



4th Meeting of the Working Subgroup on Derivative Instruments referenced to the Overnight TIE Funding rate of the GTTR

April 27th 2023

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OIS products linked to the Overnight TIIE Funding Rate



A fundamental step to develop the derivatives market linked to the Overnight TIIE Funding rate is to have an OIS market. Since there is no such market in Mexico, it is necessary to have a market convention to structure the product.



This is why in this session three potential options will be discussed to determine which one could be the most convenient for the OIS linked to the Overnight TIIE Funding rate.



The conventions to analyze are:

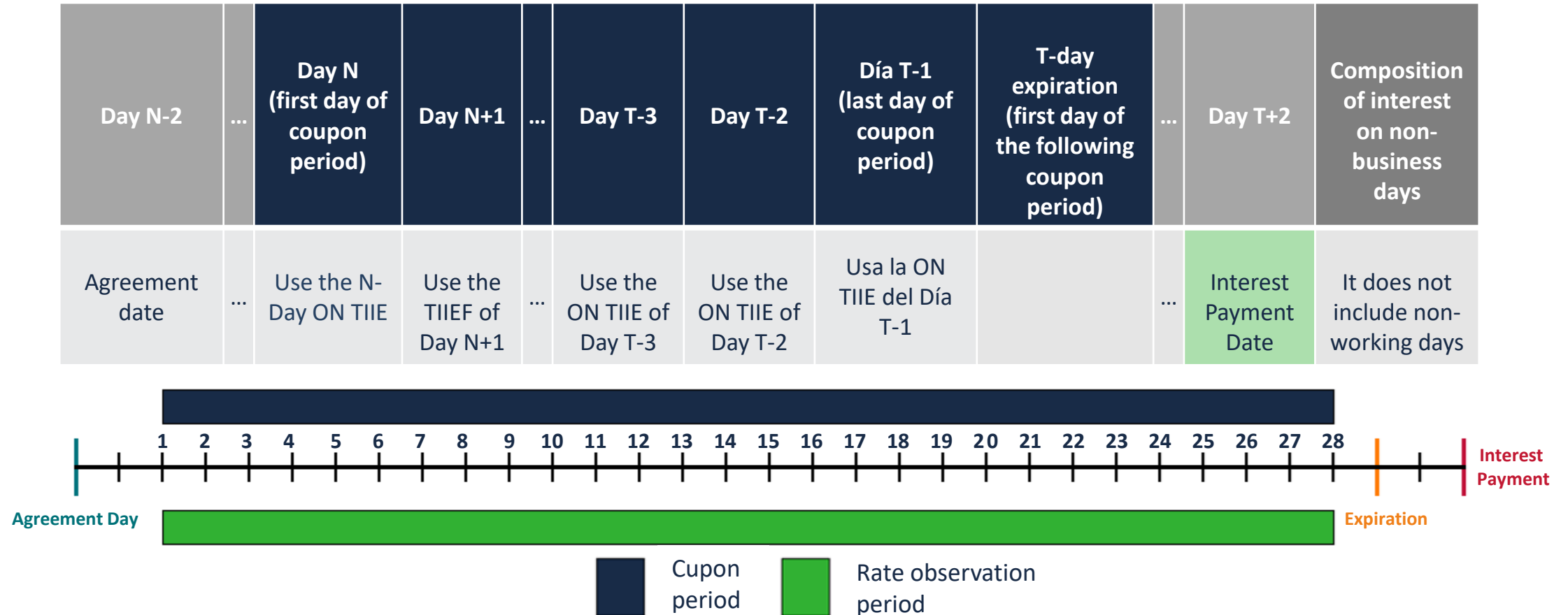
 *Arrears with Payment Delay (international convention).*

 *Plain Arrears.*

 *Arrears with 1-Day Lookback.*

A) Arrears with Payment Delay

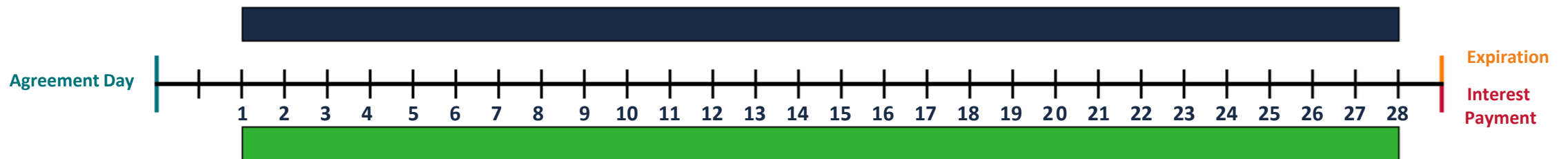
- It is the convention used internationally in the OIS markets. The interest for the period is calculated using an “in Arrears” methodology (similar to Bondes F or G), that is, the Overnight TIIE Funding rates (ON TIIE) published throughout the coupon period are used to calculate interest. Under this convention, accrued interest is paid 2 days after the coupon's expiration date.
- An important issue to mention about this convention is that, unlike Bondes F, **interest is not compounded on non-business days.**



B) Plain Arrears

- It is a similar convention to **Bondes F or G**. This is an almost identical case to the previous one. The only differences are 1) that the interest payment is made exactly on the day of maturity, that is, the day after the day that corresponds to the last interest rate used, and 2) that the interest capitalization does consider weekends.

| | | | | | | | | | | | |
|----------------|-----|---------------------------------------|----------------------------|-----|----------------------------|----------------------------|--|--|-----|---------|--|
| Day N-2 | ... | Day N (first day of coupon period) | Day N+1 | ... | Day T-3 | Day T-2 | Día T-1 (last day of coupon period) | T-day expiration (first day of the following coupon period) | ... | Day T+2 | Composition of interest on non-business days |
| Agreement date | ... | Use the N-Day ON TIIE | Use the ON TIIE of Day N+1 | ... | Use the ON TIIE of Day T-3 | Use the ON TIIE of Day T-2 | Usa la ON TIIE del Día T-1 | Interest Payment Date | ... | | It does include non-working days |

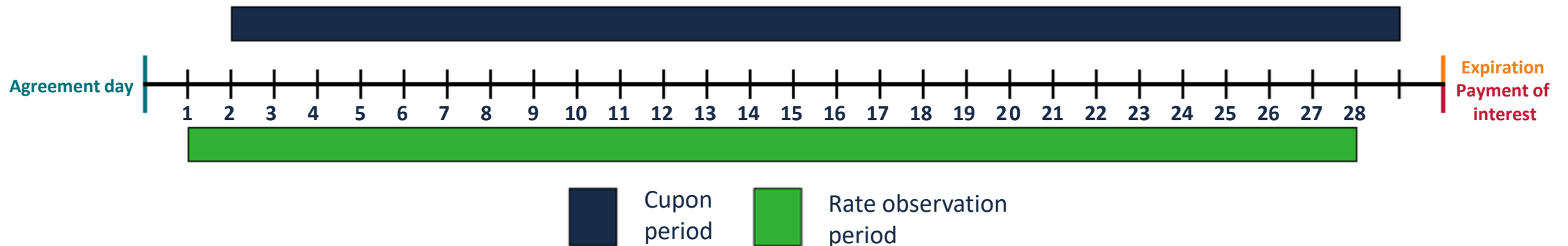


Cupon period
 Rate observation period

C) Arrears with 1-Day Lookback

- **Convention similar to that of some bonds linked to the Overnight TIIE Funding rate (such as those of FIRA).** The interest calculation for day i uses the Overnight TIIE Funding rate published on day $i-1$, and the accrued interest is paid on the coupon maturity date.

| | | | | | | | | | | | |
|----------------|-----|---------------------------------------|--------------------------|-----|----------------------------|----------------------------|--|--|-----|---------|--|
| Day N-2 | ... | Day N (first day of coupon period) | Day N+1 | ... | Day T-3 | Day T-2 | Día T-1 (last day of coupon period) | T-day expiration (first day of the following coupon period) | ... | Day T+2 | Composition of interest on non-business days |
| Agreement date | ... | Use the ON TIIE of Day N-1 | Use the ON TIIE of Day N | ... | Use the ON TIIE of Day T-4 | Use the ON TIIE of Day T-3 | Usa la ON TIIE del Día T-2 | Interest Payment Date | ... | | It does include non-working days |



Issues to consider in the decision

- The 28-day TIE swap market currently operates with settlements at t+1. This is possible because the rate is known from the beginning of the interest calculation period.
- It should be considered that there are currently futures linked to the Overnight TIE Funding rate that capitalize every day, even on non-bank business days, as in the case of Chicago Mercantile Exchange (CME) futures. However, other futures linked to the Overnight TIE Funding rate , such as those of MexDer, do not capitalize on non-bank business days.
- To date, with the information Banco de México has on local counterparties, no OIS operations linked to the Overnight TIE Funding rate have been registered.

Discussion topics

- **Which of the three options is the most appropriate? It could be the international convention, but is it appropriate that I don't compound interest on weekends?**
- **What should be the term of the coupons? Would it be convenient for it to be 28 days to maintain the convention that has been adopted in debt securities?**
- **Do you think it is important that the Bank makes the clearing of OIS contracts obligatory? (similar to what currently exists for TIE 28 Swaps)**
- **What other issues would be important to consider for the development of the OIS market?**

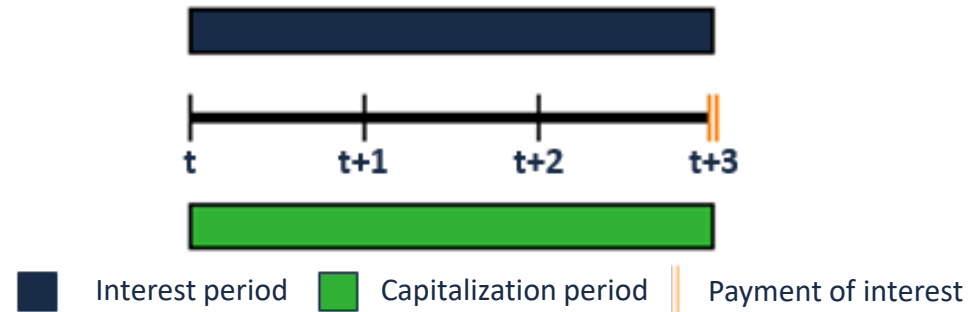


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Annex 1: Compounded *in arrears* vs *in advance*

- 1) The compounded in arrears rate methodology daily capitalizes the overnight rate observed throughout the interest payment period, so that information is more in line with the time in which they are calculated (Type Bondes F, Bondes G).



- 2) The compounded in advance rate methodology daily capitalizes the overnight rate observed throughout the period prior to the interest payment period, therefore lagging information is available (SOFR Average type).

