

De-dollarization and Emerging Wholesale Central Bank Digital Currencies

Global economic fragmentation has mainly been discussed for [trade](#) but reflects a [more general questioning](#) of the norms and institutions governing globalization. To maintain a unified global economic order under a more fragmented form of globalization, reforming the global monetary and financial architecture (GMFA) must [accept a multipolar world](#) and avoid forcing countries with non-dominant currencies to take sides between, say, the United States and China. Instead, the GMFA should uphold these countries' specific circumstances and preferences; provide more macroeconomic policy autonomy for nation-states; and ensure that rules are written by a broader group of countries.

De-dollarization – i.e., a move away from the dollar as the single most important international currency – may hold a prominent role in such a more fluid world order, by addressing both the enduring macroeconomic costs of the dollar-centred GMFA and the advent of a [“weaponization” of the dollar](#). This Policy Brief [contends](#) that the convergence of geopolitical dynamics and technological innovation, e.g., distributed ledger technology (DLT), opens a path towards de-dollarization. This path works not by challenging the dollar's value characteristics, which standard de-dollarization accounts emphasize, but by allowing for a non-dollar-based global payment infrastructure. It provides a direction of

travel for which many technical and governance issues remain unresolved. A wide range of countries should sit at the table when outstanding technical and governance issues for such a platform are decided.

De-dollarization Motives

The declining share of the United States in global output has combined with immense and rising public debt and recurrent turmoil in dollar bond markets to disrupt trust in the safety of United States government bonds and generate a [“new” Triffin dilemma](#). This trust has been further eroded by fraying United States institutions and the “weaponization” of the dollar – the exclusion of selected actors from trading in dollars. These actors can no longer access the international financial system, as they are barred from financial messaging through the Society for Worldwide Interbank Financial Telecommunication (SWIFT) and settling payments through the Clearing House Interbank Payments System (CHIPS), concentrated in New York and United States banks. And whether or not immobilizing the Russian Federation's central bank reserves held in dollars was justified by that country's glaring violation of international law, it left other countries wonder whether they really can access their dollar-denominated assets at all times. These factors have caused a “geopolitical” Triffin dilemma.

The mentioned trust-related concerns amplify macroeconomic questions about the asymmetric structure of the GMFA. The asymmetry reduces countries' macroeconomic autonomy by magnifying their exposure to changes in United States monetary policy and the [global financial cycle](#), while also reducing their fiscal autonomy in crisis situations. Compensating for this loss of macroeconomic autonomy through the accumulation of dollar reserves is [costly](#). Moreover, dollar use in trade invoicing and settlement [reduces the effectiveness](#) of exchange-rate policy to stimulate economic activity.

Despite all these concerns, there is no forceful decline in [dollar dominance](#). Continued dollar dominance is generally attributed to its value characteristics, i.e., trust in its future stability and widespread acceptance, the depth and liquidity of its financial markets, and confidence in the legal system and institutions of the United States. These are reinforced through network effects from the existing dollar-based cross-border payment infrastructure. Trust in these features may have suffered in absolute terms but remains superior to the value characteristics of potential alternatives, such as the euro and the RMB.

Still, several initiatives by China and the BRICS reflect the desire for de-dollarization. However, these initiatives face uncertain prospects. They are hampered by economic asymmetries among the BRICS and fears by China that a full-fledged internationalization of the RMB may face trade-offs with the strategy to ringfence spillovers from the international use of the RMB to the domestic financial sector.

The potential role of wCBDC in de-dollarization

Numerous central banks across the globe examine Central Bank Digital Currencies (CBDCs), retail and wholesale CBDCs alike.¹ The potential role of Wholesale Central Bank Digital Currencies (wCBDCs) in de-dollarization lies in the capacity

of DLT to allow building a cross-border payment infrastructure that circumvents the SWIFT messaging network and the CHIPS settlement system. As such, the technology that underlies wCBDCs can address the “geopolitical” Triffin dilemma, while at the same time also addressing counterparty risk and providing a public solution to the use of blockchain technology to underpin faster, cheaper, and more transparent cross-border payments, i.e., a part of the G-20 roadmap that the international community is emphasizing.

i) Cross-border payment infrastructure

In the existing global cross-border payment infrastructure, cross-border wholesale payments are typically processed through intermediation: communication goes through secure messaging via SWIFT and correspondence banks' intermediate payment processes. Correspondent banks conduct payments via automated clearing houses, where the dollar-based CHIPS (going through New York and United States banks) is the most important clearance and settlement engine for large value transfers. For illiquid currency pairs, correspondent banks use a vehicle currency, mostly the dollar, via their central banks to facilitate indirect foreign-exchange conversion. Trading through corresponding banking is constrained to overlapping opening hours. It is highly concentrated because of the substantial fixed costs required to build trust and manage risks, and many developing countries have partially [lost access](#) to this system.

Assuming a two-country setting, a wCBDC-based cross-border payment infrastructure would replace the intermediation model through dedicated corridors between the two central banks that would transact and settle payments directly between themselves on a 24/7 basis. This would reduce cost and happen with near instant finality, which reduces settlement, counterparty, and credit risk.

Both the payer's and the payee's banks would have accounts directly at central banks that would communicate between themselves. DLT would record and organize an audit trail of financial transactions on a digital ledger. This would remove the need to use SWIFT for messaging, as well as de-risk the transactions. DLT-based smart contracts can be used to link transactions and trusted messaging instantaneously, and encryption allows for the selective disclosure of relevant information to selected counterparties.

Payments in a wCBDC-based infrastructure could be made in [three ways](#). First, closest to the current system would be the payer's bank holding a domestic-currency account in the domestic central bank, with the transaction taking place between the two central banks in one of the two countries' domestic currency or in a vehicle currency. Second, the payer's bank would have a domestic-currency account at the foreign central bank and pay in domestic currency. Third, involving the fewest steps would be when the payer's bank has a foreign-currency account at the foreign central bank and pays in foreign currency.

[Three broad models](#) can be used to expand wCBDC-platforms to multiple central banks and make them interoperable. First, the compatible model would connect separate CBDC-systems, where common standards would make payment processing more efficient. A reform of the current system by moving to ISO 20022 standards may approximate this model. Second, the single system model uses a single common technical infrastructure to achieve interoperability between different wCBDC-systems. It also establishes common participation requirements. Third, the interlinked model is an intermediate solution. It interlinks wCBDC-systems and allows participants to transact without the need to become direct participants in each of the systems or to establish bilateral arrangements with an intermediary for each of them. Interlinking can be achieved bilaterally, were individual wCBDC systems are

linked directly, and participants can transact directly across the linked systems. Interlinking can also be achieved through a hub and spoke solution, which includes common functionalities.

Pilots of multicurrency wCBDC-platforms indicate how to enable interoperability and reduce exposure to foreign-exchange risk. [Project Nexus](#) is an example of a hub-and-spoke interlinked model. It applies to fast retail payment systems, but its vision for the interoperability of multiple payment systems might be used as a blueprint for a multicurrency wCBDC-platform. [Project mBridge](#) shows how a common multicurrency wCBDC-platform can conduct peer-to-peer payments directly in the safety of central bank money across multiple jurisdictions, thereby improving cross-border payment speed and efficiency, reducing settlement risks, and supporting the use of local currencies in international payments, while taking into consideration any potential policy, macroeconomic, regulatory, and legal implications. [Project Mariana](#) uses a uniform technical DLT-standard for the seamless cross-border trading and settlement of three hypothetical wCBDCs. The network serves as an interbank foreign-exchange market where automated market makers (AMMs) enable spot foreign-exchange transactions to be priced and executed automatically and settled immediately on the network, without an intermediary.

ii) Scalability of liquidity provision

For multicurrency wCBDCs-platforms to fully achieve the potential of reducing costs, increasing speed, and improving transparency that DLT offers, they need both to be scalable, i.e., achieving interoperability that involves multiple central banks, and facilitating foreign-exchange conversions.

The scaling of multicurrency wCBDC-platforms can be accomplished through a single multicurrency platform or through the interlinking of systems via dedicated corridors. The former is a

grand vision that requires international cooperation to an extent that becomes increasingly difficult. Hasting towards such a solution may cause fragmentation between the inclusion of better prepared central banks and more liquid currency pairs on the common marketplace, with other currencies remaining traded on more conventional foreign-exchange markets with possibly increased fees to compensate market participants for the loss of trading activity in the more liquid, and probably more profitable, currency pairs.

Moreover, there are questions as to who would build and operate such a marketplace and how the governing rules, e.g., regarding access to transaction data, would be agreed. Different countries may well have diverging objectives for reforming the cross-border payment infrastructure, and any such reform will be implemented only where the advantages outweigh the multiple implementation challenges. This means that the governance structure of a single common global platform could be determined by early movers that shape a common rulebook according to their own narrow needs.

By contrast, moving towards an infrastructure that combines single common platforms among a limited number of countries with a hub-and-spoke model that interlinks these platforms in a global common infrastructure, each augmented by a foreign-exchange conversion layer, could be easier to achieve. Such a more incremental process could start from collaboration among a few like-minded central banks, each with their own wCBDC such as in Project mBridge, augmented by an AMM, such as in Project Mariana.

To avoid that, this leads to the emergence of unconnected digital islands, design features could draw on [Project Nexus](#), with certain participants acting as [“connector” countries](#) that bridge between individual platforms similar to emerging features in current trade fragmentation, while keeping sight of the grand vision mentioned above. The dollar may remain the dominant currency in the perhaps largest

of such individual platforms, supported by a new vision of a dollar-based monetary and financial architecture that is more responsive to the developmental aspirations of countries with non-dominant currencies.

Concerning the easing of foreign-exchange conversions, an expansion of regional trade could augment the use of non-dollar currencies. Geopolitical tensions, rising demand and new industrial capabilities in developing countries, environmental concerns, and vulnerabilities exposed by the Covid-19 pandemic all have the potential to contribute to an increase in [trade regionalization](#). [One reflection](#) could be the increased sensitivity of international trade to geopolitical distance (measured by voting patterns in the United Nations General Assembly). During the period January 2016–May 2023, merchandise trade between hypothetical geopolitical blocs grew 4-6 per-cent more slowly than trade within these blocs, reflecting that global companies’ reliance on cross-border suppliers has fallen.

These patterns approximate the pricing of services trade. Services often include lower shares of imports and higher shares of domestic inputs, which tend to be priced in the [producer's currency](#).

Hence, the ongoing trade fragmentation could shift export-related foreign-currency demand from the global economy (or developed country markets) towards a greater importance of regional and/or geopolitically close partners.

This shift could spur the use of non-dollar currencies for trade invoicing and payment and the ensuing increase in the liquidity for foreign-exchange conversion of non-dollar currency pairs – eventually reducing the dollar share in asset holdings, such as [observed](#) for countries which close economic proximity to the euro area. Further, an [examination](#) of the determinants of currency choice in cross-border bank loans points to a complementarity between trade invoicing and asset holdings, so that a greater use of a currency in trade

could ignite its broader internationalization.

Any such shift in trade will be influenced by whether and how the United States continues to impose financial sanctions. But it will receive further momentum from the significant expected cost reduction and speed acceleration from multicurrency wCBDC-platforms, as mentioned above for Project mBridge. This cost reduction could at least partly compensate for the expected [*economic cost of friendshoring*](#) value chains, related to de-risking and geopolitics, and result in a decisive reduction of switching costs for a broad range of currencies.

Conclusion

The convergence of geopolitical dynamics and technological innovation may tip the evolution of the GMFA. It opens a path towards de-dollarization² by allowing for a non-dollar-based global payment infrastructure. A hub-and-spoke cross-border payment platform based on wholesale central bank digital currencies (wCBDCs) augmented by a foreign-exchange conversion layer could accommodate diverging attitudes towards the GMFA while containing fragmentation forces. This platform could also support the G-20 roadmap that addresses the high costs, low speed, limited accessibility, and insufficient transparency of the current cross-border payment infrastructure. A wide range of countries should sit at the table when outstanding technical and governance issues for such a platform are decided.

fungible. Hence, unlike rCBDCs, wCBDCs do not need to be created from scratch. They simply apply blockchain technology to operate wholesale transactions that so far have been done through central bank reserves creating their own, dollar-based stablecoin.

2. One antipode to de-dollarization is dollarizing the domestic economy, i.e., making the dollar legal tender as done or considered by e.g., Argentina, Ecuador, El Salvador, and Panama. Such dollarization may effectively suppress (hyper-) inflation but does not tackle the root cause of inflation (e.g., excessive fiscal deficits or increased producer markups) and entails foregoing the exchange rate and domestic monetary policy as policy tools. Another antipode may be dollar-based stablecoins. These could foster dollar dominance by facilitating currency substitution and the circumvention of capital controls. Similar effects could arise from global tech firms using, or creating their own, dollar-based stablecoin.

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1. Wholesale CBDCs are not substitutes for retail CBDCs. While the latter are accessible to the general public and not necessarily based on DLT, wCBDCs are in a DLT-environment and, as a form of central bank money, accessible only to economic agents (such as commercial banks) with access to central bank money, with which wCBDCs are perfectly