

Regulatory responses to the financial stability implications of stablecoins

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Revised version: 9 December 2025 (first version: 10 November 2025)

In essence, the currently large stablecoins are electronic money issued by narrow balance sheet vehicles into a distributed ledger (or a “programmable platform”). Many believe that they will have significant success as a new form of money. Members of the current US administration expect that US stablecoins would circulate globally and support demand for treasuries and the international role of the USD. Related to the latter, recent industry initiatives plan to rely on US stablecoins as a settlement asset for cross-border payments (“stablecoin sandwich”). We review the implications of large global stablecoins on the financial system and discuss financial stability risks and remedies. We compare regulatory approaches across some jurisdictions and note that different directions have been taken, although most authorities seem to agree that stablecoins must not be remunerated. We discuss additional ideas how to address the risks associated with successful stablecoins, propose some basic regulatory principles and note that prohibiting the remuneration of stablecoins does not necessarily foster financial stability. We suggest three options fulfilling the proposed regulatory principles. We moreover discuss the comparative advantages of banks vs. non-banks as stablecoin issuers, as well as between MiCAR compliant and Genius Act compliant coins.

Keywords: money, stablecoin, blockchain, narrow banks, financial stability, run, disintermediation
E40, E50, F33, G10, G20

*I would like to thank Inaki Aldasoro, Rhys Bidder, Stephanie Cabossioras, Charles Coste, Nicola Danese, Ulf Lewrick, Omid Malekan, Ousmène Mandeng, Patrick McConnell, Lewis McLellan, Bill Nelson, George Pantelopoulos, Daniela Russo, Martin Scheicher, Manmohan Singh, and Anton van der Kraaij for helpful comments. All remaining errors are mine.

1. Introduction

Amongst many others, Waller (2025) considers that stablecoins represent the current key private-sector innovation in payments: Initially created to support crypto trading by providing a bridge from the monetary system into the crypto world, their use cases are expanding. Their 24/7 availability and ease of circulation through public and private blockchains would allow various applications, including providing access to US dollars in countries with high inflation or limited banking access. On 4 February 2025, President Trump's so-called 'Crypto Czar', David Sacks, held a press conference on Capitol Hill and stated that "Stablecoins have the potential to ensure American dollar dominance internationally, to increase the usage of the US dollars digitally as a world reserve currency, and in the process create potentially trillions of dollars of demand for US treasuries that could lower long-term interest rates."¹ President Trump noted at the occasion of him signing on 18 July 2025 the act on US stablecoins, the Genius Act, that "This signing is a massive validation ... It's good for the dollar and it's good for the country". The "Fact Sheet of The President's Working Group on Digital Asset Markets" (30 July 2025) expresses the view that "The widespread adoption of dollar-backed stablecoins will modernize payments infrastructure and allow the United States to move away from costly and outdated legacy systems." Industry representatives launching new stablecoin initiatives also explain why they believe stablecoins will revolutionize payments (e.g. McLaughlin, 2025, 3). Analysis by financial institutions confirm high expectations on stablecoins: for example, Citi (2025) estimates \$1.9 trillion stablecoin issuance in 2030 and in a "bull case" even \$4.0 trillion. On 19 November 2025, total market cap of stablecoins stood slightly above USD 310 billion, up from around USD 125 billion two years earlier (see Aldasoro et al 2025 for a stock-take of the current stablecoin market). While extrapolating these growth rates is difficult, it seems likely that the total value of outstanding stablecoins will be significant, thus raising questions on what structural and cyclical changes this implies for the architecture of the global monetary and financial system.

2. The nature of stablecoins and possible stablecoin issuers

The FSB (2020) had defined a "stablecoin" as "crypto asset that aims to maintain a stable value relative to a specified asset, or a pool or basket of assets". This definition is still used in e.g. CPMI (2024). The FSB defines "Asset-linked stablecoins" as those backed "with fiat currency, assets or other cryptocurrencies" ². This definition seems extensive: any asset could under this definition be transformed into an economically equivalent "stablecoin" which would be fully backed and interchangeable with this asset. In practice, only stablecoins denominated in national currencies have played a relevant role. In the EU, Articles 3(1)(6) and 3(1)(7) of MiCAR define: "Electronic money token" or 'e-money token" as "a type of crypto-asset that purports to maintain a stable value by referencing the value of one official currency". The US Genius Act of 2025 (Bill "Guiding and Establishing National Innovation for U.S. Stablecoins of 2025") specifies under Section 2, (14) that a "payment stablecoin" is a digital asset that is designed to be used as a means of payment or settlement; and the issuer of which "is obligated to convert, redeem, or repurchase for a fixed amount of monetary value; and (II) represents it will maintain or creates the reasonable expectation that it will maintain a stable value

¹ Mandeng (2025) discusses some reasons why governments may want to not rely too much on the expectation that stablecoins would strengthen the demand for their sovereign debt.

² FSB (2020) also considers "algorithm-based stablecoins" which would "seek to use algorithms to increase or decrease the supply of stablecoins in response to changes in demand". Algorithmic stablecoins are considered by now as unviable and do not play a relevant role relative to stablecoins backed by a reserve.

relative to the value of a fixed amount of monetary value..."

Bindseil, Coste and Pantelopoulos (2024) argue that the term “stablecoin” is ultimately misleading and redundant for three reasons: *First*, referring to “coin” - also in “Bitcoin”, “Altcoin” “Meme-coin”, etc. - wrongly suggests a bearer-based instrument (like “token”). In fact, these “coins” are registered and transferred in a system-of-accounts database. Still it is acknowledged that they can have properties akin to a bearer instrument in case of quasi-universal access through public blockchain networks. *Second*, that private money is supposed to be “stable” in the sense that it is defined as being redeemable into other forms of public and private money defined by the national unit of account (the numéraire) is shared with other forms of private money. Otherwise, it would lack convertibility and would be an idiosyncratic payment or investment asset not falling under the “singleness” of money, which is currently a much referred to, although still evolving concept (Garratt and Shin, 2023; Bidder, 2025; Coste and Pantelopoulos, 2025, BIS, 2015). MiCAR and the Genius Act both confirm that stablecoins (“e-money tokens” and “payment stablecoins”, respectively) must be designed as redeemable and fungible private money. *Third*, the nature of the database structure and the validation processes of a database that records the positions of holders in a specific asset and the transfers of the assets between holders, is normally not relevant for the nature of the asset and should not determine its name. For example, a bond (a fixed income security) remains a bond and should be designated as such regardless of whether ownership is documented via (i) a paper bond certificate, (ii) a registry (ledger) in a paper book, (iii) a central electronic ledger maintained by a central security depository (CSD), or (iv) a ledger using distributed ledger- or blockchain technology. MiCAR has accepted this by using the term “e-money token” instead of “stablecoin”, whereby “e-money” is understood in the sense of the Directive 2009/110/EC, i.e. electronic money issued by a non-bank payment services provider with a narrow balance sheet and a special license to issue electronic means of payment but not to grant credit, and furthermore restrained on its asset side to hold highly liquid and short term assets. But unfortunately neither “e-money” nor “token” is an ideal solution to overcome the linguistic problems raised by the term “stablecoin”: “e-money” is itself misleading and not really self-explanatory since banks and central banks also issue electronic forms of money, i.e. “e-money” misses the occasion to enshrine in the terminology the essence of this form of money, which is that the issuance is by a specialized, narrow balance sheet vehicle (also in some sense if the issuer is a bank, as the funds obtained from the issuance of the stablecoin need to be held in segregated form).

Banks can in principle issue stablecoins both under the Genius Act and under MiCAR, but so far, the successful large-volume stablecoins are issued by narrow-purpose, non-bank stablecoin issuers.³ **What are the comparative advantages and disadvantages of banks vs. non-banks in issuing stablecoins?** To answer this question, one must distinguish three forms of stablecoin issuance: by **(i)** normal, diversified banks; **(ii)** narrow banks: legal form of a bank, compliant with banking regulation, but actually specialized in SC issuance and not granting loans and in this sense a narrow balance sheet entity like an E-Money institution; **(iii)** narrow balance sheet non-banks⁴. To complicate the problem further, banks who issue or plan to issue stablecoins also do so by mixing (i) and (iii). The European stablecoin issuer SG Forge is licensed as an e-money issuer, holds all its

³ In a previous version of this paper, it was wrongly stated that banks need to segregate funds collected through the issuance of stablecoins under MiCAR or the Genius Act. I would like to thank Charles Coste and Ousmène Mandeng to have flagged this to me.

⁴ Non-bank stablecoin issuers could also have broad balance sheets in theory – they will find a jurisdiction in the world (actually many) in which this will not be prohibited, and anyway, everything can be distributed in principle on public blockchains. The largest SC in the world, Tether, has at least on its asset side a broad balance sheet, as it holds for example Bitcoin and gold (even though in relatively low proportions). But we still classify it as a narrow balance sheet as we would focus in this classification on the liability side.

fund with Société Générale, and is a subsidiary fully owned by this bank⁵. Once SG Forge becomes “significant”⁶, it will have to diversify its deposits amongst several banks⁷. As a further variant of a bank-owned stablecoin issuers, *Qivalis* is an e-money institution fully owned by a consortium of ten large European banks which plans to issue euro denominated stablecoins. The common ownership by banks would imply that their “collective credibility anchors Qivalis as the neutral cornerstone of a global digital infrastructure”.⁸ Leaving aside these intermediary options resulting from non-bank narrow balance sheet issuers being owned by (groups of) banks (and the quasi-continuum of options created by the various possible ownership and depositing arrangements), what could be driving the relative success of the main three main options? Table 1 provides possible pros and cons. Hybrid options probably aim at achieving the best from all three pure options.

Table 1: Relative advantages and disadvantages of three pure options to issue stablecoins, with respect to the breadth of the balance sheet of the issuer and its institutional format.

SC issuer↓	Pros		Cons
(1) Existing “broad” bank	Central bank access (to CeB credit and to CeB deposits remunerated at the rate that banks obtain); Trust created by banking regulation	Established reputation; rating; client base; synergies	Reputation and legal risks from circulation on pseudonymous public blockchain. Unfavorable liquidity treatment may limit benefits. ⁹
(2) New, narrow bank		Specialization, simplicity, transparency	Higher costs to establish a bank
(3) Non-bank, narrow balance sheet	Less regulatory burden (banking regulation partially not fitting well SC issuance)		Lower reputation / trust (in particular if poorly regulated or little experience with regulation)

⁵ According to its website, SG-FORGE is a fully integrated subsidiary of Société Générale, specialized in crypto-assets and blockchain-based financial products. Under MiCAR, SG-FORGE obtained an Electronic Money Institution (EMI) licence from the French prudential authority (ACPR). Its stablecoins (with brand name CoinVertible) — namely EUR CoinVertible (EURCV) and USD CoinVertible (USDCV) — are structured as EMTs under MiCAR. The stablecoins are fully backed by 100% fiat reserves — for EURCV by Euros held at Société Générale, for USDCV by US Dollars held at a reserve custodian (BNY Mellon). The EUR denominated one could be considered more to be a truly bank issued SC, while the USD one is a bit different as one bank owns the issuer, but the reserves are with another bank - BNY. Because the reserves are segregated and under fiduciary / custodian control, holders of CoinVertible tokens should be able to redeem 1:1 for fiat (EUR or USD) at any time.

⁶ According to the Commission Delegated Regulation (EU) 2024/1506 of 22 February 2024 supplementing Regulation (EU) 2023/1114 of the European Parliament and of the Council by specifying certain criteria for classifying asset-referenced tokens and e-money tokens as significant.

⁷ Once significant, the minimum share of total deposits with banks also increases from 30% to 60%. The diversification requirements regarding deposits with banks are spelled out in article 2.3.2 of EBA’s Final Report on a Draft Regulatory Technical Standard to further specify the liquidity requirements of the reserve of assets under Article 36(4) of Regulation (EU) 2023/1114.

⁸ <https://qivalis.eu>

⁹ As noted by Coste (2024, 10), in the EU, banks must “apply outflows depending on the customer type (e.g. retail or non-financial corporate) in accordance with Article 22 of the LCR Regulation and the recommendation of the European Banking Authority (EBA)”. Therefore, banks “need to continually identify the holders of EMTs over their life cycle to benefit from less conservative liquidity treatment. This continuous monitoring is only possible in an ecosystem where the bank has information on the ultimate client’s client, for example because the stablecoin is issued on a permissioned distributed ledger technology (DLT) where the bank knows who the clients are, or when the issuer implements whitelisting on a permissionless DLT. Conversely, issuers have little to no information about the end user/current holder when issuing non-whitelisted stablecoins on a permissionless blockchain and therefore may have to apply a conservative 100% outflow rate.”

To increase the diversity of issuers further, also *public sector entities* have issued or consider issuing stablecoins. For example, FRNT (Frontier Stable Token) is the “first fiat-backed, fully reserved stable token issued by a public entity in the United States of America.” The website of the initiative¹⁰ explains moreover that “Wyoming stable token is a virtual currency representative of and redeemable for one (1) United States dollar held in trust by the state of Wyoming as provided by W.S. 40-31-106. Stable tokens shall only be issued in exchange for United States dollars. The Frontier Stable Token, or FRNT, is the first such token. FRNT is designed to provide secure, transparent, and efficient digital transactions for individuals, businesses, and institutions - worldwide.” Remarkably, the term stablecoin is avoided, although the redeemability feature seems to make it exactly equivalent from a user perspective to a payment stablecoin in the sense of the Genius Act. FRNT is an important reminder that the existence of certain regulations – like MiCAR and the Genius Act – will not prevent other stablecoins not falling under any of these two to be issued and to circulate, if needed on non-hosted wallets or through wallets offered by offshore service providers.

Finally, an alternative approach to banks issuing stablecoins would be to issue “tokenized” monetary liabilities classified as “commercial bank money tokens” (CBMTs)¹¹. As suggested by EBA (2024, p. 19, Table 2), both tokenized deposits and e-money tokens issued by an EU bank would represent a claim against the entire balance sheet of the credit institution. CBMTs cannot be transferred to parties who are not themselves holders of an account with the bank issuing the CBMT (i.e. have a contractual relationship with the bank), while e-money tokens can (in this specific sense they are a “bearer instrument”). Commercial bank money and CBMTs should however be *fungible / interoperable* in the sense that they can be transferred across issuers, while stablecoins are not. A second difference is that CBMTs can be remunerated, while e-money tokens can’t; It will have to be seen whether bank-issued stablecoins and CBMTs could play a more important role in the future.

In view of their current dominance, we focus in the rest of the paper on stablecoins issued by non-bank payment services providers. Despite the diversity of approaches, one can summarize that “stablecoins” are in essence “electronic moneys issued by a private entity with narrow balance sheet made available in a distributed ledger”. Since currently, money issuance is limited otherwise to banks (commercial banks and central banks), and since paper money (in contrast to electronic money) is becoming less relevant, the most important element of a more concise designation would be acknowledging that the issuers have a narrow balance sheet and a shorter term would thus be “narrow balance sheet money issued into distributed ledger”. If we accept the term “tokenization” for the primary or secondary issuance into a distributed ledger, we could also use the term “tokenized narrow-balance sheet money”. But Bindseil, Coste and Pantelopoulos (2024) had argued that “tokenization” is not such a useful term either as it is mystifying what is in essence “the act to represent the ownership of an asset and its subsequent transfers amongst holders in a ledger”. Last but not least, some (BIS annual report for 2024, chapter 3) have tended recently for good reasons to substitute

¹⁰ <https://stabletoken.wyo.gov/pages/FRNT>

¹¹ For example, JPM Coin is not a stablecoin in the MiCAR or GENIUS Act sense, but it is a tokenized deposit — i.e., a digital representation of a deposit liability of JPMorgan Chase. It is only available to JPMorgan institutional clients, i.e. it can only be held and be used by clients that have an existing, contractual banking relationship with JPMorgan Chase (e.g., corporations, financial institutions). This is the opposite of a public, bearer-style stablecoin. It is a direct liability of JPMorgan. The token represents a deposit-like claim against the bank.

referencing to “distributed ledgers” or ledgers relying on “blockchain technology” with the more general term “programmable platforms” to be more agnostic on the exact database architecture and related techniques, but to insist on the unconstrained possibilities to design and implement any financial operations on such platforms (including across the various assets that could be represented on such a platform). In essence, a “stablecoin” would thus be “narrow balance sheet money on a programmable platform”. The stablecoin issuer would be just the “narrow balance sheet money issuer” also to avoid mixing the nature of the issuer with the nature of the platform used to record ownership and transfers of it.¹²

As mentioned above, beyond the role of serving as money in crypto-speculation, several use cases and developments are currently being discussed that may expand the role of stablecoins:

(1) Store of value and means of payment in less stable currency areas, possibly also to circumvent capital controls or for other forms of illicit payments. For store of value functions, tokenized US money market funds may be even more attractive since these provide remuneration, while stablecoins in principle cannot (at least in theory, according to both MiCAR and the Genius Act – but see below; moreover, money market fund shares will likely be distributed only to subscribers of the fund and in this sense could not compete with stablecoins as stores of value for anonymous holders on public blockchains). The higher direct usefulness of stablecoins for payments will support their demand, but this demand will depend on opportunity costs, i.e. the accessibility and current remuneration of tokenized money market funds (or tokenized bonds more generally), and on the costs of converting the latter into stablecoins. If the holdings or uses are illicit, then the user must not use a regulated exchange, or at least not one domiciled in a jurisdiction co-operating with the relevant authorities.

(2) For merchant use: For example, on 30 April 2025, Visa announced in a press release that thanks to a cooperation with Stripe’s Bridge “...Fintech developers using Bridge can now offer stablecoin-linked Visa cards to their end customers in multiple countries through a single API integration. Cardholders will be able to make everyday purchases from a stablecoin balance at any merchant location that accepts Visa. ... Bridge deducts the requisite funds from the customer’s stablecoin balance and converts the balance into fiat, enabling the merchant to get paid in their local currency like any other transaction. Customers can add these cards to supporting digital wallets and pay at the 150M+ merchant locations that accept Visa.”

(3) As settlement asset (or vehicle) in global payments. Competing initiatives have recently been launched in this field, including by well-known companies. **Bridge/Stripe:** Bridge plans to offer a platform using stablecoins as path-through settlement asset nick-named “stablecoin sandwich”: “Right now, corporate treasury is huge. Multinationals like SpaceX want to repatriate funds from regions with volatile currencies. We call it the stablecoin sandwich — using stablecoins as a settlement layer. It’s fast, cost-effective, and avoids holding currencies like Nigerian naira or Argentine peso.”¹³ **Circle/Finastra:** Finastra announced in a press release on 27 August 2025: “a strategic collaboration with a subsidiary of Circle ..., a global financial technology firm and stablecoin market leader, to enable banks to integrate USDC settlement into cross-border payment flows. The collaboration will leverage Finastra’s payment hub solutions, ... to connect financial institutions to Circle’s payment infrastructure, offering rapid, cost-effective international transfers.” **Swift/Consensys:** SWIFT

¹² Bofinger (2025) provides a comprehensive discussion of the economics of stablecoins. He also distinguishes well the asset and the ledger perspectives, and discusses the financial stability implications of various reserve models.

¹³ [Interview Mai Leduc](#), head of product at Bridge, given 22 August 2025, Forrester.

announced in a press release on 29 September 2025 that “Swift and a group of more than 30 financial institutions globally will develop a shared digital ledger, with initial focus on real-time 24/7 cross-border payments ... using any form of regulated tokenised value.” Another project that relies on stablecoins as settlement asset for cross border payments is Ubyx (McLaughlin, 2025). Citi (2025) summarizes the possible advantages of stablecoin platforms for cross border payments as follows: “While the cost advantage for stablecoins may vary, their value lies in reduced reconciliation burdens, fewer intermediaries, and programmability. Stablecoins can offer a streamlined experience that aligns better with digital-first workflows, particularly in corridors where traditional banking rails remain slow and fragmented.” Similar structures relying, however, on CBDC were explored earlier by central banks (see for example the Press release “New York Fed and Monetary Authority of Singapore Publish Results of Joint Wholesale Cross-Border Payments Research Study, May 18, 2023”).

(4) Trend towards tokenization of securities and other financial assets: Use cases for stablecoins will expand in terms of providing the payment leg in seamless on-chain financial operations with the tokenization of assets. Stablecoins can also serve as collateral in on-chain financial market operations. A competition to stablecoins in this field could come from central banks who would provide central bank money-based solutions¹⁴, and who argue that for wholesale transactions, settlement in central bank money is preferable (as also stated in the Principles of Financial Market Infrastructures: CPSS-IOSCO, 2012).

The purpose of this paper is to review the implications of large global stablecoins on the financial system and discuss financial stability risks and remedies. Section 2 restates the flows of funds effects of stablecoins, depending on parameters that may be determined by regulation or economic incentives. Section 3 provides an overview of current discussions of financial stability implications of SCs and policy options that were enshrined in law or are still being considered. Regulatory approaches across some jurisdictions are compared. Section 4 takes a step back and revisits some aspects of the current regulatory debate. Section 5 concludes.

3. Flow of funds

Contrary to *unbacked* crypto-assets, **(backed) stablecoins are not created out of nothing**. Instead, they result from financial flows that are constrained by the fact that the sum of total financial assets minus the sum of total financial liabilities of a closed system must always equate to zero, and that for any individual entity, changes in financial positions do not in themselves change the net total financial position of the entity, nor its net wealth. Also, any (change of) financial position of one entity always needs to be mirrored in (change of) a financial position of another entity. Stablecoins are thus created through some “flows of funds”, i.e. shifts between financial assets and liabilities that must be mutually consistent (e.g. Jacewitz, 2025). We need to parametrize certain assumptions on the flows of funds originating from stablecoins.

Single country case

First, we consider the case of a single country. We assume that households finance a share $\beta \in [0,1]$ of their stablecoin investment by reducing sight deposits with banks, and $(1-\beta)$ by reducing banknotes. We moreover

¹⁴ See for example [ECB Press release](#), “ECB commits to distributed ledger technology settlement plans with dual-track strategy”, 1 July 2025,

assume that that the stablecoin's reserve is held in the following three forms:

- A share $\alpha \in [0,1]$ is held in the form of commercial bank deposits.
- A share $\delta \in [0,1-\alpha]$ is held in the form of deposits with the central bank
- A share $(1-\alpha-\delta)$ is held in the form of bonds, and of this:
 - a share $\phi \in [0,1]$ of the bonds were held previously by banks, and
 - a share $(1-\phi)$ of these bonds are coming from the households (or other non-banks).

Letting the total amount of stablecoins created be **C (for “coin”)**, the following system of financial accounts (Figure 1) shows how, with these parameters, funds flow across the financial system and change the financial accounts of sectors when stablecoins of a value C are created. The flow of funds formulas reveal that in theory it is not excluded that aggregate bank liquidity improves and dependance from central bank credit declines because of the emergence of stablecoins – notably if households finance stablecoins largely with banknotes (β close to zero) and if the stablecoin issuer cannot deposit funds with the central bank ($\delta=0$, or close to it). However, it seems more likely that stablecoins are financed to a larger extent by deposits, which are in absolute terms much bigger than banknotes in most countries. The sector-aggregated financial accounts in Figure 1 do not show that stablecoin deposits will likely be concentrated with a few banks and moreover they are likely to be more volatile and subject to higher remuneration than normal granular customer accounts¹⁵. **It is therefore safe to assume that bank liquidity will in practice deteriorate when stablecoin volumes increase.**

Households could also fund their purchases of stablecoins by selling investment assets, such as government bonds or **money market funds**.¹⁶ Money market funds invest funds themselves into the same asset categories as stablecoins: short term government debt, bank deposits (or short-term bank paper) and potentially central bank deposits (like in the case of the US Fed reverse repo facility to which also money market funds can participate). We could thus expand the model and distinguish three sources of funds (deposits, cash, and money market funds, with shares being β , ω , and $1-\beta-\omega$) and set the shares of investments of the money market fund to be α' , δ' and $1-\alpha'-\delta'$. These parameters can be added accordingly to obtain modified formulas for the effects of stablecoin issuance across the various financial account positions. If money market funds have a similar asset composition as stablecoins (meaning that α' is close to α , and δ' close to δ), then flows from one into the other will obviously have only minor consequences for the overall financial structure of the system. The Genius Act specifies eligibility of T-Bills of *three months or under* as reserve, contrasting with most treasury-backed money market funds, which are allowed to hold T-bills of up to a year. Therefore, a move from MMFs into stablecoins may increase demand for bills up to 3 months, lowering their yield and steepening the 3-months to – 1-year curve.

¹⁵ This higher volatility does not need to relate to a high volatility of the total volume of a certain stablecoin depositing its funds with banks, but with the fact that the stablecoin distributes its deposits across few banks, and opportunistically shifts the funds from one bank to the other, depending e.g. on small changes of credit risk perceptions or the availability or more attractive (higher remunerated) offers from other banks.

¹⁶ As Ahmet et al (2025, 3) note: “A multi-trillion dollar GENIUS-compliant stablecoin market would bring a number of structural market changes with it. ... The impact will depend ... on the source of demand. If stablecoin market growth comes from a decline in currency in circulation, all eligible reserve assets under the GENIUS act will benefit, without risks to bank intermediation. However, if the reallocation comes primarily from bank deposits, then banks facing large outflows may cut their long-term securities holdings or issue fewer loans, with smaller banks likely facing greater disintermediation risk. Larger banks may also respond by repricing deposits more aggressively or by developing their own stablecoins to stave off competition. Reallocation from MMFs may not significantly impact financial markets, in particular the T-bill market, given the similar portfolio composition of MMFs and GENIUS- compliant stablecoin reserves.”

Figure 1: Financial account representation of flows of funds from stablecoin-creation, single country case

Households, pension and investment funds, insurance companies			
Sight deposits	$((1 - \alpha - \delta)(1 - \phi) - \beta) C$	Other net liabilities	
Stablecoin	C		
Banknotes	$-(1 - \beta) C$		
Bonds	$-(1 - \alpha - \delta)(1 - \phi) C$		
Stablecoin issuer			
Deposits with banks	αC	STC issued	C
Deposits with CeB	δC		
Government bonds	$(1 - \alpha - \delta) C$		
Commercial Banks			
Loans		Sight deposits.	$((1 - \alpha - \delta)(1 - \phi) - \beta) C$
Bonds	$-(1 - \alpha - \delta)\phi C$	Stablecoin deposits	αC
		Central bank credit	$(\delta + \beta - 1) C$
Central Bank			
Credit to banks	$(\delta + \beta - 1) C$	Banknotes issued	$-(1 - \beta) C$
		Stablecoin deposits	δC

Above, the flows of funds were presented as something mechanical, which could be captured in fixed parameters, so that the flows are all proportionate to the total SC created. In reality, price elasticities will be non-linear, and the **price effects and relative changes of financial positions across sectors will also be non-linear** regarding the total creation of stablecoins. To predict the effects of stablecoins on funding and asset prices, these issues would need to be developed further, using data and economic modelling.

Two countries case (stablecoin issued in one, but used in two)

In view of the current global predominance of USD stablecoins, the flow of funds needs to be understood also in an asymmetric two country model. For example, Kendrick and Jha (2025) predict that around one trillion USD of deposits will leave emerging market banks in the medium term and flow into US stablecoins. Graf von Luckner et al (2024) and Cardoso et al (2024) discuss the potentially large impacts of crypto-assets for international capital movements. Rey (2025, 25) sees pros and cons of such a roles of stablecoins: “On the negative side are dollarization and its side effects, financial stability risks, potential hollowing out of the banking system, currency competition and instability, money laundering, fiscal base erosion, privatization of seigniorage, and intense lobbying. On the positive side, cross-border payments may be quicker and cheaper, which matters especially for remittances. And citizens of countries with poor governance would have access to more stable and convenient means of payment and store of value than their domestic currency.”

We therefore illustrate now the case of **two countries, and one stablecoin issued in one of these – say in country A, meaning that the reserve takes the three forms of assets in country A**. We assume that an **amount D** of stablecoins is **circulating in country B**. We assume for presentational simplicity that the exchange rate between the currencies of A and B is one. We assume that in country B, the households finance a share θ of their stablecoin investment with a reduction of sight deposits, and $(1 - \theta)$ with a reduction of banknotes. The capital market flow related to the investment of B-households into A-stablecoins is compensated by an inverse flow between the banks. We also see this in the financial accounts as an increased net claim of the A-banks towards the B banks. Of course, it could also be that this flow reduces a previous net claim of B-banks on A-

banks. We assume that the banks are ready to play this role in one way or the other¹⁷. Figure 2 shows the implied flow of funds. It is noteworthy that in country B, the aggregate dependence on central bank credit of banks declines (to the extent that households reduce their holdings of banknotes to finance their stablecoin purchases), i.e. in this sense the aggregate liquidity position of the banking system improves. However, if one zooms into the liquidity situation of individual banks, negative effects will likely prevail for the majority of banks. Like in the domestic case, the newly gained deposits, in this case from A-country banks, are likely to be more expensive, more concentrated, and less stable than the previous sight deposits from households. The majority of banks will only experience outflows from household deposits, and no inflows from A-country banks.

Figure 2: Financial account representation of flows of funds from stablecoin-creation, two-country case with B-country households holding A-country stablecoins

Country A (in currency A)			
Households, pension and investment funds, insurance companies			
Sight deposits	$((1 - \alpha - \delta)(1 - \phi) - \beta) \mathbf{C} + (1 - \alpha - \delta)(1 - \phi) \mathbf{D}$	Other net liabilities	
Stablecoin	\mathbf{C}		
Banknotes	$-(1 - \beta) \mathbf{C}$		
Bonds	$-(1 - \alpha - \delta)(1 - \phi) (\mathbf{C} + \mathbf{D})$		
Stablecoin issuer			
Deposits with banks	$\alpha (\mathbf{C} + \mathbf{D})$	STC issued	$\mathbf{C} + \mathbf{D}$
Deposits with CeB	$\delta (\mathbf{C} + \mathbf{D})$		
Government bonds	$(1 - \alpha - \delta) (\mathbf{C} + \mathbf{D})$		
Commercial Banks			
Bonds	$-(1 - \alpha - \delta)\phi (\mathbf{C} + \mathbf{D})$	Sight deposits	$((1 - \alpha - \delta)(1 - \phi) - \beta) \mathbf{C} + (1 - \alpha - \delta)(1 - \phi) \mathbf{D}$
Claims against Banks in B	\mathbf{D}	Stablecoin issuer deposits	$\alpha (\mathbf{C} + \mathbf{D})$
		Central bank credit	$\delta(\mathbf{C} + \mathbf{D}) - (1 - \beta) \mathbf{C}$
Central Bank			
Credit to banks	$\delta(\mathbf{C} + \mathbf{D}) - (1 - \beta) \mathbf{C}$	Banknotes issued	$-(1 - \beta) \mathbf{C}$
		Stablecoin issuer deposits	$\delta (\mathbf{C} + \mathbf{D})$
Country B (in currency B; exchange rate 1:1)			
Households, pension and investment funds, insurance companies			
Sight deposits	$-\theta \mathbf{D}$	Other net liabilities	
Stablecoin	\mathbf{D}		
Banknotes	$-(1 - \theta) \mathbf{D}$		
Commercial Banks			
Assets		Sight deposits.	$-\theta \mathbf{D}$
		A-country banks	\mathbf{D}
		Central bank credit	$-(1 - \theta) \mathbf{D}$
Central Bank			
Credit to banks	$-(1 - \theta) \mathbf{D}$	Banknotes issued	$-(1 - \theta) \mathbf{D}$

¹⁷ The stability of exchange rates despite the investment of households in country B into A-issued stablecoins assumes a willingness of banks to compensate and accept an opposite change of their cross-border position in an elastic manner. This is because in a flexible exchange rate system, the central bank does not make available its foreign reserves to compensate cross border financial flows, and the net foreign position of countries changes only via the current account.

How can we imagine the build-up of these positions in practice? The A-stablecoin can be bought via a crypto exchange that is licensed in B-land. This exchange has an account with a B-bank (say JP Morgan Frankfurt), and the household has to transfer funds from her bank account to that account. The SC issuer has an account in A-land with the A-land headquarter of that B- Bank (say JP Morgan NY). The crypto exchange buys the SCs on behalf of the B-household, asking the international banking group to debit its account in B-land and to transfer in A land the corresponding amount to an account of the SC issuer with another bank. This creates a net intra-group USD claim position from the A-land subsidiary of the group to the B-land subsidiary of the group (a claim from JP Morgan NY on JP Morgan Frankfurt). We could assume that there will be some appreciation of the A currency because of the appearance of the stablecoin issued in A with material cross border holdings by B-entities, or that central bank B needs to raise interest rates to avoid this (see also Ahmed et al, 2025, 3). The global banking system (or other parties which are ready to enter cross border claims opportunistically, such as hedge funds, etc.) need to be incentivized somehow to accept the change in the cross-border position. Here, for simplicity, we stick to the assumption of fully elastic cross border positions of banks (since the country's total net foreign position is not changing due to financial account transactions).

What if the **regulators in B-land prescribe that stablecoins distributed in B-land (although the stablecoin is denominated in A-currency) need to hold a local reserve in B-land?** Then in essence we have two local stablecoins, instead of one international one. How could fungibility be achieved between the two stablecoins in such an arrangement? Can the holders of stablecoins issued in A-land liquidate them in B-land? This has a regulatory and a technical dimension. The technical dimension is that the A-land and the B-land stablecoin issuing vehicles need to install a 24/7 instantaneous operational procedure how reserves are transferred in case of stablecoins issued in one area are returned in another area. The regulatory dimension is that in this case there is effectively one joint reserve for the entire global issuance, and if regulations of the reserve are not the same, then each of the local regulations gets undermined (unless one is strictly more demanding than the other – in that case the less demanding one does not get undermined). This has recently been a matter of discussion in Europe.¹⁸

What if the SC position in B-land is instead built up through **current account transactions**, say exports from country B to country A, paid in stablecoins (flow **D**), or remittances (flow **R**)? Then, no new stablecoins are created, but a simple asset swap or transfer between the two households (or non-financial firms) takes place, as shown in Figure 3.

Figure 3: If the stablecoin position of B-land would have been built up by current account surpluses.

Household/Firm A		
Real goods	+ D	Other net liabilities
Household/Firm B		
Stablecoin	- D - R	
Real goods	- D	Other net liabilities
Stablecoin	+ D + R	

¹⁸ <https://www.reuters.com/sustainability/boards-policy-regulation/brussels-set-disregard/ecb-warnings-over-stablecoin-rules-ft-reports-2025-06-25/>
<https://alexanderbechtel.com/trumps-crypto-policy-triggers-dispute-between/ecb-and-eu-commission/>
<https://data.consilium.europa.eu/doc/document/WK-4742-2025-COR-1/en/pdf>

The “stablecoin sandwich”

How can we imagine stablecoins being used as a global settlement asset for cross border payments, as various recent stablecoin initiatives suggest? One option for relying on stablecoins in cross border payments would be that everyone holds at least one of the well-known global USD stablecoins (Tether or USDC) and directly pays with these. Only occasionally, when holdings would get too small or too big relative to needs, an adjustment of the holdings to the desired level would be undertaken via an exchange. The flows of funds of this case were shown in Bindseil and Pantelopoulos (2022, section 6.2). This would mean a dollarization of international trade and remittances, which may be efficient but not perceived desirable by other nations from the monetary sovereignty perspective (including their monetary income). Some have argued that a preferable alternative therefore could be a “stablecoin-sandwich”, whereby each economic entity continues to rely on domestic bank accounts, but every bank also offers a 24/7 interface to a programmable platform on which a USD stablecoin is used as settlement asset for cross border payments. Consider the key steps for an international payment in this framework. First, the client provides the instructions for a cross-border transfer to its bank, indicating the target account in another country and another currency and the value to be transferred (expressed in foreign currency if it refers to the amount to be received by the payee, or in domestic currency if it refers to the amount to be debited from the payer’s account). Second, on the programmable platform, market makers are posting 24/7 binding bid ask quotation for USD versus all other currencies. If a cross-border transfer is, say, from EUR to JPY, then still two FX operations are undertaken relying on the binding quotations EUR-USD and USD-JPY. The platform automatically chooses the best quotations and calculates the missing amount (in case the client fixed the originating currency amount, the missing amount is the one of the target currency, and vice versa). Third, the transfer itself and the related FX operations are effectuated automatically, immediately and atomically (through smart contracts).

In flows of fund terms, this can be represented as shown in figure 5. Imagine Currency A to be the EUR, currency B the Yen and currency C the USD (exchange rates are still assumed to be 1:1:1). On the platform, only USD tokens circulate, but on top the respective banks and the market makers have positions there in domestic currencies, backed by reserves with banks. These positions are not like the stablecoins which are used as settlement medium, but just specific positions held exclusively for the purpose of the FX settlement platform. We do not show specifically how the market makers got their USD stablecoin positions (of course that could be added). **All positions being part of the settlement platform (assets or liabilities) are shown in red.** **First, the banks of the importing and exporting firms (Firm A and Firm B), and the market makers create the required positions in their respective currencies in the platform through transfers. We assume these positions to be P_A , P_B , P_{AMM} , P_{BMM} , respectively.** **Second, an international payment of Q is effectuated between two non-financial firms, using their banks who rely on the platform. We assume that all transactions occur simultaneously, so that actually the two banks of the firms never have to hold any USD stablecoin positions.** These transactions all occur in the books of the programmable platform— only the debiting and crediting of the firms’ bank accounts and of the transfer of the real goods is necessarily outside the books of the platform. This allows for simultaneity and atomicity. As one can see, Bank A-1 and Bank B-1 do not need to hold at any time USD stablecoins because the smart contract executes simultaneously the two currency swaps. At the same time, specialized market makers can concentrate on quoting bid-ask prices for one FX market. From time to time, the parties holding positions in the platform (the two banks and the two MMs) may adjust their positions via in and out transfers.

Figure 4: A platform allowing the use of USD stablecoins as FX settlement asset without requiring domestic banks and firms to hold such stablecoins (SCs).

Stablecoin settlement platform				
Bank A-2 (EUR)	+ P_A + P_{AMM}	EUR-token held by Bank A-1	+ P_A	- Q
Bank B-2 (B currency - Yen)	+ P_B + P_{BMM}	EUR token held by EUR-USD MM	+ P_{AMM}	+ Q
USD stablecoin position	X	Yen token held by Bank B-1	+ P_B	+ Q
USD SC holdings of EUR-USD MM				
USD SC holdings of Yen-USD MM				
Market maker EUR-USD				
Deposit bank A-3	X - P_{AMM}	Equity	X	
EUR token	X + P_{AMM}			
USD SC	X - Q			
Market maker YEN-USD				
Deposit with Bank B-3	X - P_{BMM}	Equity	X	
YEN token	X + P_{BMM}			
USD SC	X + Q			
Firm A (European)				
Real goods	X + Q	Equity	X	
Account Bank A-1	X - Q			
Bank A-1 (firm A's bank)				
EUR-token	X + P_A - Q	Deposits of Firm A	X - Q	
Central bank deposits	X - P_A			
Bank A-2 (EUR custody bank of stablecoin platform)				
Central bank deposits	X + P_A + P_{AMM}	Platform deposit	X + P_A + P_{AMM}	
Bank A-3 (EUR-USD MM's bank)				
Central bank deposits	X - P_{AMM}	Deposits EUR-USD MM	X - P_{AMM}	
Firm B (Japanese)				
Real goods	X - Q	Equity	X	
Account Bank B-1	X + Q			
Bank B-1 (firm B's bank)				
Yen-token	X + P_B + Q	Deposit of Firm B	X + Q	
Central bank deposits	X - P_B			
	X			
Bank B-2 (Yen custody bank of stablecoin platform)				
Central bank deposit	X + P_B + P_{BMM}	Platform deposit	X + P_B + P_{BMM}	
Bank B-3 (Yen-USD MM's bank)				
Central bank deposit	X - P_{BMM}	Deposits Yen-USD MM	X - P_{BMM}	

4. Financial stability issues and regulations in selected countries

The following main issues have been identified in a scenario of substantial stablecoin adoption.

- 1) **Inflows into the stablecoin at the expense of banks**, i.e. drain from bank deposits (e.g. Liao and Caramichael, 2022):
 - a) *Structurally*, over time, when the stablecoin grows and reaches considerable size.¹⁹
 - b) In a *bank stress scenario* when the SC is considered safer than banks and when flows from bank deposits into SCs are abrupt and endanger acutely the liquidity of the bank.
- 2) **Rapid outflows from a stablecoin subject to a run** (Gorton and Zhang, 2023; Goel et al, 2025; Ma et al, 2025; Anadu et al, 2025): *Contagion via fire sales* of assets by the stablecoin issuer (if reserves are in the form of securities); *Contagion via deposit withdrawals* from banks (if reserves are in the form of deposits).

Issue 1a is associated with the idea of some structural positive externality of banking, i.e. of having lending and deposit taking/creation in one institution, which would be undermined if deposits flow into stablecoins. **Issues 1b and 2 are agnostic on whether there is a positive externality of banking or not**. This is about rapid, run-like outflows of short-term funding which can hit banks or stablecoin issuers depending on the type of triggering event (perceived bad news on banks, or bad news on stablecoins). Crisis can hit an entire sector (banking sector, or stablecoin sector), or more likely individual banks (one bank, or one stablecoin issuer). In the latter case, one natural destination of deposits outflows is the closest possible substitute, so for a bank that would be deposits with other banks, and for a stablecoin, that would be other stablecoins. As a general caveat, it should be recalled that financial stability issues relating to rapid outflows from any issuer of private monetary liabilities are universal and they have become more acute in a world of 24/7 and immediacy of transfers.

Finally, there is also **something in between structural outflows from one sector (e.g. from banking into stablecoins) and acute runs on any issuer of money**: in the era of the internet, online banking, and BigTechs, sight deposits or other forms of money, like stablecoins, in any case become less stable and presumably more expensive as competition intensifies. This applies also *within* one sector: banks compete more for deposits with other banks when switching costs between banks decline; and if one stablecoin finds a solution to remunerate its holders, other stablecoins will soon suffer from outflows, etc. This effect has therefore little to do with stablecoins per se. The new ease of shifting funds - from bank to bank, from bank to stablecoin, from bank to (tokenized) money market fund – all lead, without any run, to making deposits less stable and more competitive and thus expensive. This somewhat undermines the past advantages of banks stemming from a stable and cheap depositor base (see e.g. Bindseil and Senner, 2023). Even if one would argue that this has a negative welfare dimension, for

¹⁹ In the words of Bank of England (2025), “A large-scale displacement of commercial bank money by new forms of digital money could mean a higher fraction of money in the economy backed by high-quality liquid assets (HQLA) rather than by loans to the real economy. In that event, real economy loans could be financed instead by more stable, and expensive, sources of funding, reducing the efficiency with which commercial banks extend credit. As a result, there could be a greater reliance on non-banks for credit provision. Overall, there may be a trade-off between the optimal provision of transaction services – that is, payments – and intermediation services – that is, credit. On the one hand, the introduction of new forms of digital money may improve the range of transaction services available to people. On the other hand, it might reduce the efficiency of credit provision in the economy.”

example in the sense that banks can appropriate less the synergetic benefits between lending and deposit taking, it seems difficult to design policy measures to address this. Moreover, it is an issue that goes beyond the topic of stablecoins entering the arena, and therefore it goes beyond the scope of this paper.

Regulatory options

What policy options are available to address structural and cyclical financial stability issues related to the emergence of large stablecoins? In the following, we will discuss various instruments that have been considered or legislated, and we will provide illustrations from the US, EU and Bank of England emerging frameworks. The first four instruments below can be considered to reduce the risks of runs on stablecoins and the severity and negative effects of those, while the other measures are more about protecting banks from the consequences of too successful stablecoins.

1) Capital requirements on stablecoin issuers

Capital protects the solvency of the stablecoin against operational risks and losses arising in case of the need to fire-sell assets, making runs on the stablecoin less likely. According to the US Genius Act, capital (and liquidity and risk management) requirement parameters can be set by the relevant regulators, but they must be “tailored to the business model and risk-profile of permitted payment stablecoin issuers” and “not exceed requirements that are sufficient to ensure the ongoing operations of permitted payment stablecoin issuers”. The EU foresees own funds requirement for e-money and e-money tokens of 2% of financial liabilities outstanding. Bank of England (2023, section 5.3) considers that credit, liquidity and market risk are addressed through the requirements on the reserve, while operational risks still require capital, which would be calibrated according to the PFMI methodology. Goel, Lewrick and Agarwal (2025) provide an analytical framework to calibrate regulatory capital and liquidity requirements for stablecoins²⁰. Based on US stablecoins and Treasury market data, they find that “combining a 1% capital requirement with a 30% liquidity requirement can reduce default probabilities to about 0.2% and cap the expected price impact of bond sales.”

2) Requirements regarding the stablecoin’s reserve holdings (liquidity requirements)

A high degree of liquidity of reserves (i) makes runs on the stablecoin less likely, and if nevertheless holders would for good or bad reasons initiate a run, the consequences are milder since (ii) fire sale losses for the stablecoin issuer will be lower (iii) the likelihood of insolvency of the stablecoin issuer will be lower; (iii) there will be less fire sale externalities or other negative externalities. Policy parameters could include:

- a) **Minimum share in the form of very short-term deposits with financial institutions.** If one assumes that for banks the liquidation of these deposits is not an issue, then this avoids the negative effects of fire sales of marketable assets in case of a run on a stablecoin. Bofinger (2025) sees major financial stability risks in stablecoins holding a large share of their funds in bank reserves.²¹

²⁰ They rightly cover jointly liquidity and capital requirements, i.e. point 1) and point 2) in our list of regulatory approaches. Indeed, capital and liquidity jointly determine the stability of the balance sheet structure of any entity engaged in liquidity transformation.

²¹ Bofinger (2025, 43) argues that “the collapse of Silicon Valley Bank in March 2023 demonstrated that this creates a 'doom loop' between bank runs and stablecoin runs. The intensity of this loop depends on the lack of diversification of the stablecoin issuer's bank holdings; however, MiCAR does not prescribe rules to prevent

- b) **Granularity, maximum maturity, and rating requirements with regards to deposits with banks**, such as to make less likely that the withdrawal of the funds by the stablecoin issuer from the banks could cause any secondary issue.
- c) **Segregation of deposits from stablecoin issuers at the level of banks**, i.e. forcing banks to hold the funds separately and not use them for loans or other investments, with the following two potential benefits: (i) in case of bank insolvency, the funds can be recovered; (ii) withdrawals of these deposits from banks do not put the banks under stress. However, the disadvantage of this approach is that funds cannot be used by banks for lending and general liquidity management (and neither MiCAR nor the Genius Act would seem to foresee this in a strict sense).
- d) **Minimum share in the form of deposits with the central bank (and, first of all, allowing access to central bank deposits)**: withdrawing funds from the central bank does not cause any financial stability issues since the central bank is never liquidity-constrained and does not have to react to such withdrawals by having itself to liquidate assets.
- e) **Eligibility criteria for securities holdings and portfolio constraints**: granularity, maximum maturity, issuer rating requirements, etc. Short term and highly rated securities tend to remain liquid in financial turmoil situations, so that fire sales *ideally* do not lead to strong negative price effects and contagion.

Regarding the reserve, section 4 of the Genius Act specifies that it shall comprise: (i) US currency or deposits with a Federal Reserve Bank; (ii) bank deposits; (iii) Treasury bills, notes, or bonds with remaining maturity =< 93 days (iv) money received under repurchase agreements backed by Treasury bills with maturity =< 93 days; (v) reverse repurchase agreements... (vi) funds invested in underlying assets described in clauses (i) through (v); (vii) any other similarly liquid Federal Government-issued asset approved by the primary Federal payment stablecoin regulator, ...; or (viii) any reserve described in clause (i) through (iii) or clause (vi) through (vii) in tokenized form. The Genius act does not specify minimum shares amongst these eligible assets.

For the EU, EBA has formulated regulatory technical standards with respect to the liquidity requirement of the reserve asset of e-money tokens and what qualifies as high quality liquid assets, including concentration limits.²² For example, Article 2 of the former draft Act specifies that for e-money tokens, the percentage of reserve assets in the form of overnight bank deposits and repo must be at least 40% for significant tokens and at least 20% for tokens that are not significant. For a five days horizon, the minimum is 60% for significant tokens and 40% for others. Article 6 sets concentration limits amongst banks for the part of the reserves deposited with banks: 25% of the total reserve with a single 'global systemically important institution' or other 'systemically important institution'; 15% with large institutions, and 5% for any other deposit taking institution.²³

the excessive concentration of stablecoin bank collateral. Consequently, a run on a stablecoin issuer can destabilize specific banks, and vice versa."

²² EBA [report](#) EBA/RTS/2024/11 June 2024.

EBA [opinions](#) in response to the EC amendments relating to the draft Regulatory Technical Standards (RTS) specifying the composition and liquidity requirements of the reserve of assets and to the EC amendments to specify the highly liquid financial instruments with minimal market risk, credit risk and concentration risk under the Markets in Crypto-Assets Regulation (MiCA).

²³ With regards to securities holdings, MiCAR requires for EMTs: eligible government bonds classified as LCR Level-1 highly liquid assets, which are those receiving a 0% risk weight under Article 114(1) of Regulation (EU)

Section 5 of Bank of England (2021) provides an extensive discussion of stylized reserve models for stablecoins, distinguishing in total five approaches that could be imposed through regulation: (i) Bank model: Stablecoins could be authorized as banks; (ii) High-quality liquid assets model, in which stablecoins would be backed with highly liquid securities; (iii) Central bank liability model, in which stablecoins would be backed with central bank reserves; (iv) Bank deposit-backed model, where stablecoins would be backed by deposits placed at commercial banks; (v) Mixed model: combinations or variants of these models. Bank of England (2023) had concluded with a clear preference for the central bank liquidity model:

"The Bank's preferred option is for systemic stablecoin issuers to back the stablecoins in issue fully with central bank deposits. ... It would also ensure that the stablecoins can be used for payments with full confidence, can be exchanged at par for other forms of money and that coinholders can redeem their funds at full value – and hence maintain singleness of money. Deposits held with the central bank, along with banknotes, are the most liquid, risk-free asset in the economy. Requiring full backing with central bank deposits means that the credit, liquidity or market risks associated with other choices of backing assets are eliminated. In the absence of a deposit guarantee scheme or resolution regime, this would give coinholders greater confidence that their stablecoins can be redeemed in full at any time, minimising run risks. ... The Bank considers that full backing with central bank deposits would allow for a greatly simplified regime, relative to the banking regime, for example, and encourage issuers and other firms to focus their business models on payments-related activities. It would encourage investment in building the use cases for new technologies in payments, such as efficiency, cost and functionality, in order for issuers to generate revenue. And it would ensure that revenues are not vulnerable to changes in interest rates."

One may remark that vulnerability to changes in interest rates is inevitable if one prohibits the remuneration of stablecoins. Also, in this double-no remuneration regime (no remuneration on the asset and liability sides of the stablecoin issuer), the stablecoin business model remains exposed to interest rate changes and suffers in a high-interest rate environment because of the higher opportunity costs of stablecoin holders to hold unremunerated stablecoins.

In a new consultation paper published in November 2025 (Bank of England, 2025), the envisaged policy approach on the reserve is changed in view of market feedback. The key change is that instead of 100%, now only "at least 40% of backing assets" are to be held as deposits at the Bank (central bank deposits). "These can be used to meet redemption requests in normal and stress conditions. The central bank deposits will be unremunerated in line with the principle that systemic stablecoins should be primarily used for payments and issuers are expected to play a very limited role in the transmission of monetary policy... Up to 60% of backing assets to be held in short-term sterling-denominated UK government debt securities, consistent with emerging regulatory regimes internationally."

Table 2 compares briefly the effects of the interest rate level on the volume and intermediation spread of stablecoins. It suggests that the interest rate exposure of the business model of stablecoins could be relatively high under all envisaged approaches. On the regulation of the remuneration of stablecoin

No 575/2013 (CRR). This includes all EU sovereign debt instruments, while for third countries, investment grade is required.

client positions, see also point 8) below. Under the old Bank of England preference, UK stablecoins were rather uncompetitive relative to the ones under a regime in which stablecoins can earn income on their reserve. The latter have a solid profit margin (once they reach some volume) which creates cash-flow and incentivizes investments into technology to be successful, and to find ways to circumvent the prohibition to pay income to stablecoin holders such as to outcompete those operating under a double no interest rate regime. The 2025 preference of the Bank of England moderates this competitive disadvantage, but still preserves it to an extent that could make the difference.

Table 2: Effects of an interest rate increase on stablecoin business model, depending on regulatory constraints on the remuneration of stablecoins' assets and liabilities²⁴

Effects on: ⇒	stablecoin volume	stablecoin intermediation spread	Overall effect on stablecoin viability
Stablecoin issuers:... ↓			
unconstrained on asset and liability sides	neutral	neutral	neutral
not remunerate client holdings, but free on asset side	decline*	increase	mixed
no remuneration on both sides of the balance sheet	decline*	neutral	negative

* because of effects on opportunity costs of holding unremunerated stablecoins

Taking up the analogy of stablecoins and narrow money issuing vehicles ("e-money issuers"), one may note that in China, the two major non-bank money issuing firms (Alipay and WeChat pay) are required to hold their entire reserve in the form of deposits with the PBoC and these deposits are not remunerated, in analogy to the Bank of England preference. In the case of these firms, this would accordingly also create flows of funds depending on the market interest rate level, such as in the last row of table 1. In terms of the viability of the firms, this may work because WeChat pay and Alipay charge merchants 0.6% on transaction fees. Stablecoins cannot charge these fees because they don't control the ledger or smart contracts via which their usage is organized.

3) Access to central bank LOLR

The LOLR (lender of last resort) avoids fire sales in situations of market turmoil. Thanks to the unique properties of the modern central bank to (i) never be liquidity constrained and (ii) to be considered risk free from the perspective of borrowers having to provide collateral, the central bank can make a large difference in available liquidity in crisis situations without taking material risks for the tax-payer. None of the three central banks reviewed has yet considered granting LOLR access to stablecoins, whereby one needs to distinguish such access based on regular credit operation of the central bank from such access provided ex post in a discretionary way in a specific non-anticipated crisis scenario. Access to the LOLR would typically come with additional scrutiny and regulation.

4) Applying a deposit insurance scheme on stablecoins.

Deposit insurance has been accepted as key remedy to bank runs and it might be argued that in analogy, it should apply to stablecoins. However, for stablecoins the pseudonymity of holdings on public blockchains would cause some additional challenges. Moreover, such a system has administrative costs, and it distorts incentives, like any insurance scheme. Therefore, none of the

²⁴ The table does not cover the special effects that may occur if central bank policy rates and some market interest rates would move into negative territory (as they did in some European currencies in recent years).

jurisdictions reviewed seems to have considered seriously to impose a deposit insurance scheme on stablecoins.

The following instruments control against too rapid structural and/or cyclical inflows into stablecoins from bank deposits.

5) Limiting and/or disincentivizing (through remuneration rates) the access of stablecoin issuers to central bank deposits

This would have two advantages from the perspective of banks: first, it avoids that bank deposits are absorbed ultimately by the central bank, and second, if central bank deposits are a large share of stablecoin reserves, that stablecoin issuers are perceived to be as secure as central bank money. This measure is obviously in opposition to point 2d above. Similar points have been made on deposit outflows from banks into retail central bank digital currency. Bindseil and Senner (2023) restate the belief that interest rates are generally an effective and elastic tool in preventing certain balance sheet liability items of the central bank to balloon in crisis situations if it is felt that this endangers financial stability. Moreover, policy makers can consider imposing a maximum share of the total reserve – say e.g. 30%, such as to prevent that stablecoin holders see the stablecoin as quasi-central bank money. Granting to stablecoin the access conditions of banks to central bank deposits (in terms of remuneration and being unlimited) would mean to endorse narrow banking and deny that banking deserves to be protected from it (i.e. deny positive externalities of the synergies between loan provision and the deposit/payment business lines of banks²⁵). The existence and materiality of this positive externality remains somewhat unclear, i.e. there is no solid body of economic literature which would allow to conclude either way on this. The US Genius Act does not seem to restrain stablecoins' deposits with the central bank, and these deposits are mentioned as one option to hold reserves (see point 2 above). In a speech held on 21 October 2025, Waller (2025a) suggests that the Fed is studying “a possible prototype for this type of payment account or, as I sometimes call it, a “skinny” master account. The account would provide access to the Federal Reserve payment rails while controlling for various risks to the Federal Reserve and the payment system. To control the size of the accounts and associated impacts on the Fed’s balance sheet, the Reserve Banks would not pay interest on balances in a payment account, and balance caps may be imposed. These accounts would not have daylight overdraft privileges—if the balance hits zero, payments will be rejected. They would not be eligible for discount window borrowing or have access to all Federal Reserve payment services for which the Reserve Banks cannot control the risk of daylight overdrafts.” Eligible institutions for such non-remunerated, non-credit accounts would presumably include (in particular?) stablecoin issuers. The ECB published in January 2022 a “prefunding” policy towards non-banks (ECB, 2022) in view of the prefunding of payment systems and other ancillary systems accessing the Eurosystem RTGS TARGET2. The policy also explicitly addresses stablecoins stating that the purpose of granting access to TARGET2

²⁵ Some have argued that lower cost of borrowing for banks isn't objectively a good thing and that protecting the status quo of low average remuneration of bank deposits by suppressing forms of new competition could mean forcing savers to continue subsidize borrowers. Stablecoins, with or without remuneration, would provide options to economic actors. Providing options is generally seen as something positive in economics. Only in this case, many seem to assume that compelling arguments exist for suppressing options and competition, which is not really the case.

would not be “for the custody of assets that back the issuance of means of payment or other assets to the public. Accordingly, access to TARGET2 will not be granted to ancillary systems to back stablecoins (or any other means of payment or assets) issued to the public.” Finally, the Bank of England (2023), as mentioned, supports the access of stablecoin to central bank deposits to the extent that it is considering imposing that this form of reserve would be the only one for stablecoins, but foresees zero remuneration like the Fed.

6) Disincentivising too large stablecoins

Such disincentivizing can be achieved by imposing additional regulatory requirements on very large stablecoins. Those would be specified such that the potential negative externalities of such stablecoins are not higher than the ones of smaller volume stablecoins (in principle like in the case of systemic global banks). A more granular market structure of stablecoins reduces negative repercussions of a run on one stablecoin and may also appear positive in terms of preserving competition. On the other hand, to preserve network effects and efficiency and to prevent payment market fragmentation, a more granular market structure of stablecoins would require fungibility with its various dimensions (e.g. Coste and Pantelopoulos, 2025). All three reviewed jurisdictions foresee some form of extra regulatory burden on large and systemic stablecoin issuers.

7) Imposing limits on stablecoin holdings.

Central banks have generally given in to demands that they should limit the size of holdings of CBDC per household and per firm. Remarkably, only the Bank of England has considered similar limitations to inflows into privately issued alternatives like stablecoins. It seems logical to make a link between the two, and it appears rather submissive that some central banks would happily discuss and accept limits on CBDC, while not also at least proposing similar limits on any other new form of monetary liabilities which may also impact the overall structure of money and finance. It may generally be argued that limits are a bad tool as they require significant IT and administrative efforts in implementation and are normally avoided in market economies for various obvious reasons. In the case of stablecoins, implementing limits appears to be challenging because of the vision that stablecoins would continue to be available via *anonymous* (non-KYCed) wallets. The idea to prohibit anonymous wallets has been fiercely combatted by crypto lobbyists, and legislators have ultimately not dared to pursue it. No references to limits on stablecoin holdings have been made in the US and EU legislations. The Bank of England concludes that holding limits on systemic stablecoins would likely be needed for financial stability reasons, drawing an explicit analogy to the digital pound:

“The Bank considers it likely that, at least during a transition, limits would be needed for stablecoins used in systemic payment systems, to mitigate financial stability risks stemming from large and rapid outflows of deposits from the banking sector, and risks posed by newly recognised systemic payment systems as they are scaling up. ... Similar to its proposed approach for the digital pound, the Bank considers it likely that limits on stablecoins used in systemic payment systems would be needed to manage financial stability risks by constraining the degree to which deposits could flow out of the banking system at least during a transition. The Bank recently consulted on an individual holding limit of digital pounds between £10,000 and £20,000, and sought views on a lower limit, such as £5,000. Applying similar holding limits to stablecoins would allow the Bank to learn more about the extent of bank disintermediation associated with their use and the resulting impact on the cost and availability of credit. As bank deposits flow to new forms of digital money, including stablecoins, commercial banks could lose retail deposit funding and pass on higher wholesale funding costs to customers. Thus, credit

conditions could worsen.”

Bank of England (2023) acknowledges that implementing holding limits for each systemic stablecoin “may be operationally challenging, given that users may be able to use multiple entities to access a given stablecoin” and invites “feedback on the practicalities of implementing such limits, including potential technological solutions”. Even if one finds operational solutions to implement an effective limit, downsides of stablecoin holding limits may remain. For example, a limit on stablecoin holdings could damage the original purpose of stablecoins to serve as monetary medium for crypto-speculation. Bank of England (2025) maintains the idea of limits on stablecoin holdings.

8) Regulate the remuneration that stablecoin issuers can grant to the holders of stablecoins.

Traditionally, and inspired by the technical challenges in remunerating paper-based means of payments such as banknotes, the assumption predominates that payment instruments are not remunerated. Overall, regulatory remuneration constraints on means of payments in a market-oriented and electronic world could however appear as anachronism and at least would deserve to be revisited. In a world of electronic account money, why would holdings of means of payments be unremunerated regardless of whether the short-term nominal market rate currently stands at -1%, 0%, 5% or 10%?²⁶ The main reason why regulations prohibit the remuneration of stablecoins (and non-tokenized e-money) would appear to relate to the belief that it would facilitate further the structural disintermediation of banks. This would ideally be supported by a clearer identification of the positive externalities of the synergies achieved by banks between deposit issuance and loan provision.

Under MiCAR, the relevant rules are for: Asset-referenced tokens (ARTs) – Article 40; for E-money tokens (EMTs) – Article 50. Both provisions follow the same structure. Art. 40(1): Issuers of ARTs “shall not grant interest in relation to asset-referenced tokens.”; Art. 40(2): Crypto-asset service providers (CASPs) “shall not grant interest when providing crypto-asset services related to asset-referenced tokens.” Art. 50(1): Issuers of EMTs “shall not grant interest in relation to e-money tokens.” Art. 50(2): CASPs “shall not grant interest when providing crypto-asset services related to e-money tokens.” So MiCAR already goes beyond “issuer only”: it also directly prohibits CASPs from paying interest on these stablecoins. Interest is defined broadly. Both Article 40(3) and Article 50(3) contain an identical, very wide definition of “interest”: Any remuneration or other benefit related to the length of time the token is held “shall be treated as interest”. This includes: “net compensation or discounts” with an “effect equivalent to that of interest”, received directly from the issuer or from third parties and either directly associated with the ART/EMT or arising from the remuneration or pricing of other products. Recitals 58 (ARTs) and 68 (EMTs) underline the policy goal: to prevent these tokens from being used as a store of value by forbidding interest granted by both issuers and CASPs. The relevant GENIUS Act rule is Section 4(a)(11) – Prohibition on interest: “No permitted payment stablecoin issuer or foreign payment stablecoin issuer shall pay the holder of any payment stablecoin any form of interest or yield ... solely in connection with the holding, use, or retention of such payment stablecoin.” Contrary to

²⁶ It has been noted that the remuneration of households’ sight deposits with banks is generally low (often zero) and only co-moves weakly with the level of short-term nominal interest rates in fixed income markets. For example, Beyer et al (2024) find for Europe that the pass-through to deposit rates has been weaker in the post pandemic tightening cycle than in previous tightening cycles, countering the intuition that in the era of internet banking, switching costs should have declined and thus competition between banks should have increased, which should strengthen the pass-through.

MiCAR, the text does not expressly extend this prohibition to: crypto exchanges, broker-dealers, or other crypto-asset service providers.

All other jurisdictions surveyed by Garcia-Ocampo (2025), exclude in principle the remuneration of stablecoins (she does not provide an overview of who explicitly also prohibits exchanges to provide forms of remuneration, such as in MiCAR).

Bermuda is amongst the exceptions which allow for a remuneration of stablecoins (Government of Bermuda, 2024). Moreover, there are in practice tendencies to circumvent the prohibition to remunerate stablecoins. Circumvention includes re-labelling or re-structuring yields (third-party rewards, earning through lending, etc.) and regulators have not taken comprehensive and forceful countermeasures. Garcia Ocampo (2025) reviews such techniques²⁷, including the reactions of authorities. US banking associations have identified the issue and have requested in a letter to Senators that loopholes in the Genius Act regarding the remuneration of stablecoins should be closed to protect the role of banks in the economy (US Banking Associations, 2025):

“A. Interest and Yield. Strengthen the prohibition on interest payments for payment stablecoins by extending it to brokers, dealers, exchanges, and affiliates of payment stablecoin issuers. The associations support the GENIUS Act’s prohibition against payment stablecoin issuers paying interest or yield on payment stablecoins, which appropriately reinforces stablecoins as a payment mechanism—not a store of value. However, this restriction is easily bypassed when exchanges or other affiliates offer yield or rewards to stablecoin holders, undermining the law and distorting market incentives. Banks power the economy by turning deposits into loans; when deposits flow into stablecoins chasing yield, credit creation suffers. To close this loophole and protect the financial system, we urge Congress to extend the stablecoin issuers interest prohibition to cover digital asset exchanges, brokers, dealers, and affiliated entities. Doing so will preserve the role of banks in credit intermediation while allowing innovation in digital payments to flourish responsibly.”

Comparing the Genius Act and MiCAR suggests that the balance of political influence between banks and the crypto industry currently differs across the Atlantic: Contrary to the American banks, European banks were able to obtain in MiCAR (i) an effective prohibition of remuneration (by including CASPS in the scope of the prohibition) and (ii) an obligation of significant stablecoins to deposit not less than 60% of their reserves with banks. While the political influence of the crypto-industry in the US has alarmed some observers, one may wonder if this relative success of European banks was in line with the intention of the MiCAR regulators. As long as there will also be effectively remunerated stablecoins, the strict prohibition for MiCAR compliant coins to be remunerated will ensure the non-competitiveness of EU e-money tokens when it comes to store of value functions (with negative secondary effects also on the means-of payment function).

²⁷ She notes (p. 10): “Some CASPs already offer products that allow users to earn returns on their payment stablecoin holdings, either directly or by facilitating access to DeFi lending protocols. These offerings have, at times, provided returns higher than those of traditional deposits. For example, in September 2025 some CASPs offered a 4.25% Annual Percentage Yield on USDC holdings, more than four times the average US bank deposit rate. Similarly, in January 2025 DeFi lending rates on stablecoins such as USDT and USDC were, on average, 400 basis points higher than the US federal funds rate.”

9) **Revisit the regulation of banks and other measures taken with a view to make deposit runs less likely, such as prudential regulation, the LOLR, bank deposit insurance, etc.**

Such measures would make deposit outflows from bank into stablecoin in crisis situations less likely. This could be justified to be a better approach than measures 5-8 since: (1) stablecoin are only one of many destinations of bank deposit outflows in a world of continuity and immediacy (Bindseil and Senner, 2023); (2) making stablecoins less safe to avoid that they are considered safe havens in a banking crisis is not a sound regulatory approach; instead, regulators should make each and every financial institution as safe as possible on its own.

In sum, there are remarkably many dimensions and parameters to choose with a view to address financial stability risks of stablecoins. This is complicated by the fact that dimensions are not independent from each other, and sometimes factors seem to suggest opposite directions: for example, granting to stablecoin issuers unlimited access to the central bank (depositing and/or LOLR) strengthens the resilience of the stablecoin, but because of that might facilitate bank runs in a systemic banking crisis. Table 2 summarizes the policies of the three jurisdictions reviewed regarding the first 8 policy options.

Table 3: overview of emerging stablecoin regulation in three jurisdictions

	EU MiCar (or other EU acts)	US Genius	UK vision (2023 version in parenthesis)
1) Capital requirements	2%	To be specified by responsible authority	For operational risks, PFMI approach
2) Liquidity requirement	Deposits, HQLA, min share of deposits; concentration limits	Deposits, treasuries, central bank deposits, bank deposits	Preference for central bank deposits – minimum 40% (2023:100%)
3) LOLR	No		
4) Deposit insurance	No		
2d) & 5) Access Central bank deposits	EU regulations do not exclude access, but ECB rejected it ²⁸	An option; remuneration not yet specified	Preferred; No remuneration
6) Limits on holdings	No	No	Yes – considered; 10,000-20,000 pound
7) Extra requirements on systemic stablecoins	Yes – additional rules for the stablecoins classified as large or systemic		
8) Remuneration = 0	Yes – remuneration prohibited		

Table 4 summarizes which measure addresses which issue, and in addition what unintended consequence the measure may however have.

²⁸ https://www.ecb.europa.eu/press/intro/news/html/ecb.mipnews20240719.en.html?utm_source=chatgpt.com

Table 4: Measures and what they aim at preventing, including unintended consequences

Measures applied to stablecoins (except 9): ↓	Prevent:			Unintended consequences
	Structural disintermed. of banks	Run on banks	Run on SCs	
1) Capital requirement			X	
2) Liquidity requirement			X	
3) LOLR			X	Moral hazard
4) Deposit insurance			X	Moral hazard
5) Access CeB deposits	(X*)		X	If 100%: blurring difference between SC and CeBM
6) Limits on holdings	X	X		Implementation burden; distorts competition
7) Add. requirement large SCs			X	
8) Remuneration = 0	X			Measure depends on level of i, creates cyclical
9) Better bank regulation		X		

*If mandatory and not remunerated and the interest rate level is high enough

Across the three jurisdictions, Bank of England (2021), (2023) provides the most thorough, consistent and transparent analysis of the options to address financial stability risks of stablecoins. Bank of England also stands out in terms of conclusions, with (i) the idea of 100% mandatory non-remunerated reserves with the central bank and (ii) possible holding limits.²⁹

5. Optimal policies to address financial stability risks of stablecoins?

Taking a step back, and assuming we would not be bound by path dependencies, what could be an unconstrained optimal policy to regulate stablecoins with a view to fostering financial stability? How to make use of the many theoretically available policy instruments that could be considered, and combine them in the best possible way? Designing regulation could start from the following principles.

First, regulatory instruments to address the fear that stablecoins would be too successful and excessively harm the assumed positive externalities of banking should not be dependent on the level of short-term risk-free interest rates. The level of short-term risk-free interest rates is steered by the central bank with a view to achieve its primary mandate (in particular price stability). This implies that using non-remuneration as a sort of Pigouvian tax against stablecoins is crude and cyclical and can ultimately be counterproductive. Generally rejecting the remuneration of money could be considered as a sort of a regulatory “original sin” in the era of electronic money. As restated above, non-remuneration of electronic means of payment is more abnormal than economically meaningful. Non-remuneration of money was normal in the times of paper banknotes because of technical constraints. But in a world of electronic means of payments, in which there are no such technical constraints, *and in which the substitutability between money and short term remunerated non-monetary assets intensifies*, it seems counterproductive to legally restrict the remuneration of an important asset class to zero. Assets of highest liquidity (and high credit quality) will have lower yields than other assets. The unconstrained yield of these may be around 0% if, e.g., short-term highly rated government securities will yield 1% or even 3%. But in market conditions in which the latter will yield 8% (or -1%),

²⁹ Bidder (2025a) discusses critically the Bank of England approach to stablecoins as outlined in Bank of England (2023).

e.g. because inflation stands at e.g. 6% (close to zero or maybe in deflationary territory), monetary assets should not be expected to keep an unchanged remuneration of 0%. Artificial constraints on remuneration will have negative, “cyclical” repercussions: they will complicate the transmission of monetary policy, and they imply strong, interest-level dependent unintended effects on the business model of private entities issuing such money, with obvious negative financial stability consequences. These unintended consequences on the issuers of such money will be mirrored in reverse effects on their competitors – such as banks and money market funds. Preserving such an anomaly might not be a sound approach to prevent deposit outflows from banks in a consistent manner across time and across economic environments. Non-remuneration of stablecoins is an effective way to keep stablecoins relatively unattractive in a high interest rate environment, but not at all in a very low- or negative interest rate environment, such as experienced in advanced economies in the years 2015-2022 (and for much longer in Japan).³⁰ If one feels that one has on one side good reasons to preserve a certain structural protection of banks as private issuers of money relative to narrow money-issuing institutions, while on the other hand one wants the latter to exist and explore their societal benefits in the coming years, then one should take recourse to other tools for controlling against a potentially excessive success of stablecoins at the expense of banking and banks’ credit provision. These tools must not totally depend in an unintended way on the level of short-term nominal interest rates. Some have argued that the prohibition to pay interest on stablecoins follows naturally from their ambition to be *money*. But, as argued above, there does not seem to be any compelling economic reason why an electronic means of payment should have no remuneration (regardless of whether short-term risk-free interest rates, say of 30 days t-bills, stand at -1% or +10%). Of course, if something is money in the sense that it can be converted at any time into central bank money, it must not endanger its convertibility by taking significant market risks and promising high fixed returns. It could instead disburse income generated from its highly liquid assets in a conservative and retroactive way. The issuer could also commit for a certain period (say the next three months) to pay out a certain variable interest rate (for example a specific benchmark overnight interest rate minus 150 basis points) if it feels comfortable that it can easily generate this income under all scenarios. Stablecoins will then compete via the rate at which they are remunerated, leading to a more standard competitive equilibrium than under the current situation where successful stablecoin issuers (achieving large volumes) would be extremely profitable and could not be contested by competitors via better remuneration. As noted by Wong (2025, 18-19), there will in any case be stablecoin-like crypto-assets that will offer remuneration: they will simply not fall under the Genius act, and in the EU they may be classified as neither EMTs nor ARTs (Bitcoin is also neither of the two and is not prohibited in the EU). According to Wong (2025, 18), a “hybrid approach has ushered in the era of yield-bearing stablecoins, positioning them at the crossroads of traditional money markets and Decentralized Finance (DeFi). This distinct class is designed to transfer the yield generated by its underlying collateral—typically low-risk, interest-bearing assets—directly back to the token holder, creating an asset that functions as both a stable unit of exchange and a productive instrument.” Wong notes that “a clear regulatory split is emerging” (p. 19) since globally, regulatory bodies would be “establishing a critical divide. They focus on defining and regulating ‘Payment Stablecoins’ —which are often explicitly prohibited from

³⁰ Aldosoro et al (2025) note that: “stablecoins appear to be sensitive to an increase in short-term interest rates. This sensitivity has been evident in their declining market capitalisation during periods of monetary policy tightening, a pattern that is consistent with investors responding to rising opportunity costs of holding stablecoins”.

paying interest to retail holders. This prohibition is strategic: allowing yield could destabilize the fractional reserve banking system by rapidly pulling deposits from low-yield bank accounts". This underlines further that the idea to prohibit remunerated stablecoins may anyway be unsustainable in practice. In the world of 24/7 public blockchains, any such yield-generating (pseudo-) stablecoin can be converted instantaneously back and forth into Genius or MiCAR-EMT – compatible stablecoins, or into crypto assets akin to tokenized MMF funds - meaning that substitutability and regulatory arbitrage may be extremely efficient.

A **second**, related, but more general principle of regulating stablecoins for achieving financial stability is that fears that stablecoins which accomplish credibility and stability would be *too successful* and thereby undermine financial stability by harming banks (by draining their deposits) are not a good reason for hesitating to use tools that make stablecoins credible in the first place. Controlling against excessive inflows into stablecoins (if felt to be necessary) must be done with tools that are compatible with the highest possible safety of stablecoins. Moreover, narrow balance sheet money issuers are not the only destination of deposit outflows from banks, in particular not at the level of individual banks (and competition between banks is increasing in the era of internet banking and the collaboration of banks with BigTechs).

A **third** principle, an obvious and universal one, is that economic and financial innovations should only be suppressed or constrained by regulation based on identified market failures. In the case of non-bank money issuers, two market failures could potentially be identified. First, one seems to attribute to banks a positive structural externality stemming from their joint, synergistic functions of loan provision and deposit and transaction services, whereby the banks are moreover assumed to be unable to reap themselves the full societal benefits of this synergy. This could be a justification for subsidizing banks, or for taxing competitors of banks which do not have this positive externality. Still, more analytical efforts should be made to identify better the nature and size of these positive externalities of banking. The second type of market failure that could be addressed is the negative externality of runs, be it on banks or on stablecoins (via fire sales- or liquidity related contagion). Because of the multitude of destinations of possible deposit outflows in an instantaneous, multi-asset, 24/7 world, the only way to address this problem in a systematic way is to make the entities which are potentially suffering from the run safer through regulating them (e.g. through more stringent capital and liquidity requirements), in line with principle 2.

A **fourth** principle that seems even more trivial than the previous one, but that would seem to have been violated in the context of the regulation of stablecoins from a financial stability perspective, is the one that authorities should not regulate but then watch passively circumvention taking place that undermines the effectiveness of the regulation. This would seem to be the case for the remuneration of stablecoin if CASPS (crypto-asset services providers) are allowed to generate indirect remuneration of stablecoins with schemes of which the sole purpose seems to be regulatory circumvention (see Garcia Ocampo, 2025). Such circumvention schemes may also create additional risks because of their dodgy nature – these risks would be avoided if instead standard remuneration would be allowed. In this particular case, as argued above, the regulation itself seems anyway to have more drawbacks than advantages. Maybe the willingness of authorities to let circumvention happen relates to the implicit acknowledgement of the suboptimality of the initial rule.

What regulatory approaches are effective and comply with these four principles? The thorough analysis of the Bank of England concluding on the advantages of a large share of stablecoin reserves being held with the central bank seems *per se* convincing, but we doubt that it is compatible with not remunerating these reserves, as the viability of stablecoins would be rather weak under this approach (in particular if there is competition with stablecoins issued elsewhere which earn remuneration on their reserves). We consider below three approaches which all would fulfill the four principles outlined above.

(1) Laissez-faire approach (beyond stringent liquidity and capital requirements on stablecoins)

First, one could impose stringent liquidity and capital requirements on stablecoins, but otherwise opt for *laissez-faire* on the basis of mainly two potential arguments: (i) the positive *structural* externalities of banking would be insufficiently proven³¹, and in the case of doubt, regulation should be avoided (in view of the general feeling that advanced economies have over-regulated themselves in many areas); (ii) as far as *runs* are concerned, anyway there would be many other destinations of deposit outflows from banks, and in particular at the level of individual banks, and going against one such destination would be ineffective anyway. The laissez-faire approach - like approaches (2) and (3) below – would not constrain the ability of stablecoin issuers to remunerate their liabilities (for the reasons indicated above).

(2) 100% reserves with the central bank and stabilizing tiered remuneration approach

This approach follows the logic of the Bank of England preference, except for remuneration of the stablecoin issuer's reserve (and, once more, remuneration of liabilities would be unconstrained). Reserves would be fully held with the central bank but not at a zero interest rate. Instead, remuneration of reserves would be referenced to policy interest rates and would also be used to control against a perceived risk of over-success of stablecoins, against the additional risks of particularly large single stablecoins, and against rapid inflows of funds in case of a banking crisis. Capital requirements would be imposed to address operational risks (like foreseen by the Bank of England). The mandatory deposits of stablecoin issuers held with the central bank could for example be remunerated as follows, with three main elements:

- **Base remuneration:** this remuneration would be somewhat lower than the one of banks' excess reserves (assuming here that the latter is also the central bank target for short term quasi risk-free interest rates). For example, it could be set in normal market conditions to be "money market target rate minus 1.5 percentage points". The idea of this spread would be that it could remain stable if policy interest rates change, but if *structural* factors change, it could be revisited. The spread considers the need to protect structurally the business model of banks and is in this sense a Pigouvian tax component addressing an assumed market failure of the bank business model to appropriate all of its benefits, leading to a positive externality of banking. Moreover, it considers the current general lack of understanding and implied prudence towards the implications of stablecoins. Third, the lower level of the base remuneration can be interpreted as a tool for sharing adequately seigniorage income between the central bank and the narrow balance sheet money issuers. If these entities benefit from central banking functions or even substitute to some

³¹ Arguing that the positive externalities of banking are not sufficiently proven is not the same as saying that the synergies between loan provisions and deposit and payment services are not proven. The existence of the latter is only a necessary, but not sufficient condition for relevant positive externalities of these synergies.

extent public money, it seems right that some of their seigniorage income would be reaped by central banks on behalf of society.

- **Lower remuneration of large holdings beyond some threshold, per stablecoin issuer.** In line with the current (or outlined) regulations on stablecoins and on banking, large entities are considered to bear more risk of negative externalities, including in the context of the too-big-to fail problem. Therefore, remuneration of reserves could be lower beyond a certain absolute size of deposits by one stablecoin issuer. The threshold would also consider possible views on network effects, competition and interoperability of stablecoins, i.e. what would be a desirable market structure and concentration of stablecoin issuers. These views will evolve over time with experience. The remuneration beyond the threshold could be set to be for example “1 percentage point below the base remuneration”. This measure would complement possibly extra capital and liquidity³² requirements on large stablecoins, which should not be set at unreasonable levels. One may also conclude that extra capital and liquidity requirements on large stablecoin issuers are sufficient, and one could then drop this element of the remuneration formula.
- **Remuneration deduction for fast inflows:** fast inflows could be discouraged by imposing a negative remuneration add-on for any “disproportional” increase of deposit holdings within a short period of time. For example, growth of stablecoin volumes (and thus of deposits with the central bank) by 5% per month would be accepted, but inflows of more than 5% in a month would be remunerated subject to an additional negative spread of e.g. 2 percentage points for a certain duration. The percentage monthly growth threshold and the negative remuneration add-on are to be derived from the fears attached to short-term deposit outflows from banks into the central bank via stablecoins. Stablecoin issuers would need to find ways to pass on this dynamic negative component to the inflows on their liability side, or to make such fast inflows unattractive or difficult in some other way.

In total, the central bank would need to specify five parameters (Base remuneration; Negative spread for large holding remuneration and quantity threshold beyond which it would be applied; negative spread for fast inflows and relative deposit increase threshold beyond which it would be applied) and do analysis for calibrating these in a pragmatic and reasonable way. Implementing the formula itself is not difficult in the context of an electronic account system. That the analysis to establish the parameters would be complex should not be considered a problem: first, the analysis can remain pragmatic without taking particular risks. Second, the problem cannot be simply ignored, and setting the parameters in a way to have a simple flat remuneration should also be based on an equally thorough analysis showing that different values of the five parameters above would not be preferable. Parameters will have to be revisited over time, depending on how successful stablecoins are, what issues arise in practice, how banks can cope with the change, and any other experience on how the formulas and parameters work in practice. Finally, the approach could also be simplified, and for example the second or third component of the remuneration formula could be dropped, or even both.

(3) Minimum low- remunerated CB reserve as a Pigouvian tax tool

A third approach would combine the two previous ones as follows: stablecoins would have to hold a certain share of their reserve with the central bank at an unattractive interest rate. For example the remuneration formula could be “20% of their reserve, remunerated at the market rate minus 500

³² Liquidity requirements such as the eligibility constraints on securities eligible to back the reserves,

basis points”, including if the market rate would be itself below 500 basis points, which would mean that the remuneration of the reserve would be negative. This example would be equivalent in terms of implied costs to requiring the stablecoin to hold “10% of its reserve at market rates minus 1000 basis points”. The cost of the mandatory badly remunerated reserve would act as a Pigouvian tax addressing the estimated positive externalities of banking and the implied degree of protection that banks would deserve. It would be important that stablecoins could liquidate this mandatory, badly remunerated reserve in case they have liquidity needs. They would then be allowed to under-fulfil the requirement and they would simply have to pay a fee that would be as costly as the opportunity costs of holding badly remunerated reserves. In other words, one could also directly calculate a tax on stablecoins as follows: outstanding volume of stablecoins times a proportional fee. To achieve the same Pigouvian tax as in the two examples above, the fee would simply be 1 percentage point per annum of the stablecoin volume. This would weaken the ability of the stablecoin issuer to remunerate its monetary liabilities by basically 1 percentage point, providing the intended advantage to banks, but in a much more controlled way than to simply prohibit stablecoin issuers to remunerate their liabilities. Of course, the Pigouvian tax could be higher than 1% if the estimated positive externality of banking is higher (e.g. 2%).

Formulas can be adjusted if it is felt that implied negative remuneration of stablecoins is particularly effective as deterrent or could be too strong even. The formula would then foresee that negative spreads towards the short-term market rate would be reduced when entering negative territory. Negative rates would not be excluded but would be phased in in an assuaged manner. Example: assume option 3 has been chosen with an initial Pigouvian tax $p = 1\%$ p.a. on stablecoins, but then it is wished that the tax formula considers an estimated non-linear aversion against negative rates. If we assume (for the sake of simplicity) that the stablecoin issuer has no operating costs and that with a given liquidity regulation, it can achieve a remuneration of its assets at the level of the reference market rate j , then one could set for example: for $j \geq 1\%$: $p = 1\%$; for $0 < j < 1\%$: $p = 0.5\% + j/2$; for $j < 0$: $p = 0.5\%$. This is not particularly complicated, and in any case, if such non-linear effects exist, simply ignoring them would not be a good solution relative to the effort to refine a formula.

Table 5 summarizes the three options in terms of addressing the three issues identified at the beginning of section 3.

Table 5: Three options fulfilling reasonable principles

Measures applied to stablecoins: ↓	Prevent:		
	Structural deposit flow from banks to SC	Run on banks into SC	Run on SCs
Option 1: Laissez faire	-	-	Yes (via liquidity and capital adequacy requirements; custody and operational risk requirements)
Option 2: 100% reserve in form of central bank deposits; three elements of remuneration	Yes (Includes also Pigouvian elements)	Yes (extra negative spread on fast inflows)	
Option 3: Flat Pigouvian tax	Yes	-	

The choice amongst the options would be based on weights attributed to different risks.

6. Conclusions

In this paper we revisited the domestic and international liquidity effects of stablecoins, plus the flows of funds related to one popular new use case of stablecoins, the cross-border payment stablecoin sandwich.³³ We then turned to the regulation of stablecoins, and how rules imposed on the reserves of stablecoins could contribute to financial stability.

We noted the diversity of regulatory approaches across selected jurisdictions (EU, US, UK), although all approaches could be considered to have in common an “original sin”. This is to generally impose zero remuneration on stablecoins. It implies that the viability and competitiveness of stablecoins is made dependent on the interest rate level in a peculiar way (and thereby potentially opposite effects on the competitors of stablecoins, i.e. banks and money market funds). The implied cyclical flows between stablecoins and asset classes which are similar but not constrained by their remuneration can hardly be expected to help financial stability. Currently, the ultimate effects of the Genius Act and MiCAR on the remuneration of stablecoins are heterogeneous: while the latter also effectively prohibits wallet providers to indirectly remunerate stablecoins, the former does not, and this loophole has not remained unused. This implies inferior competitiveness as store of value of MiCAR- compliant e-money tokens relative to Genius compliant or unregulated payment stablecoins. Being a non-competitive store of value ultimately also affects competitiveness as means of payment – at least in the retail space. The EU should react to this level playing field issue in one or the other way.

Moreover, regulation of stablecoins, including remuneration rules, sometimes seem to be driven by the idea “do not make stablecoins too viable as this could harm banks”. Instead, one should make stablecoins as safe as possible and, if felt necessary, design an adequate quasi-Pigouvian tax on stablecoins which would be based on the estimated positive externalities of banking (i.e. synergies between loan provision and deposit collection, which for some reason however cannot be fully appropriated by the banks) and possible specific negative externalities of stablecoins. Such a Pigouvian tax must not depend on the level of short-term interest rates. We develop three alternative proposals to the regulation of stablecoins, all of which overcome the “original sin” to constrain the remuneration of stablecoins to zero and fulfil some further proposed principles of good regulation.

The choice for or against option 1 (laissez-faire) depends mainly on whether one believes in the merits of protecting banks because of some positive externalities of banking, i.e. of the synergistic provision of lending and deposit/transaction services. The choice between option 2 (100% reserves with central bank and tiered remuneration formula) and option 3 (diversified reserves with a proportional Pigouvian tax) should depend on how worried one is about runs on stablecoins. Option 3 protects stablecoins against runs by imposing (like the other two options) capital and liquidity requirements on stablecoins. Option 2 in addition reduces the likelihood of runs on stablecoins and their impact because the stablecoin reserves are 100% held with the central bank. At the end, the choice amongst the three options could also be constrained by legal, communications, and other practical feasibility considerations, whereby option 3 could probably encounter more difficulties than

³³ We did not cover all regulatory issues relating to stablecoins and in particular not the ones associated with their distribution on public blockchains and pseudonymity, namely the risks of facilitation of illicit payments (money laundering, terrorist financing, tax evasion, evasion of capital controls, payment leg of any other criminal activity).

options 1 and 2. Option 2 is obviously more ambitious than option 1 and thereby also may encounter more practical implementation challenges than option 1.

As a final remark, we did not cover all public policy issues raised by stablecoins, such as their use for illicit payments, and their use for circumvention of capital controls and other regulations in user countries (i.e. countries in which the stablecoins are not issued but used). Also, the issue of undermining monetary sovereignty in user countries was not covered. From the perspective of monetary sovereignty of these countries, a strict non-remuneration of stablecoins may be preferable (despite the fact that non-remuneration is a poor tool from the perspective of financial stability), as positive remuneration will likely increase, relative to non-remuneration, the ultimate circulation of stablecoins in these countries across the interest rate cycle.

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