EUROPEAN CENTRAL BANK

EUROSYSTEM

The 24x7 problem in value dating the settlement of instant payments

AMI-Pay Meeting

14/06/2024

Task Force on value dating instant payments
(L. Limburg – ING)

Overview

Background

- “Holes” of non-business hours and days in T2 have a financial impact for PSPs providing 24/7 instant payments.

- The financial effect is on two sides of the PSPs:
  - PSPs vs customers, because the value date given to the customer’s accounts is any day of the year, while the PSP’s value date is a Target business day.

  - PSPs vs PSPs, because net receivers do not earn interests for credited funds in those “holes” and net senders gain interests for funds that do not hold anymore.

- This discrepancy emerges for instant payments today, but it may materialize for other 24/7 retail instruments

- In December 2023, AMI-Pay decided to set-up a Task Force to contribute to the further analysis in view of reporting to the next AMI-Pay meeting in the first half of 2024.

- In the following slides the description of the problem, and potential options considered.

Problem statement

Bank value date vs client value date

- Bank valuation in T2 follows monetary policy days (T2 opening days only) with switch of value date at 18.00.

- Client valuation follows calendar days for instant payments.

Funding gain or loss

- For those days/hours banks which are net receivers of funds will lose funding value (see example slide 6), while net sending banks will gain funding value.

- Cross the market this is a zero-sum game.

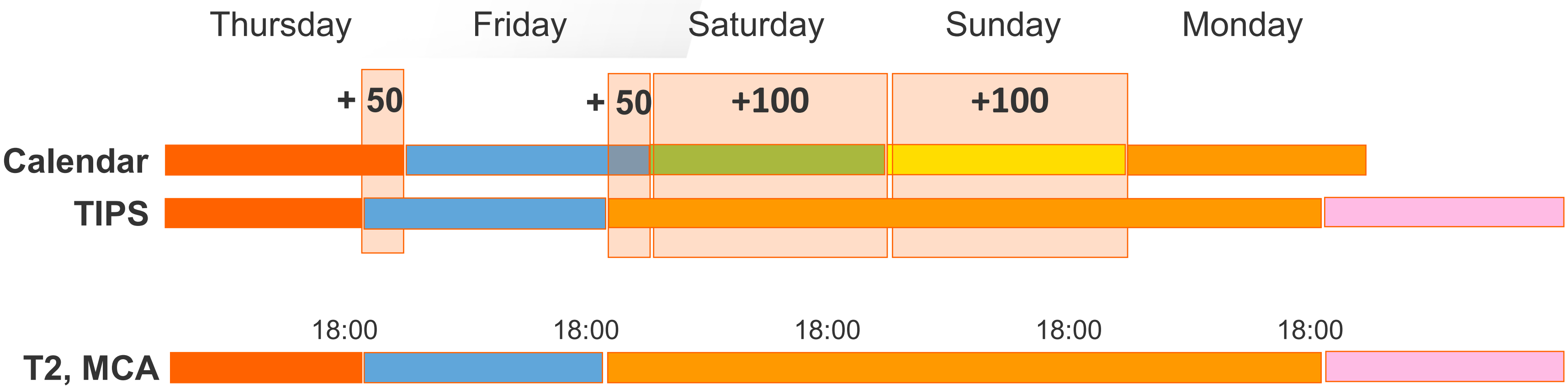
This creates a funding mismatch/gap for instant payments outside T2 opening hours, i.e. between 18.00 and 24.00 in T2 opening days and on T2 closing days.

Impacts

- The ability for society to make full use of 24x7 processing of payments as cash management tools to make the money work are not available.
- With the development of instant payments in Europe, the numbers are expected to be significant. Note that also the digital Euro will be impacted by this discrepancy.
- P&L impact at the level of the bank will affect the instant payments product.
- Furthermore, it is a distortion of competition as result is created at clearing level caused by payment patterns.

The Task Force tried to find potential options for this problem.

Funding mismatch impact – example net receiving bank



Interest distribution between sender and receiver bank 18-24 and Sat, Sun.	
Mon – Thursday = 4 x 50 for 1 value day =	200
Friday = 50 for 3 value days =	150
Saturday = 100 for 2 value days =	200
Sunday = 100 for 1 value day =	100
Total for 1 value day =	650
Interest for 1 week (4%) =	0.7
Interest for a year =	3,6

Note: Assumption for the calculation: retail clients' accounts are remunerated at 4%.

Overview

Approach

1. **Identifying important aspects to consider:**
   A. Impact on monetary policy instruments, reserve requirements, standing facilities and T2 platform (technical and operations).
   B. Does the solution solve the problem?
   C. Impact on banks (operations/treasury)
   D. Impact on markets
   E. Impact on wider ecosystem (e.g. CSDs, CCPs, T2S, etc.).
   F. Risks (e.g. operational risks, liquidity risks – pre-funding)

2. **Assess the possible options against these aspects**

3. **Document the findings**
   - During the brainstorming the Task Force concluded that the solutions also differed from a timing perspective: long term more fundamental vs short term tactical.

Overview

Potential options - overview

The Task Force found 6 variances of potential options which can be split in 2 groups. Those are listed below and detailed in the next slides.

No adjustment needed in how we operate today – OUT OF THE BOX

1. Align the value date for the client with monetary policy applied value date

2. Re-calculate the interest using a ‘central point of calculation’

Adjustments in how we are used to operate

3. RTGS open for payments till 18.00/5 days, but business day closes at 24.00/7 days

4. RTGS open for payments till 18.00/5 days with daily closing of T2 at 18:00/7 days

5. T2 closing moves to 24.00 and opens 7 days a week

6. Keep T2 (RTGS, CLM, T2S) as is, but move TIPS interest calculation to 24x7

1

Align the value date for the client with monetary policy applied value date

Description

- Continue processing instant payments as today with immediate availability of funds to the receiving customer.
- The value date applied however, will follow the same logic as the value date applied by monetary policy on the T2 platform (T2 opening days, switch at 18.00)

This option has become not feasible, because Regulation (EU) 2024/886 now seems to enforce the current value dating practice to the end-users

- Article 5a(4)(d): *notwithstanding Article 87(1) of Directive (EU) 2015/2366, the payee's PSP shall ensure that the* ***credit value date for the payee's payment account is the same date as the date on which the payee's payment account is credited by the payee's PSP*** *with the amount of the payment transaction;*
- Article 5a(4)(b): *notwithstanding Article 83 of Directive (EU) 2015/2366,* ***immediately after the time of receipt of a payment order*** *for an instant credit transfer,* ***the payer's PSP shall (…) reserve or debit*** *the amount of the payment transaction from the account of the payer (…)*
- Article 87(3) of the PSD2, "*Member States shall ensure that the* ***debit value date for the payer's payment account is no earlier than the time at which the amount of the payment transaction is debited*** *to that payment account*".

2

Re-calculate the interest using a ‘central point of calculation’

Description

- No change to the current set-up in T2, TIPS, opening hours and monetary policy
- Setup calculation method to understand the net balance movement per account in TIPS between 18.00 and 24.00, and on T2 closing days in full (note that the calculated balance needs to be corrected for pre/defunding between T2 to TIPS).
- An entity to act as ‘central point of calculation’ to correct the interest renumeration which was applied at 18.00 (zero sum game to the ECB).
- ACH’s can move their interest renumeration towards the banks fully to a daily process at 24.00 as they will also be renumerated for the balance movements.

Considerations on important aspects

- No change on the current set-up

Other considerations / 1

- Calculation needs to be built, operations need to run, changes in processes and systems.
- Seen as tactical solution as this does not provide a solution for other 24/7 developments.

2

Re-calculate the interest using a 'central point of calculation'

Other considerations / 2

- The liquidity on TIPS accounts is fully or partially taken into account for the fulfilment of the MMR. This depends on the situation of MMR fulfilment of the bank.

- There is no mechanism to determine the part of the liquidity on the TIPS account used for MMR: which part is needed for MMR fulfilment? Which part is excess liquidity?

- Currently both remunerated at 0% but what if remuneration changes for one of the two?

- **To solve this indetermination, assumptions and conventional choices have to be assessed and agreed, which could influence the allocation of liquidity.**

[Example of one assumption for the purpose of the recalculation: the required reserves are fulfilled by the Target accounts, so that reserves in TIPS accounts are considered excess reserves for all participants]

2 Re-calculate the interest using a 'central point of calculation' - example

	millions					euro's	
	Balance	Balance				4%	Interest correction
	18.00	24.00	Pre/defunding	net flow		interest at 18.00	On net flow
bank A	200	150	100	-150		21,917.81	-16,438.36
bank B	500	600	-50	150		54,794.52	16,438.36
bank C	300	100	60	-260		32,876.71	-28,493.15
bank D	800	1200	25	375		87,671.23	41,095.89
bank E	1200	1000	-35	-165		131,506.85	-18,082.19
ACH a	2600	2800		200		284,931.51	21,917.81
ACH b	400	250		-150		43,835.62	-16,438.36
	6000	6100	100	0			0

3

RTGS open for payments till 18.00/5 days, but business day closes at 24.00/7 days

Description

- Continue T2 RTGS operational opening hours till 18.00, 5 days a week.
- Business day of the platform to 24.00, 7 days a week.
- Allow liquidity transfers between services till 24.00

Considerations on important aspects

- Impact on monetary policy, marginal lending facility, deposit facility and MRR calculation 7 days a week and operating at midnight – need for automation at the level of the bank or ECB.
- Operational impact on ECB/NCBs not neutral, limited operational impact on banks.
- Current night-time settlement (ACHs) and evening opening (T2S) need to move to early morning hours, after opening the new day.

Other considerations

- Banks can not fully manage their reserve balance as some balance movement at the last day of the period will happen after the market was closed (hence the automation on ML/DP need).
- There is also a step back, because today T2 RTGS operational opening hours include the period from 7:30 pm to 2 am

RTGS open for payments till 18.00/5 days with daily closing of T2 at 18:00/7 days

Description

- Extend current daily processing from 5 to 7 days a week, but keep current timings (close at 18.00).
- However, on current T2 closing days/weekends no payments possible, keeping operations minimal.

Considerations on important aspects

- Monetary policy operations will have to move from 5 days to 7 days, especially the Standing Facilities and the MRR calculation.
- Only partial solution (40%?) as time between 18.00 and 24.00 is still creating a mismatch in value date between T2 platform and bank clients.
- For T2S the evening processing of Friday (for value Monday) needs to move to Sunday evening.
- Choice to be made if access to Intraday Credit will be included. If Intraday Credit is not available, technical defaults could happen during the weekends and holidays.

Other considerations

-

5

T2 closing moved to 24.00 and open 7 days a week

Description

- T2 fully operational till 24.00 for payments, EOD process started at 24.00, opening for next day at 1.30, 7 days a week.
- Valid for all services; RTGS, TIPS, CLM, T2S.

Considerations on important aspects

- Monetary policy main change is to move to 7 days a week (Standing Facilities open 7 days a week, MRR calculation 7 days a week), with a cut-off occurring at midnight, but logic stays the same.
- Operational impact to run the systems 24x7 (intraday credit likely needed every day)
- Banks operations to support same operating hours
- Current night-time settlement (ACHs) and evening opening (T2S) need to move to early morning hours, after opening the new day.
- Question: will this force a market to function till 24.00 as well?

Other considerations

- Less intraday liquidity risk on instant payments as the window where no liquidity movement is possible from T2 to TIPS will decrease.

6

Keep T2 (RTGS, CLM, T2s) as is, but move TIPS interest calculation to 24x7

Description

- Keep T2, RTGS, T2S and CLM operations and balance calculations as today at 18.00 on T2 opening days.
- Move TIPS to a 24x7 calculation setup

Considerations on important aspects

- TIPS balances would be excluded from monetary policy operations
- In the current set-up (policy, legal, technical) this separation is not possible, in particular in view of the principle stating that one euro of CeBM should not be treated differently depending on the infrastructure.
- Liquidity transfers would not be possible on T2 opening days between 19.30 and 24.00 as today.

Other considerations

- Increases liquidity risk due to limitation on pre-funding in the evening.

Long-term strategy or short-term solution?

The solutions where we change the way we operate:

- Are more fundamental and but also have more impact
- Seem to be more fit for a longer-term horizon where a larger part of our society/activities have moved to 24x7.
- Have the potential to also address other developments in the direction of 24x7 (for example, the digital currency).
- Note: further investigation needed to understand the impact of moving the evening settlement of T2s and night time settlement of ACHs to the morning hours (as ultimately this can not be avoided).

Re-calculate the interest using a ‘central point of calculation’ feels like an option

- ➢ Which could possibly be applied in a shorter term
- ➢ Is only valid for the specific case of instant payments
- ➢ Needs further investigation to better understand which assumptions are needed, the technical/operational requirements and the implementation timelines.