Stablecoins and Bank Deposits: Crowding Out or Crowding In?

Antonio Ribba[1,*]

[1]*Department of Economics Marco Biagi, Universita` degli Studi di Modena e Reggio Emilia, Viale Berengario 51, 41121 Modena, Italy*

Abstract. We empirically investigate the effects of stablecoin growth on bank deposits. Focusing on the United States in recent years, we find no evidence that stablecoins crowd out bank deposits. Indeed, using a structural VAR methodology, our results show that an increase in stablecoin circulation causes an increase in bank deposits—that is, we detect a crowding-in effect. These findings are robust to alternative identification strategies. Therefore, our main conclusion is that concerns regarding stablecoin-induced disintermediation may be overstated. Our findings are consistent with the analysis presented in studies such as that by Wang (2025), in which opposing forces—both internal and related to the foreign sector—are at work, and the final outcomes do not necessarily lead to banking disintermediation.

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1. INTRODUCTION

The use of stablecoins has surged in recent years, and the GENIUS ACT, recently passed in the United States, could spur further growth. Specifically, between 2020 and 2025, the circulation of stablecoins increased tenfold. According to Dionysopoulos and Urquhart (2024), this trend is expected to continue over the next five years.

Stablecoins are a form of private digital money and, as such, can be used as a medium of exchange and a store of value. In particular, USD stablecoins are pegged to the dollar, i.e. they are designed to maintain a 1:1 value with the U.S dollar. Furthermore, stablecoins are, at least potentially, substitutes for bank deposits.

Therefore, along with the sharp increase in the circulation of stablecoins, concerns have grown that their widespread adoption could lead to significant banking disintermediation. In and of itself, banking disintermediation is not necessarily a significant problem; after all, it could be a consequence of the free choices made by economic actors, but on the other hand, it could have a significant impact on banks' lending, and this, in turn, could pose a potential problem in the event of a contraction in credit supply. Needless to say, this scenario could also have negative consequences for financial and macroeconomic stability, raising concerns among central banks given the significant implications for the conduct of monetary policy.

In a very recent paper Lee and Tou (2026) build a theoretical model of stablecoin induced-disintermediation. However, Wang (2025) argues that opposite forces are indeed at work. For example, foreign demand for USD stablecoins may boost deposits in US banks and thus mitigate, or ultimately offset, the effect of domestic substitution of deposits with stablecoins. As far as Euro area is concerned, Altavilla *et al.* (2026) find that the increase of stablecoin circulation causes a contraction in bank deposits since funds move form bank deposits to digital money.

In fact, one might wonder whether concerns about a crowding-out effect of stablecoins on deposits are truly justified. Therefore, a question worthy of empirical investigation concerns the dynamic effects that increased growth in stablecoins has on deposits and other relevant financial variables.

In this article we address this issue using the structural VAR methodology. We find evidence in the United States for the period 2020–2025 —that is, the period characterized by a sharp increase in stablecoin circulation— supporting a crowding-in effect rather than a crowding-out effect exerted by stablecoins on bank deposits— perhaps contrary to what one might expect. Moreover, these results turn out to be robust to alternative identification strategies.

The rest of this paper is structured as follows. Section 2 presents a selective review of the literature. Although the literature presents differing viewpoints and conclusions regarding the risks of banking disintermediation, there is a growing consensus on the dangers to bank deposits associated with the increasing adoption of stablecoins. Section 3 outlines the methodology adopted in this study, which is based on structural VAR models. In this context, we present the two alternative identification strategies employed in order to recover stablecoin shocks, based respectively on the Cholesky decomposition of the matrix of error terms and on sign restrictions. Section 4 is devoted to presenting the empirical results. We show that under both the alternative identifications strategies, the response of deposits to a positive shock to stablecoin growth exhibits a positive sign. In other words, an increase in stablecoin growth causes an increase in bank deposits. Another interesting finding concerns the dynamic response of Treasury bill yields, as we find evidence

*Address correspondence to this author at the Department of Economics Marco Biagi, Universita` degli Studi di Modena e Reggio Emilia, Viale Berengario 51, 41121 Modena, Italy; E-mail: antonio.ribba@unimore.it

of a statistically significant negative response of this variable to an increase in stablecoin circulation. Section 5 concludes.

2. LITERATURE REVIEW

Dionysopoulos and Urquhart (2024) presents an overview of stablecoins.

Lee and Tou (2026) propose a model of stablecoin disintermediation. In their model, the spread of stablecoins reduces bank deposits and, furthermore, can cause liquidity strains for banks.

However, as Wang (2025) recently pointed out, one possible source of demand for stablecoins pegged to the U.S. dollar is the foreign sector. Foreign demand could, in fact, lead to an increase in U.S. bank deposits. Opposing forces are therefore at work: domestic demand for stablecoins could disintermediate bank deposits, while international demand for stablecoins could push bank deposits in the opposite direction. The extent of this push exerted by foreign demand depends on whether or not stablecoin issuers choose to hold their reserves domestically.

Liao and Caramichael (2022) point out that the potential disintermediation effects on bank deposits are linked to the stablecoins design and to macroeconomic factors.

Coste (2024) analyzes the relationship between stablecoins and their issuers and also examines the resulting effects on banks' capital and liquidity ratios.

Hempel et al. (2026) recently stressed, from a historical perspective, that banks provide strategic responses to financial innovations that carry risks of disintermediation. Therefore, their main conclusion is that stablecoin-induced banking disintermediation may not materialize.

From an empirical perspective, in a very recent article, Ahmed and Aldasoro (2026) investigate whether stablecoins and bank deposits are substitutes. Using U.S. data from January 2019 to June 2025, they find evidence supporting substitution.

In another very recent article, Boris Hofmann et al. (2026) analyze the aggregate impact of stablecoins using a quantitative macroeconomic model. The authors' most important conclusion—drawn for the U.S. economy—is that widespread adoption of stablecoins can reduce long-term output through its effect on the bank lending channel. Another important conclusion concerns the potential strengthening of monetary policy transmission.

Nevertheless, according to Cong (2025), the relevant literature does not have a clear conclusion on the effects of stablecoins on bank credit intermediation.

Chiu *et al*. (2023), on the other hand, examine the impact of central bank digital currency (CBDC) on bank intermediation. Their main conclusion is that the adoption of CBDC may have a crowding-in effect on bank lending.

As for the Euro area, Altavilla et al. (2026) analyze the role played by the adoption of stablecoins on bank deposits in the euro area and draw some implications for monetary policy. In particular, they highlight the risk associated with the spread of foreign-currency-denominated stablecoins. Their main findings indicate that the adoption of stablecoins can reduce bank deposits and, consequently, can lead to a contraction in bank lending to households and businesses. In addition, potential problems arise regarding monetary policy transmission.

In a very recent speech, Schnabel (2026) emphasizes that the diffusion of stablecoins is still limited in the euro area. The speech includes an analysis of the similarities between money market funds and stablecoins and draws some implications for the conduct of monetary policy.

Other relevant studies focusing on the implications of stablecoin diffusion for monetary policy include those by Cova et al. (2025) and Borio et al. (2026). More specifically, the first study analyzes monetary policy transmission in the presence of digital currencies and in open economies, while the second examines the influence of stablecoins on the determination of the money supply.

A recent body of research has also analyzed the relationship between the growth of stablecoins and financial stability (see, for example, Chen and Phelan 2025, among others).

Hoang and Baur (2024) show that stablecoins are affected by greater volatility with respect to main fiat currencies.

Along this line of research Riaza and Gnabo (2025) analyze the potential effects of the depegging of stablecoins as a destabilizing factor in cryptocurrency markets.

MacDonald and Zhao (2022) point out that stablecoins can be subject to confidence runs. This can occur in a situation where holders lose confidence in the stablecoin's ability to be converted into another currency on a one-to-one basis. The authors emphasize that a crisis of confidence in a major stablecoin could spread throughout the financial system.

Yadav and Malone (2026), on the other hand, analyze the interconnection between the Treasury securities market and USD-pegged stablecoins. The authors highlight the potential strengths and weaknesses of this interconnection, noting that while it supports the sustainability of public debt, the risk of stablecoin default could undermine macroeconomic stability.

To summarize and conclude this section of the literature review: there are still no consensus conclusions regarding the dynamic relationship between stablecoin circulation and bank deposits, either in terms of theoretical models or in terms of empirical research findings.

This should come as no surprise, especially given that this field of research is still in its infancy, just as the development of stablecoins is still in its infancy. However, in this paper, we attempt to establish some robust empirical results using the structural VAR methodology and shed some light on the positive relationship between stablecoin growth and bank deposit growth.

3. METHODOLOGY

In the following section, we first present the results of the study of co-movements between the time series using the cross-correlogram, and then construct a structural VAR model that allows us to investigate the causal relationships among the time series.

Regarding the cross-correlogram, we consider the following equation:

$$\rho_{xy}(k) = \frac{R_{xy}(k)}{\sqrt{R_{xx}(0)}\sqrt{R_{yy}(0)}} \qquad -1 \leq \rho_{xy}(k) \leq 1$$

This equation defines the normalized cross-correlation coefficient between two random processes, x and y, at a time lag *k*. It is a useful measure for evaluating the magnitude and sign of the co-movement between the two time series.

Specifically, in the empirical section, we focus on the co-movements between stablecoin growth and bank deposits, as well as between stablecoin growth and three-month yields on T-bill.

However, it is worth recalling that the statistical analysis of co-movements between two time series does not allow us to infer causal relationships.

Therefore, we also estimate a VAR model over the period 2020-2025. The reduced-form, VAR model is given by:

$$X_t = \mu + A_1 X_{t-1} + e_t \qquad (1)$$

X_t is a 4 × 1 vector of macroeconomic variables including, in the order, currency, deposits, total stablecoin market capitalization and three-month yields on T-bill.

μ is a vector of constant terms, e_t is the 4 × 1 vector of error terms, such that $E(e_t) = 0$ and $E(e_t e'_t) = \Sigma_e$.

The sample data has monthly frequencies. Currency, deposits and stablecoins enter the VAR as the year-on-year rate of change.[1]

The reduced-form moving average representation of system (1) is given by:

$$X_t = \rho + C(L)e_t \quad (2)$$

where $C(0) = I$.

The structural VAR model has the following representation:

$$X_t = \rho + B(L)\eta_t \quad (3)$$

Where $B(L) = C(L)P$ and $\eta_t = P^{-1}e_t$. The 4 × 1 vector η_t contains orthonormal disturbances, i.e. $E(\eta_t \eta'_t) = I$ and P is such that $PP' = \Sigma_e$. We select P as the Cholesky factor of Σ_e, i.e. P is the unique lower triangular matrix such that PP' gives a factorization of the covariance matrix of error terms. This provides the sixteen restrictions needed to achieve exact identification of the model. Starting with Sims's seminal work (1980), this identification strategy has been widely adopted in subsequent empirical research based on the use of multivariate time-series models.

Therefore, we impose a recursive structure, in the following order: currency, deposits, total stablecoin market capitalization, three-month yields on T-bill.

It follows that we are imposing a delayed response of currency and deposits to a stablecoin shock, as well as a delayed response of currency, deposits and stablecoin circulation to a shock to T-bill yields. Given the monthly frequency of the sample data, these restrictions do not seem to impose a tight straitjacket on data.

In this study we also undertake a robustness analysis and estimate a VAR model in which stablecoin shocks are identified by imposing sign restrictions. More specifically, we impose two alternative restrictions regarding the sign: the first consists in imposing a positive sign in stablecoin growth which lasts for 6 months, while the second imposes a more persistent positive trend, since in this second case the increase in stablecoin growth lasts for 12 months. Uhlig (2005) is one of the first studies to have adopted this identification strategy. The author uses sign restrictions to identify the monetary policy shock and the effects of unexpected changes in monetary policy on a selected set of U.S. macroeconomic variables.

It is worth noting that the identification strategy based on sign restrictions is consistent with a methodological approach that aligns well with the principle "let the data speak." In other words, it is a weak identification strategy that, as such, serves as a valuable complement to the Cholesky method-based strategy for identifying shocks, which, by contrast, imposes a strong structure on the data.

4. EMPIRICAL RESULTS

We begin this section on empirical results with some stylized facts concerning the relationship between stablecoin growth, deposits and Treasury yields.

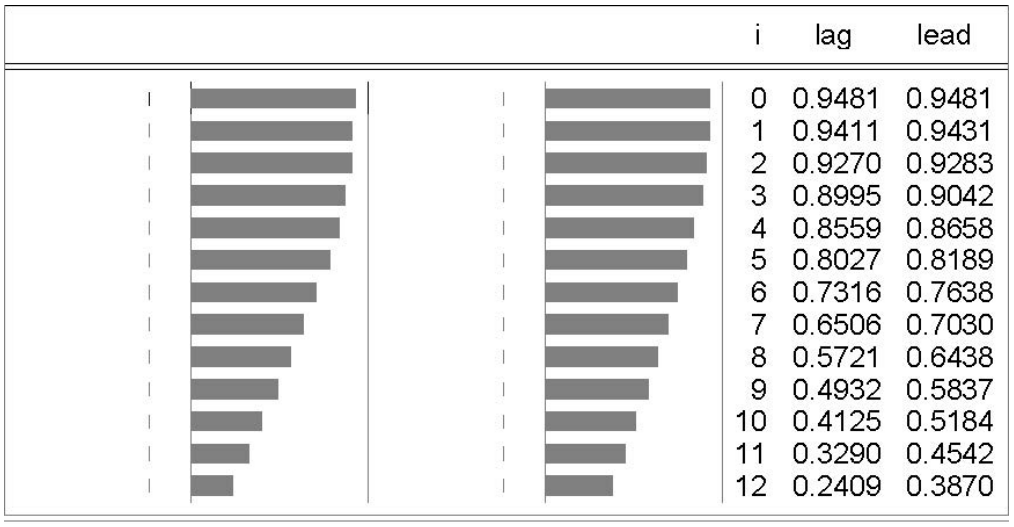
Table **1** shows the cross correlogram of stablecoin growth and bank deposit growth. The cross-correlogram is a useful tool for evaluating co-movements between variables at various leads and lags.

The results (see table **1**) show that there is a clear and strong positive co-movement between the growth of stablecoins and that of bank deposits at all selected leads and lags. Although this is a rather interesting finding, it is, of course, well known that such a correlation does not necessarily indicate a causal relationship; in fact, we will analyze this causal relationship later, using a structural VAR model. However, this is preliminary evidence that the circulation of stablecoins and that of bank deposits do not move in opposite directions. Table **2**, on the other hand, shows the cross-correlogram between the growth of stablecoins and T-bills. In this case the negative sign of the co-movement at all leads and lags indicates that the two variables move in opposite directions. This potential causal relationship will also be analyzed through the lens of a structural VAR model.

Fig. (**1**) shows the dynamic responses of endogenous variables to a positive stablecoin growth shock. The response of currency is non-significant at almost all horizons. Instead, there is a statistically significant increase of deposits which lasts for around six months. As far as the yields on Treasury Bills are concerned, an unexpected increase in stablecoin growth causes yields to decline. Moreover, this decline turns out to be persistent, although it is worth highlighting that after one year the response becomes statistically non-significant.

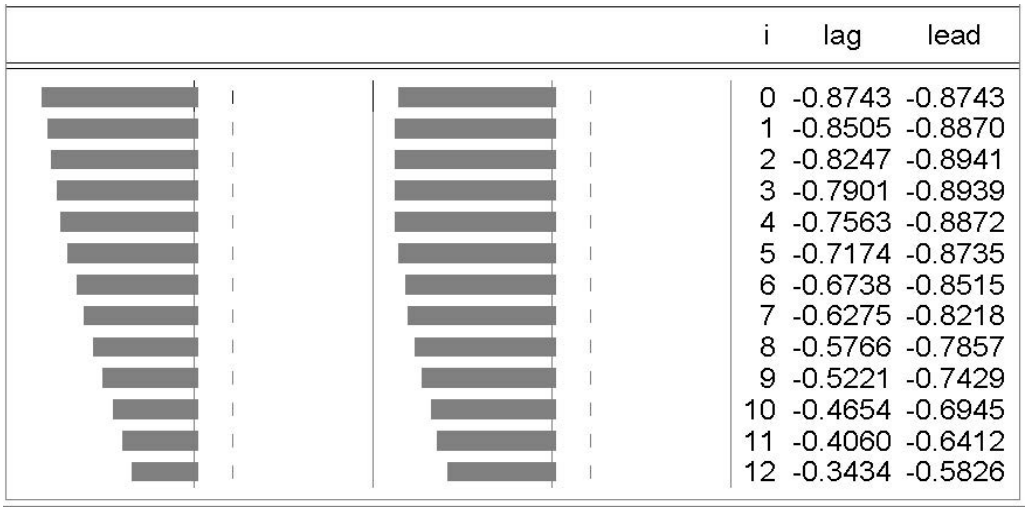
[1]The source of historical data for Total Stablecoin Market Capitalization, is CoinGlass (https://www.coinglass.com). Instead, the other series used in this study are taken from FRED at the St. Louis FED Web site.

Table 1. Cross-correlogram of stablecoin growth and bank deposit growth.



i	lag	lead
0	0.9481	0.9481
1	0.9411	0.9431
2	0.9270	0.9283
3	0.8995	0.9042
4	0.8559	0.8658
5	0.8027	0.8189
6	0.7316	0.7638
7	0.6506	0.7030
8	0.5721	0.6438
9	0.4932	0.5837
10	0.4125	0.5184
11	0.3290	0.4542
12	0.2409	0.3870

Table 2. Cross-correlogram of stablecoin growth and 3-month U.S. Treasury bill.



i	lag	lead
0	-0.8743	-0.8743
1	-0.8505	-0.8870
2	-0.8247	-0.8941
3	-0.7901	-0.8939
4	-0.7563	-0.8872
5	-0.7174	-0.8735
6	-0.6738	-0.8515
7	-0.6275	-0.8218
8	-0.5766	-0.7857
9	-0.5221	-0.7429
10	-0.4654	-0.6945
11	-0.4060	-0.6412
12	-0.3434	-0.5826

We thus have here initial evidence of the crowding-in effect that the increase in stablecoin circulation has on bank deposits.

It is also worth noting that the response of Treasury yields has the expected sign: an increase in stablecoin growth moves in the opposite direction to Treasury yields. This result is not surprising, since stablecoin issuers hold substantial reserves in U.S. Treasuries. Consequently, an increase in stablecoin circulation is associated with rising demand for Treasuries. Note that the GENIUS ACT is likely to reinforce this trend.

Figs. (**2** and **3**) show the impulse response functions of the endogenous variables to a stablecoin growth shock identified *via* sign restriction. The dynamic responses of variables to a change of positive sign in stablecoin circulation lasting six months (see Fig. **2**) are quite similar to those observed using Cholesky identification of disturbances. Instead, an increase lasting 12 periods (see Fig. **3**) produces positive and persistent effects non only on bank deposits but also on currency.

Both Fig. (**2** and **3**) show that the dynamic response of Treasury yields confirms the negative reaction to an increase in stablecoin circulation.

To summarize the empirical results of this study, overall, the findings presented in this section—in particular those obtained by estimating a VAR model with structural disturbances derived using two alternative strategies for identifying shocks—do not confirm concerns regarding banking disintermediation caused by the widespread adoption of stablecoins in the financial system. On the contrary, we observe that an increase in the circulation of stablecoins leads to a rise in bank deposits.

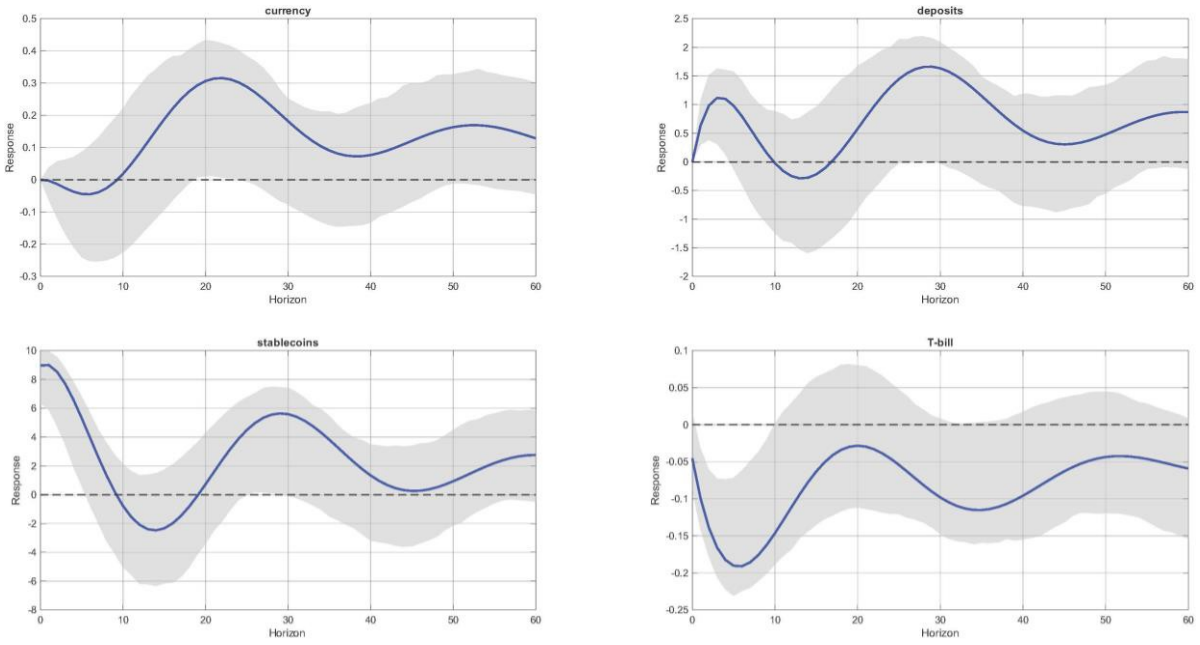


Fig. (1). Dynamic responses of variables to a stablecoin growth shock. Cholesky decomposition. 90 percent confidence interval.

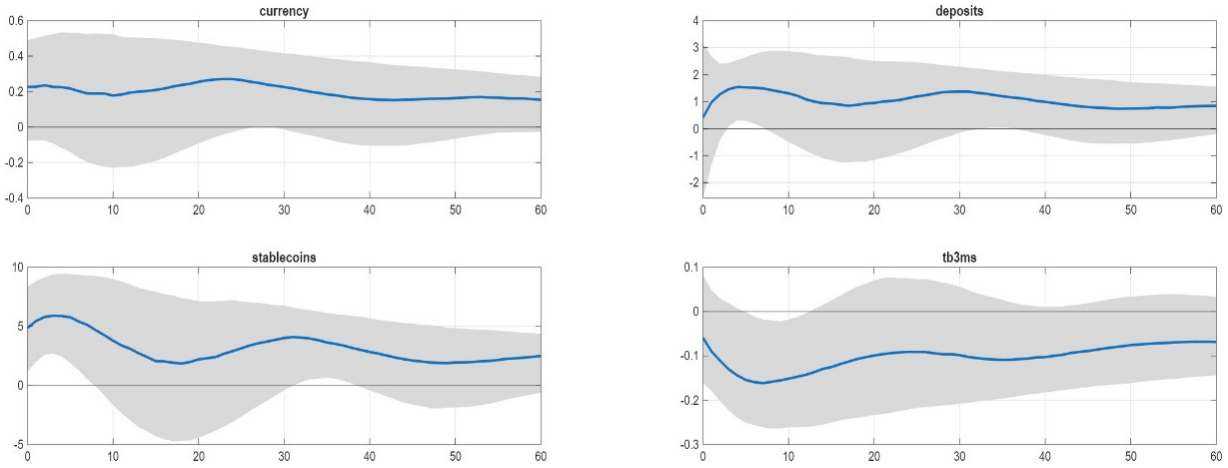


Fig. (2). Dynamic responses of variables to a stablecoin growth shock. Sign restriction identification: positive sign imposed on stablecoins for 6 months.

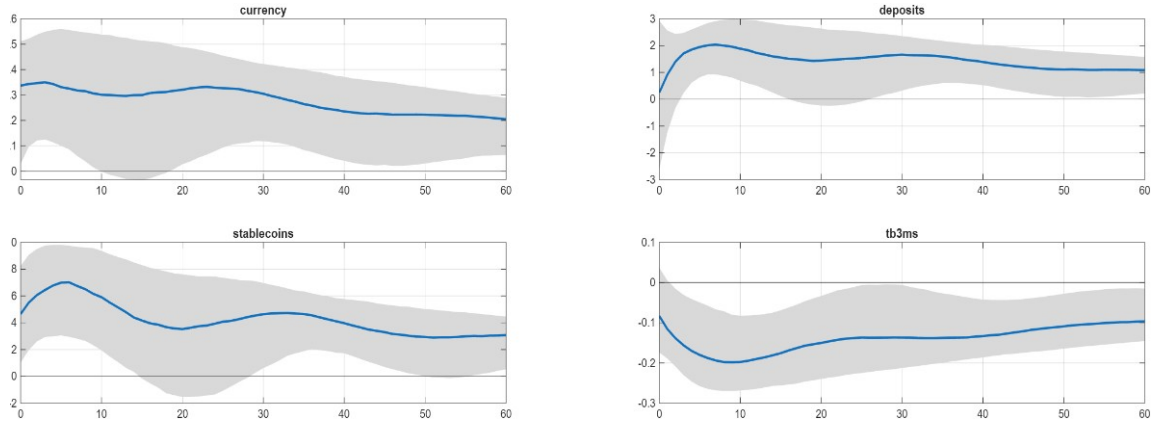


Fig. (3). Dynamic responses of variables to a stablecoin growth shock. Sign restriction identification: positive sign imposed on stablecoins for 12 months.

Whether these results are limited to the short historical period under examination or, instead, represent a persistent financial phenomenon that characterizes the U.S. economy is a question that will need to be investigated over the next decade.

CONCLUSION

The main finding of this study is that the strong growth in stablecoin circulation observed in the United States during the 2020-2025 period did not have a crowding-out effect on bank deposits. On the contrary, our analysis, based on the structural VAR methodology, shows that the opposite effect occurred: specifically, we detect a crowding-in effect. These conclusions are robust to alternative identification strategies of the structural disturbances, based on the classic Cholesky decompositions and on sign restrictions.

Furthermore, in the presence of a persistent increase in stablecoin growth—which, in our identification strategy, consists in an increase lasting 12 months—the response in deposits is not only positive but also quite persistent.

Our results contrast with the findings reported in a recent study by Ahmed and Aldasolro (2026), who find evidence of a substitution effect between deposits and stablecoins, but are consistent with the conclusion reached by some other studies (see, *e.g*. Wang 2026) that take a more optimistic view regarding the possibility of a non-conflicting coexistence, in financial markets, between the circulation of stablecoins and bank deposits.

Another interesting finding of this study concerns the dynamic effects of increased stablecoin growth on T-bill yields: there is a tendency for Treasury yields to decline. Therefore, stablecoin issuers act as a sort of parallel central bank, since these dynamic effects are in fact similar to those associated with an expansionary monetary policy by a central bank.

Nevertheless, it is necessary to highlight some limitations regarding the empirical results of the present paper. Perhaps the most important one concerns the small sample period considered. This is obviously due to the fact that the spread of stablecoins is a very recent phenomenon, although this potential weakness applies to all current empirical research on the joint dynamics of stablecoins and bank deposits. Therefore, further investigations, once more data becomes available, could confirm or refute the results of this study.

Looking ahead, another potential limitation of this study—which is obviously "retrospective," since it is based on historical data—could relate to the recently passed GENIUS ACT: this law will likely have a crowding-out effect on bank deposits, as it could prompt stablecoin issuers to increase the share of U.S. Treasury securities held in their reserves.

Finally, the United States may benefit from the current dominance of stablecoins pegged to the dollar; consequently, the findings of this study may be specific to the U.S. economy but not necessarily replicable in other countries and regions.

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