The Cantillon Institute

Working Paper Series: The Union's Fault Lines

Working Paper No. 1

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The Settlement Gap: TARGET2, MiCA, and the Hidden Fiscal Architecture of European Monetary Union

Abstract

European monetary union operates a fiscal function it does not officially possess. TARGET2, the Eurosystem's real-time gross settlement infrastructure, performs that function: it absorbs intra-union capital movement, records the imbalances that capital flight produces, and provides the accounting mechanism through which the European Central Bank manages sovereign stress without recourse to the explicit fiscal transfers the union's political architecture prohibits. As of December 2024, Germany's Bundesbank held a TARGET2 claim of approximately €1.1 trillion against the Eurosystem; Italy's Banca d'Italia carried a TARGET2 liability of approximately €597 billion; Spain's Banco de España a liability of approximately €478 billion. These figures are not accounting abstractions. They are the accumulated residue of a settlement function that holds the union together under sovereign stress. The Markets in Crypto-Assets Regulation, in full application since December 2024, creates the regulatory conditions for euro-denominated stablecoin infrastructure at institutional scale. That infrastructure settles outside TARGET2. Cross-border payments routed through stablecoin settlement rails produce no TARGET2

position, no national central bank visibility, and no Eurosystem absorption of the capital flows those payments represent. This paper argues that the primary fault line the stablecoin payment layer opens in European monetary architecture is not monetary policy transmission in the conventional sense. It is the progressive erosion of the ECB's capacity to see, manage, and absorb the intra-union capital dynamics that TARGET2's settlement function currently intermediates. The union was designed to survive without a fiscal union. It was not designed to survive without a visible settlement layer.

Introduction

The debate over stablecoin infrastructure in Europe has organised itself around a set of questions that are real but secondary. Whether euro-denominated stablecoins compete with the euro at the margin, whether they complicate ECB monetary policy transmission in familiar ways, whether MiCA's reserve requirements are sufficient to ensure solvency at scale, whether the supervisory architecture distributed between the European Banking Authority and national competent authorities is adequate to the regulatory task: these questions have received substantive attention from economists, regulators, and market practitioners. They are not the primary question.

The primary question is structural. European monetary union was constructed on the proposition that a single currency, a single monetary authority, and a unified settlement infrastructure could substitute for the fiscal union that the union's political architecture was unable to produce. That proposition has been tested twice in conditions of acute sovereign stress, in 2010 to 2012 and in 2018 to 2019, and it has held; not because the fiscal deficit was resolved but because the settlement infrastructure performed the fiscal function under pressure. TARGET2 absorbed the capital flows that sovereign stress produced. The European Central Bank managed the resulting imbalances through its operational and unconventional policy toolkit. The union survived.

The stablecoin payment layer authorised by MiCA does not displace TARGET2. It creates, for the first time, a private settlement infrastructure capable of operating at institutional scale alongside TARGET2 in a manner that routes cross-border capital movement outside TARGET2's visibility. The fault line this opens is not the one analysts have examined. It is the settlement gap: the progressive displacement of institutional cross-border capital

movement from the system that makes those movements visible and manageable into a system that does not.

The Union's Fault Lines series examines each structural incompatibility between European monetary union architecture and the stablecoin payment layer. This first paper establishes the foundational argument. Subsequent papers address sovereign spread dynamics under conditions of partial TARGET2 bypass, ECB asset purchase programme transmission in a fragmented settlement environment, and member state fiscal position interaction with private monetary infrastructure operating outside Eurosystem visibility. Each subsequent paper depends on the argument established here.

I. The Fiscal Function TARGET2 Is Not Called

TARGET2 is described in ECB operational documentation as the Eurosystem's real-time gross settlement system for large-value euro transactions. Every interbank payment between institutions in different member states settles through it. Every central bank open market operation creates TARGET2 positions. Every securities transaction cleared through TARGET2-Securities settles against its liquidity infrastructure. This description is accurate.

It is not complete.

TARGET2 is also the mechanism by which capital flight within the eurozone is absorbed without triggering the sovereign debt dynamics that explicit cross-border capital movement would otherwise produce. This function is not described as fiscal in ECB documentation because the eurozone does not possess fiscal instruments at the union level in the relevant sense. It is performed through the settlement infrastructure because no other mechanism exists to perform it.

The mechanism operates as follows. When a depositor in a peripheral member state moves funds to a bank in a core member state, the transaction settles through TARGET2. The originating bank loses reserves. The receiving bank gains them. The national central bank in the peripheral jurisdiction records an increased liability to the Eurosystem. The national central bank in the core jurisdiction records an increased claim of identical

magnitude. No cross-border transfer of physical assets occurs. No sovereign currency exchange is required. No explicit fiscal mechanism is engaged.

What has occurred, however, is that the peripheral jurisdiction's banking system has lost reserves that it would, absent TARGET2, have had to replace from markets at market prices. Because those reserves are replaced through TARGET2-denominated operations, the capital flight does not immediately produce the liquidity crisis and sovereign contagion that would follow if the peripheral jurisdiction were a sovereign currency issuer dependent on external financing.

Sinn and Wollmershäuser (2012) established this mechanism precisely in their analysis of TARGET2 imbalances during the eurozone sovereign crisis. The imbalances that accumulated between 2010 and 2012 were the accounting record of a capital flight the settlement system had absorbed. By August 2012, Germany's Bundesbank held a TARGET2 claim of approximately €750 billion (Deutsche Bundesbank, 2012). Greece's Bank of Greece carried a TARGET2 liability of approximately €104 billion (Sinn & Wollmershäuser, 2012). These figures represented a scale of intra-union capital movement that, had it not been intermediated by the settlement infrastructure, would have required either explicit fiscal transfers, sovereign debt restructuring, or exit from the common currency.

None of those outcomes occurred during the acute stress period. The settlement infrastructure performed the fiscal function in their place.

The imbalances that followed were not a crisis artefact. They are a structural feature. As of December 2024, Germany's Bundesbank held a TARGET2 claim of approximately €1.1 trillion against the Eurosystem (Deutsche Bundesbank, 2025). Italy's Banca d'Italia carried a TARGET2 liability of approximately €597 billion (Banca d'Italia, 2025). Spain's Banco de España carried a liability of approximately €478 billion (Banco de España, 2025). The accumulated scale of these positions reflects not only the crisis period but the ongoing structural asymmetries of the eurozone's trade and capital account dynamics across two decades of monetary union. They are the quantified record of a fiscal function that operates continuously; not only under stress, but as the background condition of how the union holds together.

Whelan (2014) and Cecchetti, McCauley, and McGuire (2012) both demonstrated that TARGET2 imbalances do not self-correct through market mechanisms in the way that balance-of-payments imbalances between sovereign currency issuers typically do. The imbalances persist because the settlement infrastructure removes the market pressure that would otherwise force adjustment. This is precisely the fiscal function: the Eurosystem absorbs, through its balance sheet, the adjustment pressure that the union's political architecture cannot accommodate through explicit transfers.

II. The Architecture MiCA Authorises

The Markets in Crypto-Assets Regulation, Regulation (EU) 2023/1114, entered full application on 30 December 2024. Its treatment of stablecoins distinguishes between asset-referenced tokens, pegged to a basket of assets or currencies, and e-money tokens, pegged to a single fiat currency. A euro-denominated stablecoin, issued and redeemable in euros at par, is classified as an e-money token under MiCA's definitional framework.

MiCA imposes substantive requirements on EMT issuers. Reserves must fully back the outstanding supply. Reserve assets must be segregated, held at authorised credit institutions, and composed of deposits or highly liquid low-risk instruments denominated in the reference currency. Issuers must be authorised either as electronic money institutions under Directive 2009/110/EC or as credit institutions under Directive 2013/36/EU. Redemption at par on demand must be contractually guaranteed and operationally supported.

These requirements are designed to ensure the solvency and redeemability of the instrument. They are not designed to address the settlement layer through which transactions in that instrument are processed.

MiCA establishes a category of significant e-money tokens, determined by the EBA when an issuer meets at least three of the criteria set out in Article 43(1), which include a customer base exceeding ten million holders within the European Union, a market capitalisation or reserve value exceeding €5 billion, and daily average transaction volumes exceeding 2.5 million transactions or €500 million in value (Regulation (EU) 2023/1114, Articles 43 and 56). Significant EMT issuers fall under enhanced supervision by the

European Banking Authority rather than national competent authorities alone, and are subject to additional liquidity requirements, interoperability obligations, and increased prudential capital thresholds.

This tiered supervisory architecture represents a proportionate regulatory response to scale. It addresses the solvency, conduct, and systemic dimensions of stablecoin infrastructure when an issuer reaches institutional significance. It does not, because it was not designed to address the settlement dimension.

A euro-denominated EMT transaction between two institutional counterparties settles on the blockchain network underlying the token, not through the Eurosystem's payment infrastructure. Settlement finality is achieved when the relevant block is confirmed to the required depth on the distributed ledger. The transaction produces no TARGET2 position. The sending institution does not lose reserves in the Eurosystem sense. The receiving institution does not gain them. The national central banks of both jurisdictions have no operational visibility into the transaction as a settlement event.

The gap between MiCA's regulatory perimeter and the payment systems legal framework governing TARGET2, established under Directive 98/26/EC on settlement finality and the ECB's TARGET2 legal framework, is not a legislative drafting failure. It is a structural consequence of two legal regimes operating in adjacent but non-overlapping spaces. MiCA governs the instrument. The payment systems framework governs the infrastructure through which the Eurosystem's settlement function operates. A transaction in a MiCA-authorised instrument that settles on a distributed ledger falls within the former and outside the latter. The legal architecture that produces this result was not designed with the interaction in mind.

III. The Bypass and Its Mechanism

The bypass this paper identifies is not regulatory arbitrage in the ordinary sense. It is a structural consequence of authorising private payment infrastructure for cross-border settlement within a monetary union whose stability architecture depends on the visibility and manageability of those flows.

The mechanism is direct. Consider two institutional counterparties, one based in Milan and one in Frankfurt, settling a €150 million bilateral position. Under current banking infrastructure, this transaction generates correspondent banking ledger entries at their respective clearing banks, TARGET2 settlement positions for those clearing banks at the Banca d'Italia and Deutsche Bundesbank respectively, and operational records visible to both national central banks through their oversight of authorised payment system participants. The Eurosystem has the transaction in its operational view.

The same settlement conducted using a MiCA-authorised euro-denominated EMT produces a confirmed transaction on the underlying distributed ledger, a transfer record on a public blockchain, and no TARGET2 position. The national central banks observe no reserve movement. The ECB records no cross-border flow within its settlement monitoring. The transaction is pseudonymously public on the distributed ledger and operationally invisible to the Eurosystem's settlement infrastructure.

At low transaction volumes, this produces no consequence of systemic significance. The Eurosystem does not require visibility into every transaction conducted in euros. It requires visibility into the aggregate flows that determine whether the settlement system is absorbing or amplifying capital dynamics across member state boundaries.

The ECB's TARGET Annual Report for 2023 records that TARGET2 processed approximately €1.9 trillion in average daily settlement value across that year (ECB, 2024). The EBA's significant EMT threshold at €500 million in daily transaction value implies that a single large euro stablecoin issuer reaching that threshold represents approximately 0.026 percent of TARGET2's daily throughput. That ratio does not represent systemic displacement at current scale.

The ratio is the wrong measure. TARGET2's systemic function is not uniformly distributed across its daily volume. The flows that matter for the union's fiscal stability are the cross-border capital movements that concentrate during sovereign stress; and those flows are disproportionately represented in the institutional settlement layer, conducted by the banks, asset managers, and treasury operations whose settlement preferences determine the direction and velocity of capital movement between member state banking systems.

If institutional cross-border settlement during a period of sovereign spread widening migrates from TARGET2 to stablecoin infrastructure, the monitoring gap is not proportional to aggregate volume displacement. It is proportional to the stress-period institutional flow displacement. A 15 percent displacement of institutional flows from TARGET2 to stablecoin settlement during a sovereign stress event produces a material reduction in ECB monitoring capability at precisely the moment when that capability has historically been decisive for policy calibration.

This displacement does not require institutional actors to make an explicit choice to evade Eurosystem monitoring. It requires only that stablecoin settlement infrastructure becomes operationally convenient for bilateral institutional transactions. The monitoring gap follows from the infrastructure choice, not from any evasive intent.

IV. Sovereign Stress, the TPI, and the Loss of the Absorption Mechanism

The ECB's capacity to manage sovereign spread dynamics depends on its capacity to monitor the capital flows that those dynamics produce. TARGET2 is the primary instrument of that monitoring at settlement-layer frequency. The relationship between TARGET2 imbalances and sovereign spread dynamics is not indirect; it is a transmission channel the ECB has used operationally in both the 2010 to 2012 and 2018 to 2019 stress episodes.

When sovereign spreads widen in a peripheral member state, depositors face two correlated risks: direct sovereign risk from the possibility of debt restructuring or monetary exit, and indirect banking system risk from the high correlation between peripheral sovereign balance sheets and domestic bank balance sheets that the eurozone's unfinished banking union has not yet severed. The rational institutional response to correlated sovereign and banking risk is to reduce exposure to peripheral banking systems in favour of core banking systems. That reallocation produces TARGET2 imbalances. The ECB monitors those imbalances as they accumulate. The monitoring informs the calibration of its policy response.

The Transmission Protection Instrument, announced on 21 July 2022, is the current instrument of the ECB's sovereign spread management architecture (ECB, 2022). It authorises the Governing Council to conduct secondary market purchases of eligible member state sovereign debt in jurisdictions experiencing spread widening that the Council judges to be disorderly and unjustified by country-specific fundamentals. The conditionality framework attached to TPI activation requires the ECB to assess whether spread dynamics are self-reinforcing; a judgment that depends in turn on real-time data about the capital flows spread widening is producing across the settlement system.

TARGET2 imbalance data provides the most granular available indicator of the direction and velocity of intra-union capital movement at the frequency the TPI assessment requires. If institutional capital is moving from Italian banking system exposure to German banking system exposure at a rate inconsistent with fundamental deterioration, TARGET2 will show that movement in the settlement cycle in which it occurs. No other data source provides equivalent frequency and granularity.

A euro stablecoin settlement layer of institutional scale introduces a parallel channel for precisely this capital movement that TARGET2 currently captures. An institutional decision to reduce €500 million in Italian banking exposure in favour of German banking exposure, conducted through euro EMT settlement on a distributed ledger rather than through correspondent banking, produces a TARGET2-invisible flow of the kind the TPI's activation assessment most requires the ECB to observe.

The problem is not that the TPI becomes inoperative. Sovereign CDS spreads, government bond yields, repo market conditions, and other observable variables remain in the ECB's data. But TARGET2 imbalance data at settlement frequency provides information that these market variables do not: real-time evidence of whether institutional capital is actually moving, as distinct from whether market prices imply it should. A future sovereign stress episode in which a material share of institutional cross-border flows is settling outside TARGET2 is a qualitatively different monitoring environment from the episodes in which the TPI's design and conditionality framework were calibrated.

The ECB has not published any assessment of TPI effectiveness under partial TARGET2 bypass conditions. This is not a criticism of the ECB's analytical capacity. MiCA entered full application at the end of December 2024; the TPI's design predates that implementation.

The analytical gap is structural, not institutional. What it means in practice is that the ECB's primary instrument for managing the spread dynamics that most threaten union cohesion was designed for a closed settlement environment and will operate in an environment that is being progressively opened by the regulatory framework the ECB itself operates within.

V. The Bank of England as Adjacent Case

The Bank of England functions in this series as the adjacent case study: the major European currency authority outside the eurozone, managing the stablecoin transition without the ECB's institutional framework but also without the ECB's structural constraints.

The analytical value of this comparison is asymmetry rather than symmetry.

The Bank of England's Real-Time Gross Settlement system, currently in a multi-year renewal programme, performs the settlement function for sterling-denominated large-value transactions. Like TARGET2, it is a real-time gross settlement infrastructure. Unlike TARGET2, it operates within a single sovereign jurisdiction with full monetary sovereignty. The Bank of England is not managing intra-union imbalances between jurisdictions with divergent fiscal positions and no adjustment mechanism short of internal devaluation. It is the central bank of a currency issuer with the complete toolkit of monetary sovereignty: full reserve creation authority, unrestricted lender-of-last-resort capacity, and exchange rate adjustment as a residual mechanism.

For the Bank of England, the stablecoin challenge is a standard monetary sovereignty question in a form central banks have confronted at each previous transition in payment infrastructure. If sterling-denominated stablecoin infrastructure achieves institutional scale and routes a material share of cross-border payments outside RTGS, the Bank of England faces a monitoring gap that is analytically comparable to the eurozone's. The instruments available to address it are not comparable. The Bank of England can extend RTGS settlement access to authorised non-bank payment system participants through the New Payments Architecture framework. It can accelerate the digital pound programme to recapture the retail payment function. It can adjust reserve requirements for authorised

institutions in ways that internalise the monitoring externality of stablecoin settlement. None of these responses requires the consent of multiple national central banks, a Governing Council representing twenty member states, or the political architecture of a monetary union in which fiscal competences remain national while monetary competence is shared.

The ECB's response to partial TARGET2 bypass is constrained by each of those factors simultaneously. Extending settlement access to MiCA-authorised EMT issuers on TARGET2 would require modification of the TARGET2 legal framework through a process requiring agreement across member states. Mandating that significant EMT transactions settle through TARGET2-denominated processes would require either amending MiCA through the ordinary legislative procedure or developing a novel legal instrument whose competence basis under the Treaties would require legal analysis the ECB has not yet published. The digital euro programme, which the ECB Governing Council approved for preparation phase in October 2023, is designed primarily around retail payment functionality and does not address institutional cross-border settlement in the near term (ECB, 2023).

The Bank of England faces a simpler problem with a fuller toolkit. The comparison makes the ECB's structural constraint visible with precision. The eurozone has transferred monetary sovereignty to a supranational institution without transferring the fiscal sovereignty that would enable that institution to respond to the failure modes of its own payment infrastructure. The stablecoin payment layer is the first private infrastructure to expose that structural gap at institutional scale.

Conclusion

TARGET2's accumulated imbalances are described in official ECB communications as the residual accounting record of how a single-currency payment system functions. Germany's Bundesbank claim of approximately €1.1 trillion, Italy's Banca d'Italia liability of approximately €597 billion, and Spain's Banco de España liability of approximately €478 billion are, in that description, technical features of settlement architecture. The description is technically accurate and analytically insufficient.

Those balances are the quantified record of a fiscal function the eurozone performs through its payment infrastructure because it cannot perform it through any other mechanism. They are the accumulated product of sovereign stress absorption across two decades of monetary union, conducted through a settlement system that made the stress visible, manageable, and implicitly guaranteed by the Eurosystem's balance sheet. Sinn and Wollmershäuser (2012) established the mechanism. The post-crisis trajectory of the balances confirmed it. The structure has not changed.

MiCA creates the regulatory conditions for euro-denominated stablecoin infrastructure at institutional scale. The infrastructure it authorises settles outside TARGET2. The capital movements it will facilitate during ordinary market conditions are visible on public distributed ledgers and invisible to the Eurosystem's settlement monitoring. During sovereign stress conditions, when TARGET2's fiscal function is most critical and the ECB's monitoring capacity most consequential for policy calibration, those movements will be precisely the flows the TPI's activation framework requires the ECB to see.

The Transmission Protection Instrument was designed for a closed settlement environment. The environment MiCA is authorising within the eurozone's own regulatory perimeter is not closed.

The subsequent papers in this series map each remaining fault line in turn. Paper No. 2 examines the sovereign spread dynamics that partial TARGET2 bypass produces during stress episodes and what the ECB's existing toolkit can and cannot address within them. Paper No. 3 addresses ECB asset purchase programme transmission in a fragmented settlement environment. Paper No. 4 examines member state fiscal position interaction with private monetary infrastructure that operates outside Eurosystem visibility, with particular attention to the divergent exposure of core and peripheral member states.

The eurozone has survived its fiscal contradictions by using its payment infrastructure as a fiscal instrument. The stablecoin payment layer being authorised within its own regulatory framework is the first private infrastructure capable of operating at institutional scale as a partial structural substitute for that instrument, without performing the fiscal function that made the instrument indispensable to the union's cohesion. The TPI cannot protect against spread dynamics it cannot see. The TARGET2 framework cannot absorb capital flows that do not pass through it. The analytical question

the subsequent papers address is not whether this creates a fault line. It is how deep the fault line runs before the union's existing architecture reaches its structural limit.

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