Stablecoins and anonymous money

By Gita Gopinath Gregory and Ania Coffey Professor of Economics, Harvard University
On the occasion of the Per Jacobsson Foundation Lecture in Basel on 28 June 2026

It is an honour to deliver this year's Per Jacobsson Lecture, and I am grateful to the General Manager of the Bank for International Settlements, Pablo Hernández de Coz, and the Per Jacobsson Foundation for the invitation.

My lecture today is on stablecoins and it is based on research with my co-authors Kyle Calder, Wenxin Du and Jeremy Stein.[1] Stablecoins share many features with money, as they are used as a medium of payment and a store of value. There is a less studied property of money which we believe is worth revisiting in the current context. This is about the anonymity of money, that is the degree to which we have information on who holds and moves money.

The monitorability of money is what allows taxes to be collected, financial crime to be policed, sanctions to be enforced and cross-border flows to be managed. It is therefore not surprising that over many decades, and at considerable expense for financial institutions, public policy has moved money deliberately toward lesser anonymity.

Our central finding is that within the stablecoin ecosystem, we are moving in the opposite direction – toward the most anonymous form. This goes counter to a long-standing policy preference, and it carries potential costs: for the public finances, for the integrity of the financial system and for monetary sovereignty. In the rest of this lecture, I will spell this shift out more clearly and draw out implications for policy.

1. The anonymity spectrum of traditional money

Let us first consider the anonymity spectrum of traditional money. We focus on traditional 'US dollar' money because stablecoins, around $315 billion in value, are almost entirely pegged to the US dollar. The pattern we document however holds for other currencies.

The traditional dollar money in use today for payments includes publicly issued cash (currency notes and coins) and bank deposits. Cash, roughly $2.5 trillion US dollars, is the most anonymous form of traditional money: it can be held and passed between parties with no record of either. It is

[1] K Calder, W Du, G Gopinath and S Stein, "$100 bills to stablecoins: the anonymity of different forms of money", paper in preparation, an online version is not yet available.

also believed that a substantial part of the demand for physical dollars comes from users engaged in some type of illicit activity.[2]

The anonymity spectrum of traditional money Graph 1

Source: K Calder, W Du, G Gopinath and S Stein, "$100 bills to stablecoins: the anonymity of different forms of money".

At the other end of the anonymity spectrum are deposits in domestic banks – over $19 trillion in US banks – the least anonymous form of money. Banks identify their customers and keep records that authorities can follow, under know-your-customer and anti-money-laundering obligations. That visibility is costly: one recent industry estimate[3] puts the annual cost of financial-crime compliance in the United States and Canada at about $61 billion.

In between lie dollar deposits held in banks outside the US jurisdiction[4], on the order of $14.5 trillion, whose effective anonymity depends on local rules and enforcement, and which have, on the whole, moved toward transparency, notably through the automatic international exchange of account information.

In sum, traditional money is dominated by its least anonymous form. Moreover, the direction of policy has been consistent across countries: over decades and at real cost, authorities have pushed money away from anonymity through retiring high-value notes (like the 500 euro note), unwinding banking secrecy (as in the case of Switzerland) and building cross-border information-sharing.

[2] K Rogoff, *The curse of cash*, Princeton University Press, 2016.

[3] LexisNexis Risk Solutions (2024).

[4] "In between" does not mean that every foreign bank is less anonymous than a US bank. It is mainly meant to convey that there is a range that depends on the rules of different jurisdictions.

3. The anonymity spectrum of stablecoins

Now, let us consider the anonymity spectrum of stablecoins where we focus our analysis on the two largest coins, Tether (USDT) at around $190 billion and Circle (USDC) at around $80 billion. Stablecoins can be held in two ways. They can be held in a self-custody wallet, in which the holder controls the cryptographic keys. While transactions are visible on the blockchain, the owner's identity is not – this is referred to as pseudonymity. Self-custody wallets can be thought of, even if imperfectly, as the analogue of cash in the stablecoin ecosystem.[5]

The second way to hold stablecoins is through an account at a centralised exchange (or issuer platform). These are regulated intermediaries that hold the coins and are, in principle, subject to know-your-customer and anti-money laundering requirements. Holdings in US regulated centralised exchanges, such as Coinbase or Kraken, are the least anonymous and can be thought of as analogous to bank deposits in the stablecoin ecosystem. Holdings in non-US exchanges, such as Binance, fall in between on the anonymity spectrum, depending on the extent to which they are regulated.

While the anonymity features of stablecoins have previously been studied, to the best of our knowledge, the relative importance of self-custody wallets versus centralised exchanges in stablecoin holdings or for transfers has not been *quantified*. Our research provides these estimates using data made available by Artemis Analytics, a blockchain analytics platform that aggregates and labels on-chain activity across major public blockchains.[6]

3.1 How stablecoins are held

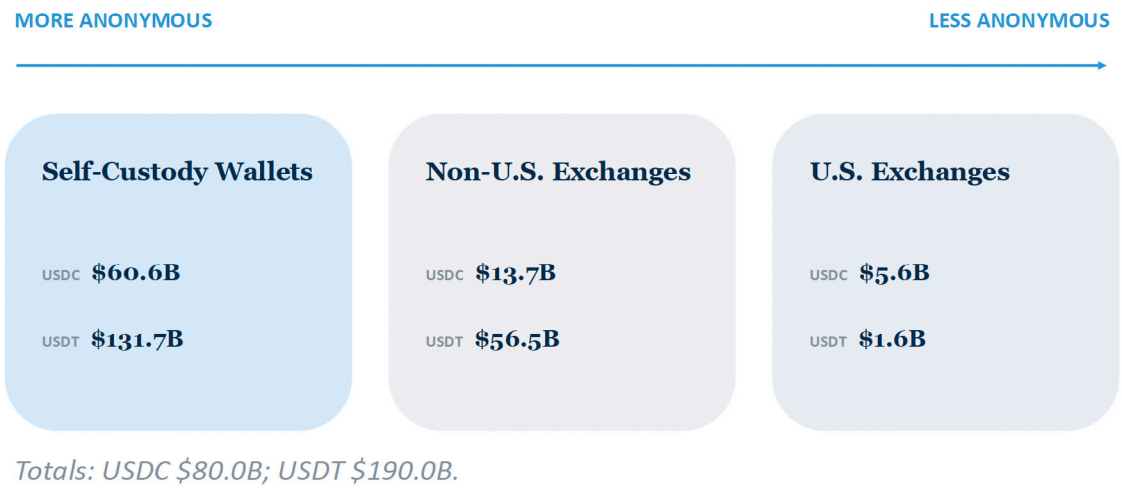
For stablecoin holdings we examine the evolution of USDC and USDT balances by blockchain from 2021 to March 2026. The average across blockchains in 2026 is summarised in Figure 2 and the evolution over time is depicted in Figure 3.

The data shows that self-custody wallets represent the dominant share of holdings, in the order of between 70 and 75% in the aggregate. For USDT, the larger coin, of the total holdings of around $190 billion in 2026, around $130 billion is held in self-custody wallets, and roughly $60 billion in exchanges. Of the $60 billion in exchanges, around $50 billion is held outside US regulatory jurisdiction. Similarly, for USDC, about $61 billion is in self-custody, and around $20 billion at exchanges, with the vast majority on exchanges not subject to US rules. There is also heterogeneity across different blockchains. For example, of the $89 billion of USDT on the Tron blockchain, approximately 95% is held in self-custody wallets.

[5] On the one hand, self-custody wallets are less anonymous than cash as transactions are visible on public blockchains. But on the other hand, stablecoins can be moved far more quickly and with no limit on denomination.

[6] www.artemis.ai.

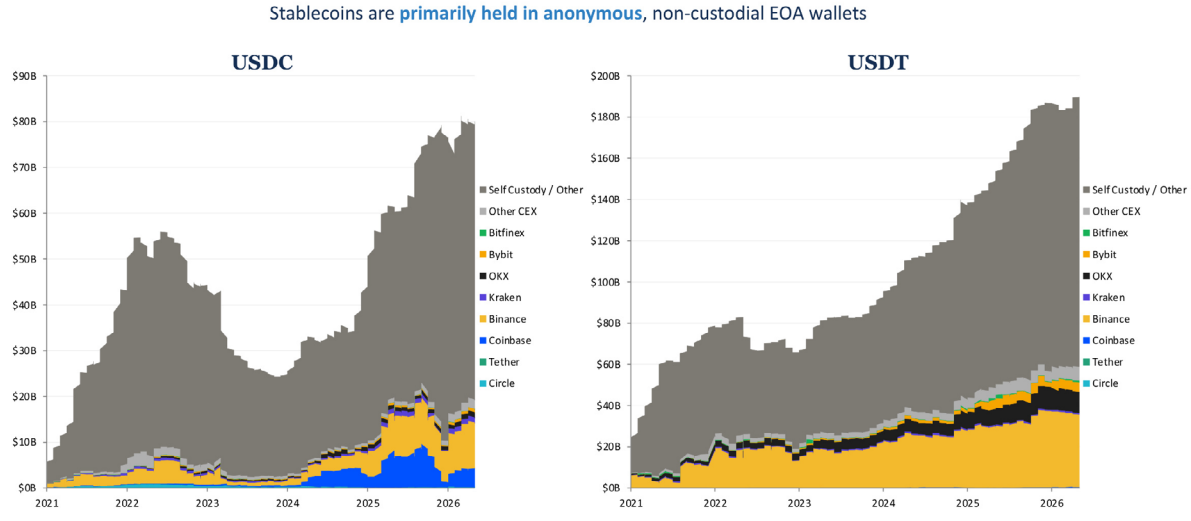
The anonymity spectrum of stablecoins Graph 2



Sources: K Calder, W Du, G Gopinath and S Stein, "$100 bills to stablecoins: the anonymity of different forms of money"; Artemis Analytics.

In all cases the most anonymous form of stablecoin holdings predominates. This is the opposite of traditional money where the most anonymous form, cash, pales in comparison with the least anonymous form, bank deposits.

Stablecoin holdings by wallet owner, all blockchains Graph 3



3.2 How stablecoins move

In addition to holdings, we examine USDC and USDT transfers from January 2023 to March 2026.[7] This is motivated by the presumption that a payment from one self-custody wallet to another is less likely to be monitored ex ante than one that moves from an account in one exchange, especially a US-based exchange, to another. We focus on transfers that are economically analogous to payments and transfers of funds between users.[8] Because exchange address identification is most comprehensive on Ethereum, we restrict our decomposition of transfer flows to that blockchain. We classify transfers by whether each end is a self-custody wallet or a centralised exchange. Figure 4 depicts the numbers for the whole sample period.

The anonymity spectrum of stablecoin flows (Ethereum) Graph 4

Note: Ethereum gross transfer volume 2023–26 YTD (USDC $5.1T, USDT $4.6T total).

Sources: K Calder, W Du, G Gopinath and S Stein, "$100 bills to stablecoins: the anonymity of different forms of money", paper in preparation; Artemis Analytics.

Transfer volumes have grown dramatically since 2023 for both stablecoins. Moreover, transfers between two self-custody wallets – neither end passing through an identified intermediary –have grown from a modest share a few years ago to roughly half of the volume in the most recent data. On the other hand, transfers between exchanges, the most readily monitored category, have declined.

[7] We exclude earlier periods because they include the FTX bankruptcy and several other major crypto market disruptions that are outside the scope of our analysis.

[8] Accordingly, we exclude all transfers involving decentralised finance-related addresses and all intra-exchange transfers between wallets belonging to the same exchange. These transactions largely reflect smart contract interactions or internal wallet management rather than transfers between economically distinct counterparties.

For USDC, self-custody-to-self-custody transfers account for 31.9% of total Ethereum volume over the full sample and increase from 15.4% in 2023 to 46.8% in 2026 year-to-date. Over the same period, exchange-to-exchange transfers decline from 45.1% to 14.5%. For USDT, self-custody-to-self-custody transfers account for 38.1% of total volume and rise to 48.7% by 2026 year-to-date. By contrast, exchange-to-exchange transfers account for only 16.5% of volume in 2026.

Jurisdiction sharpens the point. On Ethereum in 2025, the most transparent setting, US regulated exchanges and issuers were on one side of only about 8% of USDT transfer volume and about 27% of USDC volume, while self-custody wallets were on at least one side of more than 60% of USDT transfers and more than half of USDC transfers. Even in the venue best connected to regulated supervision, most activity sits outside it – and this understates the phenomenon, since the flow breakdown is available only where identification is good, yet the chains carrying the most volume are precisely those for which identification is weakest.

3.3 Trading activity: centralised exchanges versus DeFi

Trading activity points the same way. Stablecoins are also the settlement asset of crypto trading, and that trading is migrating from regulated exchanges to decentralised protocols that collect no identity. For USDC, on-chain activity over the sample (around $77 trillion) dwarfs centralised-exchange trading (around $4 trillion), with decentralised finance alone more than ten times the centralized total; USDT retains a larger centralised footprint as the dominant quote currency, but its on-chain activity is large and growing.

3.4 Who – and where – is the holder?

A blockchain transfer reveals nothing about the location of the sender or receiver. In the Artemis data set, only about 11% of holdings could be assigned to a country, and then only through network address information that is easily masked. The indirect proxies other researchers use, inferring countries from the web traffic composition of exchanges or regions from linguistic and time zone signals, recover only broad regions and fail precisely when a user takes steps to hide. The consequence is that the instruments which depend on knowing where a holder resides such as sanctions, capital controls and the determination of tax residence are difficult to apply to this form of money.

4. A tension in public policy

To be clear, our claim is not that all or even most activity of self-custody wallets is illicit. We only wish to highlight a lurking tension in public policy. With traditional money, policy moved deliberately towards less anonymity. With stablecoins, usage is evolving towards the most anonymous form available. Our quantification exercise suggests that policies that seek to improve know-your-customer and anti-money laundering type regulations at the centralised exchange and issuer levels can, at best, hope to have only modest effects in curbing illicit activity, given the predominance of wallet-to-wallet transactions that would not be captured by such regulations.

The US framework for the regulation of stablecoins (including the Guiding and Establishing National Innovation for US Stablecoins (GENIUS) Act) addresses illicit finance by regulating stablecoin issuers and centralised exchanges. What the Act leaves outside its perimeter is self-custody wallets, peer-to-peer transfers, and offshore issuers and exchanges. While stablecoin issuers are able to freeze or destroy tokens anywhere in the system, even in self-custodied wallets, these actions are taken ex post when a crime has been detected, as opposed to the ex ante deterrence that know-your-customer requirements enable.

The European framework for regulation covers not just exchanges but reaches one hop further and is also more restrictive than its US counterpart in its approach to foreign issuers. What remains outside the regulatory perimeter are transfers between two self-hosted wallets that never touch a regulated provider. While more transactions require anonymity checks under the European framework, as our results show, this still excludes a large share of transactions.

Banks are at somewhat of a disadvantage compared with stablecoin issuers and exchanges when it comes to regulatory compliance. For banks, under the Bank Secrecy Act, identity verification and transaction monitoring are priced into every link of a payment chain, a burden estimated at over $60 billion annually for US and Canadian banks according to LexisNexis (2024), whereas stablecoin compliance obligations attach only to a subset of transactions and leave out a large volume of transactions.

The evidence on crypto crime also points to the growing role of stablecoins. *The Chainalysis 2026 crypto crime report* estimates that illicit addresses received over $150 billion in 2025 and stablecoins accounted for 84% of the illicit crypto transaction volume. Importantly, the identification of on-chain illicit activity by entities mainly occurs ex post, after these entities have already been identified by regulators or law enforcement offices off-chain.

Pseudonymity of stablecoins can also enable evasion of capital controls. A growing body of work, including Graf von Luckner et al. [2023][9] , shows that cryptocurrencies are actively used to circumvent capital controls, with crypto volumes in economies such as Argentina rising in lockstep with parallel-market exchange-rate premiums. Relatedly, while dollar dominance may increase, the ability to sanction such dollar holdings may become more difficult.

It is well established that anonymity abets tax evasion. According to Kenneth Rogoff, "The most important area of tax non-compliance comes from under-reporting of business income by individuals who conduct a significant share of their transactions in cash." He attributes at least 40–45% of the US tax gap to the use of cash.[10] The latest estimates for 2022 point to a tax non-compliance rate of around 14%. Assuming the same non-compliance rate in 2025, the tax gap for 2025 is $732 billion.

[9] See C Graf von Luckner, C Reinhart and K Rogoff, Crypto and capital controls: technical report, National Bureau of Economic Research, 2023.

[10] The (net) tax gap, estimated by the US Internal Revenue Service, is a measure of lost federal tax revenue owing to under-reporting, non-filing and underpayment that will never be recovered.

This is 2.44% of US GDP. If one includes state and local taxes, and assumes a similar non-compliance rate, that is an additional $300 billion of lost revenue, taking the total loss to $1 trillion dollars or 3.3% of US GDP. In the event that stablecoins grow in size to trillions of dollars and are widely used in payments, there is a risk that the anonymity it affords could meaningfully increase tax evasion. Suppose that owing to stablecoins the non-compliance rate is 10% higher, that is 15.4% instead of 14%. Based on projections for tax collections in 2030, this would imply additional tax collection losses of around $130 billion or 0.35% of projected US GDP. While this calculation is hypothetical, it is important to consider the potential loss in fiscal revenue that can arise from the large holdings of stablecoins in self-custody wallets.

5. Some concluding thoughts on policy

I will conclude with some final thoughts on policy that derive from our analysis of the anonymity spectrum of stablecoins. First, rules that reach only exchanges and issuers will likely be insufficient. These are the identified parts of the system and the natural locus of regulation, but a large and growing share of activity moves wallet to wallet, beyond them. These considerations also bear directly on the question of granting crypto-affiliated institutions access to central bank infrastructure. Such access connects the central bank's payment rails, at one remove, to an identity-free network in a way no traditional bank does.

Second, because the phenomenon is inherently cross-border, common international standards are essential to prevent regulatory arbitrage. Where rules differ, activity migrates to the least demanding venue. The recent frameworks – the GENIUS Act in the United States and the Markets in Crypto-Assets Regulation with associated anti-money laundering rules in the European Union – are progress, but they differ in reach.

Third, sound domestic fundamentals are an important part of the answer. Empirical evidence points to the demand for crypto instruments being strongest where domestic money is least trusted. Therefore, low and stable inflation, deeper and more inclusive financial systems and better domestic payment rails can help preserve monetary sovereignty.

Stablecoins are a genuine innovation, but they are held and used in their most anonymous form. The task for policymakers is to manage the resulting trade-off: to capture the benefits while preserving enough of the observability on which sound public finances and a well-functioning monetary system depend, and to do so through the international cooperation that Per Jacobsson advanced throughout his career. Given the importance of money in our society, it is worth getting the balance right.