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Confrontations Over Seigniorage in the Euro Area

Concerns about the prospective evolution of seigniorage collected by central banks as a result of innovation in the field of money and payments are not new. They have resurfaced recently with the prospect of stablecoins gaining traction. This paper considers that commercial banks also collect a form of seigniorage. On the basis of back-of-the-envelope calculations, we show that, in the euro area, stablecoins could impact banks' seigniorage more negatively than that of the ECB. Furthermore, a digital euro could support the ECB's seigniorage far more than euro stablecoins could dent it, while protective regulation and banks' adaptation to the new context would allow them to limit the fall in their seigniorage caused by stablecoins and a digital euro. All in all, seigniorage would increase.

Concerns about the prospective developments in the seigniorage collected by central banks, in the face of innovation in the field of money and payments, are not new. Such concerns were, for instance, expressed at a time when electronic money seemed poised for a bright future in Europe (see, e.g. Boeschoten & Hebbink, 1996; Groeneveld & Visser, 1997). They have resurfaced in the context of the digitalisation of payments and the development of new forms of money, in particular stablecoins (Armas & Singh, 2022; Clouse, 2025) as well as central bank digital currencies (CBDCs) (Gustaffson & Lagerwall, 2020).

Seigniorage accrues as a result of the use as money of an asset that is not remunerated or remunerated at a significantly below-market interest rate. The best example is the central bank as issuer of currency, which bears a zero interest rate, and possibly also, in the future, as a supplier of a CBDC.¹ However, seigniorage in the broader sense can also be collected by the private sector. In particular, the closeness of overnight deposits to currency, with

both means of payment used in large part for transaction purposes, allows banks to pay a very low interest rate on sight deposits, hence to collect seigniorage.² In the following, we refer to seigniorage in this broader sense.

Seigniorage can be measured as a flow (the revenue derived from the issuance of zero or below-market interest-bearing liabilities used as money) or as a stock (the volume of the corresponding liabilities). We retain the second measurement for two reasons. Firstly, this avoids specifying the yield on the assets held by the issuers as a counterpart to the issuance of seigniorage-generating liabilities and enables the equation of changes in these liabilities with changes in seigniorage. Secondly, beyond short-term fluctuations, seigniorage-generating liabilities usually do not decrease; their issuance thus amounts to a transfer of the same amount to the collectors of seigniorage. Finally, we do not take into account the infrastructure, production, maintenance and distribution costs of currency or new forms of money, which we deem negligible in comparison with seigniorage.

This paper focuses on the potential impact of new forms of money (i.e. stablecoins and CBDCs) on the volume and the sharing of seigniorage in the euro area in the coming years. First, it briefly presents the current state of play in the stablecoin industry. Subsequently, the paper provides rough estimates of the consequences of the issuance of

1 The European Commission (2023) proposal for a regulation on the digital euro foresees that the digital euro will bear a zero interest rate.

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2 For instance, interest rates on overnight deposits placed by households and corporations stood respectively at 0.52% and 0.25% in October 2025, whereas the interest rate on the ECB deposit facility stood then at 2%. See https://data.ecb.europa.eu/data/concepts/overnight-deposits?tags_array%5B0%5D=Overnight%20deposits&layerType=AL.

euro stablecoins for the level and sharing of seigniorage in the euro area.³ It then discusses how the traditional actors in the monetary field (the central bank and commercial banks) could respond to the negative impact of stablecoins, and more broadly of new forms of money, on their profitability. Finally, the paper concludes.

State of play

Stablecoins are crypto-assets that have recourse to a stabilisation mechanism and are meant to be used as a means of payment and/or a store of value (FSB, 2023). Unlike deposits, which are attached to an account, stablecoins are bearer instruments. The first stablecoin was created in 2014. The total market capitalisation of stablecoins reached around US \$310 billion as of mid-January 2026, 2.4 times more than two years before.⁴ Most stablecoins aim to keep a stable value vis-à-vis the dollar and are backed by reserves invested in short-term dollar-denominated assets (deposits and securities), with euro stablecoins representing only 0.2% of the total market capitalisation of stablecoins. To our knowledge, there are no statistics on the use of stablecoins; however, one estimate frequently mentioned is that 90% of transactions in stablecoins take place in crypto trading activities and only 6% are in non-crypto-related payments, consisting mostly of remittances (see, e.g. Jhanji et al., 2025). However, the use of stablecoins is expected to pick up rapidly in the coming years on account of several factors: the clarification of the regulatory environment; the tokenisation of financial assets; the decrease in stablecoin transaction costs, allowed by economies of scale; the extension of uses to corporate treasury and P2P payments; and dollarisation.

In the EU, the regulatory environment of stablecoins has been clarified by the Markets in Crypto-Assets (MiCA) Regulation (European Union, 2023). The mono-currency stablecoins we focus on are labelled “electronic money tokens” (EMTs) in MiCA. EMTs can only be issued by banks and electronic money institutions, which are not allowed to pay interest on them and thus collect seigniorage. EMTs have to be backed at a minimum 1:1 ratio by deposits and secure, liquid and low-risk assets, denominated in the same official currency as the EMTs. However, EMTs issued by banks do not have to be backed

by a dedicated reserve.⁵ Smaller issuers have to hold at least 30% of their reserve as deposits, and larger ones (so-called ‘significant’ issuers) have to hold at least 60%. All issuers are subject to some transparency, governance and prudential requirements and must redeem EMTs at par at any time, without redemption fees. These restrictive provisions, in particular the latter one, should result in the perfect stability of stablecoins, implying a regime shift, since stablecoins have not always been stable in the past (Melachrinou & Pfister, 2021).

Consequences of the issuance of euro stablecoins for the level and sharing of seigniorage in the euro area

In order to estimate the consequences of the issuance for the level and sharing of seigniorage, we first have to assess the potential issuance of stablecoins. This is a difficult exercise. However, one can try to draw a parallel with current forecasts for dollar stablecoins. At the time horizon of 2028, these forecasts range from US \$500-\$750 billion (J.P. Morgan Global Research, 2025) to US \$1.2 trillion (Duong & Vasco, 2025)⁶ and even US \$2 trillion (TBAC, 2025). We use the median of these forecasts (US \$1.2 trillion), considering the range provided by J.P. Morgan as a single forecast. To derive an estimate for euro stablecoins issuance in the next few years, we use the average shares of international and foreign currency liabilities provided by Bertaut et al. (2025) over the period 2015-2024. This is due to the fact that, as discussed below, it is mainly deposits that can be expected to substitute into stablecoins. These average shares are 61.85% for the US dollar and 18.42% for the euro. Consequently, euro stablecoin issuance could potentially reach US \$1.2 trillion $\times$ (18.42/61.85) = US \$357 billion, probably after 2028 as a result of an initial delay in creating a stablecoin industry in Europe. Using an exchange rate of the euro against the dollar of 1.1823, equal to the average since its creation, euro stablecoins issuance could reach close to €300 billion in the medium to long term; this is the figure we use in the following. Of course, as a result of the many assumptions made in computing this figure, it is fraught with a high degree of uncertainty. Rather than a precise forecast, it should be considered an order of magnitude.

As a second step, we make assumptions about how other assets will substitute into stablecoins (we disregard

3 We consider only euro-denominated stablecoins, since we view the possible substitution of euro-denominated monetary assets into foreign currency-denominated stablecoins as highly unlikely, as the euro is a credible currency that also benefits from strong network effects.

4 Please also note that the TMC of stablecoins, according to the same source, was slightly over US \$315 billion as of 26 March 2026. See <https://defillama.com/stablecoins>.

5 Incidentally, since stablecoins are bearer instruments and as such circulate in the public without clearing, allowing banks to issue stablecoins without backing them with a dedicated reserve amounts to introducing a form of free banking.

6 The methods used to make these forecasts are not always clear. However, Duong and Basco (2025) mention they have used an AR(1) model and run Monte Carlo simulations.

the possibility that stablecoins or other new forms of money could result in higher saving). For that purpose, we use information collected by the ECB in its survey on the source of the funds of the digital euro (this information is used by the ECB itself to gauge the potential financial stability impact of the digital euro; ECB, 2025a). According to the survey, digital euro wallets would be credited using sight deposits, saving deposits, cash and other assets up to around 64%, 13%, 16% and 7% respectively.

However, the ECB surveyed only individuals, whereas euro stablecoins will also be held by firms. Consequently, we make the following assumptions.

Only individuals hold cash, while firms hold term deposits in lieu of saving deposits held by individuals. We also assume that non-individuals will fund their holding of euro stablecoins in the same relative proportions as individuals, i.e. up to 76% ($0.64/(1 - 0.16)$) with overnight deposits, 15% ($0.13/(1 - 0.16)$) with term deposits, and 9% ($0.07/(1 - 0.16)$) with other assets.

We assume that savings and term deposits, as well as other assets that are held outside banks (i.e. with money market mutual funds), do not generate seigniorage. Thus, the loss of seigniorage by banks would result from their loss of overnight deposits.

With different sources of funding for individuals and non-individuals, we need a breakdown of the estimated ownership of stablecoins by the two categories. We hypothesise that the shares in total ownership will correspond to those in all deposits in M3, which stood at 61% and 39% respectively in September 2025.⁷ Indeed, the digital euro and euro stablecoins are not substitutes, and both new forms of money have to find their share in portfolios. Since monetary assets held by financial agents (in the sense of banks and money market mutual funds) are not included in M3, we also assume that stablecoins will not be held, just as the digital euro, or held in negligible quantity, by banks and money market mutual funds. This seems justified since, as seen above, MiCA does not allow interest to be paid on EMTs and mandates them to invest a large part of their reserve in deposits, thus making them less secure than reserves, which banks will still need for final settlement. Overall, on the basis of our estimate for total euro stablecoin circulation, €183 billion (300×0.61) would be held by individuals and the remaining €117 billion by non-individuals.

⁷ See <https://data.ecb.europa.eu/key-figures/money-credit-and-banking/bank-balance-sheets/deposits>.

Finally, we assume that the Eurosystem will not open accounts to stablecoin issuers or that, if it does, it will be in the form envisaged by the Fed for its “skinny” master accounts, i.e. not interest-bearing and limited in size (Waller, 2025). We therefore neglect this potential recycling of funds and of seigniorage from stablecoin issuers to the central bank.

Regarding the consequences for the ECB, the loss of seigniorage will be equal to the decline in cash circulation. Furthermore, as a result of the current and prospective uses of stablecoins, we assume that the substitution of cash into stablecoins by euro area residents will be limited (half of the substitution of cash into the digital euro, i.e. 8%), whereas non-residents would substitute cash into stablecoins to the same extent as respondents to the survey would substitute cash into the digital euro. The reasons are that euro stablecoins would be more accessible than euro banknotes to residents in countries with capital controls,⁸ and that they would be easier and safer to hold, store and use. Based on Zamora-Pérez (2021), who provides a range of 30% to 50% for the share of euro banknotes held abroad in 2019, we retain a percentage of 40% for that value, which leaves 60% for euro area residents. Consequently, the seigniorage collected by the ECB as a result of the issuance of euro stablecoins would decrease by $\text{€}183 \text{ billion} \times (0.6 \times 0.08 + 0.4 \times 0.16) = \text{€}20 \text{ billion}$.

Regarding the consequences for banks, the fall in their seigniorage would depend on two factors. The first factor, as indicated above, is their loss of sight deposits. The second factor depends on how they remunerate the deposits made by the stablecoin issuers, which in turn depends on the share of banks and their subsidiaries acting as electronic money issuers among stablecoin issuers. One can consider two extreme scenarios:

In Scenario 1, the share of banks and their subsidiaries is zero, giving stablecoin issuers market power. Supposing that banks keep the size of their balance sheet unchanged, banks would have to replace the overnight deposits they lose with resources, including the deposits of stablecoin issuers, remunerated at market interest rates. Banks’ seigniorage would fall by $\text{€}183 \text{ billion} \times 0.64 + \text{€}117 \times 0.76 = \text{€}206 \text{ billion}$.

In Scenario 2, the share of banks and their subsidiaries is 100%. Stablecoins would just replace other liabilities in their aggregated balance sheet and, since stablecoins do not pay interest, banking groups’ seigniorage would increase by $\text{€}183 \text{ billion} \times (0.13 + 0.07) + \text{€}117 \text{ billion} \times (0.15 + 0.09) = \text{€}65 \text{ billion}$.

⁸ According to Auer et al. (2025), capital controls appear ineffective against the holding of crypto-assets.

In these two scenarios, the share of the reserves invested as deposits does not play a role. In between, many intermediate scenarios could materialise, in which banks would have to craft a sort of compromise with euro stablecoin issuers, likely more favourable to them if they manage to take a bigger share of the market. Furthermore, euro stablecoin issuers would be forced by regulation to deposit a large part of their reserve with banks, which would weaken their bargaining power vis-à-vis banks, thereby making the fall in banks' seigniorage less pronounced than in Scenario 1.⁹

Possible responses of traditional actors

The ECB

One way for the ECB to offset the decrease in seigniorage resulting from the issuance of euro stablecoins would be to launch a digital euro although this would not necessarily be the main reason for this decision for said launch. The first issuance could take place in 2029 (ECB, 2025b). According to the ECB survey mentioned above, in normal circumstances (i.e. in the absence of a financial crisis), the demand for a digital euro, with an individual holding limit of €3000, would amount to around €110 billion. This demand would be funded by cash up to 16%, which implies that the ECB's seigniorage would increase by $€110 \text{ billion} \times 0.84 = €92 \text{ billion}$. We consider that the substitution between euro stablecoins and the digital euro would be negligible, as they would be complementary rather than substitutes. Indeed, the digital euro will likely not use blockchain, access to it by non-residents will be restricted, which will limit its international use, and its capacity to act as a store of value will also be limited by an individual holding ceiling (European Commission, 2023). The cumulative impact of euro stablecoins and the digital euro on the ECB's seigniorage would thus be a gain of €72 billion.¹⁰

Additionally, the ECB, or rather the European Council, which is scheduled to be the authority in charge of this matter (European Commission, 2023), could choose to extend the access to the digital euro beyond individuals, to public administrations and firms.¹¹ *Inter alia*, this would

allow the payment of salaries and social benefits in digital euro.

Two other ways for the ECB to preserve its seigniorage against stablecoin issuers could be:

- To fully recover the costs of issuing central bank money, including the digital euro, as the Fed is legally required to in pricing all its payment services. Instead, the ECB applies a "public good" adjustment, leading to a pricing of its payment services below those of the private sector. However, delivering a "public good" should not imply undercutting the private sector, but rather keeping costs at the lowest possible level, which is consistent with full cost recovery. All basic services attached to the digital euro would nevertheless have to be free for users (European Commission, 2023), which would make full cost recovery difficult.
- To raise the level of non-interest bearing minimum reserve requirements, possibly also incorporating euro stablecoins in the scope of liabilities submitted to them.¹² However, especially in the case of stablecoins, this would create a risk of dislocation of financial activity.

Commercial banks

Banks could be the main losers from the creation of new forms of money, with stablecoins causing a change from +€65 billion to -€206 billion in their profitability in the two extreme scenarios considered above. In addition, the issuance of the digital euro could dent their seigniorage by $€110 \text{ billion} \times 0.64 = €70 \text{ billion}$, meaning that the cumulative impact of stablecoins and the digital euro would range from -€5 billion to -€276 billion. Banks could react in three complementary ways.

First, they could improve the quality of the payment services they provide, thus limiting the loss of overnight deposits, e.g. through the generalisation of instant payments, which are already underway. Second, they could pass the loss of seigniorage on to their customers, most likely by increasing the cost of credit, since the competition for the collection of resources would be strengthened by new forms of money, making it difficult to lower interest paid on deposits. Third, they could launch their own financial products, as the ECB has done with the digital euro. These products could be stablecoins or tokenised deposits. The latter would benefit from their statute as deposits, including deposit insurance and commercial banks' access to central bank refinancing;

⁹ Conversely, the bargaining power of euro stablecoins issuers would be significantly increased if they had access to the ECB's deposit facility.

¹⁰ We do not take into account the potential creation of a wholesale version of the digital euro for two reasons. Firstly, due to a high velocity, the demand for it would likely be limited. Secondly, there would likely be a substitution between it and reserves.

¹¹ In fact, the European Council already envisages such an extension, since it suggests that use cases for the digital euro also include payments not just to, but also from businesses and government (Council of the EU, 2025).

¹² The ECB has been remunerating minimum reserve requirements at a rate of 0% since July 2023.

Table 1
Volume and sharing of seigniorage

Changes in billion euro

Scenario 1	
- ECB	-20
- Banks	-206
- Stablecoin issuers	+300
Total	+74
Scenario 2	
- ECB	-20
- Banks and their affiliates	+65
Total	+45
Scenario 1 and digital euro	
- ECB	+72
- Banks	-276
- Stablecoins issuers	+300
Total	+96
Scenario 2 and digital euro	
- ECB	+70
- Banks and their affiliates	-5
Total	+65

Source: Author's estimates.

however, they could not circulate in public, unlike stablecoins. In this case, the impact on banks' profitability would also depend on whether they can avoid remunerating tokenised deposits more than they currently remunerate sight deposits. To the extent that tokenised deposits allow their holders to enjoy the benefit of tokenisation, banks may be able to limit the remuneration of tokenised deposits, provided that competition in the market for new forms of money is not too strong. In that regard, just as stablecoins, tokenised deposits would differ from the digital euro and are therefore more likely to complement it than substitute for it.

Table 1 summarises the consequences on the volume and sharing of seigniorage in the euro area of the issuance of euro stablecoins under various scenarios. In all cases, total seigniorage increases.

Conclusions

Three main conclusions emerge, although all estimates provided in this paper are highly tentative.

The stakes are non-negligible. To give points of comparison, according to ECB monetary statistics, as of Septem-

ber 2025, currency in circulation in the euro area stood at €1575 billion and overnight deposits at €9308 billion. This means that the ECB's seigniorage could be dented by 1% by the issuance of stablecoins or boosted by 5% if it also launches the digital euro. Regarding the banking sector, the impact of both stablecoins and the digital euro on its seigniorage could range from very little in Scenario 2 to a fall of 3% in Scenario 1.

The estimates are also subject to a high degree of uncertainty. In particular, they are highly sensitive to the assumptions regarding the funding of new forms of money through overnight deposits (0.61 for individuals; 0.76 for non-individuals). Overall, seigniorage would increase in all scenarios.

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