

U.S. Stablecoins and the Global Safe Asset Channel: Private Money Meets Public Debt*

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Abstract

This paper studies the international macro-financial implications of U.S. dollar-backed private money, as payment stablecoins, in the absence of adverse risk scenarios. We show that these assets create a new *global safe asset channel*, through which global demand for dollar payments and stores of value becomes directly linked to U.S. public debt. By reshaping the demand for safe assets and the geography of dollar intermediation, they alter monetary transmission and international spillovers. Although they widen the dollar's global footprint and compress U.S. risk-free yields, they generate non-trivial macro-financial costs. By changing exchange rate adjustment to safe asset markets, they dampen the ability of U.S. monetary policy to affect domestic inflation and output while also enlarging U.S. and foreign exposure to cross-country shocks. These effects are small at low adoption levels but rise non-linearly with stablecoin capitalization, potentially reshaping the international financial system.

Keywords: Stablecoins; Safe Asset Demand; Treasury Yields; Monetary Transmission; International Spillovers

JEL Codes: G15, E42, E44, E52, F3

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1 Introduction

Recent technological innovation has allowed private issuers to create dollar-denominated digital claims that can circulate as money. These claims combine three features: they can be used for payments, held as a dollar store of value and are backed by short-term safe and liquid assets. Payment stablecoins are the current market implementation of this form of private money.¹ They are designed to provide the advantages of digital assets while maintaining a stable value against the U.S. dollar. So far, their main use has been to facilitate transactions within crypto markets, allowing traders to move across volatile digital assets without repeatedly converting into fiat currency (Mizrach, 2025). Yet their economic relevance is expanding as regulatory clarity improves and demand rises for faster, cheaper and continuous cross-border settlement.² This paper asks whether this new form of dollar-backed private money alters monetary transmission, international spillovers and macroeconomic stability, even in the absence of adverse risk scenarios.

The regulatory environment is accelerating this transition. The U.S. GENIUS Act, approved in July 2025, provides a legal framework for issuance and supervision that supports the global diffusion of stablecoins.³ By requiring stablecoins to be redeemable at par and fully backed by safe assets, the Act makes them a scalable form of privately issued dollar money. Much of the current debate is focusing on risks of runs, reserve losses, regulatory arbitrage and financial instability. This paper instead shows that stablecoins may reshape global financial markets even when they function as intended, because issuance creates a balance-sheet link between global dollar liquidity demand and U.S. Treasury markets.

Our central insight is that U.S. dollar-backed stablecoins create a new *global safe asset channel*, through which fluctuations in stablecoin demand translate into inelastic

¹Throughout the paper, “stablecoins” refers to U.S. dollar-backed payment stablecoins under the U.S. GENIUS Act: unremunerated, redeemable at par and fully backed by U.S. safe assets. The mechanism applies more broadly to any privately issued digital money that combines payment services, dollar-denominated store-of-value properties and backing by the global safe asset.

²Non-crypto payment use remains limited, at about USD 10 billion, but evidence from emerging markets suggests that broader use is emerging both for payments and as a dollar store of value. Chainalysis links stablecoin adoption in Latin America to inflation, currency volatility and capital controls. The *Financial Times* reports that, in Venezuela, USDT is increasingly used for payments, wages and protection against bolívar depreciation. See Chainalysis Team (2025) and Financial Times (2025).

³The potential demand for faster settlement is large. The average cost of retail cross-border transactions ranges between 2 and 2.6%, with 24% of corridors above 3%, while 30% of retail payments take more than one day to execute. Remittances are even more expensive, reaching up to 12% of the transacted amount. See Financial Stability Board (June 2025).

fluctuations in demand for the global safe asset. To make the intuition transparent, we first present a stripped-down two-country model that isolates the core balance-sheet logic. We then embed the same mechanism in an open-economy multi-country model in which U.S. stablecoins are fully backed by U.S. Treasuries and used both as settlement instruments and as dollar-denominated stores of value. In this environment, stablecoin adoption generates a new form of convenience yield on U.S. debt, affects monetary policy effectiveness and reshapes the dynamics of global financial markets.

The mechanism is straightforward. Because stablecoins are backed by U.S. safe assets, changes in stablecoin demand translate directly into changes in demand for short-term Treasuries, independently of their return. In steady state, this benefits the United States by compressing risk-free yields, with the effect increasing in stablecoin capitalization. But the same balance-sheet link also creates macro-financial costs. Any shock that moves the exchange rate affects foreign demand for stablecoins. For example, a dollar appreciation generates valuation gains for foreign holders and reduces the number of stablecoins needed to settle a given amount of domestic-currency payments. Foreign holders therefore redeem part of their positions, forcing issuers to sell U.S. bonds. This raises U.S. yields and partly reverses the initial dollar appreciation. Since exchange rate movements also affect relative prices and trade flows, stablecoins create a new balance-sheet link between safe asset markets and the trade channel of the real economy. The amplification is non-linear: as stablecoin holdings grow, their marginal liquidity value declines, they become more portfolio-like and demand becomes more responsive to interest rate differentials and exchange rate movements.

A key example of this mechanism at play is the transmission of U.S. monetary policy, both domestically and internationally. As equilibrium stablecoin holdings grow, monetary policy has a stronger pass-through to Treasury yields because stablecoin demand amplifies bond-market adjustments. At the same time, its real effects decline because exchange rate adjustment is dampened. U.S. monetary policy therefore becomes less effective in steering aggregate demand, by up to 30% in our simulations, and a stronger reaction of interest rates to inflation is needed to preserve macroeconomic stability. Stablecoins also strengthen the transmission of shocks across countries, both from the United States to the rest of the world and from foreign economies to the United States. These effects are limited at current adoption levels, but they become quantitatively relevant as stablecoin

issuance scales up.

We provide empirical evidence consistent with this prediction. Using weekly data since 2018 and local projections, we estimate how U.S. Treasury yields respond to high-frequency U.S. and euro area monetary policy shocks as a function of the stablecoin footprint in U.S. debt markets. The response of short-term U.S. yields to U.S. monetary policy shocks is larger when the stablecoin share is higher; the interaction with euro area shocks has the predicted sign but is less precisely estimated. The effect is initially concentrated at short maturities, consistent with the reserve portfolios of stablecoin issuers, and stablecoin capitalization falls after a U.S. monetary tightening, as in the model.

Although stablecoins are still far from large-scale adoption, their capitalization has expanded rapidly, exceeding \$300 billion in January 2026 (Figure 1a). Major issuers are already comparable to mid-sized sovereign investors in their holdings of U.S. debt (Ahmed and Aldasoro, 2025) (Figure 1b), and could become important marginal buyers of Treasuries if adoption accelerates.⁴

This rapid expansion has triggered a debate reminiscent of the rise of the eurodollar market. In the 1960s, eurodollar deposits emerged outside the United States to satisfy global demand for dollar liquidity,⁵ raising concerns that offshore dollar creation could destabilize U.S. money markets while also expanding access to dollar funding (Frydl, 1979; Friedman, 1971).⁶ Stablecoins revive this tension in digital form, but with one key difference: unlike eurodollars, they are expected to be fully backed one-for-one by short-term U.S. safe assets. Their expansion therefore directly affects Treasury demand.

Stablecoins are a novelty worth investigating because they combine features that existing dollar instruments keep separate: payments and stores of value. Eurodollars create offshore dollar liquidity but are fractional-reserve bank deposits mostly used by banks and wholesale investors. Money market fund shares and Treasury bills provide safe dollar stores of value but are not payment instruments. CBDCs can be used for payments, but their issuance substitutes central bank liabilities and need not create new demand for

⁴Market projections vary widely. J.P. Morgan estimated \$500 billion by 2028, Coinbase \$1.2 trillion, Citigroup \$1.6–3.7 trillion by 2030, Standard Chartered \$2 trillion by 2028 and Bernstein \$4 trillion by 2035 (Singh, 2025).

⁵The U.S. dollar accounts for about 50% of international loans, more than half of foreign reserves, 90% of FX transactions and 40% of trade invoicing (European Central Bank, June 2025).

⁶Over time, the eurodollar market became both a central source of global dollar liquidity and a channel for the transmission of U.S. shocks, including during the 2008 global financial crisis (McCauley, 2024).

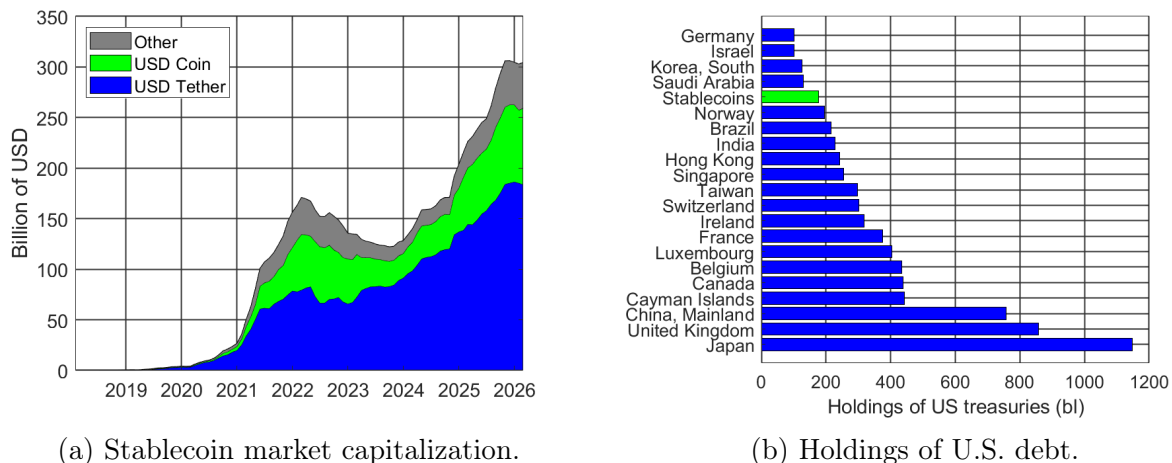


Figure 1: Stablecoin market capitalization and holdings of U.S. debt by countries and stablecoin issuers.

Notes: Panel a, billion U.S. dollars. Sources: Chainalysis, CryptoCompare, CoinGecko, IntoTheBlock. Last observation February 2026. Panel b: holdings as of June 2025 in billion U.S. dollars. Sources: U.S. Treasury (TIC); “Stablecoins” include reported holdings of Tether (USDT) and USD Coin (USDC).

Treasuries (Adalid et al., 2022). Stablecoins instead are privately issued, directly accessible, redeemable at par and fully backed by safe assets. This balance-sheet property is what distinguishes them from existing forms of dollar liquidity.

The fact that stablecoins are unremunerated is also central. Under the GENIUS Act, holders do not receive interest, so changes in U.S. policy rates affect the opportunity cost of holding stablecoins and issuers’ margins, rather than being passed through mechanically to holders.⁷ We show that this matters: if remuneration moved one-for-one with the risk-free rate, stablecoins would become close to Treasury bills with liquidity services and higher adoption would be neutral or even volatility-reducing. This result disappears when remuneration is fixed and does not move with the policy rate.

Our paper deliberately abstracts from several risks emphasized in the current debate, which are important in their own right: runs, reserve losses, peg instability, cyber risk, regulatory arbitrage, disintermediation and multi-issuer arrangements (Rey, 2025; Eichengreen, 2025; Eichengreen et al., 2025; Rogoff et al., 2025; Cipollone, 2025; Kosse et al., 2023; Liang et al., 2024; Portes, 2025; European Systemic Risk Board, 2025). Stablecoins may also deliver efficiency gains by combining dollar safety with digital immediacy (Waller, 2025; Ahmed et al., 2025), and compress U.S. yields in the long run

⁷Although the GENIUS Act prohibits the payment of interest on stablecoins, issuers or affiliated platforms may attempt to offer indirect forms of remuneration, such as rewards or yield products linked to reserve portfolios.

([Azzimonti and Quadrini, 2025](#)). We take a different route. To isolate one core mechanism, we study the case in which stablecoins function as intended and these risks do not materialize. Even in this benign environment, an international payment instrument directly backed by the global safe asset can make financial markets and the real economy more tightly connected across countries.

This leads to four questions. First, how does stablecoin adoption change the domestic and international transmission of U.S. monetary policy? Second, how should the Federal Reserve adapt its policy rule when stablecoins play a growing role in liquidity creation and fiscal financing? Third, does the dependence of U.S. Treasury markets on stablecoin demand introduce new volatility channels for the dollar and for U.S. yields? Fourth, how do these conclusions change if stablecoins are remunerated?

After presenting the mechanism in a simple general model, we answer these questions in a multi-country DSGE model in which dollar-backed stablecoins enter the liquidity constraint alongside money and are fully backed one-for-one by short-term U.S. Treasuries. Stablecoins are used both as settlement instruments and as dollar-denominated stores of value, with demand disciplined by a confidence parameter capturing perceived redemption and valuation risk. The modelling of liquidity demand builds on the literature on digital money and CBDCs ([Ferrari Minesso et al., 2022b](#); [Niepelt, 2024](#); [Burlon et al., 2024](#)).

The key equilibrium object is a cross-country asset-holding condition that ties foreign demand for digital dollar liquidity to U.S. safe asset markets. We show analytically that the strength of the channel depends on the concavity of preferences over liquid assets: as stablecoin holdings grow, their marginal liquidity value declines, they become more portfolio-like, and demand responds more strongly to interest rate differentials and exchange rate movements. Full backing then maps these reallocations directly into Treasury purchases and sales. This contrasts with CBDCs, whose issuance can be sterilized by the central bank and does not require one-for-one purchases of U.S. debt ([Ferrari Minesso et al., 2022b](#)).⁸

We then use the model to quantify the domestic and international implications of the channel. We study U.S. monetary policy shocks, U.S. and foreign TFP shocks, and changes in stablecoin confidence. We also characterize how the Federal Reserve should

⁸Concrete CBDC projects, such as the digital euro, explicitly target neutrality with the objective of keeping CBDCs only as a payment instrument ([European Central Bank, 2025](#)).

adjust its policy rule when stablecoins become quantitatively relevant. We quantify welfare effects, showing that the United States benefits from lower financing costs when stablecoin demand compresses yields, while foreign economies bear larger costs through lower safe returns and stronger exposure to U.S.-centered financial conditions. We then consider interest-bearing stablecoins. This exercise clarifies that unremuneration matters and it is important for macro-financial linkages. Finally, we show that the main mechanism is robust to alternative liquidity specifications, asymmetric calibrations, redemption fees and different assumptions on stablecoin remuneration.

Related literature. This paper contributes to four strands of literature. The first studies stablecoins as private digital money. [Oefe et al. \(2024\)](#) and [Mizrach \(2025\)](#) characterize the balance sheets of stablecoin issuers, documenting their large holdings of safe and liquid assets and their flight-to-quality behavior during episodes of stress in crypto markets. A related literature studies run risk, reserve fragility and peg stability ([Anadu et al., 2024](#); [Gorton et al., 2022](#); [Eichengreen et al., 2025](#); [Kosse et al., 2023](#); [Arner et al., 2020](#); [d’Avernas et al., 2022](#); [Hoang and Baur, 2024](#); [Lyons and Viswanath-Natraj, 2023](#)), as well as stablecoin adoption ([Bertsch, 2023](#)). Historical lessons have also been drawn from the U.S. free banking era ([Luck, 2025](#)) and from earlier monetary arrangements such as the Bank of Amsterdam ([Bolt et al., 2024](#)).⁹ Closer to the macro-financial transmission of stablecoins, [Liang et al. \(2024\)](#) show that digital payments reduce banks’ deposit market power and strengthen the pass-through of monetary policy by making deposit demand more elastic, while ? document that stablecoin adoption induces deposit substitution, reshapes banks’ funding structure and alters the transmission of monetary policy through the banking sector. Complementing this perspective, ? provide market-based evidence that financial investors expect stablecoins to become important competitors in payments, especially in cross-border payment activities. Our focus is different. We abstract from runs, peg instability and banking-sector disintermediation to isolate a balance-sheet channel that operates even when stablecoins function as intended.

The second strand studies the demand for safe assets and dollar liquidity. A large literature shows that the demand for safe dollar assets compresses Treasury yields ([Krish-](#)

⁹There is also a broader literature on crypto-assets. [Karau \(2023\)](#) studies the response of Bitcoin prices to monetary policy, while [Liu and Tsyvinski \(2021\)](#) and [Corbet et al. \(2020\)](#) analyze the interaction between crypto-assets and traditional asset prices.

namurthy and Vissing-Jorgensen, 2012), including through demand coming from outside the United States (Ahmed and Rebucci, 2024), with implications for financial stability (Greenwood et al., 2015). Eren et al. (2025) estimate the elasticity of U.S. yields to demand from different investor types, while Doerr et al. (2023) show that demand from money market funds affects the prices of other liquid assets. Recent evidence suggests that stablecoin flows already matter for U.S. safe asset markets. Ahmed and Aldasoro (2025) and Kim (2025) show that stablecoin inflows reduce three-month Treasury yields, with stronger and asymmetric effects of outflows. Aldasoro et al. (2025) document that stablecoins and money market funds respond differently to U.S. monetary policy shocks, with prime money market fund assets increasing after a tightening while stablecoin capitalization falls. Going beyond U.S. fixed-income markets, ? show that stablecoin flows spill over to traditional FX markets, affecting parity deviations, covered interest parity gaps and exchange rates. We build on this evidence by studying how stablecoin demand changes monetary transmission and international spillovers in general equilibrium.

The paper is also related to recent theoretical work on stablecoins and the international monetary system. Azzimonti and Quadrini (2025) develop a multi-country model in which reserve backing dominates service substitution, raising the long-run demand for U.S. safe assets, lowering U.S. interest rates and reinforcing the dollar’s exorbitant privilege. Barthélemy et al. (2025) build on the framework of Farhi and Maggiori (2018) and endogenize the hegemon’s debt issuance in the presence of fully backed stablecoins. They show that stablecoins can generate a trade-off between capturing stablecoin rents and preserving the safe-asset status of public debt, with ambiguous implications for the Triffin dilemma. These contributions connect stablecoins to the broader literature on dominant currencies, safe assets and global capital allocation (Gabaix and Maggiori, 2015; Maggiori, 2017; Maggiori et al., 2020). We complement them by focusing on the cyclical effects of stablecoin adoption: the transmission of monetary policy, the propagation of shocks across countries and the feedback from foreign liquidity demand to U.S. Treasury markets.

Finally, our paper contributes to the literature on digital assets and CBDCs. Brunnermeier and Niepelt (2019) derive conditions under which a CBDC can be economically neutral. Benigno et al. (2022) show that a remunerated global digital asset can equalize returns across countries and reduce monetary autonomy, while Ikeda (2022) emphasizes

the role of government taxation and public-good provision in limiting these effects. [Ferrari Minesso et al. \(2022b\)](#) and [Kumhof et al. \(2023\)](#) study the international transmission of global CBDCs and their implications for monetary policy. We build on this literature in modelling liquidity demand and digital payment instruments ([Niepelt, 2024](#); [Burlon et al., 2024](#)).¹⁰ Stablecoins differ from CBDCs because they are privately issued, fully backed by marketable assets and, in our baseline, unremunerated. This prevents the neutrality result from applying: changes in stablecoin demand require purchases and sales of U.S. Treasuries. Closest in spirit is [Cova et al. \(2022\)](#), who study CBDCs in the presence of a global crypto-asset. In their framework, however, backing is imperfect, the issuer optimally reallocates across money and bonds, and the crypto-asset exchange rate absorbs part of the shocks. In our setting, full backing and par redemption are precisely what tie foreign liquidity demand to U.S. bond markets. The link between balance-sheet movements, exchange rates and capital flows also builds on [Maggiori \(2022\)](#).

The remainder of the paper is structured as follows. [Section 2](#) presents the simple model and the full multi-country framework. [Section 3](#) studies U.S. and foreign shocks, stablecoin confidence shocks and the role of monetary policy. [Section 4](#) provides empirical evidence on the response of U.S. Treasury yields to U.S. and third-country monetary policy shocks. [Section C.6](#) and [Section C.7](#) study remunerated stablecoins. [Section 5](#) concludes.

2 Model

2.1 A simple illustration of the global safe asset channel

To fix ideas, we present a stripped-down two-country version of the mechanism. There are two economies, the United States (US) and a foreign country (F), each with its own currency. Financial markets are incomplete and there are only two traded bonds, the U.S. bond and the Foreign bond, that pay respectively R^{US} and R^F . A private intermediary issues dollar-denominated digital payment claims, denoted by X , just to foreign households. There is no need to call them Stablecoins. These claims are redeemable at par in U.S. dollars and are backed one-for-one by short-term U.S. Treasury securities.

¹⁰The CBDC literature is broader and also studies transition dynamics ([Assenmacher et al., 2024](#)), monetary operations ([Assenmacher et al., 2023](#); [Abad et al., 2024](#)), competition and financial stability ([Andolfatto, 2021](#); [Schilling et al., 2024](#)).

The total stock of U.S. Treasuries is fixed and equal to $\bar{B}$. Prices are constant, there is no uncertainty, and the expected exchange rate is given and constant $\bar{S}^e$.¹¹ The nominal exchange rate, $S = NER_{US,F}$, is defined as units of dollars to buy a foreign currency (i.e. an increase is a dollar depreciation).

We first present how this payment claim affects the bond market. Then, we derive an inverse demand function for the dollar-payment claim's market. These two markets combined are sufficient to show the intuition of the global safe asset channel.

U.S. Bond Market Supply: Because each dollar-digital payment claim is backed, inelastically to prices, one-for-one by a Treasury security the intermediary's balance sheet implies:

$$B^X = X^S,$$

where B^X is the amount of U.S. bonds held by the dollar-digital payment claim issuer and X^S is the supply of dollar-denominated digital payment claims. This implies that the quantity of U.S. Treasuries available to the bond market is the remaining after netting out the total issuance of the dollar-digital payment claims:

$$B^S = \bar{B} - X.$$

Demand: The demand for U.S. bonds is a positive function b of the expected relative return on the bond, as in a standard Portfolio-Balance models (from [Branson \(1977\)](#), [Dornbusch \(1975\)](#), [Frankel \(1983\)](#) to [Gabaix and Maggiori \(2015\)](#)). Keeping the expression as general as possible and compatible with different possible microfoundations, we can write it as:

$$B^d = b\left(R^{US} - R^F - \frac{\bar{S}^e - S}{S}\right), \quad b'(\cdot) > 0,$$

where, as mentioned, R^{US} is the return on the U.S. bond, R^F is the return on a foreign bond, and $(\bar{S}^e - S)/S$ is the expected rate of dollar depreciation.

¹¹Three are the key assumptions for the the mechanism: (i) payment claims are redeemable at par; (ii) reserve backing is one-for-one in U.S. safe assets; (iii) the supply of U.S. Treasuries is fixed in the short run. All the remaining are just simplifying assumptions. Notice that U.S. payment Stablecoins issued under the GENIUS act satisfy all these three assumptions.

Equilibrium: The equilibrium in the U.S. bond market requires

$$B^S = \bar{B} - X = b \left(R^{US} - R^F - \frac{\bar{S}^e - S}{S} \right).$$

By inverting bond demand, we can show that

$$R^{US} - R^F - \frac{\bar{S}^e - S}{S} = \rho(\bar{B} - X), \quad \rho'(\cdot) > 0. \quad (1)$$

Equation (1) implies that a larger stock of digital payment claims reduces the quantity of U.S. bonds left to private investors, compressing the return required to clear the market.

Foreign demand for digital payment claims. Foreign households demand X for two reasons. First, these claims provide payment services in cross-border and domestic transactions. Second, they allow households to transfer wealth across periods in dollars. We summarize these motives with a simple Euler equation derived from the constrained optimization problem of an household, which defines the inverse demand for dollar payment claims:

$$-\frac{\lambda^F}{S} + \beta \frac{\lambda^{e,F}}{\bar{S}^e} + \gamma^C \frac{L'(X/S)}{S} = 0, \quad (2)$$

where λ^F and $\lambda^{e,F}$ are the current and expected marginal value of wealth for foreign households, $\gamma^C > 0$ measures the payments value of the claim, and $L'(\cdot) > 0$, $L''(\cdot) < 0$ denote the marginal liquidity service of claim holdings measured in foreign-currency terms. The concavity of $L(\cdot)$ captures the idea that the marginal payment value of additional balances declines with adoption.

Equation (2) is the optimality condition for X and therefore implicitly defines a demand function $X = x(S)$. It is easy to show that $\frac{\partial X}{\partial S} > 0$.¹² This implies that a dollar

¹²Rewriting it as

$$\lambda^F - \beta \frac{\lambda^{e,F}}{\bar{S}^e} S = \gamma^C L'(X/S),$$

and differentiating with respect to S gives

$$-\beta \frac{\lambda^{e,F}}{\bar{S}^e} = \gamma^C L''(X/S) \frac{S \frac{dX}{dS} - X}{S^2}.$$

Because $\beta > 0$, $\lambda^{e,F} > 0$, $\bar{S}^e > 0$, $\gamma^C > 0$, and $L''(X/S) < 0$, it follows that

$$S \frac{\partial X}{\partial S} - X > 0, \quad \text{hence} \quad \frac{\partial X}{\partial S} > \frac{X}{S} > 0.$$

appreciation ($S \downarrow$) unambiguously reduces foreign demand for dollar payment claims ($X \downarrow$). Intuitively, when the dollar appreciates, each claim is worth more in foreign-currency terms, so households need fewer claims for a given amount of transactions and the expected appreciation pushes for a reduction in the portfolio holdings.

Transmission. Using the fact that Equation (2) implicitly defines $X = x(S)$ with $x'(S) > 0$, we can rewrite Equation (1) to get:

$$S = \frac{S^e}{1 + R^{US} - R^F - \rho(\bar{B} - x(S))}. \quad (3)$$

Equation (3) summarize the main mechanism. The issuance of dollar-denominated payment claims compresses U.S. yields in steady state because it increases demand for U.S. safe assets through reserve backing. But exchange-rate movements also feed back into the demand for those claims and, therefore, into Treasury demand. This reduces the elasticity of nominal exchange rate movements to the domestic interest rate.

This is clear when we see the reaction to a U.S. monetary tightening, $R^{US} \uparrow$. Holding X fixed, equation Equation (3) delivers the standard effect: the dollar appreciates, $S \downarrow$. However, the appreciation also reduces foreign demand for dollar payment claims X through equation Equation (2). As foreign households reduce their holdings, the intermediary contracts its balance sheet and sells U.S. Treasuries. This raises the net supply of bonds available to the private sector, $\bar{B} - X$, increases $\rho(\bar{B} - X)$, and partly offsets the initial dollar appreciation.

This simple framework isolates the core mechanism of the paper. Whenever a private payment instrument is redeemable at par in dollars and backed one-for-one by U.S. safe assets, fluctuations in foreign demand for that instrument map directly into fluctuations in Treasury demand. In this sense, the mechanism is not specific to stablecoins. Rather, stablecoins are a prominent institutional example of a more general class of digital payment systems inelastically backed by U.S. public debt.

Figure 2 illustrates the core mechanism – assuming a liner specification for $\rho(\bullet)$ and $b(\bullet)$. Panel (a) plots equilibrium dollar payment claims $X = x(S)$ against the US policy rate: a tightening appreciates the dollar and lowers foreign demand for dollar-denominated claims. Panel (b) traces the resulting Treasury convenience yield $\rho(\bar{B} - X)$,

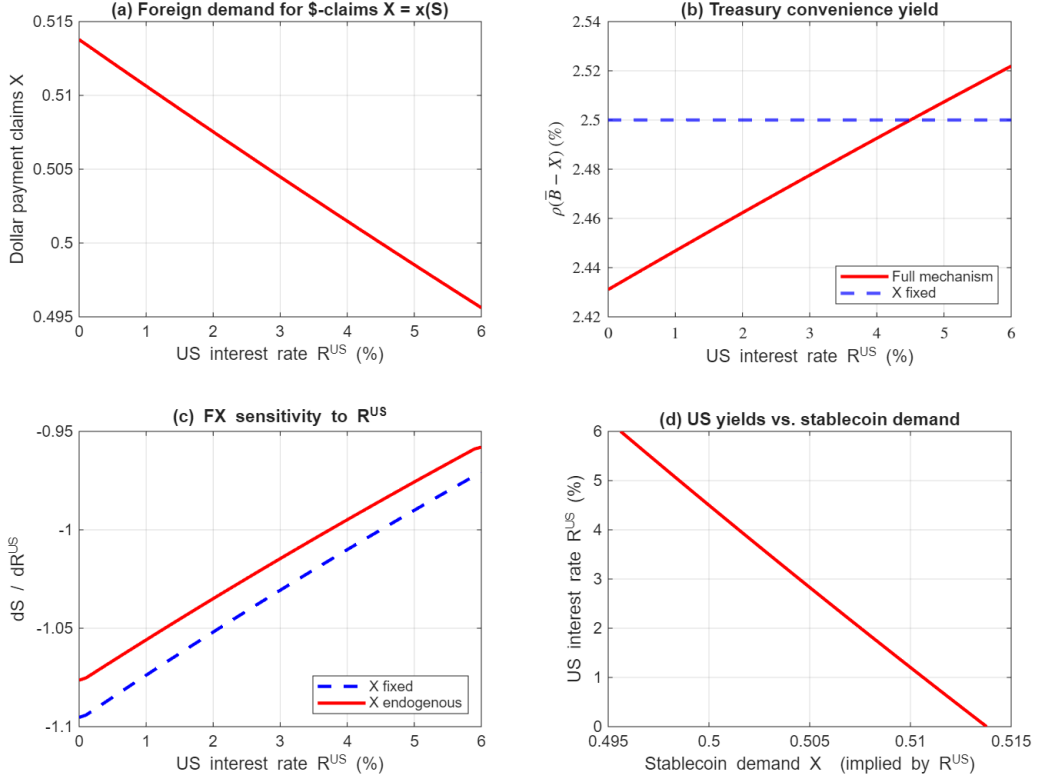


Figure 2: Key mechanism illustration.

Notes: The chart shows the partial-equilibrium elasticities implied by Equation (3). All parameters of the simple model are kept constant, except the one on the x-axis. The calibration is: $S_e = 1$ (expected future exchange rate); $R_F = 0.02$ (foreign exchange rate); $\bar{B} = 1$ (total Treasury supply, normalized); $\rho_0 = 0.05$ (slope of convenience-yield); $\alpha = 0.6$ (elasticity of X w.r.t. S); $\bar{X} = 0.5$ (baseline level of X). The exchange rate S is expressed in units of dollars per units of foreign currency, i.e. lower S is an appreciation of the US dollar.

which is invariant to R^{US} when X is held fixed (dashed line) but rises monotonically under the full mechanism (solid line), as the contraction in X raises the net supply of Treasuries to the private sector. Panel (c) reports the exchange-rate sensitivity $\frac{\partial S}{\partial R^{US}}$ with and without X . Both schedules are negative sloped, consistent with uncovered-parity logic, but the full-mechanism lies uniformly above the fixed- X benchmark. This indicates that the endogenous response of stablecoin demand dampens FX pass-through. Panel (d) summarizes the joint determination of R^{US} and X in steady state: higher stablecoin demand is associated with lower equilibrium US yields, reflecting the inelastic backing of dollar payment claims by Treasury securities. Together, the panels make precise the paper's central observation: fluctuations in foreign demand for privately issued dollar payment instruments map one-for-one into fluctuations in Treasury demand, compressing both the level of U.S. yields and the elasticity of the nominal exchange rate to domestic monetary

policy. [Figure B.1](#) in the Appendix explores changes around the calibration of the simple model’s parameters, our main conclusions remain.

2.2 Fully fledged model

We now construct a three-country DSGE model, based on [Eichenbaum et al. \(2021\)](#) and [Ferrari Minesso et al. \(2022b\)](#), incorporating two key features: the introduction of a U.S. stablecoin used for payments across countries, and a convenience yield on U.S. bonds capturing their special role as the world’s dominant safe and liquid asset. These elements jointly allow us to study how the rise of stablecoins alters the international transmission of shocks through changes in global demand for U.S. debt. The stripped-down two-country toy model presented above already isolates the core balance-sheet mechanism: foreign demand for a dollar payment instrument translates one-for-one into demand for U.S. Treasuries through reserve backing. The purpose of the fully fledged model is to embed that mechanism in a standard open-economy DSGE environment with endogenous consumption, production, exchange rates, and monetary policy, so that we can quantify its aggregate and cross-country implications. Stablecoins are introduced following the framework shaped by the GENIUS Act: they are unremunerated instruments for transactions issued by a global stablecoin issuer located in the U.S. that backs each coin minted with a safe U.S. bond. Stablecoins serve households both as settlement (i.e. payment) and trading (i.e. store of value) tokens.

[Figure 3](#) visualizes the overall structure of the model from a U.S. perspective. The full framework is, however, a three-country model, where countries are indexed by $c = \{US, 1, 2\}$ and have size n_c . In the baseline calibration, the countries are symmetric and of the same size. Relative to the toy model, the third country is introduced to capture how shocks originating in a non-U.S. economy propagate both to the stablecoin-issuing country (the U.S.) and to another non-issuing country. This feature is important for our question because it allows us to study how stablecoin adoption not only changes how foreign shocks feed back to the issuer, but also how those shocks are redistributed across non-issuing economies. It is therefore necessary to accurately capture the complexity and two-way amplification of international financial spillovers introduced by the global safe asset channel.

In each country there are households, firms, a government and a central bank; addi-

tionally, in the U.S. there is a sector of stablecoin issuers. Households derive utility from consumption, leisure, and holdings of U.S. bonds. The assumption that U.S. bonds enter households' utility functions captures the special role of U.S. dollar bonds—that they are the most liquid and safe financial asset in the world (see e.g. [Jiang et al., 2021](#)). This creates a convenience yield from holding U.S. dollar bonds, as in e.g. [Valchev \(2020\)](#) and [Bianchi and Sosa-Padilla \(2023\)](#). For this reason the U.S. pays lower interest rates on its debt in equilibrium, calibrated following [Eren et al. \(2025\)](#). Households also require liquid instruments to perform transactions, which can be either domestic money or an internationally traded stablecoin. As in the toy model, these two instruments are not perfect substitutes. Firms are standard: they are owned by households, produce intermediate goods that are sold domestically and internationally, using labor and capital. Prices have quadratic adjustment costs à la Rotemberg.

Stablecoins are perfectly liquid and can be used by households worldwide to settle transactions, acting as an imperfect substitute for money in the liquidity aggregator. The issuer's balance sheet is simple: assets consist of U.S. Treasuries, and liabilities correspond to outstanding stablecoins. This is the DSGE counterpart of the one-for-one backing condition in the toy model. Issuers earn a spread equal to the return on Treasuries, reflecting seigniorage-like profits from private issuance of dollar-backed liquidity. Since both assets and liabilities are denominated in U.S. dollars, the issuer faces no exchange rate risk, while foreign holders of stablecoins remain exposed to FX fluctuations. Finally, because stablecoins increase aggregate demand for Treasuries, we account for the fact that this pushes down the cost of financing for the Federal Government, in line with the evidence from [Eren et al. \(2025\)](#) on the impact of foreign demand on U.S. yields.

The rest of the model follows [Eichenbaum et al. \(2021\)](#): international markets are incomplete and uncovered interest parity does not hold. Monetary policy is set in each country independently by a central bank reacting to inflation (π_c) and output (Y_c). Government expenditures (consumption of final goods and debt repayment) are financed through taxes and issuance of new debt. Taxes are set to reach a target level of deficit. Implicitly the government balance sheet determines the amount of bonds in circulation. For our purposes, this supply of U.S. debt is taken as exogenous and policy-invariant at business-cycle frequency: for a given level of government expenditure and taxation, stablecoin issuers compete with foreign households for the same quantity of U.S. bonds.

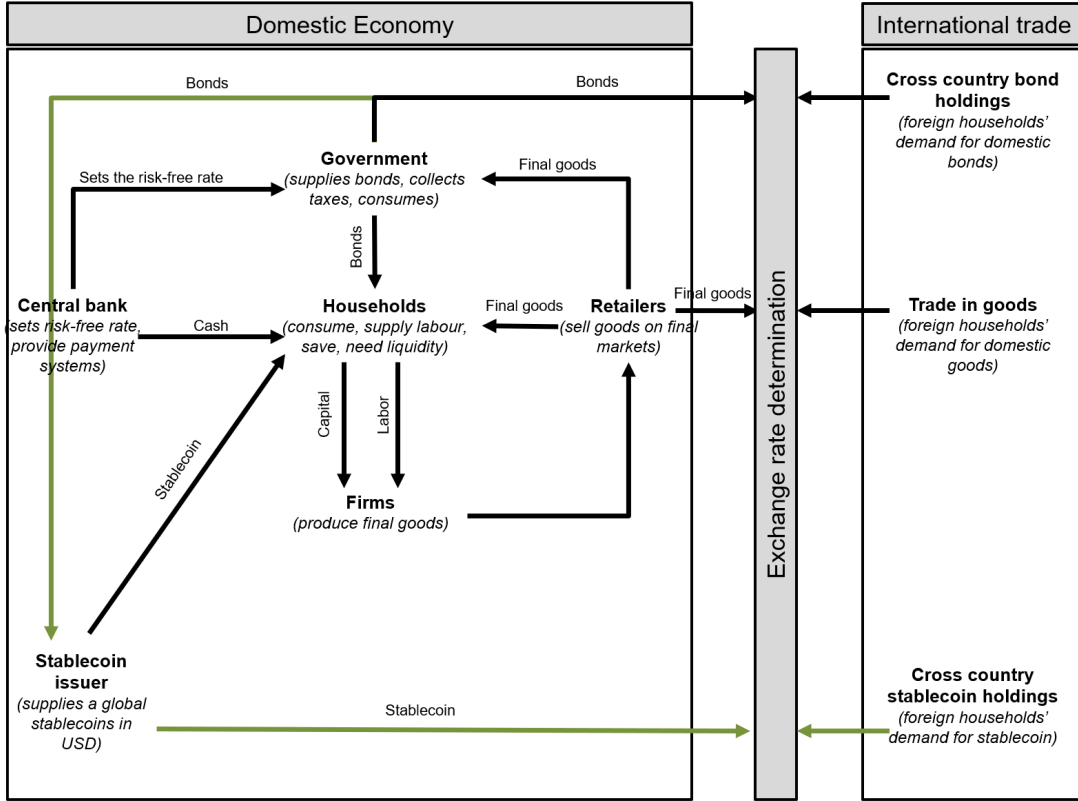


Figure 3: Description of the model.

Notes: The chart shows a description of the model from the U.S. perspective. The two foreign economies are symmetric. Green lines show the additional channels deriving from stablecoin adoption.

This is the general-equilibrium analogue of the fixed short-run Treasury supply assumption in the toy model and is what makes changes in stablecoin demand translate into U.S. yield movements.¹³

The full model is explained in greater detail in Appendix B. In the next subsections we focus on the most distinctive and novel features, starting from the stablecoin block that generalizes the mechanism highlighted in the toy model.

2.3 Stablecoins

As mentioned, we model stablecoins following the spirit of the GENIUS Act. They are assumed to have evolved beyond crypto markets and to be used by households as a payment instrument. We consider alternative steady-states with different degrees of global adoption, from limited use (USD 500 billion) to widespread circulation with a market capitalization of around USD 2 trillion. A global issuer located in the United

¹³A complementary line of work endogenizes the issuance decision of a monetary hegemon in the presence of stablecoins and studies the changes in the international monetary system (Azzimonti and Quadrini, 2025; Barthélemy et al., 2025)

States backs each coin one-to-one with U.S. Treasury securities, earning the return on these assets as profit. The issuer's balance sheet satisfies:

$$B_{sc,t} = \sum_{c=\{US,1,2\}} n_c SC_{c,t}, \quad (4)$$

where $B_{sc,t}$ denotes the issuer's holdings of U.S. bonds and $SC_{c,t}$ the outstanding stablecoins held by households in country c . This is the exact analogue of the balance-sheet identity in the toy model, now aggregated across all countries. Each coin is fully backed by a U.S. bond, implying that any change in global stablecoin demand requires the issuer to buy or sell Treasuries, directly altering demand for the global safe asset. The issuer earns a spread equal to the return differential between U.S. bonds and the stablecoin rate, $(R_t - R_{sc,t})$, which is positive under the GENIUS Act as stablecoins are unremunerated ($R_{sc,t} = 1$). Profits are given by:

$$PSC_t = \frac{B_{sc,t-1}(R_{t-1} - R_{sc,t-1})}{\pi_t}, \quad (5)$$

and allow the issuer to accumulate a seigniorage-like income. Since both assets and liabilities are denominated in U.S. dollars, the issuer is insulated from exchange rate risk. In steady-state, the stablecoin rate is normalized to one and the issuer's profits are constant.

On the demand side, households can use stablecoins to transfer wealth, in U.S. dollars, across time (trading tokens) and as a payment instrument alongside domestic money (settlement tokens). Transactions are subject to a cash-in-advance constraint with a CES liquidity aggregator,

$$\begin{aligned} P_{c,t} C_{c,t} &= \mathcal{L}_t \left(\frac{SC_{c,t}}{NER_{US,c,t}}, M_{c,t}, \mu_{sc,c,t} \right) \\ &= \left[\mu_{sc,c,t} \left(\frac{SC_{c,t}}{NER_{US,c,t}} \right)^{\eta_{c,m}} + (1 - \mu_{sc,c,t}) (M_{c,t})^{\eta_{c,m}} \right]^{\frac{1}{\eta_{c,m}}}. \end{aligned} \quad (6)$$

where $M_{c,t}$ is *fiat* money, $\eta_{c,m} \in (0, 1]$ governs the substitutability between the two instruments (notice that for $\eta_{c,m} \rightarrow 1$ Equation (6) becomes linear) and $\mu_{sc,c,t} \in [0, 1]$ measures households' confidence in using stablecoins as a payment instrument. It summarizes perceptions of safety, liquidity, and operational reliability, and hence determines the relative

weight of stablecoins in the liquidity aggregator. Relative to the toy model, this block microfound the reduced-form foreign demand for dollar payment claims by making it depend jointly on intertemporal motives, transaction services, and endogenous confidence. Confidence is decreasing in three dimensions of perceived fragility: (i) valuation risk of the reserve portfolio, (ii) negative-carry risk due to interest-rate movements, and (iii) run risk associated with the payment infrastructure. Formally, we specify:

$$\mu_{sc,c,t} = \mu_{sc,c}^* - \left(\alpha_\mu \sigma_{q,t}^2 + \beta_\mu \exp\{1 - R_{US,t}\} + \gamma_\mu \rho_t \right), \quad (7)$$

where $\mu_{sc,c}^*$ is the steady-state level of confidence, $\sigma_{q,t}^2 \equiv \text{Var}\left(\frac{\Delta q_t}{q_t}\right)$ measures valuation volatility of the reserve portfolio, $R_{US,t}$ is the gross return on U.S. bonds, and ρ_t denotes the intensity of potential redemption pressures (e.g., cyber or governance shocks). The parameters $\alpha_\mu, \beta_\mu, \gamma_\mu > 0$ capture the sensitivity of confidence to each component. When reserves are stable, returns are positive, and redemption risk is low, $\mu_{sc,c,t} \simeq \mu_{sc,c}^*$ and stablecoins are close substitutes for money. Conversely, a decline in confidence (e.g., due to rising valuation uncertainty or run expectations) reduces $\mu_{sc,c,t}$, lowering the effective liquidity services provided by stablecoins and shifting demand back toward domestic money. Notice that Equation (7) endogenously dampens demand for stablecoins as they grow: the more stablecoins are minted, the more U.S. debt the issuer needs to purchase, compressing its yields. Lower remuneration decreases the issuer's intermediation margin, making it more likely to default. Appendix C.1 shows that the main results are unchanged assuming a constant $\mu_{sc,c}$. This implies that Equation (7) is not the driver of results, but acts as a realistic amplification channel.

The first-order condition for stablecoin holdings equates the marginal liquidity value of stablecoins to their opportunity cost. Intuitively, households hold stablecoins up to the point where the liquidity and portfolio benefits they provide equal the cost of keeping resources in an unremunerated digital dollar instrument.¹⁴ Notice that although stablecoins are not remunerated, foreigners can earn capital gains (losses) from an appreciation (depreciation) of the U.S. dollar against their domestic currency.

Finally, we deliberately abstract from the financial stability implications of stablecoins

¹⁴Our main results are unchanged if liquidity demand is modeled through money-in-utility preferences, which similarly capture micro-founded frictions behind the use of payment instruments; see Feenstra (1986).

and the possibility of multi-issuer stablecoins ([European Systemic Risk Board, 2025](#)). Throughout the paper, we adopt the perspective of a regulatory framework in which stablecoins have limited implications for the banking sector. Additionally, we assume that stablecoins are issued only by U.S. entities. While these considerations are important, we leave them for future research. In the baseline model stablecoins do not charge redemption fees, which are negligible in real-world stablecoins,¹⁵ but this assumption is relaxed in the Appendix.

2.4 The household problem

Consider the allocation problem of a representative household (HH) in economy c . Period utility is:

$$U_{c,t} = e_{c,t} \ln(C_{c,t} - h_c C_{c,t-1}) - \frac{\chi_{c,l}}{1 + \phi_{c,l}} L_{c,t}^{1+\phi_{c,l}} + \mathcal{F}_b \left(\frac{B_{US,c,t}}{NER_{US,c,t} P_{c,t}} \right) \quad (8)$$

where C denotes consumption, L hours worked, M domestic nominal money balances, P_c the domestic price index, $B_{US,c}$ holdings of internationally-traded U.S. bonds, $NER_{US,c}$ the nominal exchange rate (defined as dollars per unit of currency c) and e is a preference shock.¹⁶ As in [Valchev \(2020\)](#) and [Jiang et al. \(2024\)](#), $\mathcal{F}_b(\bullet)$ defines the utility of liquidity services arising from holding international reserve assets, with $\mathcal{F}_b(0) = 0$, $\mathcal{F}_b'(\bullet) > 0$, $\mathcal{F}_b''(\bullet) < 0$. $\mathcal{F}_b(\bullet)$ generates an international premium on U.S. bonds. Households optimize utility subject to an intertemporal budget constraint and a liquidity cash-in-advance constraint, that captures demand for liquid assets (money and stablecoins) to conduct transactions as in [Equation \(6\)](#). We explicitly distinguish the non-pecuniary benefits of U.S. bonds, which do not serve as a medium of exchange, from cash and stablecoins, whose transactional role is captured through a cash-in-advance constraint. This distinction highlights how stablecoins' introduction makes part of the U.S. bond supply synthetically more liquid, namely the portion held as reserve by the issuer,

¹⁵Tether charges 0.1% redemption fee while USDC charges no fee to non institutional accounts.

¹⁶In other words, for country c , a fall in $NER_{US,c,t}$ is a depreciation of the their currency. For the U.S., $NER_{US,US} = 1$.

strengthening the global demand for U.S. assets. The budget constraint is:

$$\begin{aligned}
& P_{c,t}C_{c,t} + B_{c,c,t} + \sum_{l \neq c} NER_{l,c,t}B_{l,c,t} + P_{c,t}I_{c,t} + M_{c,t} + \frac{SC_{c,t}}{NER_{US,c,t}} \\
& \leq w_{c,t}L_{c,t} + R_{c,t-1}B_{c,c,t-1} + \sum_{l \neq c} NER_{l,c,t}R_{l,t-1}B_{l,c,t-1} - \sum_{l \neq c} \frac{\phi_c^B}{2} \left(\frac{B_{l,c,t}NER_{l,c,t}}{P_{c,t}} \right)^2 P_{c,t} \\
& \quad + P_{c,t}R_{c,t}^k K_{c,t-1} + M_{c,t-1} + \frac{R_{sc,t-1}SC_{c,t-1}}{NER_{US,c,t}} + \Pi_{c,t}
\end{aligned} \tag{9}$$

where SC are stablecoin holdings, R , R_{sc} , R^k are respectively nominal returns on bonds, on stablecoins and on capital holdings and K are capital investments by households (who fully own firms). We assume international bond markets are incomplete because of transactions costs proportional to ϕ^B . As mentioned, $NER_{l,c}$ is the nominal exchange rate, defined as units of currency l for currency c : an increase in $NER_{l,c}$ is an appreciation of currency c against currency l . Stablecoins are assumed to bring no remuneration, so $R_{sc,t} = 1 \forall t$. $\mu_{sc,t}$ is endogenous and varies according to the confidence that HHs attach to stablecoins. Equation (6) is characterised also by decreasing returns to scale as in standard macro-theory. In other words, households' need for payment instruments decreases in the total amount of payment assets they hold. Hence any additional purchase of payment assets has less value in terms of the payment it brings to households. Therefore $\mathcal{L}(0) = 0$, $\mathcal{L}'(\bullet) > 0$ and $\mathcal{L}''(\bullet) < 0$. First order conditions for U.S.dollar denominated internationally traded assets, bonds and stablecoins, are:

$$-\frac{\lambda_{c,t}}{NER_{US,c,t}} + \beta_c E_t \left(\frac{\lambda_{c,t+1}}{NER_{US,t+1}} \frac{R_{US,t}}{\pi_{c,t+1}} \right) - \frac{\phi^B \lambda_{c,t}}{NER_{US,t}} \left(\frac{B_{US,c,t}}{P_{c,t}NER_{US,c,t}} \right) + \frac{\mathcal{F}'_b(\bullet)}{NER_{US,c,t}} = 0. \tag{10}$$

where $\{\lambda_{c,t}\}_{t=0}^\infty$ is the sequence of Lagrangian multipliers associated to the budget constraint of the household. We can rewrite Equation (10) as:

$$-\frac{\lambda_{c,t}}{NER_{US,c,t}} + \beta_c E_t \left(\frac{\lambda_{c,t+1}}{NER_{US,t+1}} \frac{R_{US,t}}{\pi_{c,t+1}} \right) + \mathcal{P}_{US,t} = 0.$$

to highlight the role of the premium on U.S.bonds. $\mathcal{P}_{US,t} = \frac{\mathcal{F}'_b(\bullet)}{NER_{US,c,t}} - \frac{\phi^B \lambda_{c,t}}{NER_{US,t}} \left(\frac{B_{US,c,t}}{P_{c,t}NER_{US,c,t}} \right)$ denotes the premium given by the liquidity minus transaction costs. The first order condition for stablecoins is:

$$-\frac{\lambda_{c,t}}{NER_{US,c,t}} + \beta_c E_t \left(\frac{\lambda_{c,t+1}}{NER_{US,c,t+1}} \frac{R_{sc,t}}{\pi_{c,t+1}} \right) + \gamma_{c,t} \frac{\mathcal{L}'(\bullet)}{NER_{US,c,t}} = 0 \quad (11)$$

where $\{\gamma_{c,t}\}_{t=0}^{\infty}$ is the sequence of Lagrangian multipliers associated to the cash-in-advance constraint.¹⁷

Combining Equation (10) and Equation (11), conditional on the issuance constraint of the stablecoin holder of Equation (4), leads to the key equation of the model:

$$\beta_c E_t \left[\frac{\lambda_{c,t+1}}{NER_{US,c,t+1} \pi_{c,t+1}} \right] [R_{US,t} - R_{sc,t}] = \gamma_{c,t} \frac{\mathcal{L}'(\bullet)}{NER_{US,c,t}} - \mathcal{P}_{US,t} \quad (12)$$

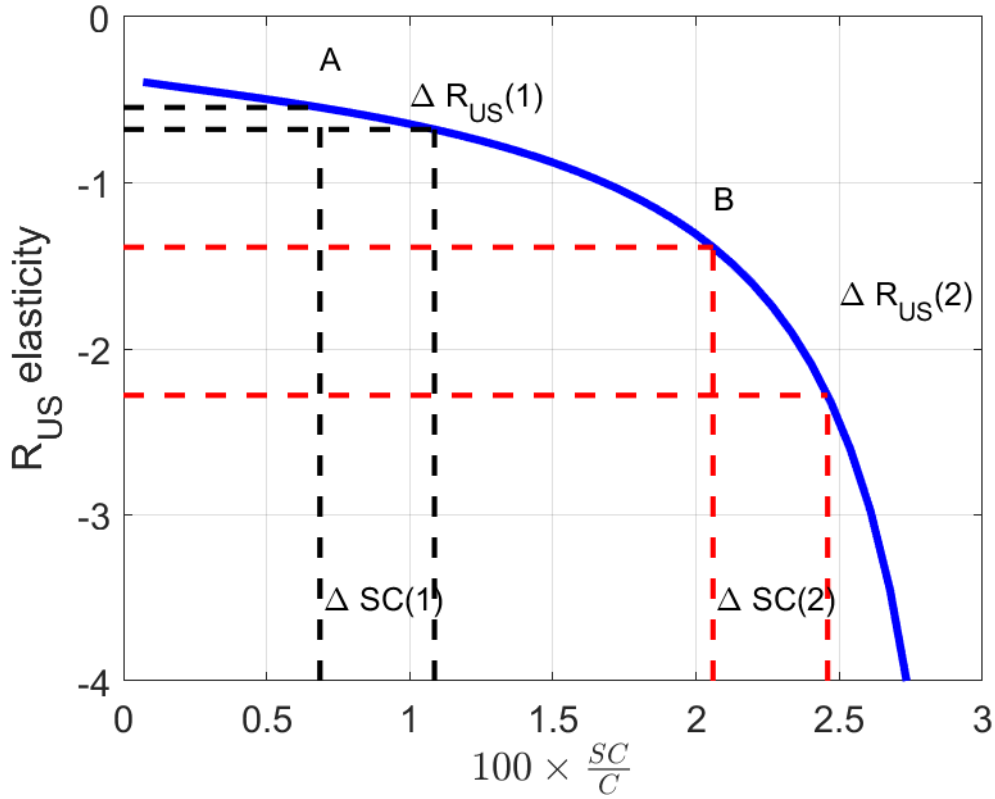


Figure 4: Demand for stablecoins against returns differential.

Notes: the chart shows the elasticity of U.S. yields (vertical axis) against stablecoin demand (horizontal axis). The elasticity is computed as in Equation (13) by keeping all other variables constant and changing values of stablecoins. $\Delta SC(1)$ and $SC(2)$ show the change in U.S. yields for the same change in stablecoin holdings.

It can be shown analytically, see Appendix B.7, that the elasticity of stablecoins holdings to changes in the interest rates depends on steady-state holdings. Log-linearizing

¹⁷Notice that for a U.S. household first order conditions would be identical, with the only difference that $NER_{US,US,t} = 1 \forall t$

Equation (12) leads to the following elasticity of the demand for stablecoins to the interest rate differential:

$$(\eta_{c,m} - 1) \frac{\mu_{sc,c,ss} \gamma_{c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_{c,m}-1}}{\gamma_{c,ss} \mu_{sc,c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_{c,m}-1} - \chi_{c,b} B_{US,c,ss}^{-\sigma_{c,b}}} \frac{1}{\Gamma_{ss}} \quad (13)$$

ss indicates steady-state holdings, Γ is a positive scalar that depends on $\mu_{sc,c}$ and on the steady-state U.S. risk-free rate. It is strictly positive under a wide range of calibrations.¹⁸ Under the baseline calibration, the sign of Equation (13) is negative because $\eta_{c,m} - 1 < 0$ for $\eta_{c,m} \in (0, 1]$. For low stablecoin preferences, $\mu_{sc,c} \rightarrow 0$, the elasticity tends to zero, meaning that low stablecoin demand is almost unaffected by U.S. yields and vice-versa. In other words, unsurprisingly, if preferences for stablecoins are low, they have no aggregate effects. Similarly, if stablecoins and cash are linear substitute, that is $\eta_{c,m} \rightarrow 1$, the elasticity is also zero. This is intuitive as households would hold only one payment instrument cash: there would be a corner solution. In practice, it is unlikely that fiat money would lose completely its convenience relative to other forms of money, if nothing because of the role of government taxes and its role in aggregate demand, see Ikeda (2022). Data from existing surveys also convey this intuition, see Li (2023).

Dynamics might change if stablecoins are high in demand. While the numerator is larger than zero by construction, $\mu_{c,sc} \gamma_{c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_{c,m}-1} > 0$, the denominator might change size. Equation (13) can turn negative if $\gamma_{c,ss} \mu_{sc,c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_{c,m}-1} > \chi_{c,b} B_{US,c,ss}^{-\sigma_{c,b}}$. That can happen if stablecoins holdings are particularly high, as $\left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_{c,m}-1}$ (i.e. the marginal value of stablecoins for payments) decreases the more stablecoins are held by households. In other words as $\left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_{c,m}-1}$ declines households place limited value on additional stablecoins as payment instruments. In that extreme case, the relationship would be opposite: an increase in the rate differential would generate more demand for stablecoins, leading to macro instability. This happens because stablecoins would be held more and more as a financial asset, therefore households would react more aggressively to changes in financial conditions, see Figure B.3 in the Appendix.

Indeed Equation (12) is similar to the CBDC holding condition derived in Ferrari Minneso et al. (2022b) but with one important difference. CBDC in that model are issued elastically by the central bank, which in the background sterilizes the effects of CBDCs on

¹⁸See Figure B.3 and Appendix B.7 for the full derivation.

financial markets. Stablecoin issuers, on the contrary, must follow the budget constraint in Equation (4). This constraint implies that any fluctuation in stablecoins issuance is balanced by a proportional change in holdings of U.S. safe assets. These shifts are not sterilized by monetary authorities and lead to real effects from stablecoin demand. That creates the new channel of transmission for shocks, as stablecoin demand amplifies the impact on U.S. financial markets from changes in returns on U.S. assets or households' consumption and intertemporal preferences in foreign countries (i.e. λ_c).

Importantly, the financial market impact of stablecoin adoption is amplified by the amount of stablecoins minted. The larger are stablecoin holdings in country c , the lower is $\mathcal{L}'$ and therefore the more stablecoins households in country c will need to liquidate (purchase) to balance the two sides of Equation (12). Notably, a similar relation to Equation (12) can be derived for domestic bonds and money in country c , amplifying the global spillovers of domestic shocks in c through U.S. bond markets, see Section B for full derivation.

2.5 Calibration

The standard parameters of the model are calibrated as Eichenbaum et al. (2021) and Ferrari Minesso et al. (2024), with a sensitivity to inflation in the Taylor rule set to 2; the reaction to output to 0.6 and the persistence of monetary policy to 0.75. The home bias in trade is set to 0.75. All parameters are reported in Table B.1 in the Appendix. In the baseline configuration, all countries are symmetric and have the same size (1/3). The three shocks (monetary policy, TFP and stablecoin preference) follow an AR(1) process, with autoregressive parameter set to 0.2 for the monetary policy shock process and to 0.5 for the others. The standard deviation of shocks is calibrated to 0.01. We calibrate α_μ , $\sigma_{q,t}^2$, β_μ and γ_μ to 0.1, 0.05, 0.01 and 1 respectively. We set the volatility of the stablecoin shock (ρ_t) to 0.01 and the persistence of its process to 0.5. The steady-state value of $\mu_{sc,c}$ is calibrated to reach a market capitalization of USD 500 billion (0.05) and USD 2 trillion (0.1). In the absence of stablecoins, the premium on U.S. yields is calibrated to 1% annualized; we follow the quantitative results of Eren et al. (2025) increasing it by 30 bps when stablecoins market capitalization reaches 2 tr.

3 Results

In this section, we assess how the introduction of stablecoins affects both the issuing and foreign economies. We first examine implications for monetary stability and business-cycle dynamics in the issuing country; we then analyze how stablecoins modify the transmission of shocks originating abroad; finally, we study how shocks to stablecoin demand propagate across countries. The analysis considers three calibrations: (i) no stablecoins; (ii) moderate adoption with a steady-state market capitalization of USD 500 billion (about USD 200 billion above the level at the time of writing, $\approx 1.3\%$ of total U.S. debt); and (iii) large-scale adoption of USD 2 trillion ($\approx 5.3\%$ of U.S. debt), consistent with the upper range of investment-bank projections.

At the core of the results is a global safe asset channel. When the dollar appreciates (depreciates) there are valuation effects for foreign holders of dollar-backed stablecoins. Foreign holders are incentivized to redeem (purchase) stablecoins due to the two specific features of stablecoins: to i) realise valuation gains (as trading tokens) and ii) because they need fewer units to settle transactions (as settlement tokens). But because payment stablecoins are fully backed by short-term U.S. Treasuries, portfolio flows into and out of stablecoins map one-for-one into changes in Treasury demand, as the issuer sells (buys) bonds to meet redemptions. Redeemed dollars are then converted into foreign currencies and transferred abroad, leading to a dollar depreciation (the opposite in case of flows into stablecoins). This ties private money creation directly to public debt and makes U.S. yields react not only to domestic policy but also to global payment needs and portfolio rebalancing.

Overall, stablecoins modify the transmission of U.S. monetary policy through three bond-market mechanisms. First (level effect, steady-state): by adding structural demand for T-bills, stablecoins lower equilibrium risk-free yields but also require central banks to be more aggressive in responding to inflation because digital capital flows limit the ability of central banks to steer aggregate demand. Second (domestic pass-through): as a growing share of Treasuries is held indirectly via foreign stablecoin demand, the pass-through of U.S. policy shocks to short maturities is amplified, as issuers sell Treasuries when foreign households realise capital gains and need fewer stablecoins to settle transactions if the dollar appreciates. Third (foreign sensitivity): by strengthening the link between foreign payment needs and U.S. bond markets, external shocks exert a larger influence on U.S.

financial conditions, amplifying two-way international spillovers. These effects are small when adoption is modest relative to the size of the U.S. bond market, but scale non-linearly with market size, creating sharper trade-offs for monetary and financial stability as stablecoin capitalization rises.

3.1 Macro-Financial Stability: The Risks of the Global Safe Asset Channel

We begin by examining the implications of stablecoin introduction for macro-financial stability. [Figure 5](#) presents a stability map in which we vary the response coefficient to inflation in the U.S. central bank’s Taylor rule, θ_π in [Equation \(14\)](#), (vertical axis) and the steady-state demand for stablecoins (horizontal axis), expressed as a share of total U.S. debt.

$$\ln R_{c,t} = (1 - \varrho) \ln R_{c,t-1} + \varrho \left[\ln R_{c,ss} + \theta_\pi \ln \pi_{c,t} + \theta_y (\ln Y_{c,t} - \ln Y_{c,ss}) \right] + \varepsilon_{c,t}. \quad (14)$$

The blue area denotes parameter combinations yielding a stable equilibrium while the red area indicates instability.¹⁹ The vertical black lines mark levels of stablecoin holdings corresponding to total market capitalizations of USD 500 billion and USD 2 trillion, respectively.

For low levels of stablecoin adoption (below USD 500 billion) the conventional Taylor principle holds: monetary stability requires the policy rate to respond to inflation with a coefficient greater than one. As stablecoin adoption increases, this relationship changes. Higher stablecoin capitalization necessitates a stronger policy response to inflation for the model to remain stable. This result stems from the new linkage stablecoins create between U.S. bond markets, the dollar exchange rate and foreign holdings. With widespread stablecoin use across countries, U.S. yields and the dollar exchange rate become increasingly influenced by foreign demand for stablecoins. As a result, aggregate demand reacts less to domestic monetary policy, requiring a stronger reaction to inflation to stabilize prices and the business cycle.

These effects are non-linear, as illustrated in [Figure 5](#). Even under substantial, though

¹⁹The model is linearized to first order. Stability is assessed using the Blanchard–Kahn conditions. The model is solved using Dynare, [Adjemian et al. \(2024\)](#).

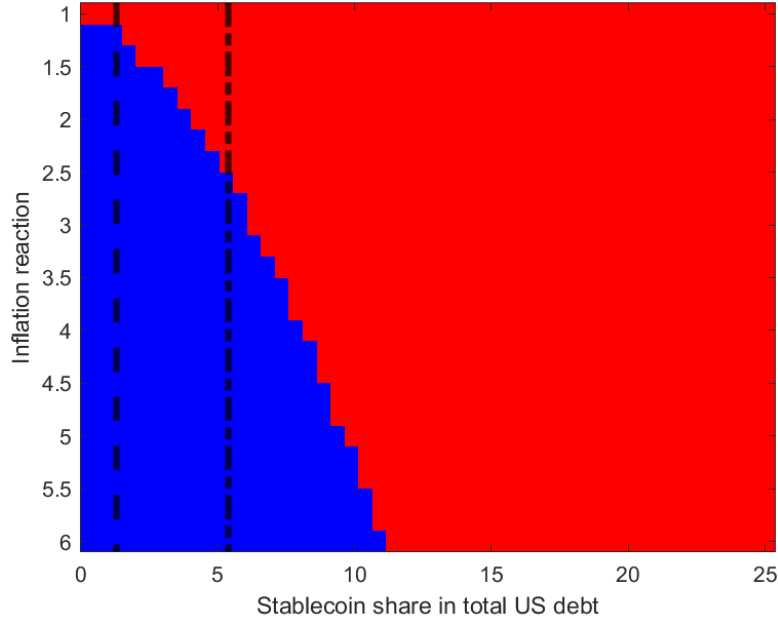


Figure 5: Stability map.

Notes: the chart shows combinations of values for the U.S. Taylor rule inflation reaction parameter (θ_π) and the stablecoin preference parameter (μ_{sc}). Blue areas indicate that the model is stable and red areas that it is unstable. Vertical lines indicate a stablecoin total market cap of USD 500 bln and 2 Tr.

plausible, stablecoin adoption in line with market expectations, the model remains stable for standard parametrizations of the inflation response, typically between 1 and 2.5. The situation changes once stablecoin capitalization exceeds USD 2 trillion, as monetary policy must react disproportionately strongly to inflation to preserve stability. For instance, if stablecoins account for 10% of the U.S. debt market (twice the upper bound of current projections) the inflation coefficient must rise to around 6. This finding underscores the potential for stablecoins to reshape the fundamental drivers of the U.S. bond market and, consequently, the behavior of U.S. yields.

This outcome follows directly from [Equation \(12\)](#). When the steady-state demand for stablecoins is high, their marginal value as a means of payment declines. Consequently, following a shock, households rapidly change their stablecoin holdings, strengthening the reaction of yields and exchange rates.

[Figure 6](#) replicates the exercise while varying the elasticity of substitution between different types of liquid assets ($\eta_{c,m}$) and the extent to which stablecoins lower U.S. yields in the steady-state.²⁰ The results are broadly consistent with our previous results,

²⁰We do this by varying the risk-premium parameter controlling the steady-state reduction in U.S. yields imputed by the demand for stablecoins. Additionally, notice that as $\eta_{c,m} \rightarrow 1$, preferences become

but it is interesting to see two regularities across calibrations: (i) the destabilising force of stablecoins increases as their impact on the U.S. steady-state yield increases. Larger reductions in yields are amplifying the global safe asset channel of stablecoins. This means that larger swings in stablecoins' demand across the globe imply a necessarily stronger monetary policy reaction to stabilize the economy. (ii) As stablecoins become closer substitutes for money in providing liquidity services ($\eta_m \rightarrow 1$), the economy becomes more stable for a given monetary policy response. This occurs because stablecoin demand becomes less volatile, as part of the adjustment in payment needs can be absorbed by money. In turn, this mitigates the strength of the global safe asset channel. In the extreme case of $\eta_m = 1$, as shown in Equation (12), the impact would be zero.

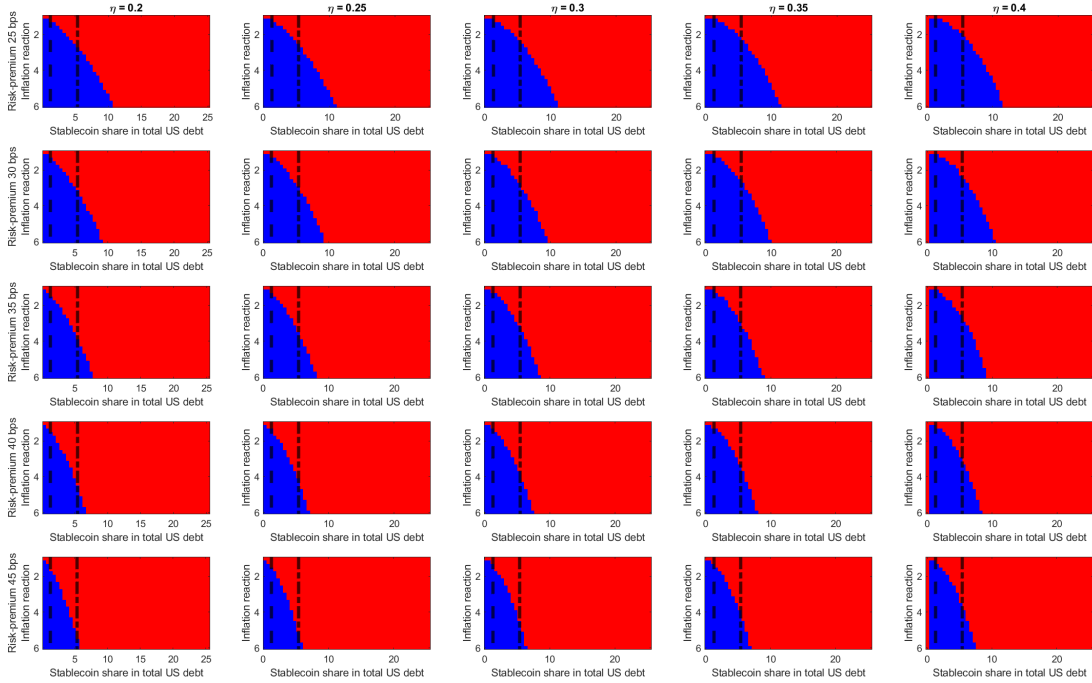


Figure 6: Stability map.

Notes: the chart shows combinations of values for the U.S. Taylor rule inflation reaction parameter (θ_π) and the elasticity of substitution between different types of liquid assets ($\eta_{c,m}$). Blue areas indicate that the model is stable and red areas that it is unstable. Vertical lines indicate a stablecoin total market cap of USD 500 bl and 2 Tr.. Different calibrations for the U.S. convenience yield and the CES liquidity aggregator parameter are considered. Vertical lines indicate a stablecoin total market cap of USD 500 bl and 2 Tr.

linear.

3.2 Impulse-responses

Turning to the impulse responses, we analyse three scenarios. The first considers two shocks originating in the U.S.: a one-standard-deviation contractionary U.S. monetary policy tightening and a one-standard deviation expansionary TFP shock. The second simulates the same shocks in a non-issuer stablecoin country. The third introduces a negative preference shock to stablecoins, designed to mimic a sudden loss of confidence and a sharp drop in demand for stablecoins across both domestic and foreign markets.

3.2.1 U.S. shocks: Monetary Policy and TFP

Figure 7 presents the effects of a U.S. monetary policy shock under the three adoption assumptions: (i) no stablecoins (black line), (ii) a steady-state stablecoin market capitalization of USD 500 billion (green line), and (iii) USD 2 trillion in steady-state stablecoin capitalization (red line). Consistent with the stability results, the low-adoption scenario has little impact on real outcomes relative to the baseline without stablecoins. The effects on domestic output and the interest rate are similar, reflecting the limited role of stablecoins in U.S. debt market dynamics at this scale.

However, macroeconomic consequences become important as stablecoins' capitalization increases (compare the red dots to the green line in Figure 7). Interestingly, output losses decrease when the economy is characterized by higher steady-state holdings of stablecoins. This occurs because when the dollar appreciates it creates positive valuation effects for foreign holders of dollar-backed stablecoins. This incentivises foreign holders to redeem stablecoins to realise valuation gains and because they need fewer units to settle transactions. As a consequence, the stablecoin issuer needs to sell U.S. dollar bonds and to convert proceeds from the sales into foreign currency to pay for those redemptions. The bond price falls, amplifying the contractionary effects of the monetary policy shock, consistently with Equation (12). Although higher U.S. rates also make Treasuries more attractive for foreign households, this additional direct demand is more than offset by the bond sales of the issuer, so that the net effect of the shock is a stronger rise in U.S. yields when stablecoins are present. Therefore, despite higher yields, redemption flows from the U.S. to the foreign country (and corresponding exchanges of dollars into foreign currency) dampen the appreciation of the dollar. Consequently, U.S. yields rise more in response to a shock of a given size (top-right panel of Figure 7), as the liquidation of

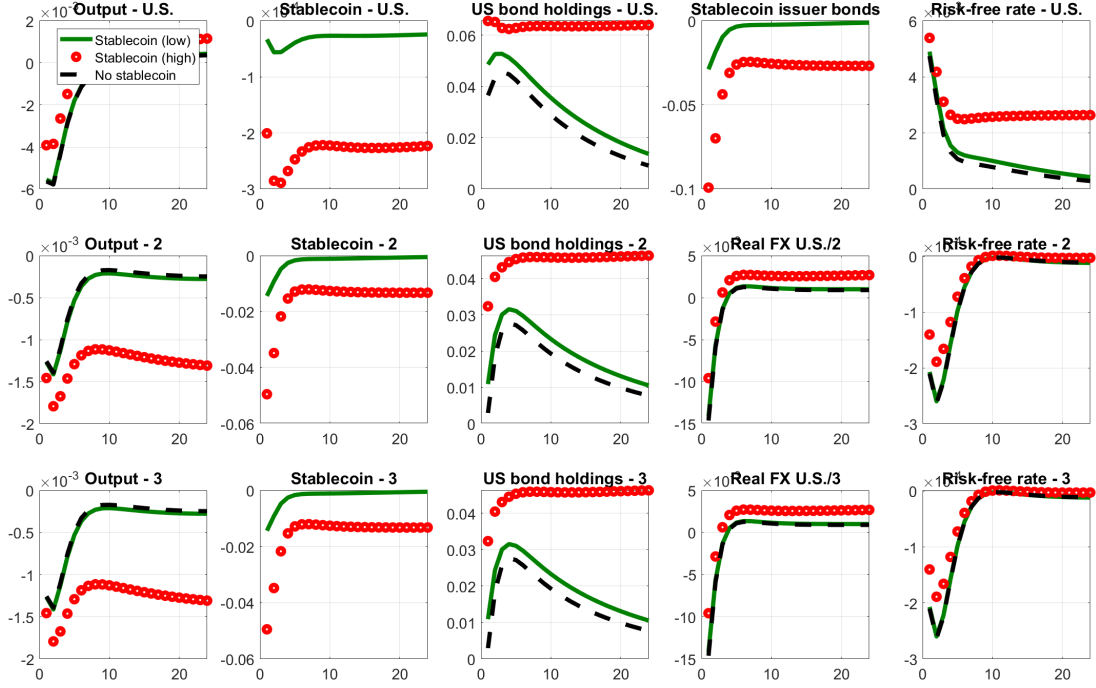


Figure 7: Impulse responses to a U.S. monetary policy shock.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 USD bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 USD tr, 5.4% of the U.S. bond market).

bonds by stablecoin issuers depresses bond prices and raises returns. At the same time, the U.S. dollar appreciates less against its trading partners (fourth column of [Figure 7](#)), supporting trade. This effect is economically significant: U.S. output declines by roughly 30% less. This result explains why central banks need to react more strongly to inflation as stablecoins become widely adopted: with large holdings of stablecoins monetary policy is less effective in steering aggregate demand because of (digital) capital flows.

Higher stablecoin holdings also amplify volatility in international demand for U.S. bonds, as foreign investors arbitrage between bonds and stablecoins. This effect strengthens with greater stablecoin adoption. Turning to foreign countries, the contractionary effects of U.S. tightening shocks are amplified the higher is stablecoin adoption because of exchange rate movements: the higher is the steady-state demand for stablecoins, the less the dollar appreciates, the more foreign countries lose competitiveness against the U.S.

The dynamics are similar when considering a U.S. TFP shock, [Figure 8](#). In this case, however, aggregate effects are smaller, as the shock is real rather than financial. Following

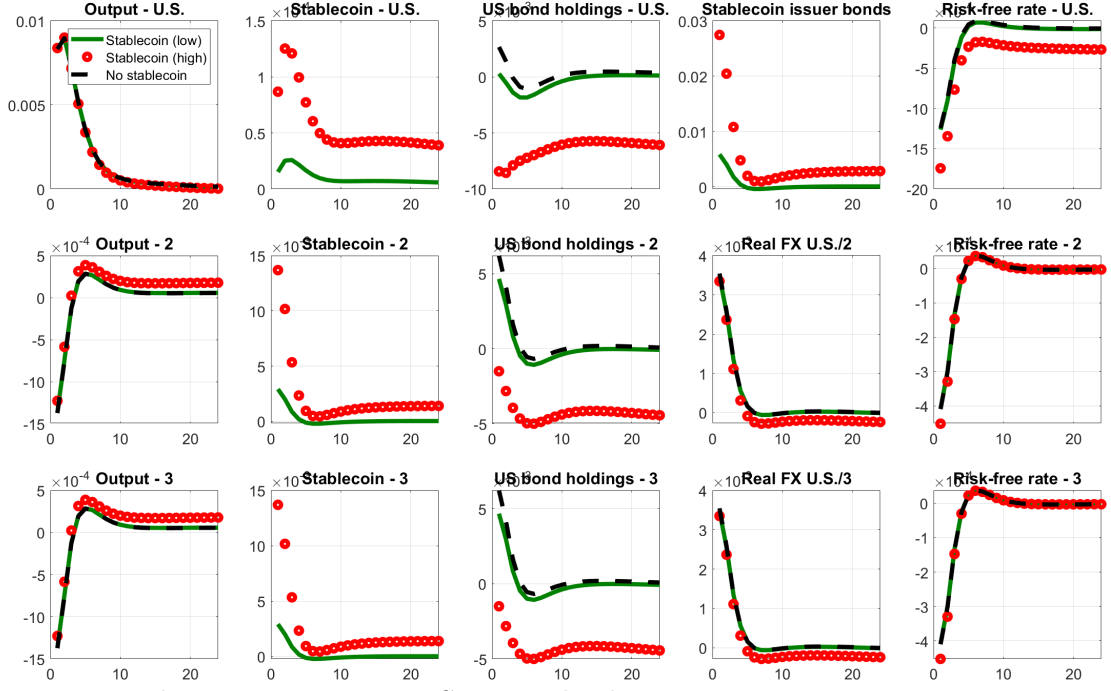


Figure 8: Impulse responses to a U.S. TFP shock.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. TFP shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 USD bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 USD tr, 5.4% of the U.S. bond market).

a positive TFP shock, U.S. yields decline more sharply when stablecoins are present. This occurs because foreign households purchase stablecoins, which are appreciating assets. Moreover, while U.S. bonds experience a decline in returns, stablecoin remuneration remains constant. This increases the incentive for households to hold stablecoins rather than U.S. bonds, even if this increase is muted by the decrease in confidence coming from an endogenous fall in $\mu_{c,t}$, due to the higher issuer risk. In the absence of stablecoins, foreign households would have rebalanced into domestic bonds or cash. These flows are partially offset by purchases of bonds by the stablecoin issuer. As demand for stablecoins rises, the issuer must buy additional bonds, leading to a decline in U.S. yields, about 50% larger than in the absence of stablecoins. This fall in yields helps offset the appreciation pressures resulting from inflows into dollar-denominated stablecoins. Foreign spillovers also decrease, although the difference between low and high stablecoin adoption is smaller than for a monetary policy shock. Exchange rate movements are amplified as well, with the dollar depreciating more in response to the shock, consistent with standard theory, and the magnitude of this effect rises with the level of stablecoin adoption. [Figure B.4](#) and

Figure B.5 in the Appendix show impulse responses for a broader set of variables. Notably, the inclusion of stablecoins generates more fluctuations in the convenience yield on U.S. bonds, as now bonds compete with stablecoins in delivering non-pecuniary benefits to households. Unsurprisingly, money demand moves in the opposite direction to stablecoin demand in all countries as the two are (imperfect) substitutes as liquid assets.

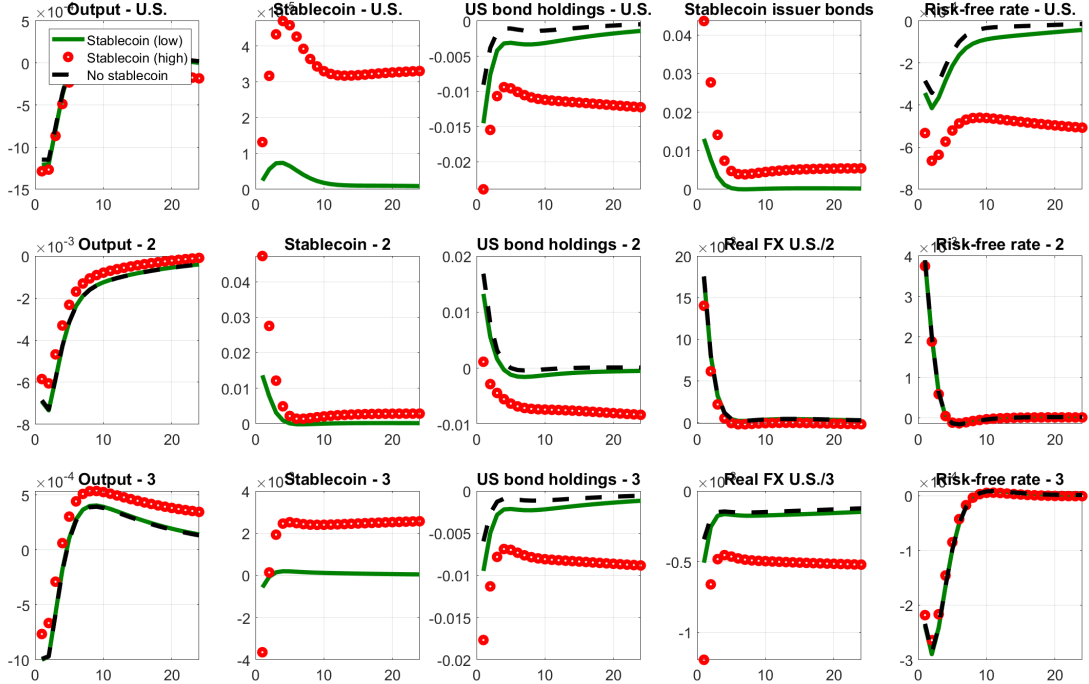


Figure 9: Impulse responses to a monetary policy shock from country 2.

Notes: the chart shows the impulse response to a 1 standard deviation monetary policy shock from a non-issuer country (country 2). The black line shows the responses of the model without stablecoins, the green line shows the responses of the model with low steady-state stablecoin market capitalization (about 500 USD bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 USD tr, 5.4% of the U.S. bond market).

3.2.2 Non-issuer country shock: Monetary Policy and TFP

Figure 9 examines spillovers to the U.S. from a monetary policy tightening in a non-issuing country, Country 2. Domestic variables in this country respond similarly with or without stablecoins; the main differences appear in the demand for foreign assets, particularly stablecoins and U.S. bonds: stablecoin demand increases while direct U.S. bond holdings decrease.

Spillovers to the U.S., however, are amplified. As U.S. yields fall, households in both the U.S. and Country 2 rebalance their portfolios toward stablecoins, generating additional demand for U.S. bonds through the stablecoin issuer. This demand further reduces

U.S. yields compared to a scenario without stablecoins. At the same time, increased demand for dollars in Country 2 limits the depreciation of the U.S. dollar against that country's currency. Similarly, when agents in Country 3 liquidate stablecoins, the dollar appreciates against their currency. Taken together, these forces alter the spillovers of foreign shocks to both the U.S. and third countries. In the U.S., foreign shocks become more pronounced, with output contracting by roughly 10% more, as the dollar remains stronger due to inflows into stablecoins from both Country 2 and domestic agents. In Country 3, however, stablecoin flows have a stabilizing effect: the stronger dollar dampens the decline in trade, and output contracts by approximately 15% less when stablecoins are widely used. [Figure B.6](#) shows all the IRFs.

Country 2 TFP shocks have broadly similar effects on macroeconomic variables across different stablecoin configurations. The main difference is that higher stablecoin market shares generate somewhat larger fluctuations in the demand for U.S. bonds and therefore in the U.S. convenience yield, see [Figure B.7](#).

3.2.3 Negative shock to stablecoin demand

Finally, we simulate a negative preference shock to stablecoins across all countries, that is, a decline in $\mu_{sc,c,t}$. [Figure 10](#) presents the results. This shock affects households in both the United States and the other two countries. Following the shock, stablecoin holders sell their positions. Sales by foreign investors lead to a depreciation of the U.S. dollar, which in turn makes holding dollar-denominated stablecoins even less attractive due to capital losses. The dollar depreciation benefits the U.S. by improving export competitiveness. At the same time, the stablecoin issuer sells U.S. bonds held as reserves, putting upward pressure on U.S. interest rates.

Overall, the net effect on U.S. output is positive: the expansionary impact of a weaker dollar outweighs the contractionary effect of higher rates. However, higher interest rates reduce domestic consumption and aggregate demand, even if external demand supports total output (see [Figure B.8](#)).

Economic effects in foreign economies are negative. The dollar depreciation reduces the competitiveness of foreign exports, leading to a loss of trade shares and a decline in aggregate output. In addition, as households liquidate their stablecoin holdings, part of the proceeds are redirected toward consumption, increasing domestic demand and

inflation. The resulting rise in prices prompts a monetary policy tightening. Higher foreign interest rates further depress output and contribute to an additional appreciation of foreign currencies relative to the U.S. dollar.

Also in this case, stronger steady-state stablecoin holdings magnify the spillover from stablecoins shocks.

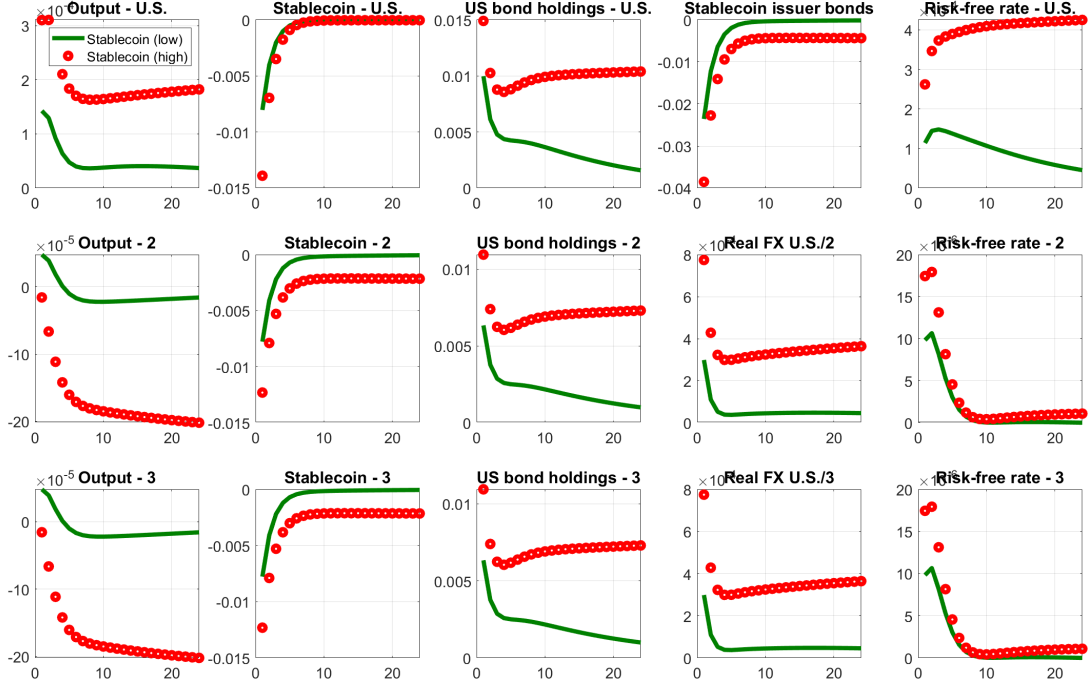


Figure 10: Impulse responses to a stablecoin preference shock.

Notes: the chart shows the impulse response to a 1 standard deviation shock to stablecoin preferences ($\mu_{sc,c}$). The green line the responses of the model with low steady-state stablecoin market capitalization (about 500 USD bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 USD tr, 5.4% of the U.S. bond market).

3.3 Welfare Implications

To assess the welfare impact of stablecoin adoption for the U.S. and the other countries, we compare the model with and without stablecoins. [Figure B.9](#) in the Appendix reports the resulting welfare changes as a function of the assumed effect of stablecoin demand on equilibrium U.S. yields. The model is solved at second order with pruning and welfare is defined recursively: $\mathcal{W}_{c,t} = U_{c,t} + \beta_c E_t \mathcal{W}_{c,t+1}$, with U_c denoting the period utility function. When stablecoin demand does not reduce the U.S. risk-free rate ($\Delta R_{US,ss} = 0$), welfare effects are small: at low adoption the U.S. is slightly negatively affected while foreign countries gain slightly, and at high adoption all three countries experience modest

welfare gains, stronger for non U.S. economies. As the assumed impact on equilibrium rates increases, welfare becomes more skewed towards the U.S.: once $\Delta R_{US,ss} \geq 0.2$, U.S. welfare rises monotonically with the size of the yield compression and with the level of adoption, whereas both foreign countries start to lose, with losses growing in both dimensions. For example, when the steady-state U.S. yield falls by 1 percentage point and stablecoin adoption is high, U.S. welfare gains are around 1.5%, while each foreign country loses close to 2%.

This pattern reflects the trade-off generated by the global safe asset channel. The U.S. benefits from cheaper public financing and a lower average cost of capital, while the attenuation of domestic monetary transmission documented above has only a second-order effect on its welfare. Foreign countries, instead, ultimately bear the cost of lower safe yields and stronger exposure to U.S.-centered financial conditions. Overall, it is necessary to assume a sufficiently large impact of stablecoin demand on the equilibrium risk-free rate to generate sizable welfare gains for the U.S. and corresponding losses for the rest of the world.

3.4 Extensions and Robustness

We consider several extensions of the model to assess the robustness of our results.

First, we contrast two benchmark cases in which stablecoins are issued exclusively in the United States or exclusively abroad. The corresponding results are reported in [Section C.3](#). These simulations highlight the central mechanism: the global safe-asset channel amplifies the propagation of shocks in the presence of stablecoins. When issuance is restricted to the domestic economy, the model’s dynamics and stability properties are equivalent to those without stablecoins. In contrast, when stablecoins are held internationally, their adoption alters the transmission of shocks through shifts in demand for dollar-denominated bonds and thereby constrains the autonomy of domestic monetary policy.

Second, we remove the cash-in-advance constraint and instead adopt a money-in-the-utility specification. As shown by [Feenstra \(1986\)](#), this approach allows for a broader set of assumptions regarding the demand for liquid assets. Our results remain robust under this alternative formulation, indicating that the intuition derived from [Equation \(12\)](#) is general and does not depend on specific functional forms. The corresponding results are

reported in Appendix C.2.

Third, we relax the symmetry assumptions in the calibrated model and employ estimated parameters and weights to conduct simulations. Specifically, we use parameters from the estimated three-country model (U.S., euro area and rest of the world) of [Ferrari Minesso and Pagliari \(2023\)](#). The main intuition again proves robust, as shown in Appendix C.4.

Fourth, we include redemption fees on stablecoin holdings. While redemption fees are very small (0.1% for Tether) or completely absent (USDC) for existing stablecoins, the GENIUS act does allow issuers to impose them. [Section C.5](#) simulates the model under a quite large, 2%, redemption fee. While the presence of a fee reduces redemptions, thus dampening the impact of stablecoins on yields and the exchange rate, the key results of the model are preserved.

Finally, we consider interest-bearing stablecoins. Although explicitly prohibited under the GENIUS Act, this case offers an instructive test of the model’s dynamics. If stablecoins pay interest as a spread over the risk-free rate, the interest-rate differential in [Equation \(12\)](#) collapses to that fixed spread, rendering stablecoins nearly identical to a government bond (with liquidity benefits offsetting the spread). Functioning as a government bond free of intermediation frictions, stablecoins should then make higher adoption neutral or volatility-reducing. [Section C.6](#) tests this by imposing a remuneration equal to a constant spread s over the risk-free rate. Consistent with the conjecture, higher adoption lowers macroeconomic volatility, as countries outside the US rebalance more efficiently into US assets. The result does not hold when stablecoins instead pay a constant remuneration that does not track the risk-free rate ([Section C.7](#)); there, the dynamics align closely with our baseline. These simulations indicate that reducing macroeconomic volatility requires stablecoins to follow the policy rate at the cost of issuers’ profitability.

4 Empirical Validation

Stablecoins are a relatively recent phenomenon in monetary history, so the limited availability of long time series poses a challenge for empirically validating the model. Nevertheless, financial market data provide a useful alternative for testing the predictions of our theoretical framework.

In this section, we examine how U.S. yields respond to monetary policy shocks in the U.S. and the euro area, depending on the share of stablecoins' market capitalization. We implement a local projection framework and estimate:

$$y_{t+k} = \alpha_k + \beta_k^1 MPS_t + \beta_k^2 MPS_t SC_{t-1} + \beta_k^3 SC_{t-1} + \sum_{l=1}^L \gamma' X_{t-l} + T_k + \varepsilon_{t+k} \quad (15)$$

where MPS is a measure of monetary policy shock, SC is the log of the market capitalization of dollar stablecoins, proxied by the capitalization of USDT and USDC which constitute almost the entire supply of dollar stablecoins until now. X_{t-l} includes lagged control variables (the dependent variable, SC , the log of the S&P500, the U.S. 3-month yield, dummies for 2020 and 2021). The lag-length is $L = 4$. Year dummies ($\alpha_{year,k}$) and a time trend (T_k) are also included. We use weekly data from 2018 to September 2025.

As dependent variable we focus on the U.S. 3-month yield—as stablecoin issuers are constrained to invest in short-term debt—and the U.S. nominal effective exchange rate; we use high-frequency monetary policy shocks for both the U.S. and the euro area.²¹ The coefficients of interest are β^1 and β^2 : according to theoretical results, a stronger footprint of stablecoins should amplify the reaction of U.S. yields to U.S. monetary policy shocks and increase also the impact of foreign shocks. At the same time, higher stablecoin adoption should reduce the appreciation of the U.S. dollar after a domestic monetary policy shock and limit its depreciation after a foreign monetary policy shock.

Figure 11 reports the estimated coefficients (β^1 in the upper row and β^2 in the lower row). Consistent with the evidence in Ahmed and Aldasoro (2025) and Kim (2025), stablecoin demand appears to affect U.S. yields. Higher stablecoin capitalization amplifies the impact of U.S. monetary policy shocks on yields, in line with the predictions of the theoretical model. The estimates are not statistically significant, likely reflecting the still limited adoption, for spillovers of euro area shocks to the U.S. Although the sign of the coefficient aligns with the theoretical prediction—higher stablecoin capitalization amplifies spillovers to the U.S.—the estimates are volatile and not statistically significant. This likely reflects the still limited adoption of U.S. stablecoins in the euro area.

²¹We consider a short-term rate shock, proxied by the surprise in a 30-minutes window around monetary policy announcements of the current month Fed Fund Future and the 3-month OIS rate.

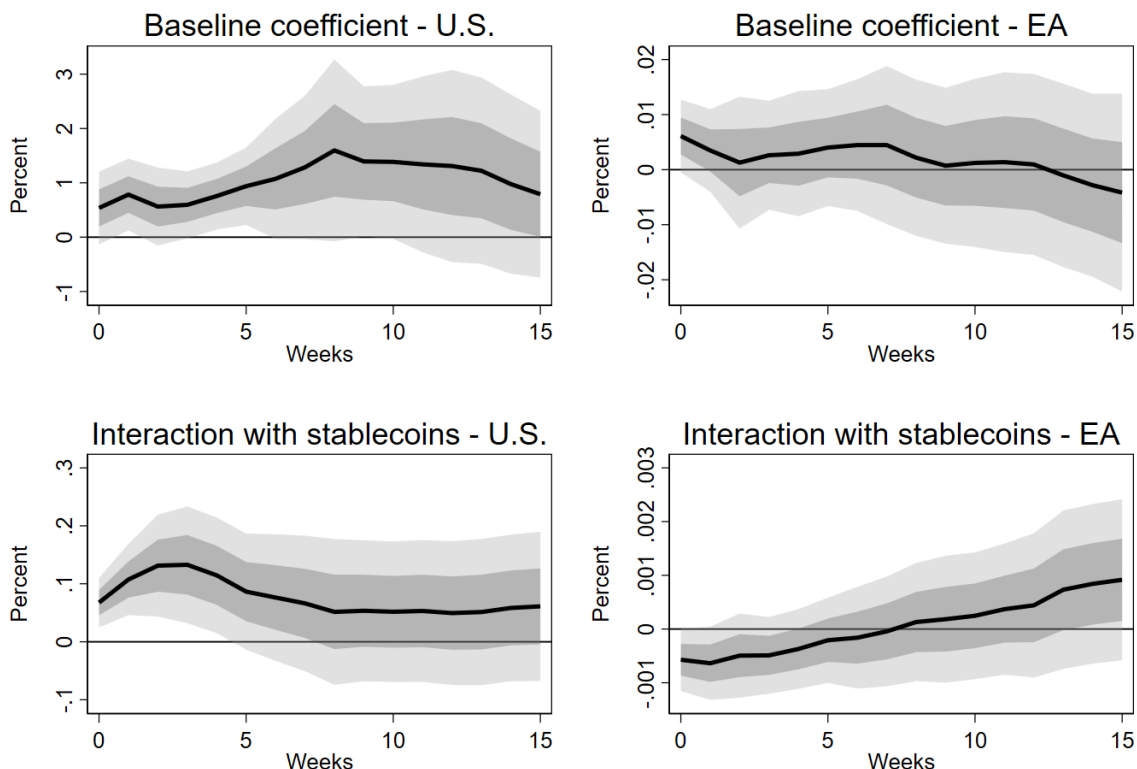


Figure 11: Response of U.S. yields to U.S. and euro area monetary policy shocks.

Notes: the chart shows the impulse response of U.S. 3-month yields to a 100 basis points U.S. (left column) and EA monetary policy shock. The upper panel shows the baseline coefficient and the lower panel the interaction with the (log) stablecoin market capitalization, β^1 and β^2 respectively in [Equation \(15\)](#). Local projection control for 4 lags of the dependent variable, the (log) U.S. stock price, the log of stablecoins market capitalization (proxied by USDT and USDC market capitalization), the U.S. 3-month interest rate, a time trend and year dummies for 2020 and 2021.

Turning to the exchange rate, [Figure B.10](#) shows that higher stablecoins adoption dampens the appreciation of the U.S. nominal effective exchange rate after a domestic monetary policy shock (lower-left panel). Symmetrically, the dollar also depreciates by less after euro area shocks the larger is the capitalisation of U.S. issued stablecoins (lower-right panel). Similar results are obtained when we use the bilateral exchange rate with the euro (expressed as euros per dollar) instead of the USD neer. In this case, however, the interaction coefficient absorbs most of the variation in the series, see ??.

[Figure 12](#) reports the response of the entire yield curve estimated using [Equation \(15\)](#). We focus on three horizons: on impact ($t + 0$), after two month ($t + 8$), and after one quarter ($t + 15$). The results broadly align with prior intuition: stablecoins increase the pass-through of monetary policy shocks to the U.S. yield curve as a whole. The effect is initially concentrated at shorter maturities, consistent with the composition of assets held by stablecoin issuers. Over time, the shock gradually propagates to longer maturities of

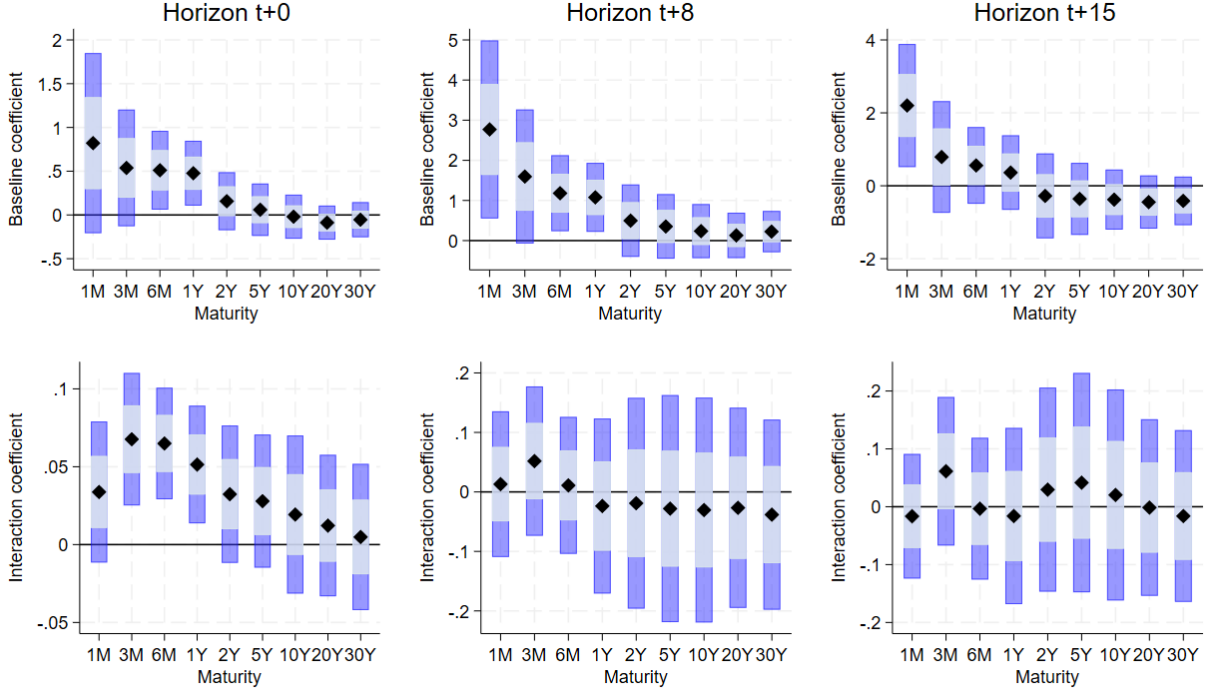


Figure 12: Response of U.S. yields at different maturities to U.S. monetary policy shocks. **Notes:** the chart shows the impulse response of the U.S. yield curve to a 100 basis points U.S. monetary policy shock. Responses are estimated with Equation (15) and the figure shows coefficients for $k = 0, 4, 8$. The upper panel shows the baseline coefficient and the lower panel the interaction with the (log) stablecoin market capitalization, β^1 and β^2 respectively in Equation (15). Local projection control for 4 lags of the dependent variable, the (log) U.S. stock price, the log of stablecoins market capitalization (proxied by USDT and USDC market capitalization), the U.S. 3-month interest rate, a time trend and year dummies for 2020 and 2021.

U.S. government debt.

Finally, ?? in the Appendix reports the response of the stablecoin market capitalization to U.S. monetary policy shocks. In line with the model's predictions and the results by Ahmed and Aldasoro (2025), the market capitalization of stablecoins contracts after a U.S. monetary policy tightening.

Taken together, the evidence supports the model's central prediction that stablecoin-driven shifts in Treasury demand amplify the transmission of monetary policy to short-term yields.

5 Conclusion

This paper studies the macro-financial implications of dollar-backed stablecoins in a three-country DSGE framework. We show that fully collateralized, unremunerated stablecoins strengthen the fiscal–monetary nexus by tying private money creation and global payment

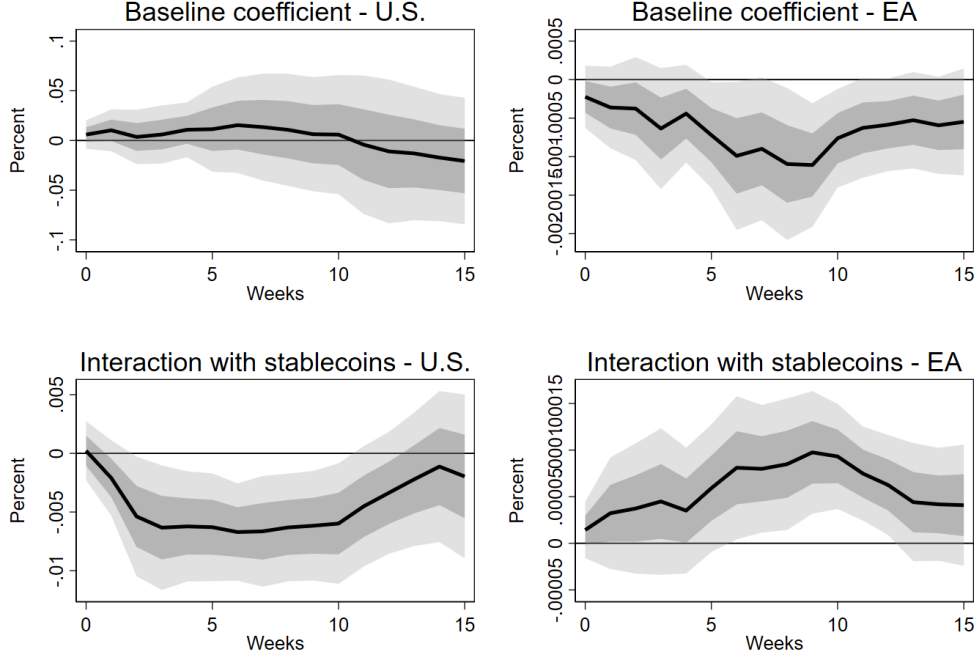


Figure 13: Response of the U.S. nominal effective exchange rate to U.S. monetary policy shocks.

Notes: the chart shows the impulse response of the U.S. nominal effective exchange rate to a 100 basis points U.S. (left column) and EA monetary policy shock. The upper panel shows the baseline coefficient and the lower panel the interaction with the (log) stablecoin market capitalization, β^1 and β^2 respectively in Equation (15). Local projection control for 4 lags of the dependent variable, the (log) U.S. stock price, the log of stablecoins market capitalization (proxied by USDT and USDC market capitalization), the U.S. 3-month interest rate, a time trend and year dummies for 2020 and 2021.

demand directly to U.S. public debt.

Through this global safe asset channel, stablecoins lower equilibrium U.S. Treasury yields in steady state but alter monetary transmission and international spillovers. When adoption is sufficiently large, U.S. monetary policy shocks transmit more strongly to Treasury yields yet less to the real economy. In our simulations, the output response to a tightening is reduced by about 30%, implying that monetary policy must react more aggressively to inflation to preserve stability. Stablecoins also amplify two-way spillovers, increasing the sensitivity of U.S. financial conditions to foreign shocks and vice versa.

These effects are non-linear and depend on the scale of adoption. As stablecoin holdings increase, they are increasingly used as portfolio assets rather than purely for transactions, making demand more responsive to financial conditions. Because issuance is fully backed by Treasuries, these portfolio adjustments translate directly into fluctuations in bond demand and yield volatility. Empirically, we find that the response of short-term Treasury yields to monetary policy shocks is amplified when the stablecoin footprint in

U.S. debt markets is larger, consistent with the model's predictions.

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Online appendix

A Macro-Finance Implications of Stablecoins

The GENIUS Act establishes a formal regulatory foundation for U.S. dollar-backed stablecoins, enabling their transition from niche crypto-market settlement tools to broadly used digital payment instruments. In fact, the new framework was explicitly constructed to allow stablecoins to evolve into a mainstream means of U.S. digital dollar payments for trade, remittances, and cross-border transactions. The implicit goal was also to reinforce the global role of the U.S. dollar and increase demand for U.S. government debt. Importantly, issuance is now open to non-bank entities, which may accelerate its diffusion, but also raises risks, especially in economies where cross-border payments remain slow and costly. These developments carry significant macroeconomic implications, for U.S. monetary and financial conditions and for international spillovers. The discussion that follows outlines the principal channels through which expanding stablecoin use may influence the U.S. economy, global dollar dynamics, and international financial linkages. We do so by consciously being silent on all financial risks arising from international regulatory arbitrage or multi-issuer risks ([European Systemic Risk Board, 2025](#)).

We start by highlighting the **differences with other forms of dollar assets**. Stablecoins importantly differ from (i) international dollar deposits, (ii) money market fund (MMF) shares, (iii) U.S. bond holdings, and (iv) hypothetical dollar CBDC. (i) Their global, app-based accessibility and 24/7 transferability enable faster and lower-cost cross-border payments than international dollar bank deposits. Unlike bank deposits, moreover, stablecoin units are fully backed by dollar assets. This makes stablecoin issuers potentially larger players in the Treasury market than Eurodollar banks. (ii) Because stablecoins promise on-par convertibility –backed one-for-one by dollar assets– and are not officially remunerated, their function is closer to digital money than to investment products. In fact, While MMF assets increase after a monetary policy tightening (as deposit rates lag policy rates), stablecoin market capitalization significantly declines. Additionally, unlike MMFs, whose investors bear portfolio losses, stablecoin issuers must absorb asset-side shortfalls to maintain parity, creating run-risk dynamics specific to privately issued par-money. (iii) U.S. stablecoins can be used for transactions, connecting pure U.S. debt holdings to liquidity services. (iv) Finally, stablecoins are different from

CBDC. In fact, CBDCs constitute a direct central-bank liability and need not be backed by Treasuries on a one-to-one basis ([Adalid et al., 2022](#)); as a result, a CBDC would operate under a fundamentally different balance-sheet regime and would not generate the same incremental demand for U.S. government securities as stablecoins do.

Expanded global use of stablecoins would **increase demand for Treasuries but also the risk of making it more volatile**. In fact, as for other safe dollar assets, an increase in demand would compress yields, while fluctuations in stablecoin balances—especially from foreign holders—could heighten Treasury market volatility. In particular, stronger structural demand at the front end would compress short-term yields and, via expectations and portfolio-balance channels, may flatten the long end of the curve, influencing monetary transmission to long-term borrowing costs. This could generate an important direct channel of transmission from foreign demand to the U.S. bond market, amplifying two-way spillovers between the United States and the global economy. This effect amplifies non-linearly as stablecoins constitute a larger share of household portfolios.

Backing requirements favouring liquid short-term U.S. debt may intensify demand for bills, incentivize the sovereign to issue more short-term debt. This could **increase system-wide exposure to rollover and duration risks**; notably, Tether, which is issued outside the GENIUS Act, already allocates almost 80% of its portfolio to short-dated instruments. Additionally, stablecoin-driven demand for Treasury bills would **exacerbate the global scarcity of high-quality collateral**, placing further downward pressure on U.S. bond yields.

While these were implications affecting mostly the U.S. economy, consequences could also be felt in the rest of the world. In fact, in high-inflation economies, the frictionless access to dollar-backed stablecoins via mobile wallets could **accelerate dollarization**, eroding non-U.S. monetary autonomy and amplifying the international reach of U.S. monetary policy. In jurisdictions without access to Federal Reserve swap lines, this greater dependence on dollar liquidity may translate into heightened financial fragility during global stress episodes. Stablecoins may also sustain the dollar’s primacy in global payments and reserves. By offering a safe, convenient digital dollar, they counter the advance of foreign digital currencies and extend U.S. monetary influence abroad. Assuming momentarily that stablecoins would increase the net world demand for U.S. assets ([Azz-](#)

imonti and Quadrini, 2025), this would **preserve the dollar’s “exorbitant privilege”** and the associated convenience yield on U.S. liabilities.

Additionally, the widespread foreign adoption of dollar-backed stablecoins would introduce an additional transmission channel of U.S. monetary policy to foreign households, beyond traditional trade and financial linkages. An example can summarize the intuition. Higher U.S. interest rates appreciate the dollar. This generates capital gains for foreign stablecoin holders, partly offsetting contractionary financial spillovers. Symmetrically, U.S. easing imposes wealth losses that dampen the expansionary spillovers. Large-scale use of stablecoins internationally would also generate new capital flows to and from the U.S. when coins are purchased or redeemed, impacting the dollar exchange rate. This also implies that stablecoin demand responds non-linearly to short-term interest rates: higher rates raise the opportunity cost of holding stablecoins, as they are not remunerated, yet simultaneously bolster confidence by improving issuer carry and easing redemption pressures. For foreign users, rate hikes also generate capital gains via dollar appreciation, adding a wealth channel to demand. This asymmetry can induce liquidity imbalances, with elevated demand and issuance in tightening cycles and depressed demand in easing phases. As mentioned, however, all these channels would be absent if international investors simply changed the composition of their international portfolios, substituting stablecoins with already-held dollar assets.

Other potential challenges are related to the technology used. By enabling instantaneous global portfolio rebalancing, stablecoins may **increase the speed and amplitude of capital flows**, potentially magnifying price swings in U.S. bond and foreign-exchange markets and increasing the likelihood of short-lived instability episodes that are difficult to address with conventional lender-of-last-resort tools. Related to this, with stablecoins also heavily involved in crypto-asset trading, widespread adoption could allow **disturbances in crypto markets to transmit more directly to the real economy**, raising the likelihood of systemic spillovers. Additionally, widespread adoption of stablecoins for payments and savings can **disintermediate banks and legacy payment networks**, eroding deposit bases and incumbent revenues Liang et al. (2024). Competitive pressures may push traditional intermediaries to integrate crypto infrastructure, yet diminished intermediation weakens banks’ capacity to absorb shocks. This shift also complicates the Federal Reserve’s lender-of-last-resort function, as extending liquidity

support to stablecoin users is substantially less direct. Competition among stablecoin issuers may gradually degrade collateral quality, especially when low interest rates or return pressures encourage shifts from short-term government securities toward riskier assets. Such deterioration reintroduces MMF-style run risk ([Bolt et al., 2024](#)), with confidence shocks prompting fire sales and broader market spillovers. This dynamic echoes historical episodes—such as the collapse of the Bank of Amsterdam—where weakening asset quality ultimately eroded monetary trust.

Finally, stablecoins carry significant **geopolitical implications**, potentially undermining U.S.-centric financial sanctions and global leverage by allowing settlement to migrate outside traditional CHIPS- and SWIFT-based channels.²² Maintaining a strong domestic presence is therefore critical, while widespread use of foreign tokens exposes users to extraterritorial control and data risks. Competition over standards and security in digital payments is emerging as a new dimension of global monetary geopolitics. Taken together, the expansion of dollar-backed stablecoins can strengthen the global role of the U.S. currency and reduce transaction costs, but it also introduces new sources of financial instability, fiscal vulnerability, and geopolitical tension for the international monetary system.

²²Countries under sanctions are already experimenting with stablecoin-based settlement to bypass restrictions, see [European Central Bank \(June 2025\)](#).

B Model

B.1 Model setup

There are three economies in the model, indexed by $c \in \{US, S, F\}$, each with size n_c . Within each country, households consume, save, hold real balances, supply labor to firms and invest in firms' capital. Households also need liquidity to finance transactions, which we model as an aggregator of money and stablecoins. Firms produce undifferentiated final goods which are bundled together by retailers and sold on final markets with monopoly power. Under Rotemberg pricing, firms face a quadratic cost proportional to the parameter $\phi_{c,r}$ to update prices. We set the Rotemberg parameter to match a frequency of price adjustment of 0.6 under the equivalent Calvo pricing formalism of the problem. Goods and bonds are traded across countries and determine the exchange rate. We assume that bond markets are incomplete, hence the UIP condition does not hold across countries, and that U.S. bonds deliver a convenience yield. For this reason, in steady-state, U.S. bonds have lower returns.

Central banks set the interest rate and the government the level of public consumption. It taxes and borrows on national and international markets. We assume a convenience yield on US bonds, the value of the convenience yield is calibrated as in [Eren et al. \(2025\)](#). Finally, we assume there is a global stablecoin issuer, owned by US households, that issues a dollar-denominated stablecoin to households in all three countries. Stablecoins bear no remuneration and are fully backed by US safe assets. Intermediation profits from stablecoin issuance are rebated to US households.

B.2 Households

Households derive utility from consumption, holdings of real balances (domestic cash and US bonds) and leisure:

$$U_{c,t} = e_{c,t}^C \ln(C_{c,t} - h_c C_{c,t-1}) - \frac{\chi_{c,l}}{1 + \phi_{c,l}} L_{c,t}^{1+\phi_{c,l}} + \frac{\chi_{c,b}}{1 - \sigma_{c,b}} \left(\frac{B_{US,c,t}}{P_{c,t} NER_{US,c,t}} \right)^{1-\sigma_{c,b}} \quad (\text{B.1})$$

with c the country index. The budget constraint is:

$$\begin{aligned}
& P_{c,t}C_{c,t} + B_{c,c,t} + \sum_{l \neq c} NER_{l,c,t}B_{l,c,t} + P_{c,t}I_{c,t} + M_{c,t} + \frac{SC_{c,t}}{NER_{US,c,t}} \\
& \leq w_{c,t}L_{c,t} + R_{c,t-1}B_{c,c,t-1} + \sum_{l \neq c} NER_{l,c,t}R_{l,t-1}B_{l,c,t-1} - \sum_{l \neq c} \frac{\phi_c^B}{2} \left(\frac{B_{l,c,t}NER_{l,c,t}}{P_{c,t}} \right)^2 P_{c,t} \\
& \quad + P_{c,t}R_{c,t}^k K_{c,t-1} + M_{c,t-1} + \frac{R_{sc,t-1}SC_{c,t-1}}{NER_{US,c,t}} + \Pi_{c,t}
\end{aligned} \tag{B.2}$$

C_c is aggregate consumption, L_c aggregate labor and $e_{c,t}^C$ is a consumption preference shock. I_c , K_c , R_c^k , w_c are investments, capital, capital returns, nominal wages. P_c is an aggregate price level. $NER_{l,c,t}$ is the nominal exchange rate between country c and country l (expressed in units of currency of l per currency of c), $B_{l,c,t}^F$ are bonds issued in country l and held in country c (i.e. foreign bond holdings) and $R_{l,t}$ is the (foreign) interest rate on bonds issued in country l . M_c are money balances; $\frac{\chi_{c,b}}{1-\sigma_{c,b}} \left(\frac{B_{US,c,t}}{NER_{US,c,t}} \right)^{1-\sigma_{c,b}}$ captures the utility value of holding U.S. bonds, that reflects, for example, liquidity services. SC_c are stablecoin holdings expressed in U.S. dollars while R_{sc} is the stablecoin remuneration that we set to 1 in the baseline calibration. Finally, Π_c includes lump-sum taxes as well as profits transferred from retailers to households. The cash-in-advance constraint takes the form of:

$$C_{c,t} = \left[\mu_{sc,c,t} \left(\frac{SC_{c,t}}{NER_{US,c,t}} \right)^{\eta_m} + (1 - \mu_{sc,c,t}) (M_{c,t})^{\eta_m} \right]^{\frac{1}{\eta_m}} \tag{B.3}$$

with $\mu_{sc,c,t} = \mu_{sc,c}^* - \left(\alpha_\mu \sigma_{q,t}^2 + \beta_\mu \exp\{1 - R_{US,t}\} + \gamma_\mu \rho_t \right)$, where $\alpha_\mu \sigma_{sc}$ capture the change in stablecoin preferences due to volatility, $\beta_\mu \exp\{1 - R_{US,t}\}$ due to risks of stablecoin issuers incurring in negative profits and $\gamma_\mu \rho_t$ is a stablecoin demand shock. The law of motion of capital in each sector is:

$$K_{c,t+1} = \left\{ (1 - \delta_c)K_{c,t} + I_{c,t} \left[1 - \frac{\phi_c^K}{2} \left(\frac{I_{c,t}}{I_{c,t-1}} - 1 \right)^2 \right] \right\} \tag{B.4}$$

δ_c the depreciation rate of capital and ϕ_c^K the capital adjustment cost. Households optimize utility (Equation (B.1)) under the budget constraint (Equation (B.2)), liquidity constraint (Equation (B.3)) and the law of motion of capital (Equation (B.4)). First

order conditions are:

$$\frac{e_{c,t}^C}{C_{c,t} - hC_{c,t-1}} - E_t \frac{\beta_c e_{c,t+1}^C h_c}{C_{c,t+1} - h_c C_{c,t}} = \lambda_{c,t} \quad (\text{B.5})$$

$$\chi_c L_{c,t}^{\phi_c} = \lambda_{c,t} \frac{w_{c,t}}{P_{c,t}} \quad (\text{B.6})$$

$$\beta_c E_t \left(\frac{R_{c,t} \lambda_{c,t+1}}{\pi_{c,t+1}} \right) = \lambda_{c,t} \quad (\text{B.7})$$

$$\lambda_{c,t} \left[1 + \phi_c^B \left(\frac{RER_{l,c,t} B_{l,c,t}}{P_{l,t}} \right) \right] = \beta_c E_t \left(\frac{\lambda_{c,t+1}}{\pi_{c,t+1}} R_{l,t} \frac{NER_{l,c,t+1}}{NER_{l,c,t}} \right) \quad (\text{B.8})$$

$$\begin{aligned} Q_{c,t} \left\{ \left[1 - \frac{\phi_c^K}{2} \left(\frac{I_{c,t}}{I_{c,t-1}} - 1 \right)^2 \right] - \frac{I_{c,t}}{I_{c,t-1}} \phi_c^K \left(\frac{I_{c,t}}{I_{c,t-1}} - 1 \right) \right\} + \\ + \beta_c E_t \left[Q_{c,t+1} \phi_c^K \left(\frac{I_{c,t}}{I_{c,t-1}} - 1 \right) \left(\frac{I_{c,t+1}}{I_{c,t}} \right)^2 \right] = \lambda_{c,t} \\ \beta_c E_t [Q_{c,t+1} (1 - \delta_c) + \Lambda_{c,t+1} R_{c,t+1}^k] = Q_{c,t} \end{aligned} \quad (\text{B.9})$$

$$-\frac{\lambda_{c,t}}{NER_{US,c,t}} + \beta_c E_t \left(\frac{\lambda_{c,t+1}}{NER_{US,c,t+1}} \frac{R_{sc,t}}{\pi_{c,t+1}} \right) + \gamma_{c,t} \mu_t \left(\frac{SC_{c,t}}{NER_{US,c,t} P_t C_{c,t}} \right)^{\eta_m - 1} \frac{1}{NER_{US,c,t}} = 0 \quad (\text{B.10})$$

$$-\lambda_{c,t} + \beta_c E_t \left(\frac{\lambda_{c,t+1}}{\pi_{c,t+1}} \right) + \gamma_{c,t} \left(\frac{M_{c,t}}{C_{c,t}} \right)^{\eta_m - 1} = 0 \quad (\text{B.11})$$

Q_c is the price of capital in country c and $\{\lambda_{c,t}\}_{t=0}^\infty$, $\{\gamma_{c,t}\}_{t=0}^\infty$ the sequences of Lagrangian multipliers associated to the optimization problem. Equation (B.5) is the Euler equation for consumption, defining the marginal utility of consumption (λ_c). Equation (B.6) defines labor supply which equals the value, in terms of consumption, of the real wage. Equation (B.7) determines the demand for domestic bonds while Equation (B.8) for foreign bonds. The liquidity premium $(\frac{\chi_{c,b}}{\lambda_{c,t}} \left(\frac{B_{US,c,t}}{RER_{US,c,t}} \right)^{-\sigma_{c,b}})$ applies only to holdings of U.S. bonds outside the U.S. Notice that bond markets are not complete (because of cross-border transactions costs for $\phi_c^B > 0$), therefore combining Equation (B.7) and Equation (B.8) does not lead to perfect UIP. Moreover, as each country has two trade partners, there is one Equation (B.8) for each of them. Finally, Equation (B.8) is the Tobin's Q equation, Equation (B.10) is the stablecoin demand equation and Equation (B.11) is the money demand equation. First order conditions are exactly symmetric

in each country excluding the U.S. for which the Euler condition on domestic bonds is:

$$\beta_c E_t \left(\frac{R_{c,t} \lambda_{c,t+1}}{\pi_{c,t+1}} \right) + \chi_{c,m} \left(\frac{B_{c,c,t}}{P_{c,t}} \right)^{-\sigma_{c,b}} = \lambda_{c,t} \quad (\text{B.12})$$

B.3 Production

In each country there is a *continuum* of perfectly competitive firms, indexed by k . Firms' production function is:

$$X_{c,t}(k) = A_{c,t} (K_{c,t}(k))^{\alpha_c} (L_{c,t}(k))^{1-\alpha_c} \quad (\text{B.13})$$

where A_c is a total factor productivity shock. Total output is the sum of output consumed domestically and exported, formally $X_t(k) = \sum_{l=US,S,RoW} X_{c,l,t}^b(k)$ with domestic demand being for $X_{c,c,t}^b(k)$. Cost minimization implies:

$$R_{c,t}^k(k) = A_{c,t} MC_{c,t}(k) \alpha_c (K_{c,t}(k))^{\alpha_c-1} (L_{c,t}(k))^{1-\alpha_c} \quad (\text{B.14a})$$

$$W_{c,t}(k) = A_{c,t} MC_{c,t}(k) (1 - \alpha_c) (K_{c,t}(k))^{\alpha_c} (L_{c,t}(k))^{-\alpha_c} \quad (\text{B.14b})$$

where MC_c is the Lagrangian multiplier associated to the optimization problem of firms and W_c real wages.

B.4 Retailers and aggregation

Retailers aggregate intermediate goods and transform them into final goods. Define $Y_{c,c}$ and $Y_{l,c}$ as domestic demand and export, to country l , of final goods. We adopt the following aggregators for domestic demand:

$$C_{c,c,t} + I_{c,c,t} + G_{c,c,t} = Y_{c,c,t} \quad (\text{B.15})$$

where $C_{c,c}$, $I_{c,c}$, $G_{c,c}$ denote final consumption, investment and government spending in country c of goods produced in country c . Exports aggregators are defined as:

$$\sum_{l \neq c} C_{l,c,t} + I_{l,c,t} + G_{l,c,t} = Y_{l,c,t} \quad (\text{B.16})$$

where $C_{l,c}$, $I_{l,c}$, $G_{l,c}$ denote final consumption, investment and government demand in country l of goods produced in country c . In other terms, these are total exports from country c to country l . $Y_{c,c}$ and $Y_{l,c}$ are produced aggregating across undifferentiated intermediate goods produced by domestic and foreign firms, respectively. The demand function for these goods are:

$$Y_{c,c,t} = \left[\int_0^1 X_{c,c,t}(k)^{\frac{\nu_c-1}{\nu_c}} dk \right]^{\frac{\nu_c}{\nu_c-1}}, \quad Y_{l,c,t} = \left[\int_0^1 X_{l,c,t}(k)^{\frac{\nu_c-1}{\nu_c}} dk \right]^{\frac{\nu_c}{\nu_c-1}} \quad (\text{B.17})$$

where ν_c is the elasticity of substitution across different goods produced by country c .

Price aggregators are:

$$P_{c,c,t} = \left[\int_0^1 P_{c,c,t}(k)^{1-\nu_c} dk \right]^{\frac{1}{1-\nu_c}}, \quad P_{l,c,t} = \left[\int_0^1 P_{l,c,t}(k)^{1-\nu_c} dk \right]^{\frac{1}{1-\nu_c}} \quad (\text{B.18})$$

with $P_{c,c,t}$ and $P_{l,c,t}$ being the prices of domestically consumed and exported goods. Demand functions for individual varieties are:

$$X_{c,c,t}(k) = \left[\frac{P_{c,c,t}(k)}{P_{c,c,t}} \right]^{-\nu_c} Y_{c,c,t}, \quad X_{l,c,t}(k) = \left[\frac{P_{l,c,t}(k)}{P_{l,c,t}} \right]^{-\nu_c} Y_{l,c,t} \quad (\text{B.19})$$

Final consumption goods are created by combining goods from each country. Aggregate consumption C_c then is:

$$C_{c,t} = \left\{ \sum_l \omega_{c,l} (C_{c,l,t})^{\rho_c} \right\}^{\frac{1}{\rho_c}} \quad (\text{B.20})$$

$C_{c,l}$ is intermediate consumption consumed in country c and produced in l , so that for example $C_{c,c}$ is domestic consumption of domestically produced goods. $\omega_{c,l} \in [0, 1]$ captures the share of goods produced in country l in total consumption, with $\omega_{c,c}$ the home bias. Similarly, aggregate government spending and investment are:

$$G_{c,t} = \left\{ \sum_l \omega_{c,l} (G_{c,l,t})^{\rho_c} \right\}^{\frac{1}{\rho_c}} \quad (\text{B.21})$$

$$I_{c,t} = \left\{ \sum_l \omega_{c,l} (I_{c,l,t})^{\rho_c} \right\}^{\frac{1}{\rho_c}} \quad (\text{B.22})$$

where $G_{c,c}$ ($I_{c,c}$) is government consumption (investment) of domestically produced

goods while $G_{c,l}$ ($I_{c,l}$) is government consumption (investment) of goods produced in country l . Cost minimization defines the demand function for consumption of domestic and imported goods:

$$\begin{aligned} C_{c,c,t} &= \left(\frac{P_{c,c,t}}{P_{c,t}} \right)^{\frac{1}{\varrho_c-1}} \omega_{c,c} C_{c,t}, & C_{c,l,t} &= \left(\frac{P_{c,l,t}}{P_{c,t}} \right)^{\frac{1}{\varrho_c-1}} \omega_{c,l} C_{c,t} \\ G_{c,c,t} &= \left(\frac{P_{c,c,t}}{P_{c,t}} \right)^{\frac{1}{\varrho_c-1}} \omega_{c,c} G_{c,t}, & G_{c,l,t} &= \left(\frac{P_{c,l,t}}{P_{c,t}} \right)^{\frac{1}{\varrho_c-1}} \omega_{c,l} G_{c,t} \\ I_{c,c,t} &= \left(\frac{P_{c,c,t}}{P_{c,t}} \right)^{\frac{1}{\varrho_c-1}} \omega_{c,c} I_{c,t}, & I_{c,l,t} &= \left(\frac{P_{c,l,t}}{P_{c,t}} \right)^{\frac{1}{\varrho_c-1}} \omega_{c,l} I_{c,t} \end{aligned} \quad (\text{B.23})$$

whereby, demand in country c for goods produced in country l depends on their price relative to the aggregate price level and by total consumption in country c . The aggregate price level is then obtained by substituting Equation (B.23) into Equation (B.20):

$$P_{c,t} = \left\{ \sum_l \omega_{c,l} (P_{c,l,t}^b)^{\frac{\rho_c}{1-\rho_c}} \right\}^{\frac{\rho_c-1}{\rho_c}} \quad (\text{B.24})$$

B.5 Monopolists

Goods are sold on the final market by monopolists who set prices with some degree of market power. We assume that there are frictions in price setting à-la Rotemberg. Formally, monopolists optimize:

$$E_t \sum_{d=0}^{\infty} (\beta_c)^d \Lambda_{c,t+d} \left\{ \frac{NER_{l,c,t} P_{l,c,t}}{P_{c,t}} X_{l,c,t}(k) - TC_{c,t} - \frac{\phi_{c,r}}{2} \left(\frac{P_{l,c,t}}{P_{l,c,t-1}} - 1 \right)^2 \right\} \quad (\text{B.25})$$

where TC are total costs and $\phi_{c,r}$ the Rotemberg parameter. $l = c$ is the case of domestic goods sold in the domestic economy and the exchange rate $NER_{c,c,t}$ is 1. First order conditions are:

$$\begin{aligned} (1 - \nu_c) + \frac{MC_{c,t} \nu_c}{P_{l,c,t} NER_{l,c,t}} - \phi_{c,r} (\pi_{l,c,t} - 1) \frac{\pi_{l,t}}{P_{l,c,t-1} NER_{l,c,t}} + \\ \beta_c E_t \left[\frac{\lambda_{t+1}}{\lambda_t} \frac{Y_{l,c,t+1}}{Y_{l,c,t}} \phi_{c,r} (\pi_{l,c,t+1} - 1) \frac{\pi_{l,c,t+1}}{P_{l,c,t} NER_{l,c,t}} \right] = 0 \end{aligned} \quad (\text{B.26})$$

Inflation rates are $\pi_{c,l,t} = \frac{P_{c,l,t}}{P_{c,l,t-1}}$ and $\pi_{c,t} = \frac{P_{c,t}}{P_{c,t-1}}$. Notice that the Rotemberg pa-

parameter $\phi_{c,r}$ can be written as a function of the probability of updating prices ξ_c as:

$$\phi_{c,r} = \frac{(\nu_c - 1)\xi_c}{(1 - \xi_c)(1 - \beta_c \xi_c)}$$

B.6 Public sector & stablecoin issuer

The central bank sets the policy rate and manages its own balance sheet. The policy rate follows a Taylor-type rule of the form:

$$\ln R_{c,t} = (1 - \varrho) \ln R_{c,t-1} + \varrho \left[\ln R_{c,ss} + \theta_\pi \ln \pi_{c,t} + \theta_y (\ln Y_{c,t} - \ln Y_{c,ss}) \right] + \varepsilon_{c,t}. \quad (\text{B.27})$$

where Y_c is total output.

The government sets public consumption exogenously and follows a tax rule aimed at stabilizing debt as share of GDP relative to the steady-state ($\frac{Debt_{c,t}}{Y_{c,t}} - \frac{Debt_{c,ss}}{Y_{c,ss}}$):

$$\ln \left(\frac{T_{c,t}}{T_{c,ss}} \right) = \varrho_T \ln \left(\frac{T_{c,t-1}}{T_{c,ss}} \right) + (1 - \varrho_T) \kappa_T \left[\frac{Debt_{c,t}}{Y_{c,t}} - \frac{Debt_{c,ss}}{Y_{c,ss}} \right] \quad (\text{B.28})$$

where $\varrho_T \in [0, 1]$ measures the persistency of taxation and κ_T the strength of the fiscal adjustment. The government budget is:

$$G_{c,t} + Debt_{c,t-1} R_{c,t} = T_{c,t} + Debt_{c,t} \quad (\text{B.29})$$

Total debt is the sum of outstanding debt:

$$Debt_{c,t} = \sum_c n_c B_{l,c,t} + B_{sc,t} \quad (\text{B.30})$$

in the case of the U.S. it also includes central bank purchases of U.S. securities as reserve assets.

The stablecoin issuer purchases government bonds using seigniorage from stablecoins minting. Stablecoins are backed one-to-one by US assets, are not remunerated and produced with negligible costs. The balance sheet of the issuer is:

$$B_{sc,t} = \sum_{c=\{US,F,S\}} n_c SC_{c,t} \quad (\text{B.31})$$

profits from arbitrage are: $\Pi_{sc,t} = B_{sc,t-1} R_{US,t}$.

All shocks follow an AR(1) process.

B.7 Log-linearization

Consider Equation (12), which under the parametrization of the previous section takes the form of:

$$\beta_c E_t \left[\frac{\lambda_{c,t+1}}{NER_{US,c,t+1} \pi_{c,t+1}} \right] (R_{US,t} - R_{sc,t}) = \gamma_{c,t} \left(\frac{SC_{c,t}}{C_{c,t}} \right)^{\eta_m - 1} \frac{\mu_{sc,c,t}}{NER_{US,c,t}} - \frac{\chi_{c,b}}{NER_{US,c,t}} B_{US,c,t}^{-\sigma_{c,b}} \quad (\text{B.32})$$

for simplicity consider negligible cross-border transaction costs, $\phi_c^B \rightarrow 0$. Multiply on both sides for the nominal exchange rate against the dollar and call $\beta_c E_t \left[\frac{NER_{US,c,t} \lambda_{c,t}}{NER_{US,c,t+1} \pi_{c,t+1}} \right] = D_{c,t}$ and $(R_{US,t} - R_{sc,t}) = \mathcal{S}_t$. Taking the natural logs the previous become:

$$\ln(D_{c,t}) + \ln(\mathcal{S}_t) = \ln \left[\gamma_{c,t} \mu_{sc,c,t} \left(\frac{SC_{c,t}}{C_{c,t}} \right)^{\eta_m - 1} - \chi_{c,b} B_{US,c,t}^{-\sigma_{c,b}} \right] \quad (\text{B.33})$$

linearize around the steady-state (denoted by ss), calling $\hat{x}$ variables in percent deviation from the steady-state:

$$\begin{aligned} \hat{D}_{c,t} + \frac{R_{US,ss}}{\mathcal{S}_t} R_{US,t} = & \frac{1}{\gamma_{c,ss} \mu_{sc,c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_m} - \chi_{c,b} B_{US,c,ss}^{-\sigma_{c,b}}} \left\{ \left[\gamma_{c,ss} \mu_{sc,c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{-\eta_m} \right] \hat{\gamma}_{c,t} + \right. \\ & (\eta_m - 1) \left[\gamma_{c,ss} \mu_{sc,c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_m - 1} \right] \hat{SC}_{c,t} - (\eta_m - 1) \left[\gamma_{c,ss} \mu_{sc,c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_m - 1} \right] \hat{C}_{c,t} + \\ & + \left[\gamma_{c,ss} \mu_{sc,c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_m - 1} \right] \hat{\mu}_{sc,c,t} + \left[\gamma_{c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_m - 1} \beta_\mu \exp \{1 - R_{US,ss}\} R_{US,ss} \right] \hat{R}_{US,t} + \\ & \left. - \left[\gamma_{c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_m - 1} \gamma_\mu \right] \hat{\rho}_t + \chi_{c,b} \sigma_{c,b} B_{US,c,ss}^{-\sigma_{c,b}} \hat{B}_{c,t} \right\} \quad (\text{B.34}) \end{aligned}$$

the elasticity of stablecoin holdings to U.S. yields ($\hat{R}_{US,t}$) is:

$$(\eta_m - 1) \frac{\left[\gamma_{c,ss} \mu_{sc,c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_m - 1} \right]}{\gamma_{c,ss} \mu_{sc,c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_m - 1} - \chi_{c,b} B_{US,c,ss}^{-\sigma_{c,b}}} \frac{1}{\Gamma_{ss}} \quad (\text{B.35})$$

with $\Gamma_{ss} \equiv \frac{R_{US,ss}}{\mathcal{S}_t} - \frac{\left[\gamma_{c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_m - 1} \beta_\mu \exp \{1 - R_{US,ss}\} R_{US,ss} \right]}{\gamma_{c,ss} \mu_{sc,c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}} \right)^{\eta_m - 1} - \chi_{c,b} B_{US,c,ss}^{-\sigma_{c,b}}}$ the denominator of the previous function is always positive, while the numerator can change sign depending on the

share of stablecoins in total consumption. For large stablecoin holdings, $\left(\frac{SC_{c,ss}}{C_{c,ss}}\right)^{\eta_m-1} \rightarrow 0$, hence $\gamma_{c,ss}\mu_{sc,c,ss} \left(\frac{SC_{c,ss}}{C_{c,ss}}\right)^{\eta_m-1} - \chi_{c,b}B_{US,c,ss}^{-\sigma_{c,b}}$ becomes negative.

Table B.1: Calibration

Parameter	Description	Value	Parameter	Description	Value
h_c	Habit formation	0.65	$\gamma_{c,r}$	Interest rate smoothing	0.75
ϕ_c	Inverse of Frish elasticity of labor	1	$\theta_{c,Y}$	Interest rate sensitivity to output	0.6
β_c	Discount factor	0.9926	$\theta_{c,\pi}$	Interest rate sensitivity to inflation	2
$\sigma_{c,m}$	Elasticity of money (<i>only on money-in-utility model</i>)	10.62	$\kappa_{c,T}$	Tax sensitivity to deficit	0.48
$\sigma_{c,b}$	Elasticity of bonds	10.62	$\varrho_{c,T}$	Persistency of taxation	0.5
ϕ_c^K	Investment costs	1.728	$\frac{G_{ss}}{Y_{ss}}$	steady-state gov. spending over output	0.2
$\omega_{c,c}$	Home bias	0.8	$\rho_{c,R}$	Persistency of monetary shocks	0.2
ϱ_c	Elasticity of substitution across goods	1/3	$\rho_{c,A}$	Persistency of TFP shocks	0.5
δ_c	Capital depreciation rate	0.025	$\sigma_{c,r}$	Volatility of monetary shocks	0.01
ξ_c	Prob. of price update	0.6	$\sigma_{c,A}$	Volatility of TFP shocks	0.01
ν_c	Demand elasticity	6	ϕ_c^B	Cross-country bond holding cost	0.001
α_c	Capital share in production	0.3			
α_μ	Wight of volatility	0.01	$\sigma_{q,t}^2$	Stablecoin variance	0.05
β_μ	Weight of stablecoin default risk	0.01	γ_μ	Weight of stablecoin shock	1
$\eta_{\mu,c}$	Elasticity of substitution across money	0.25	ρ_μ	persistency stablecoin shock	0.5

B.8 Additional figures

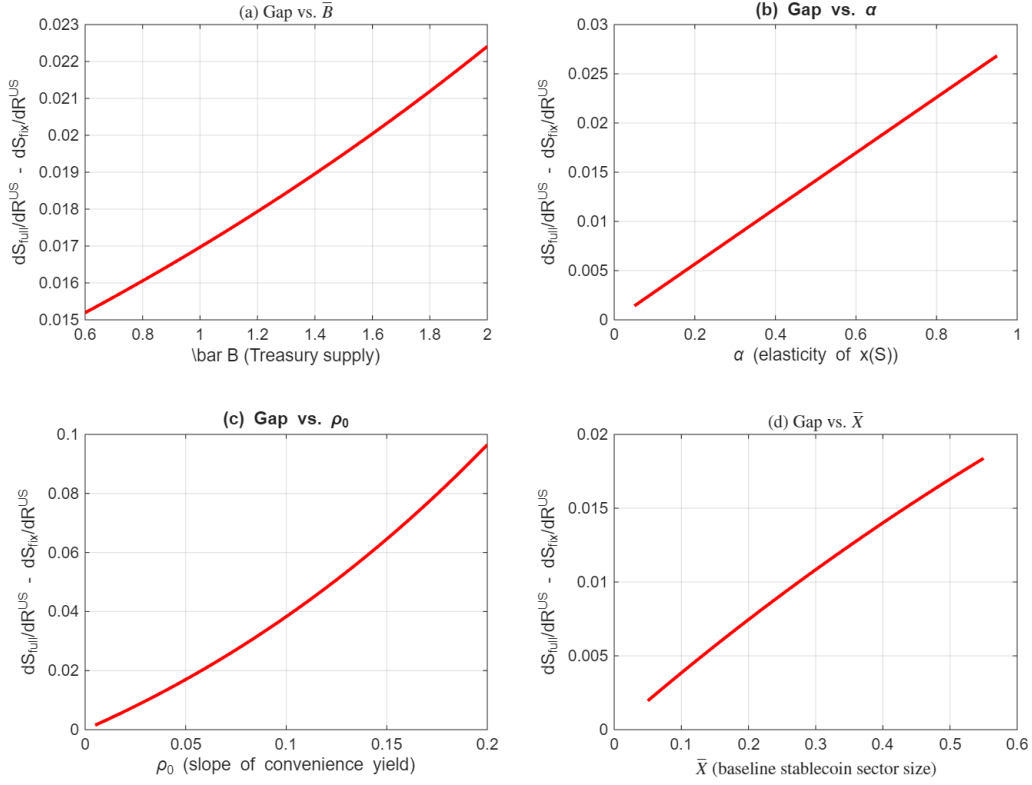


Figure B.1: Sensitivity of the exchange rate dampening effect to parameters in the simple model of [Section 2.1](#).

Notes: The chart shows how changes in the key parameters of the simplified model affect one of the key results: the dampening of the reaction of the US exchange rate to interest rate changes. The model is solved through partial-equilibrium elasticities implied by [Equation \(3\)](#). The vertical axis shows the difference in the exchange rate reaction to a change of the US risk free yield between having or not an active US digital asset demand. The elasticities are computed for a baseline level of the US risk-free rate of 2%. All parameters of the simple model are kept constant, except the one on the x-axis. The calibration is: $S_e = 1$ (expected future exchange rate); $R_F = 0.02$ (foreign exchange rate); $\bar{B} = 1$ (total Treasury supply, normalized); $\rho_0 = 0.05$ (slope of convenience-yield); $\alpha = 0.6$ (elasticity of X w.r.t. S); $\bar{X} = 0.5$ (baseline level of X). The exchange rate S is expressed in units of dollars per units of foreign currency, i.e. lower S is an appreciation of the US dollar.

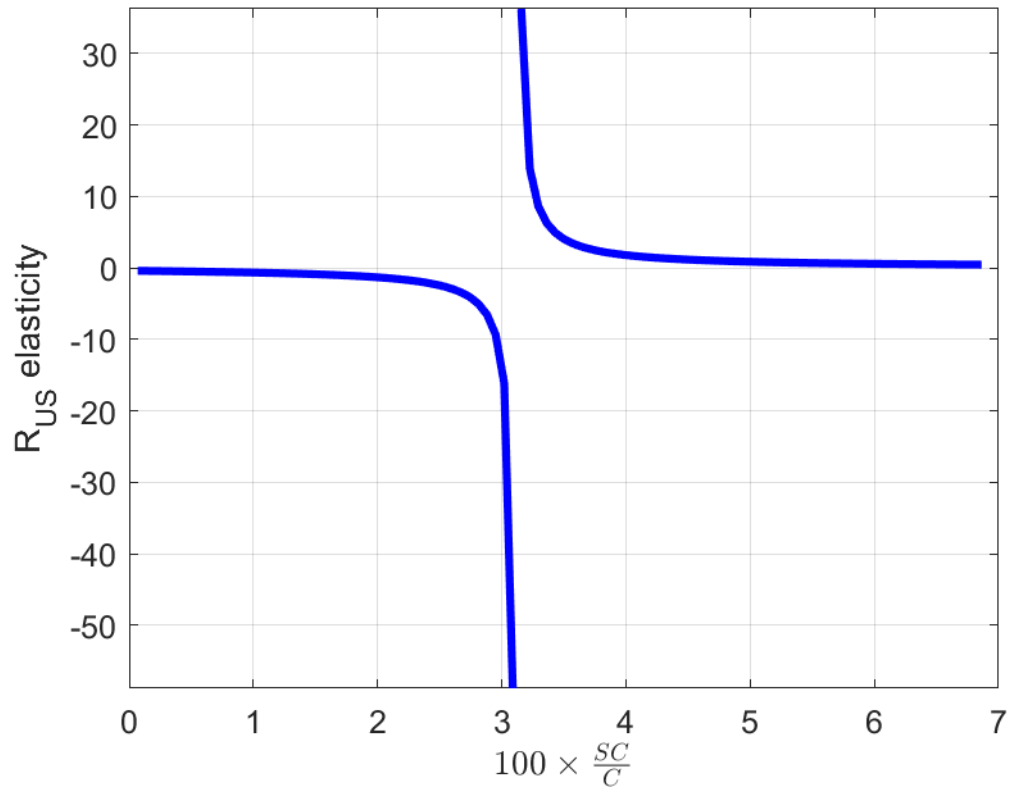


Figure B.2: Demand for stablecoins against returns differential – extreme holdings.

Notes: the chart shows the elasticity of U.S. yields (vertical axis) against stablecoin demand (horizontal axis). The elasticity is computed as in [Equation \(13\)](#) by keeping all other variables constant and changing values of stablecoins. Holdings of stablecoins are allowed to increase up until the elasticity is reversed.

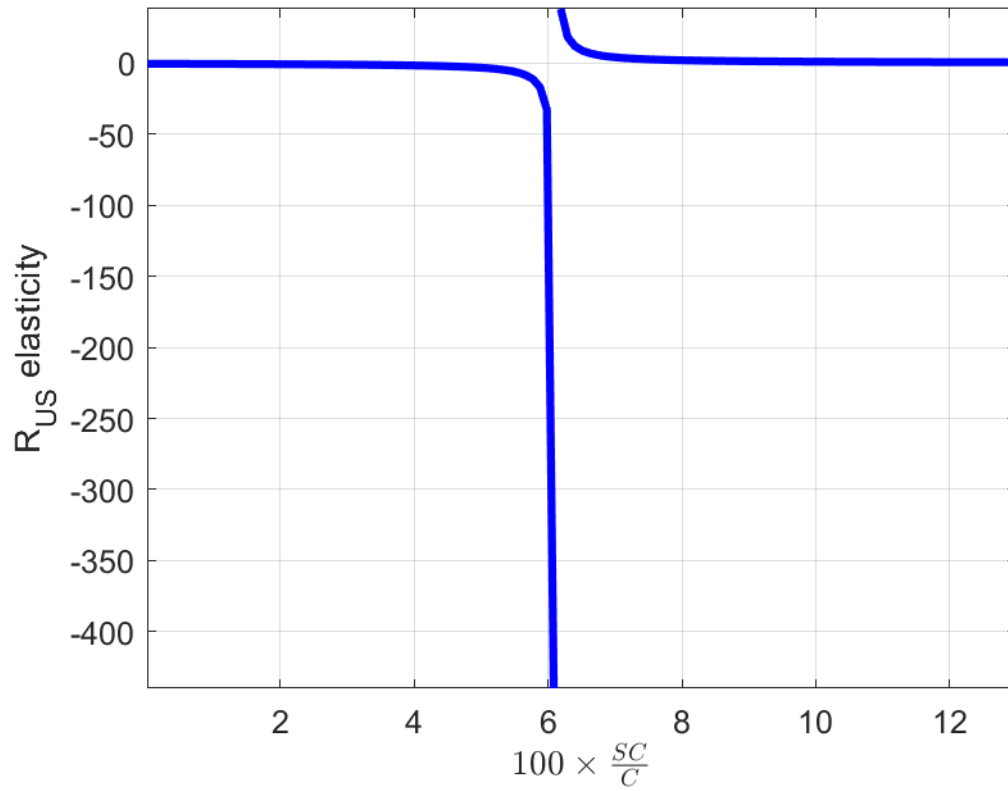


Figure B.3: Demand for stablecoins against returns differential – full solution.

Notes: the chart shows the elasticity of U.S. yields (vertical axis) against stablecoin demand (horizontal axis). The elasticity is computed as in [Equation \(13\)](#) by solving the model for different values of μ_{sc} . Holdings of stablecoins are allowed to increase up until the elasticity is reversed.

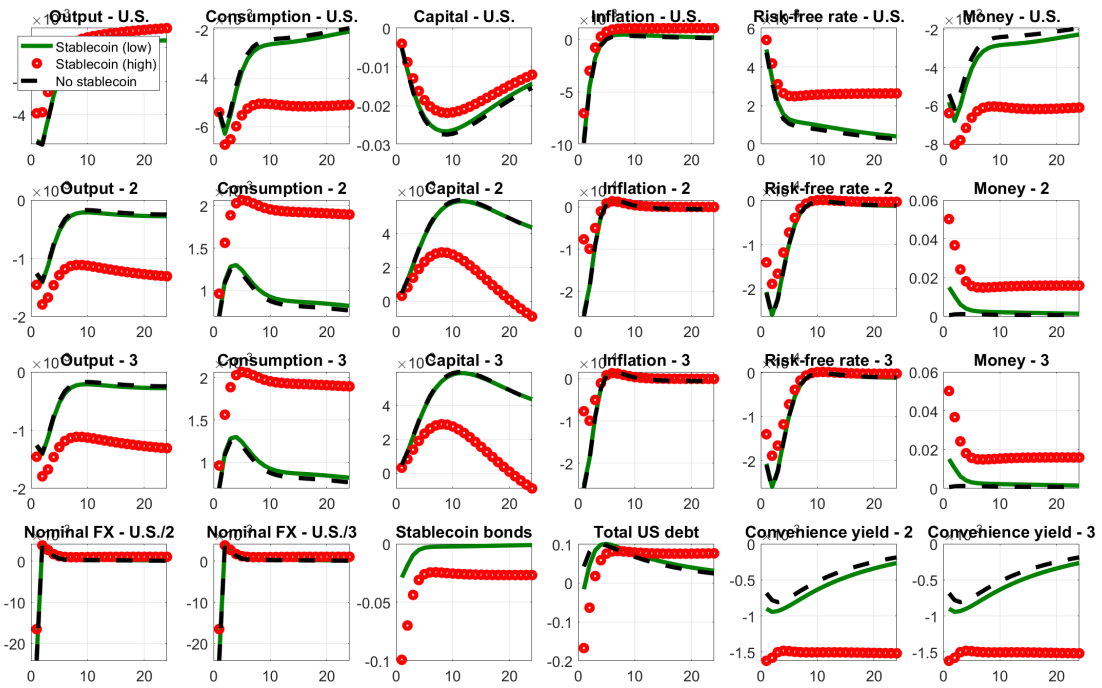


Figure B.4: Impulse responses to a U.S. monetary policy shock.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 USD bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 USD tr, 5.4% of the U.S. bond market).

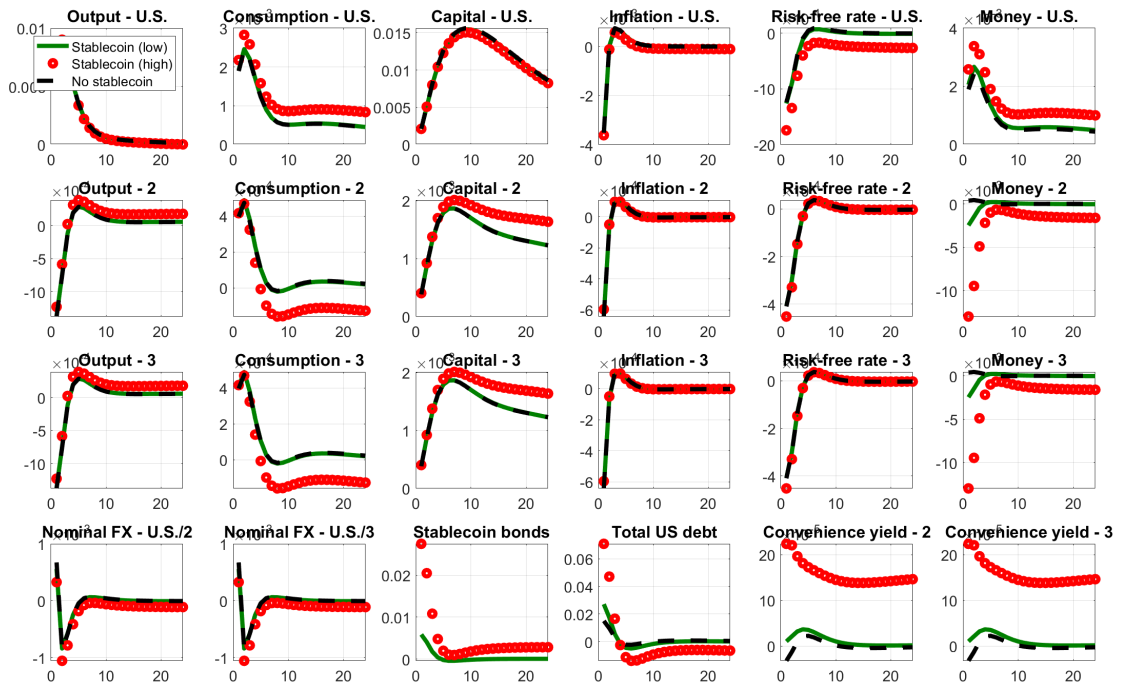


Figure B.5: Impulse responses to a U.S. TFP shock.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. TFP shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 USD bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 USD tr, 5.4% of the U.S. bond market).

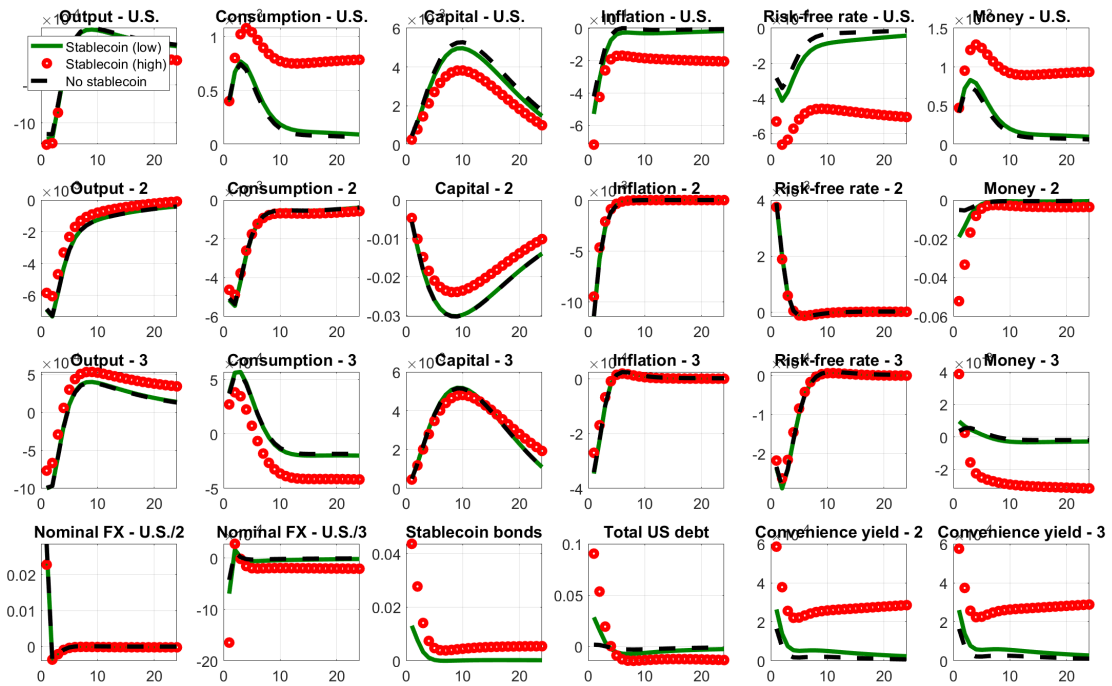


Figure B.6: Impulse responses to a monetary policy shock from country 2.

Notes: the chart shows the impulse response to a 1 standard deviation monetary policy shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 USD bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 USD tr, 5.4% of the U.S. bond market).

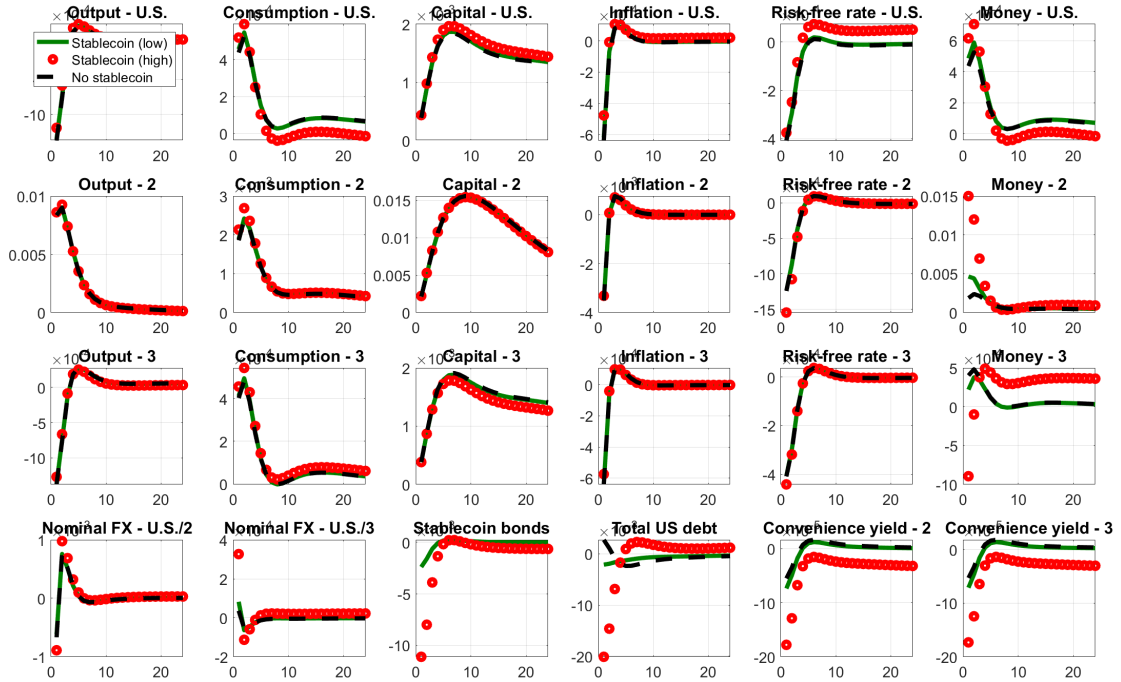


Figure B.7: Impulse responses to a TFP shock from country 2.

Notes: the chart shows the impulse response to a 1 standard deviation TFP shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 USD bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 USD tr, 5.4% of the U.S. bond market).

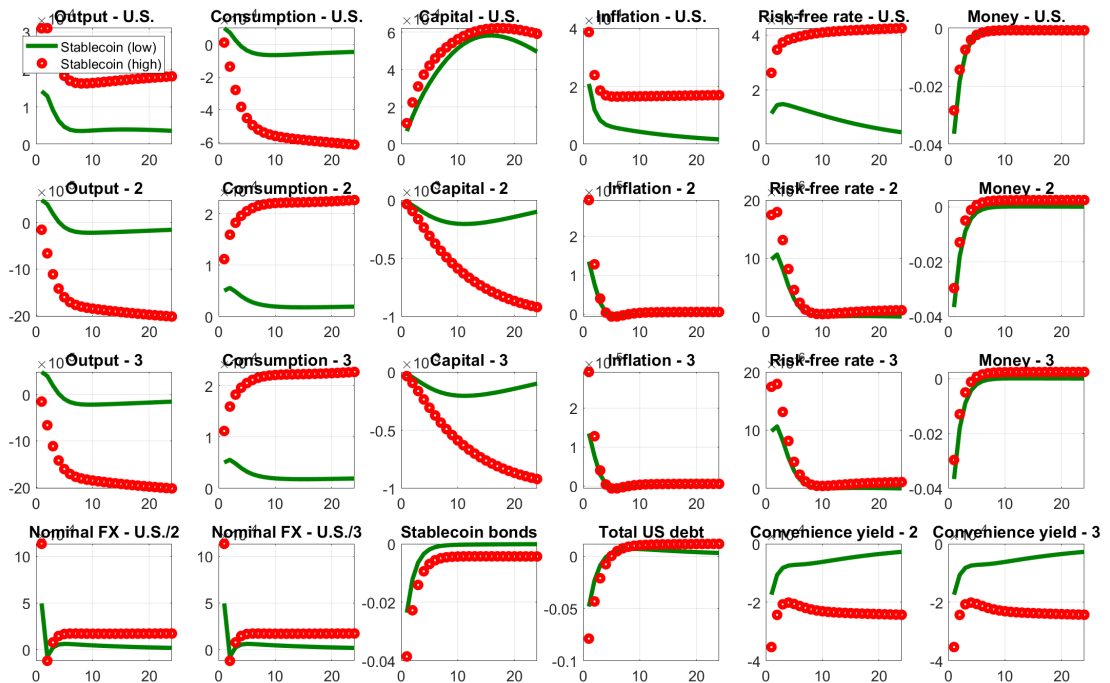


Figure B.8: Impulse responses to stablecoin preference shock.

Notes: the chart shows the impulse response to a stablecoin preference shock. The the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 USD bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 USD tr, 5.4% of the U.S. bond market).

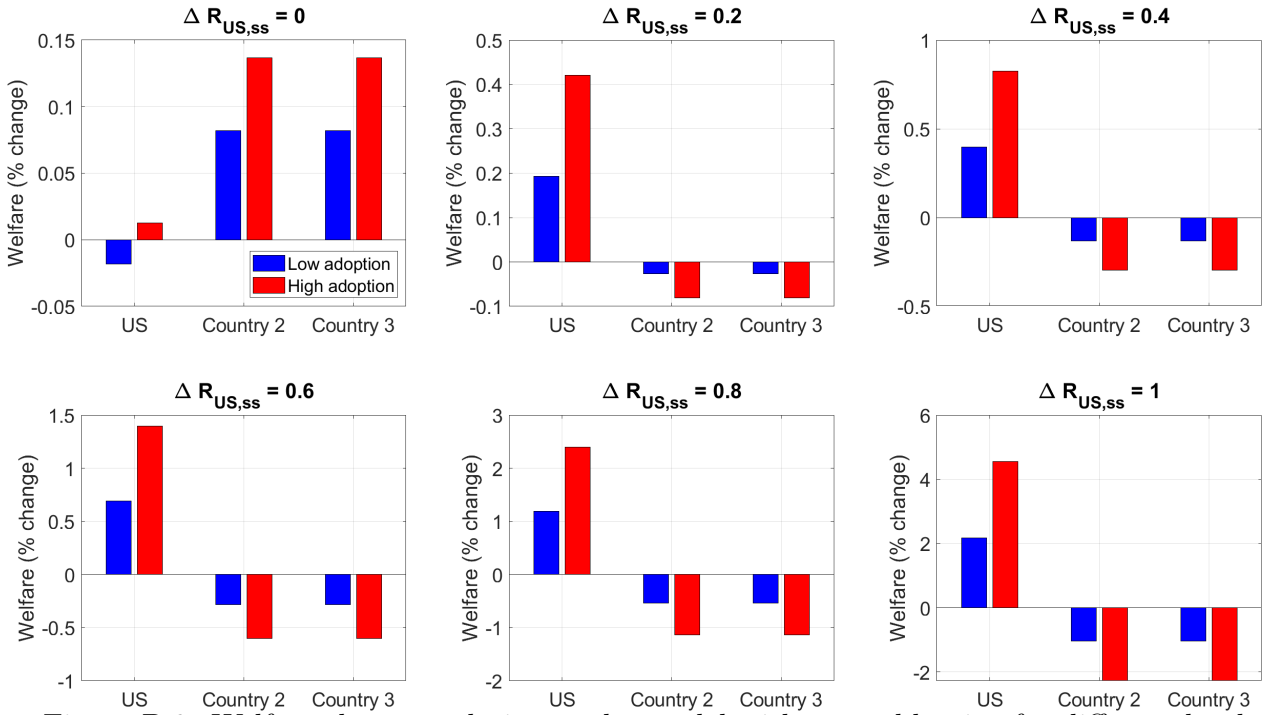


Figure B.9: Welfare changes relative to the model without stablecoins for different level of U.S. yield reduction.

Notes: the chart shows the percent change in welfare relative to the model without stablecoins for the U.S. and the other two country depending on how much stablecoin adoption reduces equilibrium U.S. yields. The model is solved at second order with pruning. Welfare is defined recursively, i.e. $\mathcal{W}_{c,t} = U_{c,t} + \beta_c E_t \mathcal{W}_{c,t+1}$, with U_c the period utility function.

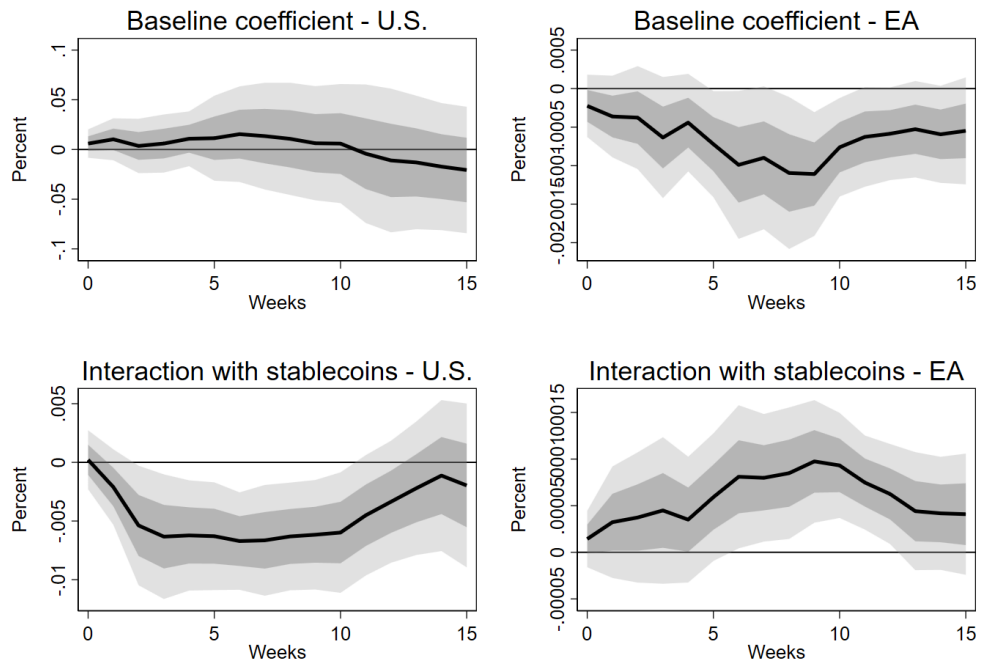


Figure B.10: Response of the euro-dollar exchange rate to U.S. and euro area monetary policy shocks.

Notes: the chart shows the impulse response of the euro dollar exchange rate to a 100 basis points U.S. (left column) and EA monetary policy shock. The upper panel shows the baseline coefficient and the lower panel the interaction with the (log) stablecoin market capitalization, β^1 and β^2 respectively in Equation (15). Local projection control for 4 lags of the dependent variable, the (log) U.S. stock price, the log of stablecoins market capitalization (proxied by USDT and USDC market capitalization), the U.S. 3-month interest rate, a time trend and year dummies for 2020 and 2021.

C Alternative specifications

C.1 Constant preferences for stablecoins

This section simulates the model under constant preferences for stablecoins $\mu_{sc,c,t} = \mu_{sc,ss}$. In this case, stablecoin preferences do not change with higher or lower interest rates, implicitly assuming that households do not consider the possibility of a default of the stablecoin issuer. Under this specification results are qualitatively the same, only slightly smaller in magnitude, showing the amplification effect of the riskiness channel.

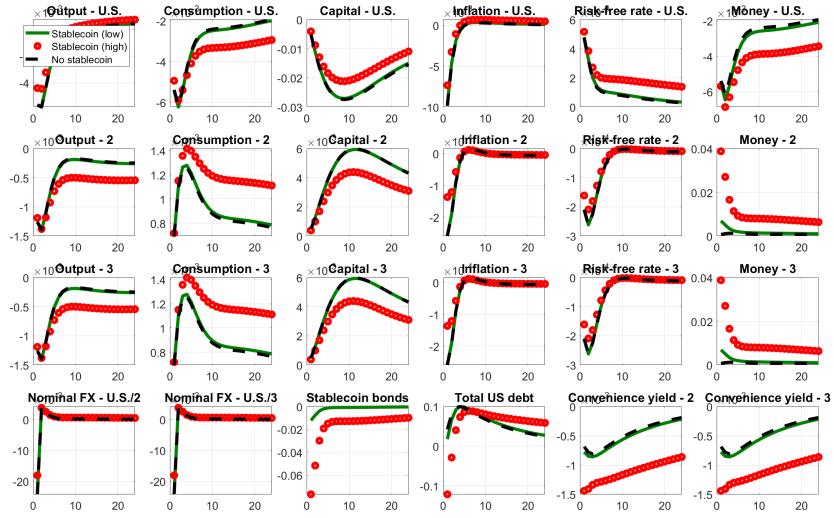


Figure C.1: Impulse responses to a U.S. monetary policy shock – constant $\mu_{sc,c}$.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). $\mu_{sc,c}$ is constant.

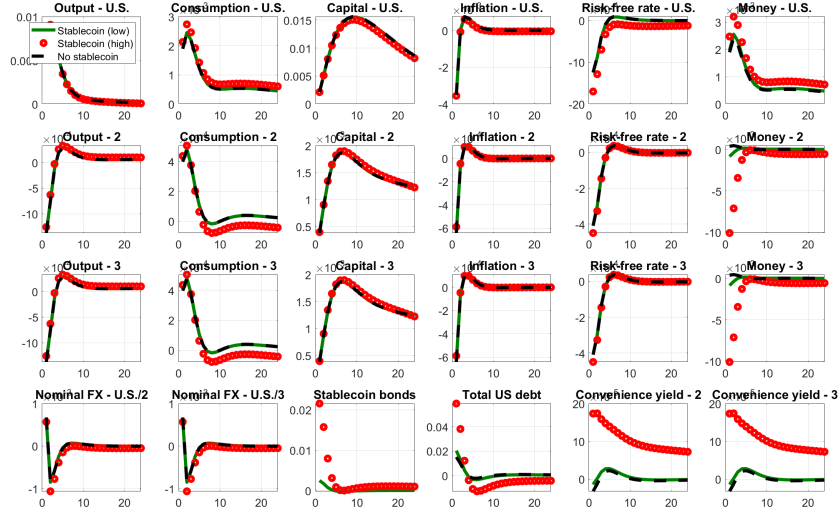


Figure C.2: Impulse responses to a U.S. TFP shock – constant $\mu_{sc,c}$.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). $\mu_{sc,c}$ is constant.

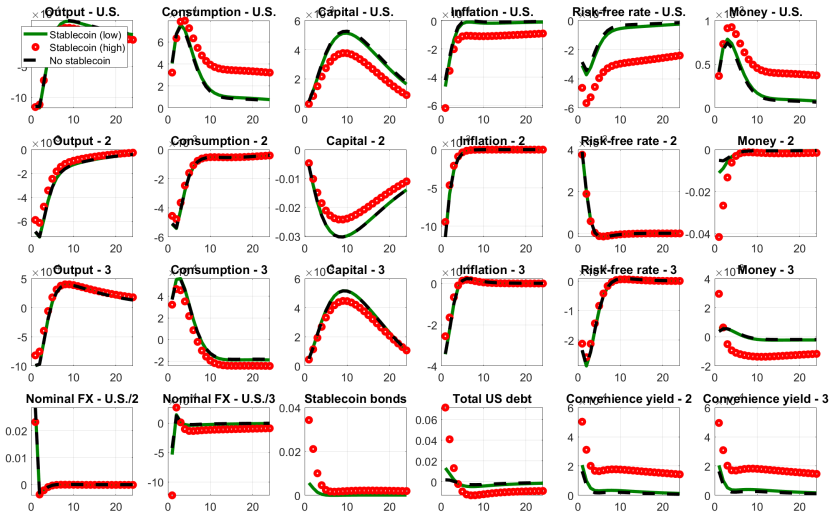


Figure C.3: Impulse responses to a monetary policy shock from country 2 – constant $\mu_{sc,c}$.

Notes: the chart shows the impulse response to a 1 standard deviation monetary policy shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). $\mu_{sc,c}$ is constant.

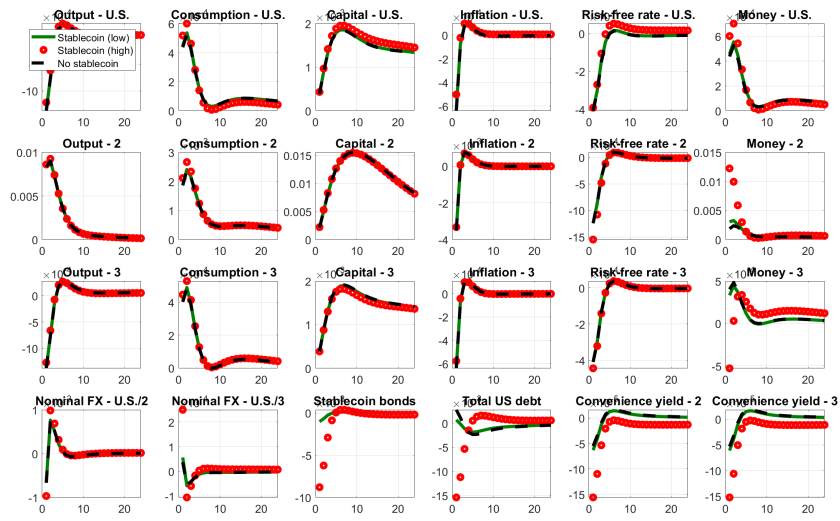


Figure C.4: Impulse responses to a TFP shock from country 2 – constant $\mu_{sc,c}$.

Notes: the chart shows the impulse response to a 1 standard deviation TFP shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). $\mu_{sc,c}$ is constant.

C.2 Money in the utility

We consider an alternative specification to generate demand for liquid instrument in the model, the money-in-utility framework. As shown by [Feenstra \(1986\)](#), money in utility captures a wide range of micro-founded frictions that generate demand for payment instruments, such as cash-in-advance or shopping-time constraints. Specifically, we assume that households directly derive utility from holding liquid instruments:

$$U_{c,t} = e_{c,t}^C \ln(C_{c,t} - h_c C_{c,t-1}) - \frac{\chi_{c,l}}{1 + \phi_{c,l}} L_{c,t}^{1+\phi_{c,l}} + \frac{\chi_{c,l}}{1 - \sigma_{c,l}} (\mathcal{L}_{c,t})^{1-\sigma_{c,l}} + \frac{\chi_{c,b}}{1 - \sigma_{c,b}} \left(\frac{B_{U.S.,c,t}}{P_{c,t} NER_{U.S.,c,t}} \right)^{1-\sigma_{c,b}} \quad (\text{C.1})$$

where total liquidity $\mathcal{L}$ is: $\left[\mu_{sc,c,t} \left(\frac{SC_{c,t}}{NER_{U.S.,c,t}} \right)^{\eta_m} + (1 - \mu_{sc,c,t}) (M_{c,t})^{\eta_m} \right]^{\frac{1}{\eta_m}}$.

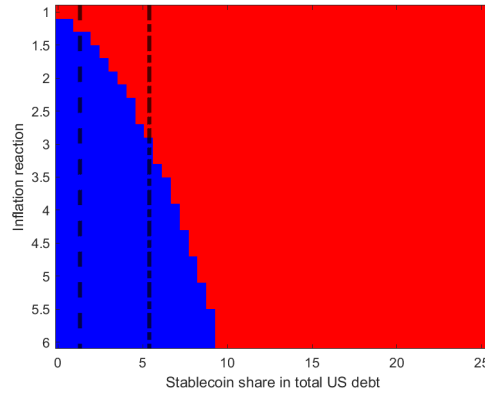


Figure C.5: Stability map.

Notes: the chart shows combinations of values for the U.S. Taylor rule inflation reaction parameter (θ_π) and the stablecoin preference parameter (μ_{sc}). Blue areas indicate that the model is stable, red areas that it is unstable, yellow areas that the model is stable, but wealth effects dominate leading to expansionary monetary policy tightening. Liquidity demand is introduced as money-in-utility.

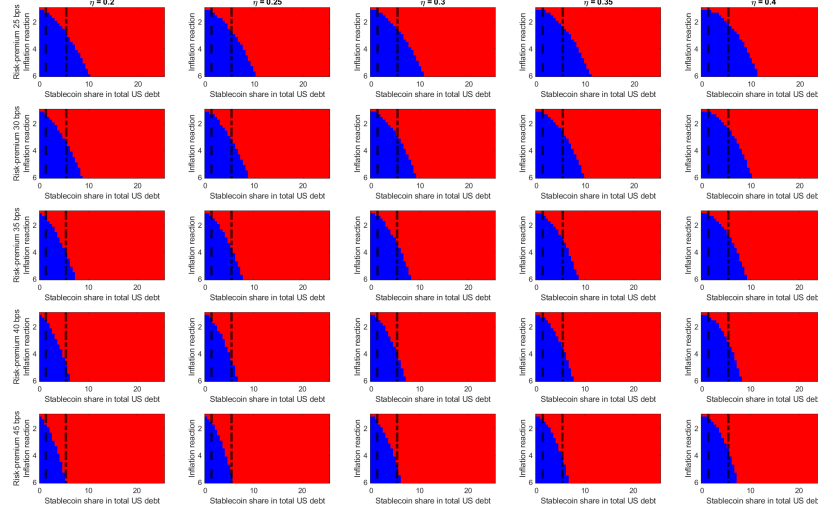


Figure C.6: Stability map.

Notes: the chart shows combinations of values for the U.S. Taylor rule inflation reaction parameter (θ_π) and the stablecoin preference parameter (μ_{sc}). Blue areas indicate that the model is stable, red areas that it is unstable, yellow areas that the model is stable, but wealth effects dominate leading to expansionary monetary policy tightening. Different calibrations for the U.S. convenience yield and the CES liquidity aggregator parameter are considered. Liquidity demand is introduced as money-in-utility.

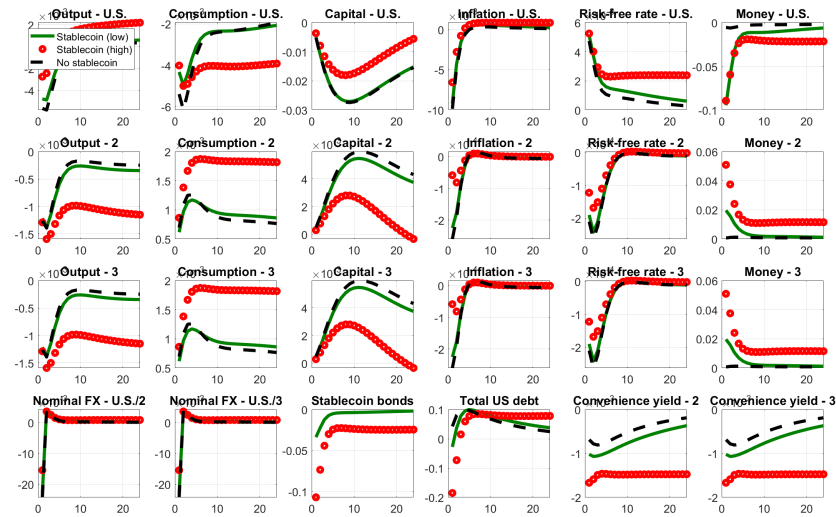


Figure C.7: Impulse responses to a U.S. monetary policy shock – money-in-utility.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Demand for payment instruments is generated through money-in-utility framework.

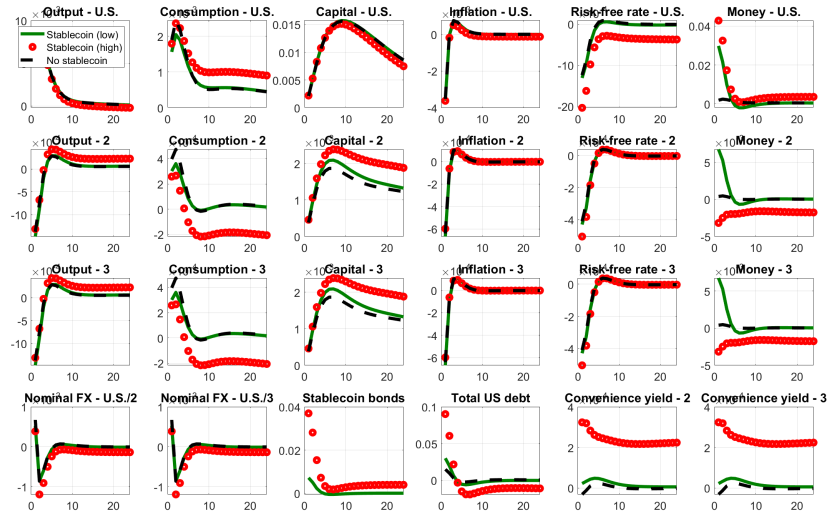


Figure C.8: Impulse responses to a U.S. TFP shock – money-in-utility.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Demand for payment instruments is generated through money-in-utility framework.

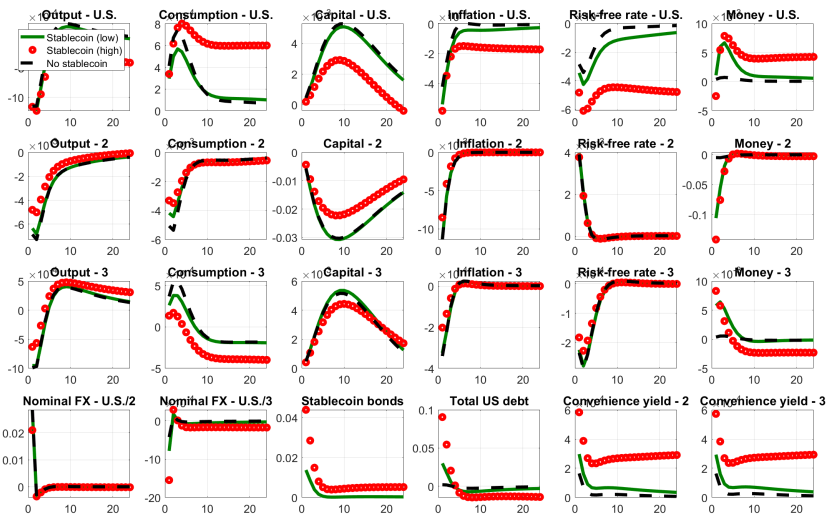


Figure C.9: Impulse responses to a monetary policy shock from country 2 – money-in-utility.

Notes: the chart shows the impulse response to a 1 standard deviation monetary policy shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Demand for payment instruments is generated through money-in-utility framework.

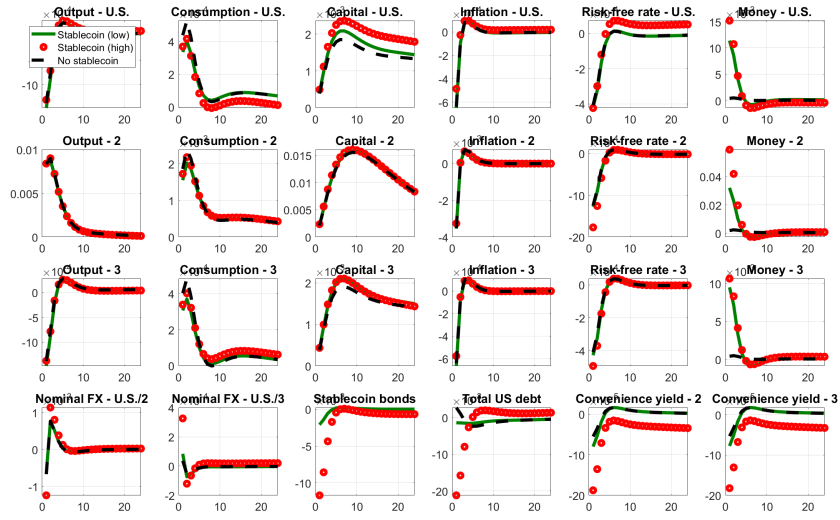


Figure C.10: Impulse responses to a TFP shock from country 2 – money-in-utility.

Notes: the chart shows the impulse response to a 1 standard deviation TFP shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Demand for payment instruments is generated through money-in-utility framework.

C.3 Stablecoins only in the domestic or foreign economy

In this section we compare two calibrations of the model one in which stablecoins are issued only domestically and one in which they are available only to foreign households. Figure C.11 shows the stability plot for both cases. As the figure shows, macroeconomic instability arises only from foreign demand for stablecoins. Impulse responses confirm this intuition: when stablecoins are held only in the U.S. macroeconomic spillovers are limited. On the contrary, most of the dynamics are determined by international demand for stablecoins. This highlights the role of the global safe asset channel, which is reinforced through international demand for stablecoins, as a multiplier of shocks.

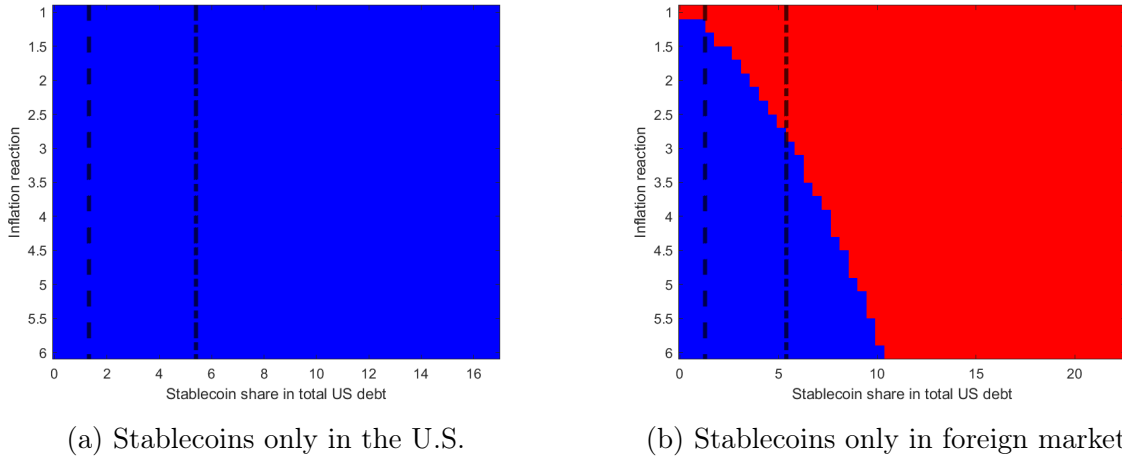


Figure C.11: Stability map when stablecoins are issued only domestically or only internationally.

Notes: Panel a, stablecoins are issued only in the domestic economy (U.S.). Panel b, stablecoins are issued only in the foreign economies. The chart shows combinations of values for the U.S. Taylor rule inflation reaction parameter (θ_π) and the stablecoin preference parameter (μ_{sc}). Blue areas indicate that the model is stable and red areas that it is unstable.

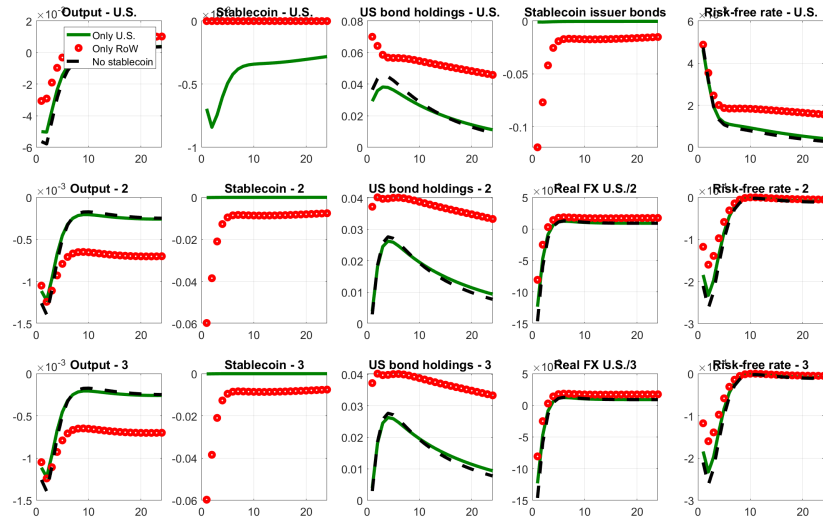


Figure C.12: Impulse responses to a U.S. monetary policy shock – U.S. vs foreign issuance. **Notes:** the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with stablecoins issued only in the U.S. while the red dots show the response of the model with stablecoins issued only in foreign countries. Both models are simulated for high steady-state holdings of stablecoins.

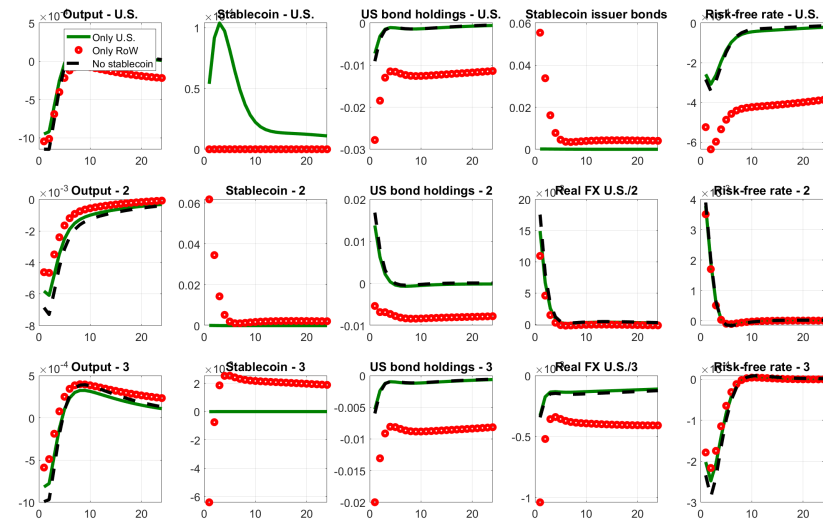


Figure C.13: Impulse responses to a monetary policy shock from country 2 – U.S. vs foreign issuance.

Notes: the chart shows the impulse response to a 1 standard deviation monetary policy shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with stablecoins issued only in the U.S. while the red dots show the response of the model with stablecoins issued only in foreign countries. Both models are simulated for high steady-state holdings of stablecoins.

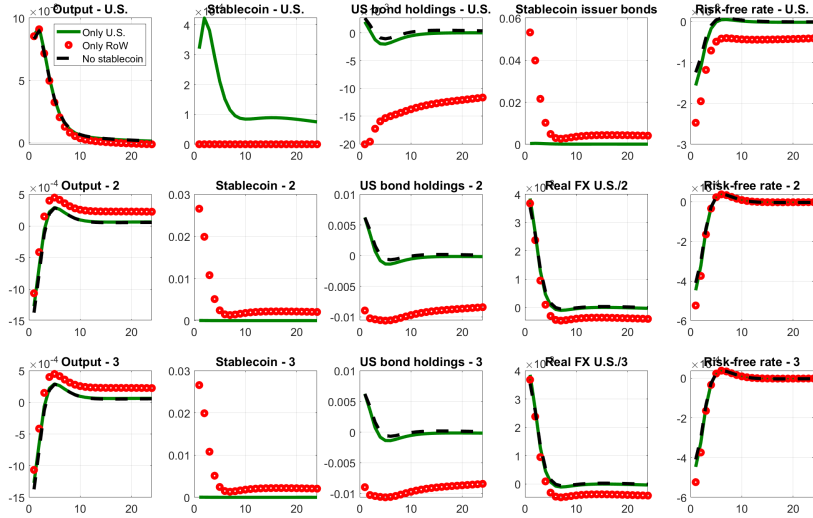


Figure C.14: Impulse responses to a U.S. TFP shock – U.S. vs foreign issuance.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. TFP shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with stablecoins issued only in the U.S. while the red dots show the response of the model with stablecoins issued only in foreign countries. Both models are simulated for high steady-state holdings of stablecoins.

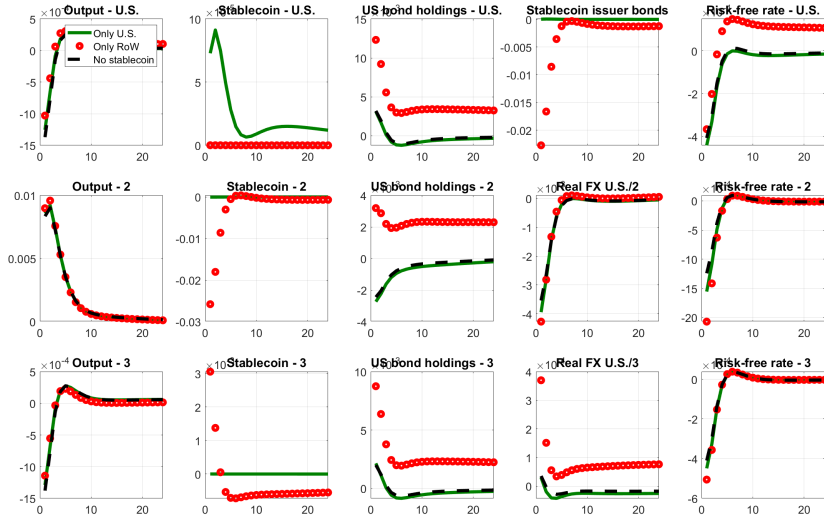


Figure C.15: Impulse responses to a TFP shock from country 2 – U.S. vs foreign issuance.

Notes: the chart shows the impulse response to a 1 standard deviation TFP shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with stablecoins issued only in the U.S. while the red dots show the response of the model with stablecoins issued only in foreign countries. Both models are simulated for high steady-state holdings of stablecoins.

C.4 Estimation of key parameters

We use the estimate of key parameters as in [Ferrari Minesso and Pagliari \(2023\)](#). The U.S. accounts for 42% of world GDP, the euro area (country 2) for 28 while rest of the world takes the remaining.

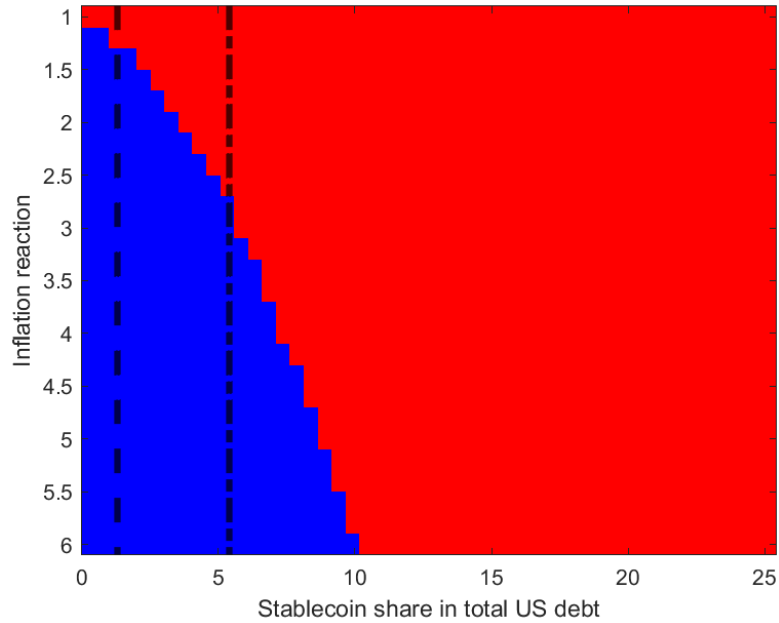


Figure C.16: Stability map.

Notes: the chart shows combinations of values for the U.S. Taylor rule inflation reaction parameter (θ_π) and the stablecoin preference parameter (μ_{sc}). Blue areas indicate that the model is stable and red areas that it is unstable. Estimated parameters from [Ferrari Minesso and Pagliari \(2023\)](#) are used.

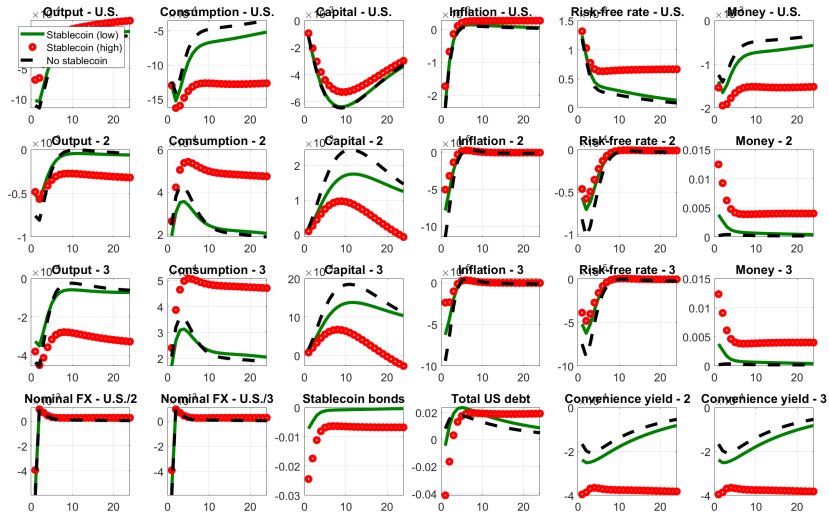


Figure C.17: Impulse responses to a U.S. monetary policy shock – estimated model.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). We use parameter estimates and country weights as in [Ferrari Minesso and Pagliari \(2023\)](#).

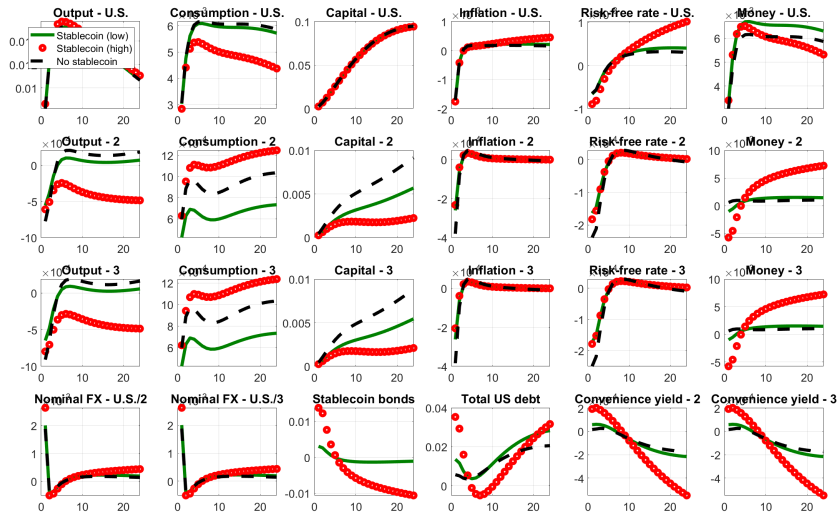


Figure C.18: Impulse responses to a U.S. TFP shock – estimated model.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). We use parameter estimates and country weights as in [Ferrari Minesso and Pagliari \(2023\)](#).

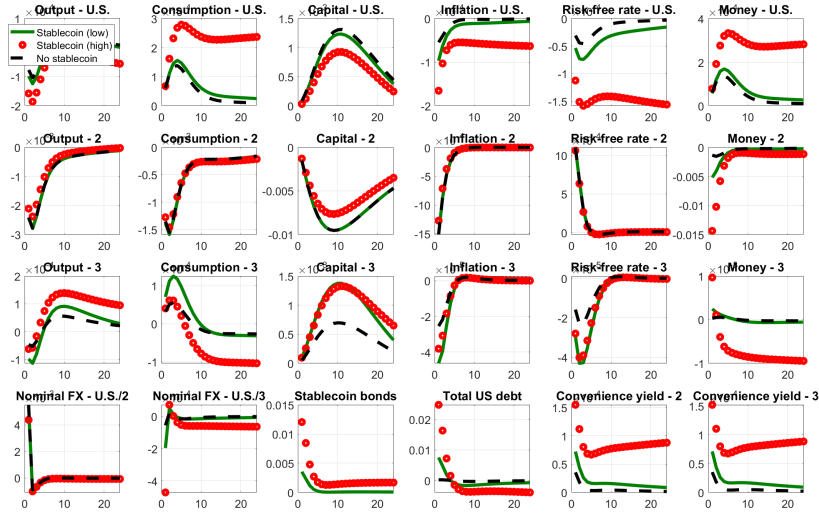


Figure C.19: Impulse responses to a monetary policy shock from country 2 – estimated model.

Notes: the chart shows the impulse response to a 1 standard deviation monetary policy shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). We use parameter estimates and country weights as in [Ferrari Minesso and Pagliari \(2023\)](#).

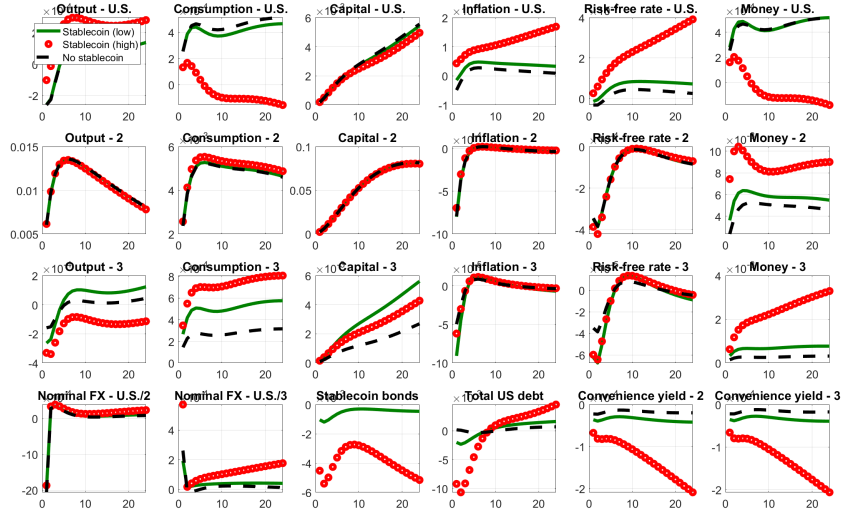


Figure C.20: Impulse responses to a TFP shock from country 2 – estimated model.

Notes: the chart shows the impulse response to a 1 standard deviation TFP shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). We use parameter estimates and country weights as in [Ferrari Minesso and Pagliari \(2023\)](#).

C.5 Redemption fee

We extend the model by including a very large redemption fee of 2%, which is 20 times larger than the one applied by Tether (while U.S.D Circle does not have any). Expectedly, redemption fees reduce the quantitative impact of stablecoins on yields and exchange rate as households balance less out of stablecoins following each shock. The main mechanism however still holds.

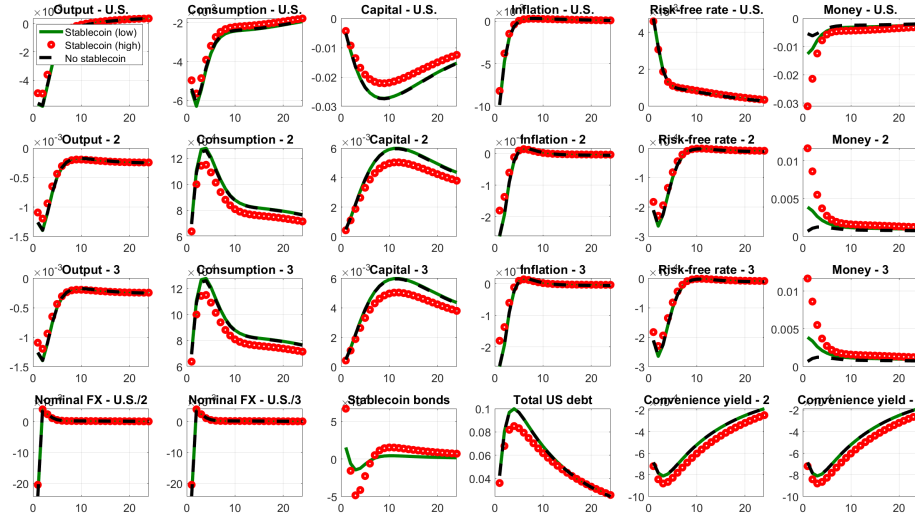


Figure C.21: Impulse responses to a U.S. monetary policy shock – model with redemption fee.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). A 2% redemption fee on stablecoin holdings is imposed.

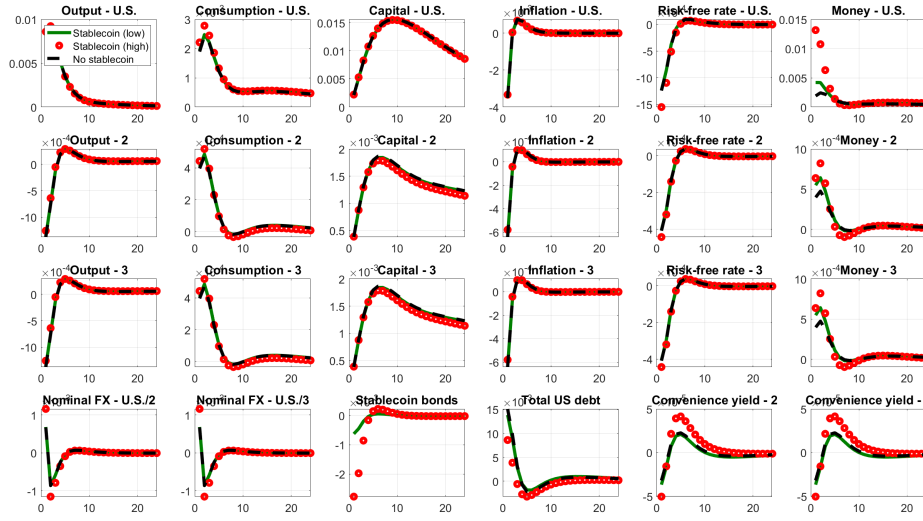


Figure C.22: Impulse responses to a U.S. TFP shock – model with redemption fee.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). A 2% redemption fee on stablecoin holdings is imposed.

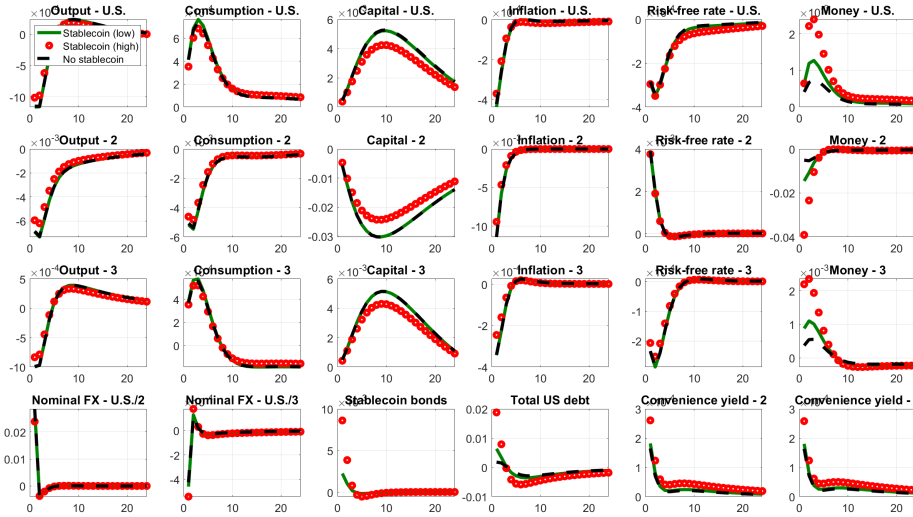


Figure C.23: Impulse responses to a monetary policy shock from country 2 – model with redemption fee.

Notes: the chart shows the impulse response to a 1 standard deviation monetary policy shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). A 2% redemption fee on stablecoin holdings is imposed.

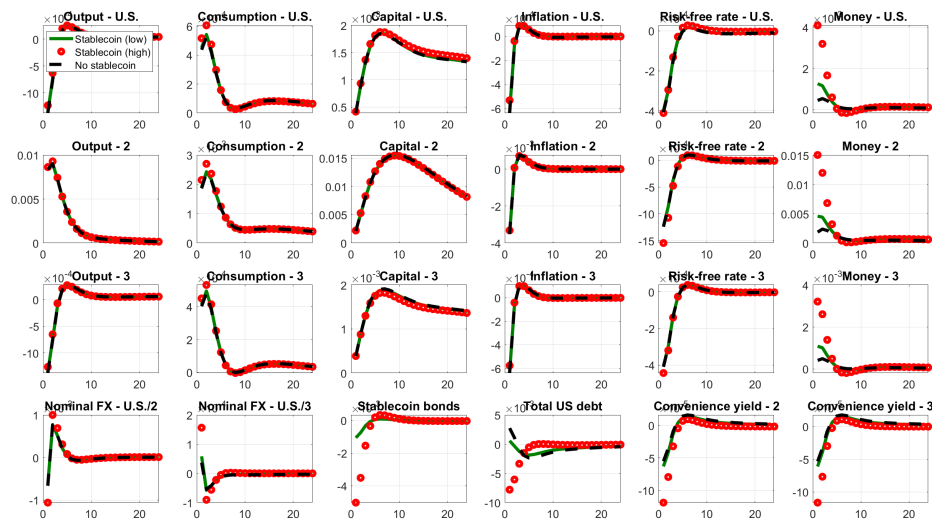


Figure C.24: Impulse responses to a TFP shock from country 2 – model with redemption fee.

Notes: the chart shows the impulse response to a 1 standard deviation TFP shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). A 2% redemption fee on stablecoin holdings is imposed.

C.6 Interest bearing stablecoins: case of a spread of the policy rate

This section simulates the model under an interest bearing stablecoins with the stablecoin remuneration rate defined as:

$$R_{sc,t} = R_{U.S.,t} - s \quad (\text{C.2})$$

where s is a fixed spread over the risk-free rate, calibrated to 40 basis points. Under this configuration the stablecoin rate tracks the policy rate, and the interest-rate differential in [Equation \(12\)](#) collapses to a constant. This also ties together the liquidity benefits and the US bond-holding costs on the right-hand side of the equation. Stablecoins thus become similar to a US bond, but with higher liquidity benefits and lower—zero, in our baseline calibration—intermediation costs. Following a shock, the remuneration on stablecoins likewise adjusts with the policy rate, giving households the same incentive to hold or liquidate stablecoins as they have for government bonds. In this case stablecoins are a superior instrument to bonds for foreign investors seeking exposure to US safe assets, so we expect them to be neutral or to reduce macroeconomic volatility, since foreigners can rebalance into US bonds more efficiently and without frictions. These results parallel the remunerated-CBDC case in [Ferrari Minesso et al. \(2022a\)](#), and can be seen by comparing the impulse responses reported below with the baseline.

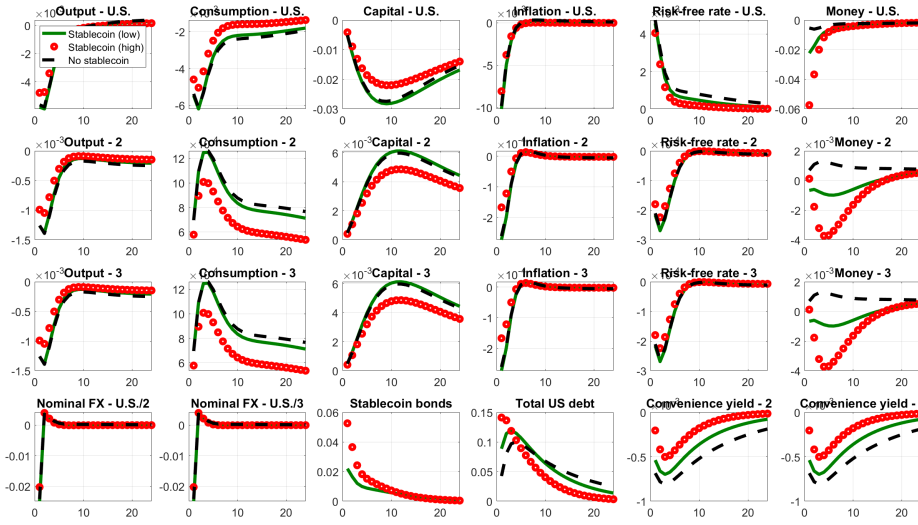


Figure C.25: Impulse responses to a U.S. monetary policy shock – stablecoins remunerated as a spread on the U.S. risk-free rate.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Stablecoins are remunerated as $R_{sc,t} = R_{US,t} - s$ with s a constant spread (40 basis points).

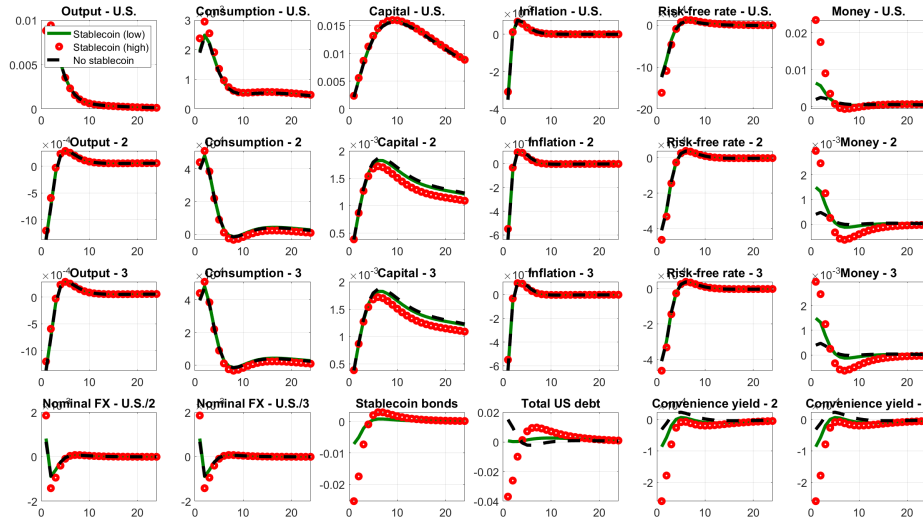


Figure C.26: Impulse responses to a U.S. TFP shock – stablecoins remunerated as a spread on the U.S. risk-free rate.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Stablecoins are remunerated as $R_{sc,t} = R_{US,t} - s$ with s a constant spread (40 basis points).

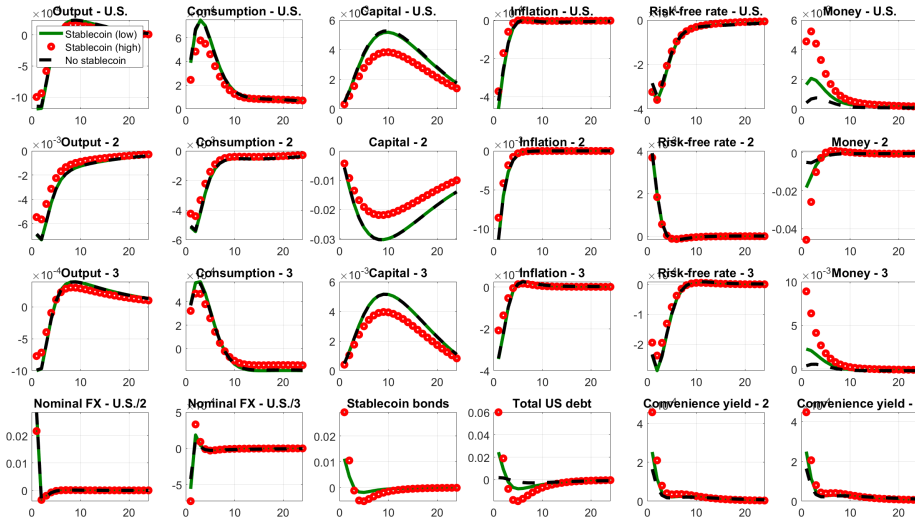


Figure C.27: Impulse responses to a monetary policy shock from country 2 – stablecoins remunerated as a spread on the U.S. risk-free rate.

Notes: the chart shows the impulse response to a 1 standard deviation monetary policy shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Stablecoins are remunerated as $R_{sc,t} = R_{US,t} - s$ with s a constant spread (40 basis points).

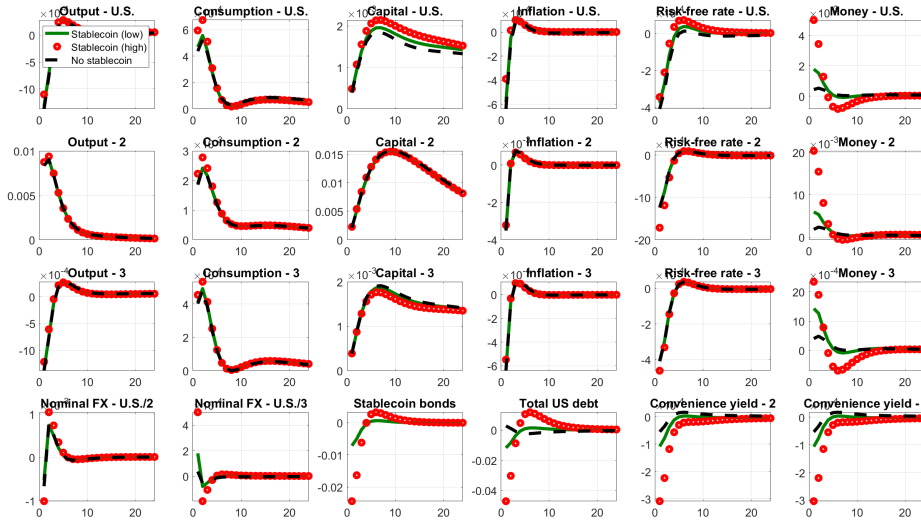


Figure C.28: Impulse responses to a TFP shock from country 2 – stablecoins remunerated as a spread on the U.S. risk-free rate.

Notes: the chart shows the impulse response to a 1 standard deviation TFP shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Stablecoins are remunerated as $R_{sc,t} = R_{US,t} - s$ with s a constant spread (40 basis points).

C.7 Interest bearing stablecoins: case of a constant remuneration

This section simulates the model under an interest bearing stablecoins with a constant remuneration:

$$R_{sc,t} = s \quad (\text{C.3})$$

where s is a fixed at 40 basis points. In this case the core incentives of holding stablecoins against bonds are not altered, stablecoins are only made marginally more convenient. Importantly, this remuneration component does not change over the business cycle, so does not affect how incentives to hold or liquidate stablecoins change after shocks. This is a key difference with the previous case. The presence of constant remuneration changes steady-state allocations but not dynamics. Therefore the main mechanism of the model is preserved, as highlighted by the impulse responses reported below.

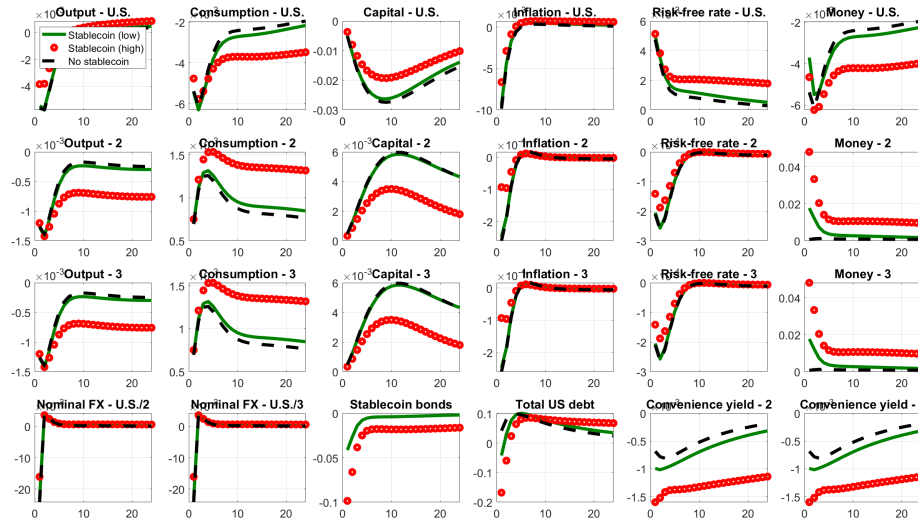


Figure C.29: Impulse responses to a U.S. monetary policy shock – stablecoins constant remuneration.

Notes: the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Stablecoins are remunerated as $R_{sc,t} = s$ with s calibrated at 40 basis points.

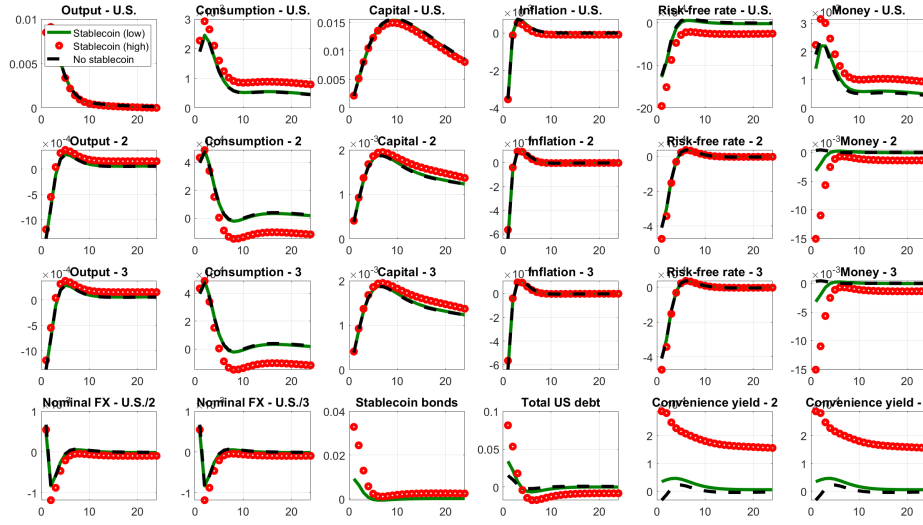


Figure C.30: Impulse responses to a U.S. TFP shock – stablecoins constant remuneration. **Notes:** the chart shows the impulse response to a 1 standard deviation U.S. monetary policy shock. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Stablecoins are remunerated as $R_{sc,t} = s$ with s calibrated at 40 basis points.

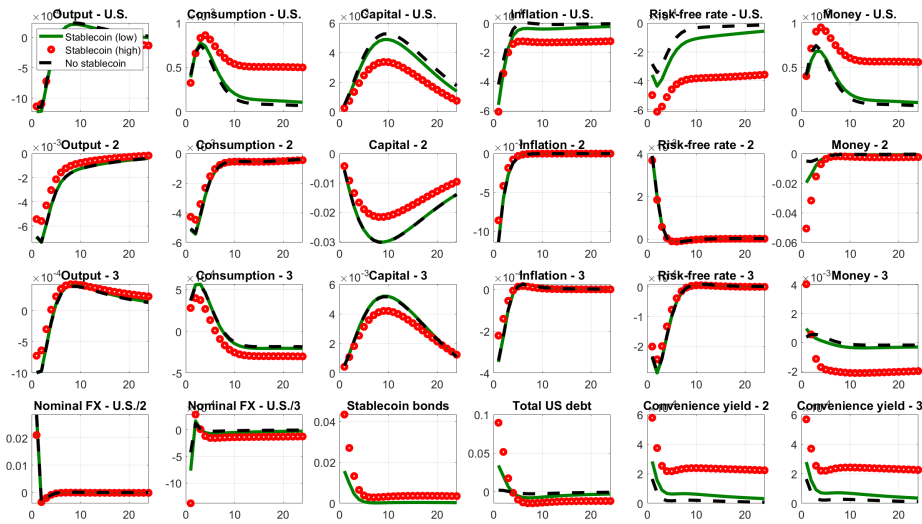


Figure C.31: Impulse responses to a monetary policy shock from country 2 – stablecoins constant remuneration.

Notes: the chart shows the impulse response to a 1 standard deviation monetary policy shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Stablecoins are remunerated as $R_{sc,t} = s$ with s calibrated at 40 basis points.

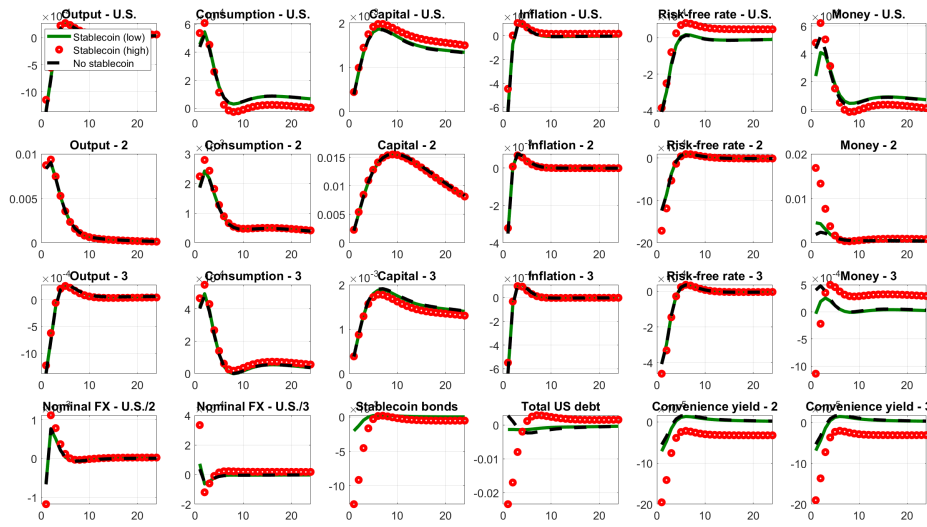


Figure C.32: Impulse responses to a TFP shock from country 2 – stablecoins constant remuneration.

Notes: the chart shows the impulse response to a 1 standard deviation TFP shock from country 2. The black line shows the responses of the model without stablecoins, the green line the responses of the model with low steady-state stablecoin market capitalization (about 500 U.S.D bl, 1.3% of the U.S. bond market), the red dots the responses of the model with high steady-state stablecoin market capitalization (about 2 U.S.D tr, 5.4% of the U.S. bond market). Stablecoins are remunerated as $R_{sc,t} = s$ with s calibrated at 40 basis points.