash – the e-cny would require instruments of trade financing. Much like the existing offshore renminbi, then, trade settlement in e-cny would require strong and stable linkages between onshore and offshore renminbi.

Finally, as a means of payment, the e-cny could gain footing in the context of international remittances, tourism and payment services offered by Chinese operators abroad. In this case, an increased adoption through retail use could drive up official demand for renminbi, thus fostering its internationalisation. In countries with weak currencies and/or poor integration in the global payment system, this might even lead to the displacement of local currencies.

Here too, however, there is reason to thread with care. While the e-cny might take hold as a means of payment in certain contexts – for example among expatriate Chinese communities – there are severe headwinds against its widespread adoption. This is for three reasons.

First, countries are unlikely to allow local e-cny circulation. In advanced economies, plenty of efficient payment options exist, and the issuance of payment products is subject to authorisation. It is therefore unlikely that the e-cny could gain much traction because of its convenience, nor would it be allowed to circulate against the will of financial regulators. In emerging economies and low-income countries – where the e-cny might be a convenient option for domestic or international payments – regulatory clearance is still needed. In these countries, dealing in foreign currencies tends to be regulated. Much like foreign currency deposits, e-cny operations would be subject to capital account or other forms of regulatory restrictions. Should the e-cny be introduced without proper authorisations, it can be deemed illegal and shut down. The digital nature of the e-cny makes this possible as – unlike physical cash – the e-cny app could be blocked at the network level.

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Second, providing retail payment services to large foreign populations might not benefit the PRC. In order to provide e-cny services to large foreign population, the PRC would need to find arrangements that guarantee the safety of its own financial system. This would entail creating and managing a system of Anti-Money Laundering and Countering the Financing of Terrorism (AML/CFT) of a foreign, potentially unbanked or unsuitably identifiable population.

Third, renminbisation would require renminbi assets. Even in the case where the e-cny were to gain traction as retail payment instrument in a number of countries, full blown renminbisation would not necessarily follow. The literature on dollarisation stresses the difference between real dollarisation (sight deposits) and financial dollarisation (return bearing assets and liabilities), with much emphasis on the role of the latter.[31] Given existing restrictions on the access to renminbi assets, it is possible that e-cny balances could find no use as a store of value, ending up converted in assets of other denomination. As real and financial dollarisation are closely interlinked and self-reinforcing phenomena, it is difficult for the e-cny to lead renminbi internationalisation purely as a transactional instrument.

With all of this in mind, the e-cny seems to yield little geopolitical leverage as a monetary instrument. Geopolitical gains from the control of the dominant currencies stem from the control of global financial infrastructures. In the case of the US dollar, the most powerful sanctions are imposed through the network of US correspondent banks, often coupled with the SWIFT messaging system. While small-scale retail usage might eventually tip some countries into partial renminbisation, it is far from clear that this would eventually spawn a financial infrastructure of large enough scale.

5. A role beyond the renminbi?

If the e-cny is unlikely to be a game changer in renminbi internationalisation, could it serve China's interests differently? One way to approach the question is to see the e-cny as a technology rather than a payment instrument.[32]

Should the e-cny prove successful at home, its underlying technology could be offered to countries wishing to implement local-currency CBDCs. This "off the shelf" CBDC package could enable countries to launch domestic digital currencies leveraging China's experience and expertise. Hardware, software and operation and maintenance services could also be part of the package. This would serve China's interests by enhancing its position as a global provider of a critical infrastructure and as an international standard setter, much like with telecommunication equipment.

[31] See for example Eduardo Levy Yeyati, "Financial Dollarization: Evaluating the Consequences", in *Economic Policy*, Vol. 21, No. 45 (January 2006), p. 62-118, DOI 10.1111/j.1468-0327.2006.00154.x.

[32] Cornelia Tremann, "China's Digital Currency: Next Stop, Africa?", in *The Interpreter*, 17 November 2021, https://www.lowyinstitute.org/node/18940.

CBDCs based on e-cny technology might also be designed to interact with each other, fostering the creation of a network of CBDCs. Indeed, China is at the forefront of CBDC integration. In 2022, China, Hong Kong, Thailand the United Arab Emirates and the Bank of International Settlements' Innovation Hub piloted a multi-CBDC platform.[33] The project, named mCBDC bridge, allowed a selected number of local banks to conduct cross-border CBDC transactions.[34] Although the project is at an early stage and far from being viable at scale, it shows a potential route for international payments beyond the current financial infrastructure.

Should a China-centred multi-CBDC platform reach sufficient scale, it could greatly reduce China's exposure to dollar-based international payments and thus to US sanctions. The likelihood of this development, however, need not be over-stated. First, the case for countries to issue CBDCs is far from settled. Second, the legal and governance complexities of running a globally significant multi-currency CBDC arrangement would be substantial.[35] Third, multi-CBDC platforms would still require deep and liquid foreign-exchange markets and elastic supply of safe assets, making it likely that dominant currencies preserve their status even under new arrangements.

In sum, the e-cny appears an eminently internal instrument, with little role to play in renminbi internationalisation. Seen as a technology export, however, the e-cny might grant China a role as a CBDC standard-setter and provider of a critical infrastructure. In the longer run, and with a lower probability, the export of this technology might also facilitate the creation of alternative payment networks. Although this development appears unlikely, the impact could be material, and should therefore be kept under watch.

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[33] Similar work has also been conducted by SWIFT. See SWIFT, *Connecting Digital Islands: CBDCs*, October 2022, https://www.swift.com/node/308725.

[34] BIS Innovation Hub, *Project mBridge. Connecting Economies through CBDC*, October 2022, https://www.bis.org/publ/othp59.htm.

[35] Barry Eichengreen, "Digital Currencies—More than a Passing Fad?", cit.

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