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OPINION AND ANALYSIS

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When Midnight Entered Bank Balance Sheets

Money Waiting for a Midnight Payment

On December 24, 2025, accounts dedicated to instant settlement in Europe's **TIPS** system reached **€110.7 billion**. This was not transfers sent in one minute, new bank revenue, or the price of holiday purchases. According to the European Central Bank's annual report, it was the day's peak balance held in dedicated instant-payment and technical accounts. The money did not sleep in one bank's vault. It occupied defined places in settlement infrastructure because a payment arriving on Saturday evening requires something absent from the customer interface: **usable balance at that moment, in that particular account**.1

Average overnight liquidity in the system rose from **€26.9 billion** in January 2025 to **€88.8 billion** in December. TIPS settled an average of about **2.74 million instant payments daily**, more than doubling the daily annual count from 2024. Part of the expansion followed phased 2025 European obligations for euro-area payment providers to receive and then send instant payments. The deeper paradox is not greater application use, but the immense layer of real money banks placed behind that convenience, ready when customers chose to use it.1

We imagine a bank as a large box: if it contains a billion, paying ten thousand at 3 a.m. should be easy. That is like saying a traveler can board any train because they own a ticket. A bank may hold central-bank reserves, pledgeable government paper, correspondent deposits, receivables due tomorrow, and surplus in another settlement system. What it needs now is

legally and operationally specific money in an account accepted by the current payment engine. **Abundant assets are not the same as spendable liquidity here and now**. The gap widens when payment networks, funding markets, and collateral tools keep different hours.

Time thereby enters the definition of cash. A bank executing a late payment can no longer plan treasury operations on the assumption that the economic world stops when markets close. It must move value in seconds while perhaps unable at the same moment to borrow fresh balance, sell government paper, or increase a credit line. The transaction may be far below a billion, yet occur when **the price of obtaining a settlement-ready euro** differs from its midday price.

From Interface Speed to Settlement Finality

We must distinguish **real-time gross settlement** from arrangements that collect payments and settle net positions at intervals. In RTGS, every payment consumes immediately usable sender balance and delivers its counterpart under system rules. A system deferring net settlement may give users a fast experience while interinstitutional obligations still need guarantees or funding. Neither structure creates free money: prepositioned balances, qualifying credit, or liquidity exchange must exist, or the screen's speed will eventually meet the institution's inability to pay. CPMI studies make this explicit.2

Europe Reprices the Location of Liquidity

Europe in 2025 offers a rare experiment in how money's timing enters bank balance sheets. Eligible firms could hold liquidity overnight in TIPS but also sought remuneration on excess reserves. Until June 2026, receiving that return required moving funds back to the central liquidity-management component **CLM** and using the overnight deposit facility. The ECB recorded a recurring pattern: funds moved from **T2** to **TIPS** near activity's start and returned before the T2 business day ended. In October 2025, average early-day net additions were **€15.1 billion**, falling as funds returned toward remunerated accounts.3

The same money served two legitimate functions unequally in two accounts: continuous payments in one, monetary return in another. Moving funds between them became a financial decision as important as programming customer transfers. Customers do not wonder whether their bank will shift ten billion before six in the evening; they expect payments after offices close. Treasury must price keeping balance available when another location yields a different return.

From **June 2026**, eligible overnight excess balances in TARGET accounts, including TIPS, received remuneration automatically without equivalent return movements solely to earn it. This went beyond interest-rate policy. Lowering the cost of holding money where service is

executed can reduce repetitive daily movement between accounts. A small change in **where remuneration is calculated** can reduce recurring billion-euro transfers without changing the speed of a €100 payment.3

June 2026 changes also let a TIPS dedicated cash account holder set **minimum and maximum thresholds**. Falling below the floor can trigger liquidity transfer from the main cash account; exceeding the ceiling can return surplus under defined mandates. This is not magical AI or money creation but explicit automation of balance-transfer conditions. The technical release adds a telling detail: if available funds in the main account cannot finance the automated transfer, a partial amount may execute, and **the unfunded remainder is not queued**. Software can detect a shortfall in milliseconds; it cannot transfer money that is absent.4

Engineering can issue threshold alerts, transfer orders, redistribution, and priorities. But an order becomes funding only if the corresponding account can bear the debit, the window is open, authority exists, and settlement rules allow it. Automation reaches its greatest precision when proving it cannot invent a single euro.

Europe still faced another clock mismatch. **TIPS** settles every day, while not all **T2** and linked liquidity functions operate around the same clock. In May 2026 the Eurosystem announced a plan for a short liquidity-transfer window during most weekends and some TARGET closure days, phased over the following two years. This was **a decision to narrow the gap between operating windows**, not a claim that every T2 function already ran continuously.5

“Around the clock” describes several clocks: customer initiation, infrastructure settlement, treasury funding, collateralized credit, and remuneration or repayment deadlines. They coincide in some systems and diverge in others. Ignoring them creates an application living in one time and a bank paying for it in another.

India and the Deadline That Changes the Obligation

India's RTGS has operated continuously since **December 14, 2020**. The Reserve Bank of India also made **intraday liquidity (IDL)** continuously available to eligible participants against government securities and qualifying collateral. It can be triggered automatically when participant balance is insufficient, within limits and against securities earmarked for the purpose. Collateralized credit moved from a daytime treasury desk into a machine responding at night.6

The decisive minute is **23:50**. A January 2025 BIS study explains that Indian IDL must be fully extinguished by that daily close. If settlement-account funds do not repay it, the system uses available balance in the central-bank current account; if insufficient, pledged securities move to the RBI investment account, the participant owes interest equal to **twice that day's repo rate**,

and must repurchase them by 10 a.m. on the next working day. Failure can suspend participation. The study had observed no participant failing to extinguish the facility by its preparation date.6

At 23:50 transfers do not close; **the balance-sheet nature of an obligation changes**. Before it, a bank uses short-term collateralized credit under one set of terms. After it, non-repayment has different cost, collateral, and sanction consequences. A customer may send money seconds later, but temporary liquidity rights do not automatically extend because the electronic service remains open. Some clock hands in continuous payment belong to the funding contract, not customer convenience.

FedNow and an Accounting Day That Does Not Sleep

The US **FedNow** service, launched in July 2023, settles instant payments among participants every day. Its transfer day is not the calendar day beginning at midnight. A new operating day starts around **7:01 p.m. Eastern Time**, while messaging continues across the cycle-date transition. The Federal Reserve adopted a **seven-day accounting week**; participant balances can change on Sundays and holidays, and reserve-balance interest uses an end-of-accounting-day balance for each of seven days.7

This does not turn social night into day. It separates **civil calendar, accounting cycle date, and payment-arrival time**, tracking each without stopping the engine at a wall-clock transition. Bank core systems must reconcile transactions whose cycle date differs from customer intuition, align their ledgers with the central book, and apply interest and credit rules without assuming only a working day and a holiday.

FedNow includes **liquidity management transfers**, allowing eligible institutions to reposition balance supporting instant payment among defined accounts, including joint-account arrangements for private networks. These messages have specified 2026 windows and conditions and may be rejected outside them while instant payments continue. The 2026 schedule prices an LMT order at one dollar, compared with a published **4.5 cents** for some customer credit-transfer orders before applicable discounts or waivers. They are not identical services; the contrast shows that **liquidity repositioning has its own operating and pricing structure**.8

End-of-Day Netting Hides the Path's Shortfall

Imagine a bank entering a **96-hour** holiday with **€12 million** in its settleable account. Customers send **€240 million** and receive **€229 million**. A manager sees a final net outflow of eleven million against twelve million opening balance and declares sufficiency. But the summary is a closing photograph while the network ran a continuous film.

Suppose cumulative net outflow reached eight million Saturday, peaked at **€18 million** at 3 a.m. Sunday, fell to ten million Monday, and ended at eleven. At the peak, the bank lacks **€6 million** unless additional liquidity arrives in time, although the final net is below opening balance. This is a hypothetical arithmetic simulation, not a real failure. **Maximum cumulative net outflow along the path** can matter more than the closing deficit.

Opening balance plus funding actually usable before each moment must cover the greatest cumulative net outflow in the tested period. Gross transfers cannot simply be multiplied by a fixed percentage because incoming payments replenish accounts and funding availability varies by hour. Nor is daily net sufficient, because it can hide a deep intraday trough. Reserve estimation is a **time-path problem**, not closing arithmetic.

If the bank holds an extra six million for four days and the assumed annual net opportunity cost is **2.5 percentage points**, the simplified linear cost is about **€1,644**: six million times 2.5% times four over 365. This is not an actual European bank funding price or market estimate. It shows why extra money is not a free buffer. Cost may be lower if the account earns return, higher if funding is expensive or securities are encumbered, and far below the damage of insufficiency.

Europe's 2026 remuneration change now makes sense. A bank can guarantee customer convenience by parking immense untouched balance, but the cost can pass into service prices, deposit returns, or other uses of capital. Lowering the cost of holding liquidity in the right place creates financial room unrelated to mobile-app fees. Behind the transfer button is an economy asking: **what does it cost to have money present before anyone requests it?**

The problem is not simply larger reserves. A bank may own enough government securities but not have pledged them in the accepted window; credit may require repayment by a deadline; liquidity may sit elsewhere in the group but be untransferable immediately. Every restriction gives money a **temporal quality**. Securities saleable Monday morning are not settlement euros at 3 a.m. Sunday. Market value and speed of conversion into money accepted by a defined network differ.

No crisis is required. Weekend payments may be asymmetric: workers move salaries, a platform pays sellers in a batch, or a small institution experiences more outflow than inflow while another accumulates receipts. The system-wide issue may be distribution rather than total scarcity—liquidity is in the wrong place for a participant at a given hour. Transfer tools are therefore central infrastructure, not an accessory.

Mexico's **SPEI** illustrates customer behavior. A 2025 CPMI report says **30% of weekly payment volume** occurred at night on weekdays, between 6 p.m. and 6 a.m., and **22%** on weekends, using first-half 2024 data. These percentages do not mean equal distribution among institutions or groups. They break the assumption that night is inactive demand. A liquidity model built on staff office hours needs review.[2]

Extending settlement hours does not necessarily extend every funding market or collateral-transfer process. Interbank activity may be thin, short-term funding prices vary, and monetary or securities-settlement windows differ. Foreign exchange may require overlap between systems in different local times. The right question is not whether “the system is open,” but which accounts, rights, and funding instructions must be available for instant payment to be economically real. International work on longer RTGS overlaps does not assume all money-market functions can move to 24 hours at once.9

Saudi Arabia: Agent and Participant Liquidity

Saudi Central Bank rules for indirect bank participation show that access to the Saudi fast transfer system may operate through a participating **settlement agent**. Central-bank current accounts and monetary-market mechanisms relate to that agent's ability to settle for the indirect participant under the rules. Participation is therefore not only a messaging-gateway choice; it determines **who holds liquidity, who can move it, and who sees account position when needed**. These rules alone do not prove arrangements identical to TIPS or FedNow or a particular automatic overnight facility; that requires current operating documentation and participant data.10

A Saudi research institution could, with lawful approval and data protection, request hourly settlement-balance series, funding-source availability, replenishment through incoming flows, account-transfer timing, secured funding and eligible collateral, and direct-versus-indirect participant constraints. It could compare actual weekend needs with traditional end-of-day reserves. Results might reveal savings from automation, a need for extra buffers, or size-related cost differences. None should be claimed as Saudi fact before measurement.

The Cost of Time-Ready Liquidity

I propose testing the **cost of time-ready liquidity** as a research variable, not an approved regulatory metric. Instead of monthly average balance, measure how much cash or qualifying credit an institution kept ready in each window, the return sacrificed, fees paid, or collateral allocated, and how cost changed after automated transfer or a new funding window. Instant service then appears in bank-balance-sheet language rather than interface-speed language alone.

This is not a call for the largest possible balance. Excess buffers consume resources, and not every payment should await a human accountant. Tests should simulate the **worst sequential liquidity trough** under actual demand distributions, including long holidays, month-end

movement, payment concentration, funding mobilizable at each hour, and shortfalls in incoming flows. Customer behavior may change after service hours or prices change; availability itself can alter the timing used to estimate the reserve.

The strongest economic objection asks whether user benefits can simply be compared with extra bank reserves. In principle, yes, but benefit and cost may arise in different ledgers. A small merchant can reduce working-capital needs by receiving Saturday evening rather than Tuesday, while its bank maintains dedicated balances or collateral through the holiday. Benefits may far exceed costs, but they cannot be attributed to the same account or one hidden. That is a condition for fair pricing, not an argument against instant payments.

Nor should every institution imitate the largest treasury. Permitted services, settlement agencies, collateral allocation, surplus redistribution, and timely credit can reduce the need for every bank to hold isolated idle balances. Centralizing liquidity does not eliminate exposure: if participants depend on one intermediary, its limits, pricing, and hours matter more. Success means measuring real cost and contractual access, not moving liquidity from small-bank tables to another party's table.

Deep payment reform may begin with reserve remuneration, a **pacs.009** liquidity message, or a rule that an unfunded transfer remainder is not queued. Such details determine money immobilized, hours of funding available, and whether a small bank can offer service without sacrificing balance-sheet efficiency. An accounting decision in a central-bank report can change the economics of institutions whose customers never know the system's name.

“Transfer at any time” does not abolish time. It depends on **institutions reconciling different clocks**. Midnight payment works because someone prepositioned money, pledged an asset, enabled transfer from elsewhere, or designed an accounting cycle to receive it. System skill lies in measuring, reducing, and distributing the cost without severing a person's right to use money when needed.

India waits for collateralized credit to extinguish at 23:50. The US changes FedNow's cycle date near 19:01 while messages continue. Europe changed settlement-account remuneration and incentives around billion-euro nightly movements. These are not banking curiosities. They attest to one discovery: **not all money on a bank balance sheet is present when payment asks for it**. Applications learned to remain awake; treasury, credit, and collateral science must learn to price the hour, not merely count the day's balance.

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