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Stablecoins, Stablecoins, Stablecoins

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Stablecoins, Stablecoins, Stablecoins

By Agnes Aistleitner

Executive summary

Stablecoins have been the topic du jour over the last couple of months. They are now slowly being sidelined by the hype around agentic payments, but still, everyone has a stablecoin opinion, so I thought, what the heck, let me add mine. Views range from the megalomaniac “this will change finance” to “this could derail the economy.” Yet, volumes of currency-backed stablecoins keep rising: why, and what it means, is what we will explore here. I do have to say, the idea of creating a computer-guided, independent store of value is intriguing, as in a tumultuous world we as a human species seek stability and safety.

At a glance, here is where fiat-backed stablecoins stand today:

- **What currency backed stablecoins are:** privately issued, fiat-referenced digital tokens that circulate 24/7 on public blockchains;
- **Who profits/how:** issuers earn **private seigniorage** (interest on reserves); exchanges monetize distribution and trading; market makers/LPs earn spreads/fees; fintechs reduce their reliance on correspondence banks; final users get speed and access but no share of the yield.
- **Where they help:** cross-border transfers, real-time settlement, dollar access in high-inflation economies, liquidity within DeFi.
- **Key risks:** run/redemption risk without lender of last resort; reserve opacity; legal/redeemability gaps for retail; AML/KYC evasion vectors; tech/congestion risk; systemic spillovers to money markets, quasi dollarisation of fragile economies
- **Policy trajectory:** U.S. (GENIUS) + EU (MiCA) narrow the arbitrage; offshore models persist but face fragmentation.
- **Takeaways for startups:** treat stablecoins as **interim rails**; build regulatory moats, diversify issuers/rails, pre-plan de-peg and off-ramp contingencies, and design to plug into more regulated tokenised infrastructures.
- **Takeaway for investors:** Approach with caution, focus on models that build value beyond regulatory arbitrage with long term defensibility.

Introduction

There are different types of stablecoins: currency-backed, algorithmic, and asset-backed, but this paper concerns itself only with **currency-backed stablecoins**. I would argue that no stablecoin is fundamentally changing anything. Stablecoins are built on the distributed ledger technology blockchain, which is at its core a database system and simply a different way of executing digital payments. It might optimize some processes, but at a high level, we do not want finance to be “fundamentally” changed by it without much needed safeguards. History shows that fundamental changes in finance, when driven by unchecked speculation, have always been painful: think of John Law and the Mississippi Corporation, or the Global Financial Crisis of 2008, when banks abandoned hard-earned lessons about what it meant to be a bank and flooded the system with exotic products like CDOs.

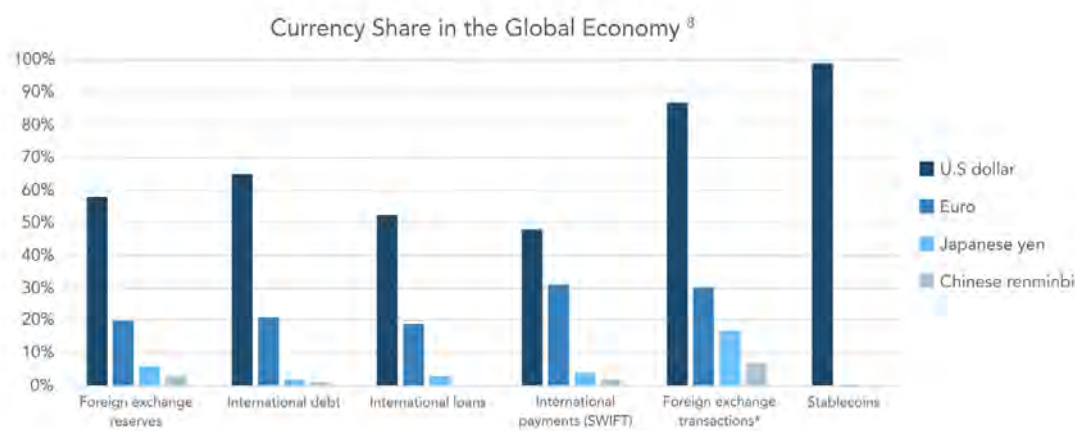
The growth of stablecoins also fits into a longer trend of partial disintermediation from banking. Over recent decades, households and firms have shifted funds out of deposits and into money-market funds, fintech wallets, and capital markets. Stablecoins extend this trend by drawing deposits out of banks and placing them into treasuries through private issuers. They still depend on banks for custody and fiat on/off-ramps, but they bypass banks’ central role as credit creators. For example, when a user withdraws funds from a checking account to purchase a stablecoin, those dollars leave the deposit base of the bank and are reallocated into the stablecoin issuer’s reserve fund holding treasuries. The bank loses lending capacity, while the stablecoin issuer captures the yield.

In that sense, I never fully understood why securities laws didn’t apply to crypto, nor why gaming laws didn’t either. To this day, I can only ask: why. It walks like a duck, it quacks like a duck it is a...? That said, I am not here to judge regulators. I approach this as an investor, looking for opportunity, and tokenization is an exciting topic. So let me turn to what really matters: the opportunities and risks that come with hard currency backed stablecoins, what we can learn from them, how they can be used (for now), and why I’ve come to view them for what they are: an exercise in **regulatory arbitrage**.

The Not-So-Stable Promise

Tokenization of financial assets is often discussed as one of the most exciting upgrades to the traditional financial system. It promises to both improve the old, by streamlining payments, settlement, and collateral management and enable the new, opening possibilities for programmable money and new contracting arrangements. Tokenization integrates messaging, records, reconciliation, and transfer into one seamless operation. This could lay the groundwork for a next-generation financial system built on “unified ledgers” an upgrade from the current ISO messaging standards, that combine efficiency and programmability with the trust provided by central bank reserves and government bonds.

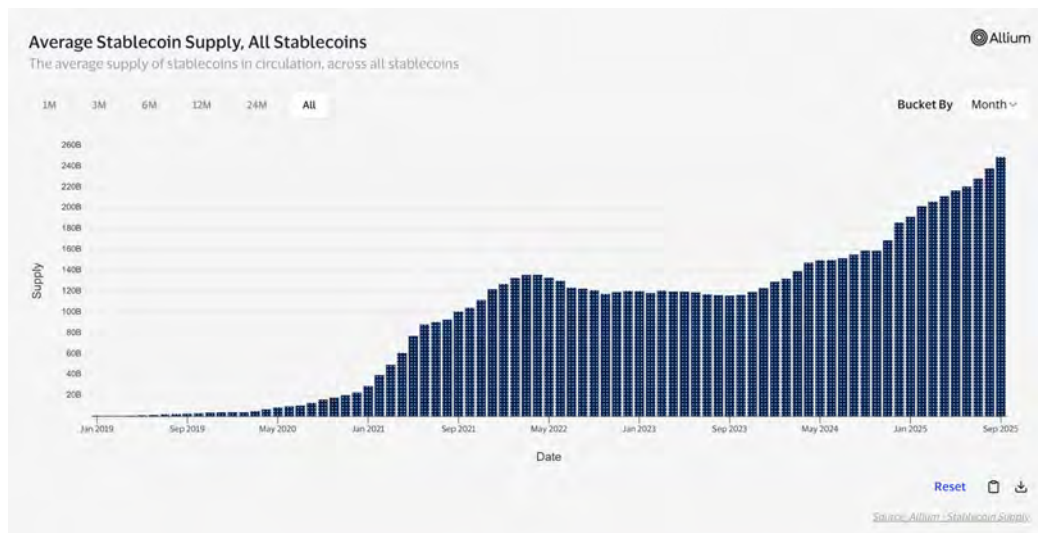
Stablecoins represent the **closest real-world case of tokenising cash**. The tokens are to represent hard currency, mostly dollars (or euros, yen, etc.) circulating 24/7 on blockchain. In this sense, they are an interesting proof-of-concept for how money might one day be digitised and made programmable.



Castle Island Visa Paper The Emerging Market Story

The promise of currency-backed stablecoins is faster, programmable, global payments. By disintermediating correspondent banks, settlements are final once you hit send, receivers are to get instant, cheap payments anywhere. Private token issuers are to keep the equivalent amount of a hard currency in cash and cash equivalents such as treasury bills, through which stablecoins are meant to be stable. Mirroring the currency they reference solves a key problem for crypto in payment adoption: **high price volatility**. Another part of the appeal is how easy they are to integrate: any wallet, exchange, or fintech can support a stablecoin simply by

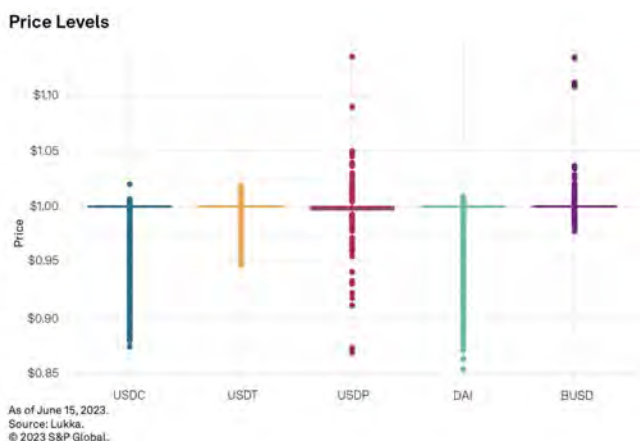
plugging into its code, without needing correspondent banking agreements or costly infrastructure. This openness explains why stablecoins have spread so widely in crypto and fintech backends. Sounds like a great solution, but it comes with a whole set of problems.



Stablecoins fail the three core tests of **money, singleness, elasticity, and integrity (BIS)**. Unlike central bank money, which guarantees one dollar is always equal to one dollar, stablecoins trade at values linked to the credibility of their issuer. They are strictly cash-in-advance instruments: every token requires prefunding, which means they cannot expand liquidity in a crisis. And their integrity depends not on sovereign backing but on sometimes opaque private balance sheets. While tokenisation offers a vision of a stronger financial system, **private tokenisation of money through stablecoins exposes serious risks**. It creates a fragmented, brittle form of digital cash that lacks the features we expect from public money.

The idea of private currency issuance is not new, stablecoin issuance by private companies is pretty much what happened during the era of **wildcat banking** in the **19th-century United States**, when private banks issued their own notes redeemable for gold or silver. The promises of convertibility coexisted with uneven oversight, a patchwork of trust, and frequent arbitrage. Notes from strong banks circulated at par; others traded at a discount. Runs and instability were common. Eventually, the U.S. solved this problem by establishing a national currency backed by government bonds and administered by regulated banks.

Stablecoins today face potential negative consequences of fragmentation and reserve opacity, in the form of instability of supply, creating space for arbitrage, price volatility and potential erosion of trust. pro: Although they are marketed as being always worth one dollar, in practice they can and do depeg from par. In March 2023, USDC briefly fell to \$0.87 when part of its reserves were trapped at Silicon Valley Bank, showing that even the most transparent issuers remain vulnerable to operational and perception shocks. Beyond depegging, stablecoins are not perfectly interchangeable with each other. USDT, USDC, PYUSD, and others all carry different credit and legal risks tied to their issuers, and they often trade at slight spreads depending on confidence and liquidity. In effect, this creates a mini foreign-exchange market within “digital dollars,” echoing the way 19th-century banknotes traded at discounts or premiums depending on who issued them.



Stablecoin Business Model: Private Seigniorage

Stablecoin issuers operate very similarly to narrow banks: currency-backed stablecoins are digital tokens issued by private companies that promise to hold the equivalent of the coins they issue in hard currency on a bank account and in highly secure, liquid assets such as treasury bills. The issuers generally keep the interest earned from these holdings as their revenue and have no obligation to share it with coin holders. This is effectively **private seigniorage**: capturing the yield on safe assets while issuing non-interest-bearing liabilities (that have no deposit protections whatsoever, and legally are worth less than liabilities).

Private seigniorage has always been a lucrative activity. For central banks, it is the income generated by issuing currency at face value while holding interest-bearing assets in reserve, with the difference accruing to the state. Stablecoin issuers mimic this model, but the profits accrue to private shareholders instead of the public, and without the regulatory and prudential frameworks that central banks or licensed banks are subject to.

A further risk comes from maturity transformation. Stablecoin issuers typically invest reserves in short-term treasuries and repo, rolling them over continuously. Which means replacing maturing short-term assets with new ones to maintain liquidity and earn current yields. If the yield curve inverts or liquidity in repo dries up (e.g. GFC 2008), issuers may face roll-over pressure. They are not banks, but they nonetheless rely on money market functioning. A disruption here could leave issuers temporarily illiquid even when technically solvent.

In many respects, stablecoins are similar to global money market funds without the regulation. Like MMFs, they promise daily liquidity against short-term government assets. But unlike MMFs, they have no capital buffers, no gates or fees to manage outflows, and no central bank backstop. This leaves them more fragile than the very instruments they claim to improve upon. Moreover, stablecoins are tightly interwoven with crypto markets: their demand, liquidity, and even redemption dynamics are often driven by swings in crypto sentiment and trading volumes

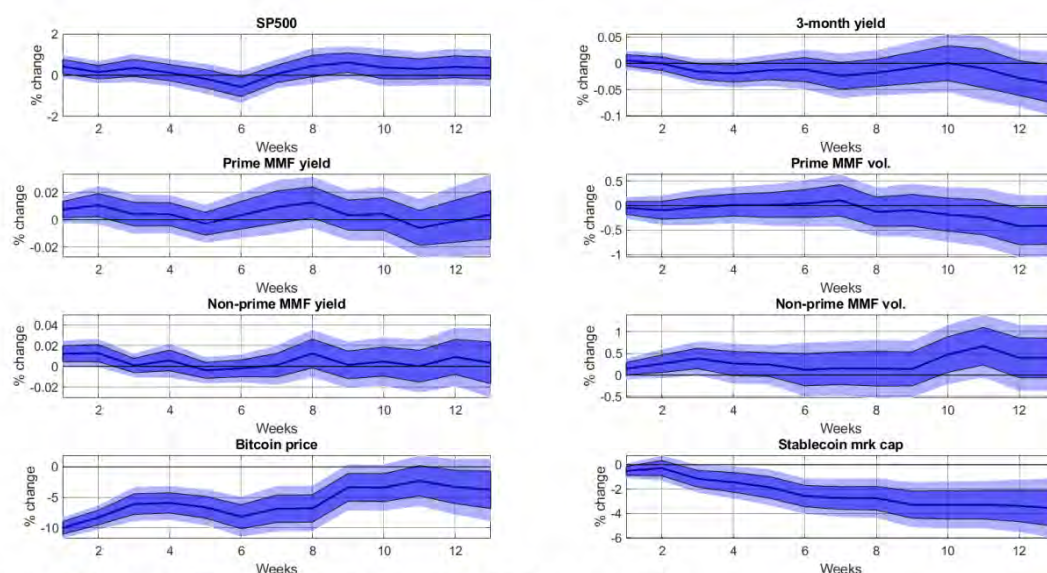


Figure 1: Impulse responses to a negative crypto shock.

Notes: the Figure reports impulse responses to a crypto shock, scaled to contract the price of Bitcoin by 10% (i.e. about a standard deviation). Shaded areas report the 68% and 90% confidence intervals. Impulse responses are computed as in equation 3.

rather than by real-economy payment needs. As a result, they are more susceptible to sudden shocks. A crypto price crash can trigger mass stablecoin redemptions as traders exit positions, amplifying stress. ¹Money market funds, by contrast, are integrated into the broader financial

¹ Figure 1: [BIS Working Paper](#)

system and operate under strict regulatory oversight, which gives them greater resilience. Stablecoins replicate some of the form of MMFs, but with less substance and far fewer safeguards.

The scale of this business is already significant. By September 2025, the global stablecoin market had grown to nearly **\$240 billion**, with **Tether (USDT)** holding roughly **\$160 billion** and **USDC** around **\$60 billion**. Combined, the two account for about 90% of all fiat-backed stablecoins. These tokens are not niche instruments: over **\$8 trillion of adjusted transaction volume moved on stablecoins in the last 12 months according to Visa**. Yet, in scale, this still pales in comparison to traditional FX markets, where daily turnover exceeds **\$7 trillion**.

Who are the Players in the Stablecoin Ecosystem?



Tether and USDT

Tether is the largest stablecoin by far, with a market capitalization above **\$160 billion** and reported profits of more than **\$13 billion in 2023 from collecting interest income**.

Unlike Circle or Paxos, Tether does not hold reserves in a regulated U.S. money market fund. It publishes attestations, but these are not full audits, and its disclosures have historically been **questionable and inconsistent**. For years, Tether held large amounts of commercial paper and made secured loans of unclear quality. It has also admitted to using some reserves to support **Bitfinex**, its affiliated exchange, that was hacked before the Bitfinex founders started Tether. Tether now claims that nearly all reserves are in treasuries and cash equivalents, its credibility is undermined by this checkered past.

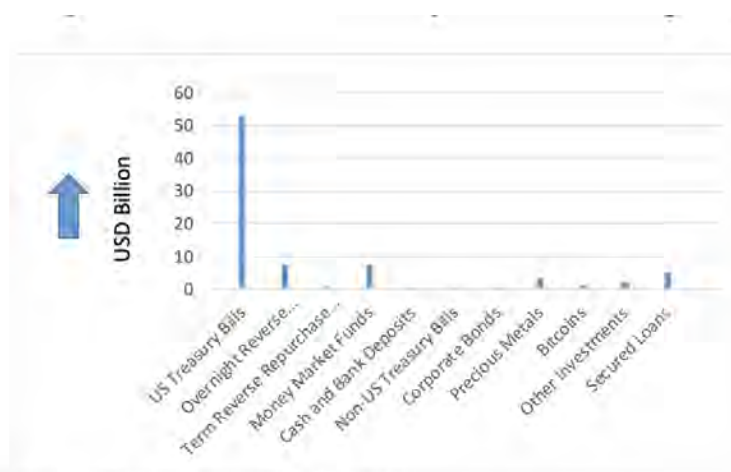


Fig 1. USDT reserve assets as on 31/3/2023

Tether is incorporated offshore (BVI, with reserves managed in the Bahamas) and avoids the regulatory oversight that Circle or Paxos face. In practice, it operates as a massive offshore shadow bank, earning billions in seigniorage while providing little transparency and no protections for token holders.

Circle and USDC

Circle is the second-largest stablecoin issuer, and its model is more regulated and transparent than many of its competitors. The bulk of Circle's revenue comes from interest on USDC reserves, which consist of cash deposits at regulated U.S. banks and holdings of the Circle Reserve Fund, a registered Rule 2a-7 government money market fund managed by BlackRock. Circle even discloses its "reserve return rate," which closely tracks short-term U.S. Treasury yields, making its income structure unusually visible.

Beyond reserve earnings, Circle has a formal revenue-sharing agreement with Coinbase. After deducting operating expenses and a small issuer margin, Circle splits the remaining reserve income with distribution partners, with Coinbase entitled to as much as half of the total depending on where USDC is custodied.

In addition, Circle has begun to market developer and network services, including APIs for payments, compliance tools, and its cross-chain transfer protocol, though these remain relatively small compared to the income derived from reserves. Taken together, Circle operates as a hybrid of a **narrow bank**, earning yield on safe assets, and a **fintech services platform**, with profitability scaling directly with the volume of USDC in circulation and prevailing U.S. interest rates. Circle benefited from the bail out of Silicon Valley Bank during which period USDC depegged from the dollar and was worth around 0.87\$.

PayPal and Paxos (PYUSD)

PayPal launched its own dollar stablecoin (PYUSD) in 2023, but the issuer of record is **Paxos Trust Company**, a regulated New York trust company. Paxos manages the reserves and captures the yield.

PayPal's economics are **indirect**: PYUSD is supposed to increase engagement within the PayPal network. In this arrangement, Paxos captures the seigniorage, while PayPal captures the network effects. PayPal has always held customer funds (e.g., balances in PayPal wallets) and invests those in safe assets. The interest income PayPal earns on those funds is structured under **e-money regulation** (with safeguarding requirements and some regulatory oversight).

Coinbase and USDC Rewards

Coinbase is both a major distributor of USDC and a retail platform offering “**USDC rewards**.”

These rewards are not interest payments from Circle or USDC itself. They are a **Coinbase program**, funded from Coinbase's share of reserve income under its agreement with Circle, plus marketing incentives. Customers holding USDC on Coinbase earn a variable APY, credited monthly. From a user perspective, this looks like yield on stablecoins; legally, it is a **revenue-sharing rebate** rather than issuer-paid interest.

Exchanges, Market Makers, and Liquidity Pools

The ecosystem depends heavily on **exchanges**, **market makers**, and **DeFi liquidity pools**. Exchanges such as Binance, Coinbase, and Kraken act as the primary on- and off-ramps. They hold large inventories of stablecoins, decide which tokens to support, and provide the fiat liquidity that retail users interact with. When a customer wires USD to Binance and buys USDC, the tokens are drawn from Binance's inventory, not freshly minted by Circle. When that customer cashes out, the fiat is paid from Binance's bank accounts or through professional market makers. Only occasionally do exchanges redeem with issuers to rebalance their books.

Market makers such as Jump Trading, Cumberland, and **a small set** of other trading firms play an outsized role in ensuring that stablecoins trade close to their peg across venues. They arbitrage discrepancies between exchanges, supply liquidity for large orders, and make stablecoin markets function on both centralized and decentralized platforms. Their role is enormous: combined, the top market makers move billions of dollars in stablecoins every day, acting as the connective tissue that keeps the \$1 peg credible in practice. Yet this concentration introduces fragility. When Alameda Research collapsed in 2022, liquidity in certain stablecoin pairs temporarily dried up, spreads widened sharply, and confidence took a hit. This episode highlighted that stablecoin liquidity is not as decentralized or resilient as it appears, it is intermediated by a few firms whose withdrawal can cause sudden dislocations. Unlike traditional FX or money markets, where liquidity is distributed across hundreds of institutions, stablecoin liquidity depends on a narrow set of players.

Finally, DeFi protocols like Uniswap or Curve enable liquidity pools where stablecoins are swapped peer-to-peer via smart contracts. These pools create important on-chain liquidity, but their scale is limited. The largest pools for stablecoin pairs in 2024 held between a few hundred million and a couple of billion dollars at most. This is deep by crypto standards, but minuscule compared to the **>\$7 trillion a day** that changes hands in traditional FX markets or the trillions of dollars mobilized daily in the U.S. treasury market. Moreover, DeFi liquidity is fragile: in times of stress, providers can withdraw capital, leaving markets thin just when liquidity is most needed.

In short, the stablecoin value chain distributes profits unevenly. Issuers capture the largest gains. Exchanges monetize distribution and trading activity, while market makers and DeFi

liquidity providers earn spreads and fees by keeping markets liquid. A growing layer of fintechs, from remittance startups to neobanks, use stablecoins in their backend rails to reduce reliance on correspondent banking, cut settlement costs, and expand global reach, with **less regulatory scrutiny than the traditional system** effectively arbitraging existing payment frictions.

Technology: Layer 1, Layer 2, Wallets, and Circulation

Stablecoins run on public blockchains, which serve as the underlying rails for issuing, holding, and transferring the tokens. Most are first created on so-called **Layer 1 blockchains** such as Ethereum. Layer 1 is the “base layer” of the system: it maintains the full ledger of transactions, validates them through thousands of independent computers (nodes), and provides the core security and decentralization. Because every transaction must be verified by many participants, Layer 1 is secure and resistant to tampering. However, this security comes with trade-offs. When activity surges, the network can become congested, resulting in slower confirmations and higher fees, which makes small payments expensive and less practical.

To address these limits, stablecoins are increasingly used on **Layer 2 networks** such as Arbitrum, Optimism, or Polygon. These act like “express lanes” on top of Layer 1 such as Ethereum: instead of recording every transaction on the main chain, they bundle many transfers together and settle them back in batches. The result is faster and cheaper payments, with small transfers on Layer 2 costing only fractions of a cent and clearing in seconds, compared to several dollars and longer waits on Ethereum Layer 1, but still inheriting its settlement security.

Once a stablecoin issuer such as Circle or Tether **mints new tokens**, they exist as standard blockchain assets (for example, ERC-20 tokens on Ethereum). Minting occurs when an institutional customer, typically an exchange, broker, or payment processor, wires actual U.S. dollars to the issuer’s bank account. The issuer then creates the equivalent amount of stablecoins on-chain and transfers them to the buyer’s wallet. When those funds are withdrawn, the issuer **“burns” tokens**, permanently removing them from circulation, and sends fiat currency back to the institutional customer it has a banking relationship with.

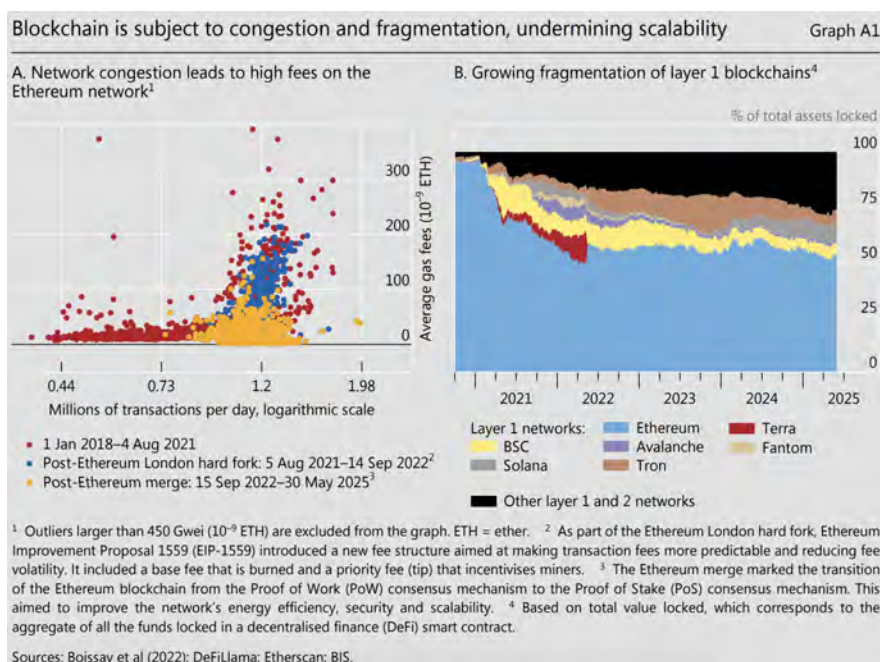
After minting, tokens move freely across the blockchain. A **wallet** is simply an address on the network, and the token contract allows transfers between any valid addresses. This is very different from traditional finance, where holding a balance usually requires a contractual

relationship with a bank or payment provider. In the stablecoin model, Circle or Tether only manage the initial minting and redemption, while circulation between wallets happens without the issuer's involvement or even knowledge. This design makes stablecoins highly efficient for peer-to-peer transfers: tokens can be sent anywhere in the world, at any time, to anyone with a compatible wallet.

Yet the inflows and outflows that back these tokens still depend on traditional banking relationships. Dollars or other fiat currencies flow into the issuer's reserve accounts to mint new tokens, and fiat flows back out when tokens are redeemed. In between those two points, the tokens themselves can circulate across multiple exchanges, brokers, and wallets, layering transactions within the crypto ecosystem. This freedom of transfer is a source of efficiency, but also of risk.

Multiple intermediaries can obscure the trail of funds, making it harder to trace the true origin of money flows and opening opportunities for illicit transactions if compliance controls are weak. On Layer 1, every stablecoin transfer is directly visible on the blockchain, making flows auditable end-to-end. On Layer 2, transparency becomes more complex: batch settlement is minted into Layer 1, so the public chain shows only the aggregate update. While most Layer 2s still publish full transaction data, regulators and analytics firms must rely on additional infrastructure to reconstruct the details. This preserves transparency in principle but adds layers and obscurity in practice.

The technology itself carries risks. Users of Layer 2 networks must trust that the software handling transaction bundling is free from bugs or vulnerabilities, and must understand that their transfers ultimately rely on the Layer 1 chain to guarantee security. Smart contract code can



contain flaws, and private keys controlling wallets can be stolen or lost, leading to irreversible losses. On top of these risks, **Layer 1 blockchains like Ethereum can become congested during periods of heavy demand, leading to sharp spikes in transaction costs and delays in settlement.** This congestion risk undermines the promise of fast, low-cost transfers, especially when stablecoin volumes surge during market stress. These vulnerabilities highlight that while blockchains provide a novel infrastructure for stablecoins, they are not immune to technical or operational failures.

Regulation: Stablecoins in The Grey Zone

Traditional e-money providers such as Wise or PayPal operate under clear regulatory frameworks. Customer funds must be held in segregated accounts, issuers face capital and prudential requirements, and float income is limited or tightly supervised. Their operations are subject to ongoing oversight in every jurisdiction where they operate. Crucially, e-money issuers must be licensed and comply with local AML/KYC obligations, meaning their ability to function depends directly on regulatory approval.

Stablecoins circulate as global digital dollars largely outside these national regimes, hiding behind the term “crypto.” In the U.S., the recently introduced **GENIUS Act** gives Circle and other compliant issuers a formal pathway to operate, provided they maintain 100% backing in cash and short-term Treasuries and refrain from paying interest to token holders and barring them from lending.

The **European Union’s MiCA framework** is the most advanced framework, it distinguishes between “asset-referenced tokens” and “e-money tokens,” placing stablecoins squarely within the e-money perimeter. Euro-denominated stablecoin issuers must be authorized as credit institutions or e-money institutions, subject to strict reserve, governance, and consumer protection standards. MiCA even caps large-scale use of non-euro stablecoins in the EU, reflecting concerns about monetary sovereignty and dependence on private offshore dollars.

Tether, the by far largest stablecoin issuer, falls outside both regimes. It relies on looser regulation in the Bahamas, publishes limited reserve disclosures, and retains broad discretion over redemptions. Despite this, USDT circulates across virtually every major exchange and is used in markets worldwide, often without licenses in the jurisdictions where it operates.

Some jurisdictions, such as the EU, Japan, and Singapore, require local incorporation and strict oversight. Others, like the Bahamas, remain permissive. This patchwork leaves persistent gaps. The unresolved question is what would happen in a crisis: growing stablecoin adoption means these private issuers, regulated and in Tethers case loosely regulated, become of systemic importance. If tens of billions of treasuries had to be liquidated to meet redemptions, would central banks intervene? Well, today's stablecoin size is still below the Lehman Brothers collapse of roughly \$600 billion in assets and liabilities, but as markets come to expect bailouts without formal regulation, stablecoins risk recreating the same shadow-banking vulnerabilities that regulators sought to eliminate after 2008.

In effect, stablecoin issuers already resemble narrow banks: they accept funds, hold only safe liquid assets such as treasuries, and issue instantly redeemable liabilities. The difference is that where narrow banks exist, they are licensed financial institutions regulated by prudential rules. Stablecoins replicate the model without that regulatory oversight, a gap that becomes increasingly problematic as they scale.

Risks of Regulatory Arbitrage

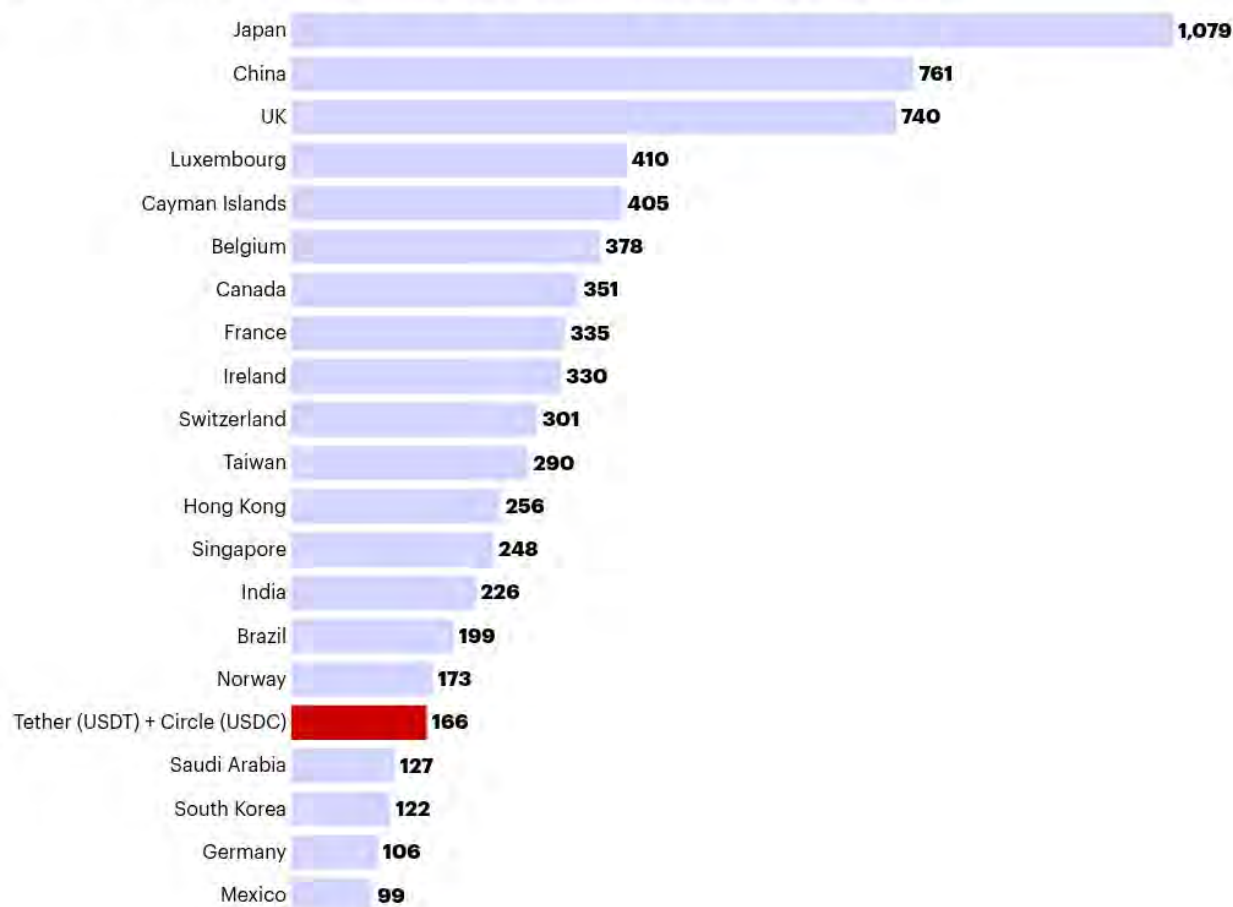
On one hand, stablecoins may simply be “**a different more open designed database system for digital dollars**”, in which case, existing e-money rules could be extended to cover them. On the other, their ability to scale across borders without securing licenses in each market allows them to function like a **shadow banking system**, operating outside the safeguards of prudential regulation and local oversight.

Users may assume stablecoins are equivalent to bank deposits or e-money, when in fact they lack statutory deposit insurance and carry weaker redemption rights. Further, global circulation without consistent oversight opens the door to illicit use, regulatory arbitrage, and financial stability concerns if a major stablecoin were to face a redemption shock.

The shadow banking comparison is more than rhetorical. Shadow banks grow outside the regulated core but still tap into it, creating systemic vulnerabilities when they become too large to fail. Stablecoins, by concentrating reserves in short-term government securities, are already **significant players in U.S. money markets**. If a large issuer like Tether or Circle faced a run, and the ensuing redemption wave and had to liquidate tens of billions in treasuries suddenly, this could disrupt funding markets in ways similar to the 2008 run on money market funds. In

such a scenario, policymakers might be forced to intervene to stabilize markets, effectively creating the expectation of a **public backstop for a privately issued instrument**.

International holdings of US Treasuries, in billions of US dollars (January 2025)



This raises uncomfortable questions. If stablecoins become systemically important, are governments willing to provide emergency liquidity to issuers during stress: in effect, bailing them out like banks or money market funds? If so, the logic of public support would point strongly toward regulating stablecoins fully. The misalignment on regulatory treatment between GENIUS in the U.S., MiCA in the EU, as well as offshore approaches like Tether's highlights the **challenge of regulatory fragmentation**, leaving it uncertain whether stablecoins will be integrated into the formal financial system or continue to evolve as parallel, lightly regulated instruments until disruption happens and look at potential demand of the public to bail it out.

Interoperability and Fragmentation Risk

Stablecoins are not truly fungible. While all fiat-backed stablecoins claim to represent “one dollar,” in practice USDT, USDC, PYUSD and others are not interchangeable at par (even on a technical level, they need bridges in between). Each coin carries the credit, legal, and operational risk of its issuer, and markets price those risks differently.

This fragmentation is visible in both centralized exchanges and DeFi. Binance lists most pairs in USDT, while Coinbase promotes USDC; liquidity is deepest in the coin that the platform favors. On-chain, entire pools such as Curve’s “3pool” exist purely to facilitate swaps between dollar stablecoins, with fees and spreads that reflect their imperfect interchangeability. This is effectively a new layer of foreign exchange markets inside crypto, where “dollars” trade against “dollars.” Let’s just ignore history and go straight back to the wildcat banking era with a new tech wrapper.

In times of stress, that risk is amplified for example during the USDC depeg in March 2023, liquidity pools rapidly imbalanced as holders rushed to convert USDC into USDT. The result was widening spreads, slippage, and a temporary loss of par convertibility. Far from being a unified medium of exchange, stablecoins reveal themselves in crisis to be a patchwork of private liabilities that may trade at discounts or premiums depending on confidence in their issuers (and on top of that still rely on the trust in the reserve currency government to stay valuable).

Central bank money guarantees that one dollar is always equal to one dollar, regardless of which bank issues the deposit. Stablecoins fail this test of singleness: they require users to evaluate the relative risk and liquidity of different issuers, introducing friction and fragility where money is supposed to be uniform. If stablecoins continue to grow in importance without solving this interoperability problem, they risk creating systemic vulnerabilities not only within crypto markets but also in the broader financial system.

AML/KYC Concerns and Regulatory Frictions

One of the central concerns around stablecoins is how they interact with anti-money laundering (AML) and know-your-customer (KYC) frameworks. Traditional finance embeds compliance checks at every point where money enters, exits, or moves through the system. Banks and

payment providers are required to identify customers, monitor transactions, and report suspicious activity. This creates a compliance perimeter around the financial system that makes it difficult for illicit funds to move undetected.

Stablecoins, by contrast, are designed for **open circulation on public blockchains**. Once tokens are minted, they can be transferred between wallets without friction, permission, or oversight from the issuer. A wallet is just a string of characters on a blockchain; it does not need to be linked to a verified identity unless it interacts with a regulated on- or off-ramp. This design is what makes stablecoins efficient and globally accessible, but it also creates a natural gap with AML/KYC rules. After the initial minting event, issuers typically have no visibility into how tokens circulate or who holds them.

At the same time, the **pseudonymous nature** of blockchains cuts both ways. Every stablecoin transfer is permanently recorded on-chain, creating an auditable trail. Blockchain analytics firms and regulators can often trace suspicious flows with far greater precision than with cash, though doing so requires advanced monitoring tools and cross-border cooperation. In practice, however, illicit actors exploit the lag between real-time blockchain movement and slower compliance processes at exchanges or payment processors.

Another layer of concern comes from the **structural design of redemption rights**. Since retail holders cannot directly redeem stablecoins with issuers, exchanges and brokers act as intermediaries. These platforms vary widely in their compliance standards. A well-regulated exchange like Coinbase applies stringent AML/KYC checks, but offshore platforms may apply them lightly or inconsistently, allowing bad actors to on- or off-ramp with minimal scrutiny.

Liquidity

In traditional finance, **banks expand liquidity through lending**. When a bank issues a loan, it simultaneously creates a deposit, new money that did not previously exist, backed by the bank's balance sheet and the elasticity of central bank reserves. This ability to create money against credit is what allows banks to act as liquidity providers to the broader economy, smoothing shocks and meeting demand for funds when needed. In times of stress, banks can also access central bank facilities, which act as **lenders of last resort** to prevent liquidity crunches from spiraling into systemic crises.

Payment providers like **Wise** operate differently, but the principle of liquidity management still applies. Wise does not create new money in the way banks do, but it builds liquidity by maintaining balances in multiple currencies and netting flows across its global customer base. When flows are imbalanced, Wise can draw on credit lines or partnerships with local banks to meet payment demands. In effect, it creates practical liquidity across borders by leveraging credit and balance-sheet management, ensuring that users can send and receive funds even when imbalances or spikes in demand occur.

Traditional cross-border payments rely heavily on **FX liquidity providers**. Global correspondent banks such as JPMorgan, Citi, or HSBC act as the backbone, maintaining vast nostro/vostro account networks across currencies. Their advantages are depth, they have access to central bank reserves, can process huge volumes, and can extend intraday credit to smooth imbalances. Their disadvantages are cost and friction: fees and spreads are high, settlement can take days, and liquidity is fragmented across multiple pre-funded accounts. FX prime brokers and electronic market makers such as UBS, Goldman Sachs, or XTX also play a role by providing wholesale FX liquidity to corporates, funds, and payment providers. They make markets continuously but withdraw liquidity or widen spreads under stress, meaning access is not always reliable. Payment providers like Wise or Revolut sit on top of this infrastructure, sourcing liquidity from banks and brokers, and adding efficiency through netting and customer float management.

Stablecoins are fundamentally more constrained. By design, a currency-backed stablecoin like USDC or USDT is supposed to be **fully backed**: for every token in circulation, there is a corresponding dollar or treasury bill in reserve. Issuers cannot legally create more tokens than the assets they hold. This means stablecoins do not expand credit or money in the banking sense. Instead, they provide what might be called **transactional liquidity**: instant, global, 24/7 digital transferability of value, without correspondent banking frictions. They increase the speed of moving money, but they do not increase the total supply of liquidity in the system.

This design creates vulnerabilities when liquidity is suddenly demanded at scale. If large numbers of stablecoin holders seek redemption at once, issuers must liquidate their reserves, such as short-term treasuries, to meet the outflows. While treasuries are liquid in normal times, forced sales during stressed conditions can amplify volatility in money markets, much as occurred with prime money market funds in 2008 and again in 2020. Unlike banks, stablecoin

issuers have no access to central bank backstops, so their ability to meet redemptions is limited strictly to their reserves. A **liquidity crunch in stablecoins can therefore become a liquidity crunch in underlying financial markets**, with no lender of last resort to stabilize the situation.

Within crypto markets, the term liquidity often refers to **liquidity pools** on decentralized exchanges such as Uniswap or Curve. These pools allow swaps between tokens, but liquidity is only as deep as the assets provided by market participants. In 2024, the largest pools for stablecoin pairs typically hold between a few hundred million and a couple of billion dollars' worth of tokens. This is significant within crypto, but tiny when compared to the trillions of dollars in daily turnover in the U.S. treasury market or the multi-trillion-dollar balance sheets of global banks. In other words, DeFi liquidity is large enough to support trading within the crypto ecosystem, but far too small to play a systemic role in the broader financial system. It is also fragile: in times of volatility, liquidity providers may withdraw funds, leaving markets thin. Crypto liquidity, in this sense, does the opposite of central banking liquidity disappear just when it is needed most.

Evidence suggests stablecoin growth already affects U.S. funding markets. A BIS study finds that a \$3.5 billion increase in stablecoin market cap can depress treasury yields by 2.5 - 5 basis points, with effects up to three times larger in stressed conditions. With issuers now holding over \$120 billion in treasuries, the spillovers are material.

Most stablecoin users never mint or redeem directly with issuers like Circle or Tether. Instead, they access them through **exchanges** such as Binance, Coinbase, or Kraken, which hold large inventories and act as the primary on- and off-ramps. On an exchange, a user wires fiat currency to the platform, which then credits their account with stablecoins from its own holdings. When cashing out, the user sells the tokens for fiat, which is paid from the exchange's bank accounts or through professional market makers. Only when these inventories run down do exchanges or market makers go back to the issuer to mint or redeem in bulk. This structure adds another layer of liquidity, but also another point of weakness: if an exchange faces a run or insolvency, user claims stop at the exchange, not the issuer.

Stablecoins are mostly dollar-denominated instruments. For users in Argentina, Turkey, or Nigeria, they offer dollar exposure but not local liquidity. Someone in the local economy must still supply pesos, lira, or naira in exchange for tokens. This makes stablecoins a **pass-through**

for FX pressure rather than a solution: they shift the conversion problem downstream to local brokers and exchanges. In crises, this can amplify stress on local currencies.

In short, **banks and payment providers expand liquidity elastically through credit, balance-sheet management, and central bank support**, while **stablecoins provide only transfer liquidity, not monetary liquidity**. Exchanges and crypto liquidity pools give the appearance of abundant liquidity, but both are ultimately constrained by reserves on one side and fiat availability on the other. And while a \$1–2 billion DeFi pool may look deep inside crypto, it pales in comparison to the trillions of dollars that traditional banks, payment systems, and money markets mobilize daily. Stablecoins can accelerate circulation but cannot stretch to absorb shocks. In a liquidity crunch, they transmit stress to traditional markets rather than cushion it.

Case Studies of Run Dynamics

The risks of redemption shocks have already played out already in the short history of stablecoins:

USDC de-peg (March 2023). In March 2023, Circle's USDC briefly lost its peg to the dollar after the failure of Silicon Valley Bank (SVB), where Circle held part of its reserves. When SVB entered receivership, markets panicked that Circle would be unable to access billions of dollars, and USDC traded as low as \$0.88 on major exchanges. Within days, U.S. regulators guaranteed all SVB deposits, Circle regained access to its funds, and USDC returned to par. The episode illustrates that even a relatively transparent and regulated issuer is exposed to operational risks from its banking partners, and that perception alone can trigger destabilizing de-pegs. Private stablecoins remain dependent on the broader financial safety net: in this case, it was U.S. deposit insurance, not blockchain design, that restored confidence.

Terra/UST collapse (2022). The collapse of Terra's algorithmic stablecoin UST in May 2022 demonstrates what happens when there is no real reserve backing. UST relied on a mint-and-burn arbitrage with its sister token Luna rather than fiat reserves. When confidence broke, holders rushed to exit, triggering a "death spiral" that wiped out more than \$40 billion in value in a matter of days. This was a classic bank run, but at **digital speed**, amplified by the open, global nature of blockchains. The Terra crisis is a useful counterpoint: it shows why this

paper focuses on fiat-backed stablecoins. Algorithmic designs promise efficiency without reserves but have proven unable to withstand stress.

So What Are The Advantages of Stablecoins?

Having made the case for the risks of the current stablecoin ecosystem, one fact remains: the market is growing rapidly. That growth signals a genuine pain point being solved. The question, then, is what advantages do stablecoins actually offer compared to traditional remittance networks, fintech challengers, and correspondent banking?

Stablecoins strip out layers of correspondent banking to deliver speed and access, but they push FX and liquidity frictions to the edges, local cash-out desks, brokers, and exchanges and concentrate balance-sheet risk in a handful of private issuers whose incentives and disclosures vary widely.

Fintech Entrants: Wise (formerly TransferWise) and Competitors

Fintechs like Wise have streamlined smaller transfers by cutting out layers of correspondent banking. Wise holds local accounts in dozens of countries, allowing it to pay locally what it collects abroad. This “money in, money out” netting model lowers costs, often under 1%, and beats the high fees of legacy providers. If Wise were to find a way to offer an open API to fintechs the need for certain stablecoin use cases would reduce. Wise remains tied to the banking system, which is an advantage or disadvantage (if you believe the crypto crowd). It must still move funds across borders to correct imbalances, hedge FX, and rely on bank credit lines. Coverage is patchy: corridors with capital controls or fragile banks remain underserved. Wise is efficient, but not universal.

Correspondent Banking for Larger Tickets

For corporates, trade finance, or interbank payments, correspondent banking still dominates. Banks rely on nostro/vostro accounts to settle across currencies. The system is reliable but slow, costly, and liquidity-intensive. Settlement can take days, with FX spreads eroding value. Worse, smaller corridors often see “de-risking,” as global banks pull out and leave few payment options.

Traditional Remittance Networks

Legacy providers like Western Union and MoneyGram maintain unmatched reach through millions of cash agents worldwide. They remain essential for the unbanked. But this reach is expensive. Fees and spreads often exceed 5–10% for small-value transfers, and settlement can drag on for days. For migrant workers, these costs are painful but unavoidable in cash-heavy economies.

Stablecoins: The New Competitor

Stablecoins compete by acting like digital cash. Once minted, tokens circulate peer-to-peer, globally, 24/7, without intermediaries. For citizens in high-inflation economies (Argentina, Turkey, Nigeria), they provide a practical hedge against fragile currencies, without needing a bank account. For migrant workers, stablecoins cut costs dramatically: a transfer that costs 7% via Western Union can settle instantly for a fraction of that. For fintech startups, they slash barriers to entry: instead of negotiating dozens of correspondent relationships, a firm can plug into stablecoin rails and serve customers globally from day one. Integration is simple, a few lines of code can embed USDC or USDT into a wallet or app.

The same features that help startups also explain the risks: they allow illicit flows to move just as easily, and in some markets, they fuel hidden FX markets that undermine monetary sovereignty. In South Africa, for instance, USDT has traded at premiums above 20% in times of scarcity, effectively dollarizing outside the central bank's control.

For startups, this programmability is especially useful. Stablecoins are not just payment tokens, they can be embedded into applications to automate settlements, enable micropayments, or integrate financial services into any digital platform without much effort. A startup doesn't need to build banking infrastructure; it can plug into stablecoin rails and start serving users across markets instantly. The risk, of course, is that the legal and regulatory foundation is unstable, today's advantage may be tomorrow's compliance liability.

The Trade-Offs

The trade-off is clear. Stablecoins provide **efficiency and access**, but they shift foreign-exchange and liquidity risks further down the chain. Someone, somewhere, still needs to

hold hard currency reserves and provide the local cash-out. For small remittances, the cost savings are real, and the accessibility for unbanked or underbanked users is powerful. But for larger transactions, the risks grow: opacity in reserves, lack of regulatory oversight, and the absence of lender-of-last-resort support mean that runs or redemption waves could destabilize not just stablecoins but also the markets they invest in (e.g., U.S. Treasuries).

In short, stablecoins combine some of the features of money-market funds, remittance networks, and digital cash. Their advantage lies in **cutting out the middleman** and offering **global, 24/7 transferability**, but this comes with the cost of shifting risk and bypassing the safeguards built into traditional banking and remittance systems.

Conclusion: Innovation or Arbitrage?

Stablecoins sit at the intersection of financial innovation and regulatory arbitrage. Their promise is clear: global, programmable, 24/7 payments that bypass the frictions of correspondent banking. For entrepreneurs and fintechs, they offer a low-cost way to launch remittance-like services without the heavy compliance and licensing burdens of traditional money transmitters. This openness lowers barriers to entry, enabling experimentation and competition.

The openness that makes stablecoins appealing also makes them fragile. They privately tokenize cash without the safeguards of central bank money or insured deposits. The model is lucrative, issuers capture billions in private seigniorage, but brittle. A failure of confidence could ripple through both foreign-exchange markets and U.S. Treasuries, creating systemic stress.

An overlooked issue is interchangeability. USDC, USDT, PYUSD and others all claim to be “digital dollars,” yet they are not fungible at par. One dollar of USDT is not always equal to one dollar of USDC; spreads emerge on exchanges and widen during stress. This undermines the “singleness” of money and introduces hidden FX-like risk between private stablecoins. For users, this means instability; for fintechs, it is a fragile foundation for building global payments.

Stablecoins are marketed as cutting-edge financial technology, but in practice they replicate the oldest banking model: take deposits, buy Treasuries, and keep the yield. Worse, they fragment what should be the most uniform instrument in the economy: money. In this sense, today’s

stablecoin ecosystem looks less like a modern payments network and more like 19th-century “free banking,” where private notes traded at discounts depending on the issuer’s credibility.

The future of stablecoins will be determined less by technology than by regulation. Frameworks like the GENIUS Act in the U.S. and MiCA in the EU narrow the arbitrage advantage, pushing issuers toward narrow-bank-like status. What will endure is less the coins themselves and more the programmable settlement infrastructure they point toward, tokenization of finance as a technology upgrade and embedding payments directly into contracts, apps, and platforms.

For startups, the takeaway is clear: stablecoins can be an interim tool to launch quickly and cheaply, but they are not a permanent foundation. Build a moat around regulatory approvals, banking partnerships, and differentiated services. Do not over-rely on a single issuer, and manage depegging risk. The long-term value in payments lies in networks that can survive regulatory tightening and scale trust alongside volume.

At the systemic level, stablecoins are evolving into shadow banks. They borrow short-term (redeemable tokens) and invest in safe but longer-duration assets like treasuries. This maturity mismatch creates three risks:

- **Market contagion:** With \$200bn+ in treasuries held by Tether and Circle, redemptions could disrupt U.S. money markets.
- **Run dynamics:** Like free banking, confidence is fragile; breaking the peg could cascade across exchanges and DeFi.
- **Moral hazard:** If stablecoins become integral to payments, regulators may feel compelled to bail them out, **privatizing profits but socializing losses**.

Research suggests issuance has contractionary effects on bank lending: deposits are siphoned into treasuries, reducing banks’ capacity to extend credit. In a redemption wave, tens of billions could flood back into markets at once, driving yields higher and reinforcing the run dynamics seen before in MMF crises.

In short, stablecoins a growing niche becoming systemically important shadow money markets, combining the run risk of money funds, the opacity of offshore finance, and the lack of central

bank backstops. Unless integrated into a regulatory framework, they risk recreating unstable private money but at global scale and digital speed.

What makes them worth studying is the glimpse they offer of programmable money: settlement, messaging, and reconciliation fused into a single layer. That is an exciting vision. But today's rollout scales a narrow-banking model without the buffers and circuit-breakers that financial history painfully taught us to embed. Worse, they make digital dollars instantly accessible across borders, outside domestic regimes, **accelerating de facto dollarisation and weakening fragile banking systems.**

Stablecoins are marketed as digital cash for the blockchain era. In reality, they are a patchwork of private liabilities that can diverge from one another, importing fragility into money itself. They remain great tools for access, but without singleness and safeguards, they remain flawed substitutes for money: shadow banks dressed in code.

If the aim is simply to bring fiat currencies online in a new more efficient digital form, complete with the same monitoring, settlement, and compliance requirements that central banks already enforce, then one might argue that central bank digital currencies (CBDCs) are the more natural vehicle. Unlike private stablecoins, CBDCs would replicate sovereign money directly on digital rails, without the legal ambiguities and risks that come from outsourcing issuance to private actors.

Welcome to the 21st century tech enabled wildcat (narrow) banking experiment.

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