



Status: Final
Department: DGOBC
Last update: October 5th, 2022
Printing date (if applicable):

6th Meeting of the Working Group on Alternative Reference Rates in Mexico (GTTR) October 2022



Publicada-Usu General

Información que ha sido publicada por el Banco de México

Introduction

- At the previous meeting of the Working Group on Alternative Reference Rates in Mexico (GTTR) on July 5th, **the proposed timeline and methodologies regarding the transition of TIE rates with tenors greater than one business day were discussed.**
- Afterwards, **Banco de México held conversations with diverse market participants** through multiple committees/forums within ABM (banks' association), AMIB (stock market institutions' association), AMAFORE (administrators of Retirement Funds' association), and AMEFAC (factoring enterprises' association). Additionally, the Central Bank engaged in private meetings with price vendors, organized derivatives exchanges, and some financial institutions. The purpose of these consultations was to analyze and later on to formalize the proposals for the transition of TIE rates with tenors greater than one business day.
- Based on those consultations and on an internal analysis process, in the following weeks the **final proposal will be discussed within the Board of Governors of Banco de México.** The proposal will address two main topics:
 - A. **Modify the methodology to estimate TIE rates rates with tenors greater than one business day.**
 - B. **Set final transition dates for the use of TIE with tenors greater than one business day regarding new contracts.**

Topics

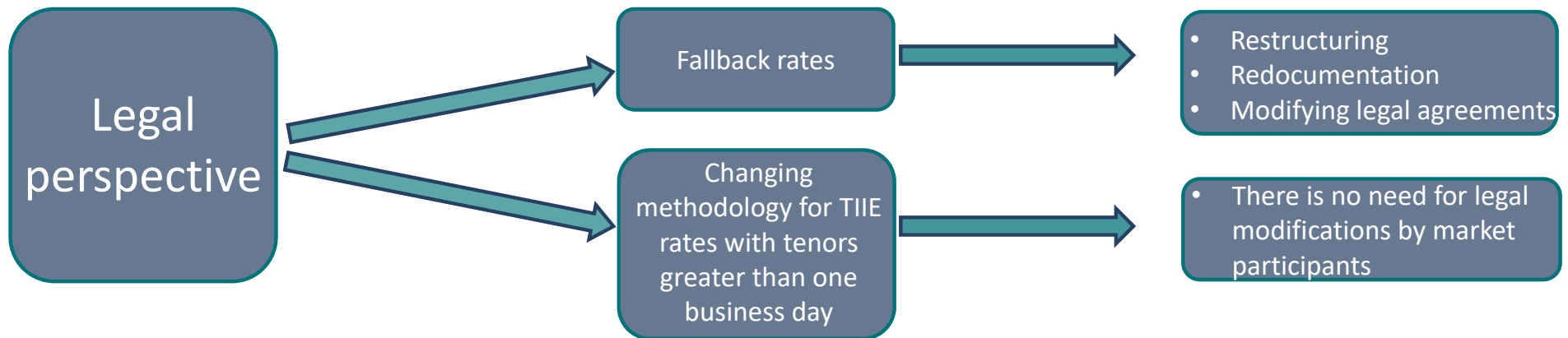
- 1 Methodology for legacy contracts**
- 2 Transition calendar for 28, 91 and 182-day TIE rates
- 3 Additional issues to consider for the transition process

Legacy contracts

After a careful analysis of market participants' feedback, it was decided to modify the methodology of TIE rates with tenors greater than one business day, instead of using fallback rates (as it was done with LIBOR rates).

TIE rates with tenors greater than one business day under the new methodology will continue to be published indefinitely.

However, the aforementioned TIE with tenors greater than one business day will only be allowed to be used for outstanding contracts at the transition date (legacy contracts).



This alternative could potentially reduce costs and the legal burden compared with the scheme of fallback rates (contracts restructure nuisance), which would help to have a smoother transition.


New contracts

- Therefore, after the set dates of transition, **new trades /contracts will NOT be allowed to use TIIE rates with tenors greater than one business day under the new methodology. Hence, only the ON TIIE Funding Rate (Overnight TIIE Funding rate or TIIE de Fondeo),** or any other reference rate authorized by Banco de México's regulation (established in Circular 3/2012 and 4/2012), may be used.

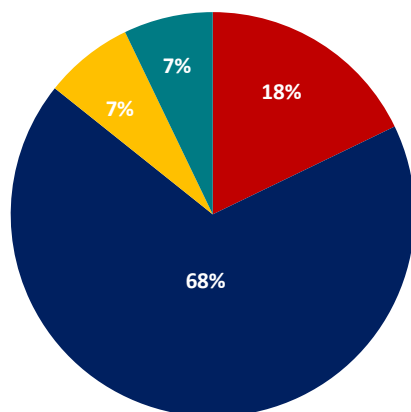


- The Central Bank continues to emphasize the importance of **using TIIE de Fondeo in new contracts as soon as today,** as it will contribute to a planned and smooth transition, with fewer legacy contracts. **This recommendation will be formalized in the press release** announcing the changes that Banco de México will undertake.

A. Market participants' preference on the proposed methodologies

 Comparing the last two analyzed methodologies (based on the Overnight target rate and the ON TIE funding rate), around **two thirds of participants within ABM and AMIB prefer using a methodology based on the latter. None expressed disagreement with any of these two methodologies.**

Percentage of ABM's members in favor of the proposed methodologies^{1/}



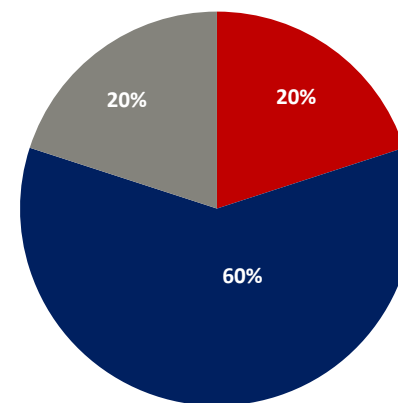
■ Compounded overnight target rate ■ Compounded TIE de Fondeo
■ Other methodology ■ No comments

^{1/} Estimated percentage based on 28 institutions.

Note: In other methodologies, the proposal was an *in-Advance* methodology with TIE Fondeo.

Source: ABM.

Percentage of AMIB's members in favor of the proposed methodologies



■ Compounded overnight target rate ■ Compounded TIE de Fondeo ■ Other answers

Note: In other answers, one participant suggested to use a methodology based on TIE de Fondeo for the Short-Term, and CETES for Medium and Long-Term.

Source: AMIB.

A. New proposed methodology: TIIE de FONDEO (ON TIIE Funding rate) compounded by tenor

Hence, the new methodology will be based on the ON TIIE Funding rate of the reference day, compounded by the number of days in the corresponding term to maturity, plus a historical spread adjustment. In other words:

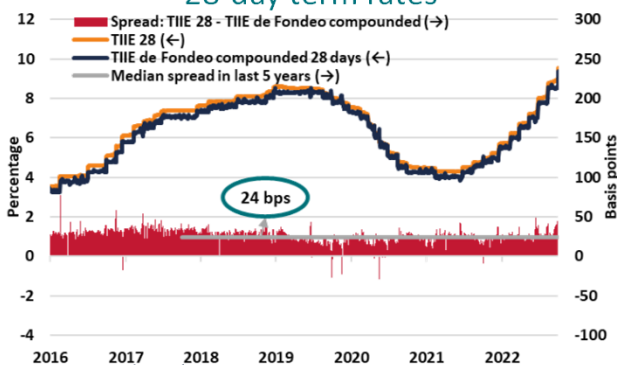
$$\text{Term TIIE } n = \left[\left(1 + \frac{TF}{36000} \right)^n - 1 \right] \times \frac{36000}{n} + \text{Adjustment}$$

Where:

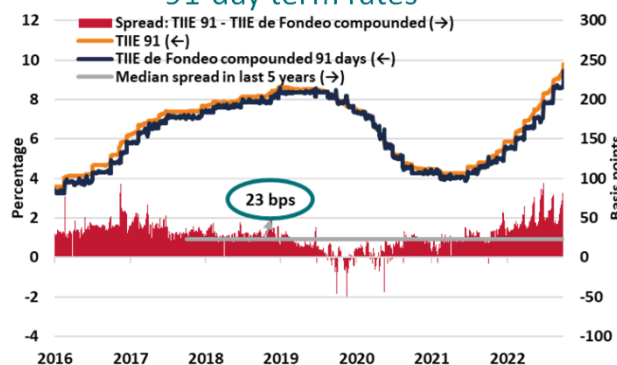
TF = **ON TIIE Funding rate of the reference day** expressed in percentage points.

Adjustment = The historical spread adjustment will remain fixed during the time in which TIIE rates with tenors greater than one business day are published. The definition of this spread adjustment was based on international experience (i.e. ISDA's methodology for fallback rates). This value is defined as the **historical median of the last five years** (October 2017 - September 2022) of the daily spreads between TIIE with tenors greater than one business day and the ON TIIE Funding rate compounded by the number of days of the corresponding term to maturity (28, 91 or 182 days, which would imply similar adjustments across tenors of **24, 23, and 24 bps, respectively**). The historical spread adjustment defined as the median of the last five years, considers both restrictive and accommodative monetary policy cycles.

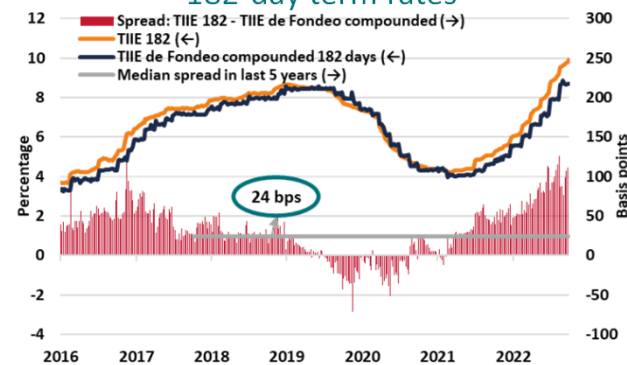
28-day term rates



91-day term rates



182-day term rates



Source: Banco de México.

A. New proposed methodology: TIE de FONDEO (ON TIE Funding rate) compounded by tenor

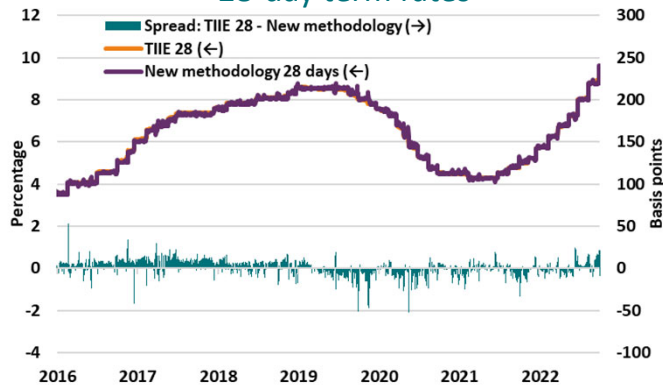


The proposed methodology is the best option because of the following advantages:

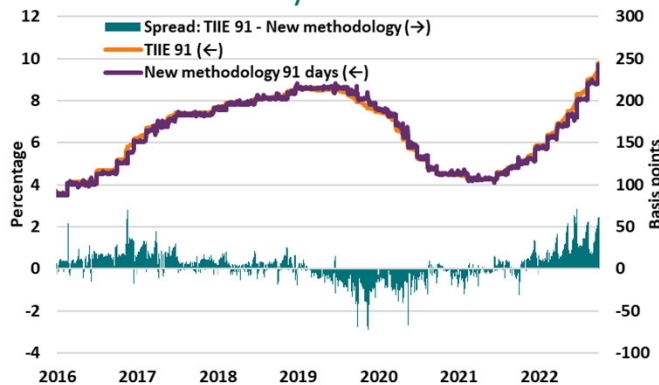
- ✓ It would be known at the **beginning of the interest calculation period**.
- ✓ It replicates the stepped adjustments of the monetary policy decisions.
- ✓ **It is consistent with international standards and practices as it is based on an RFR.**
- ✓ **It incentivizes the usage of the ON Funding TIE.**
- ✓ Derivatives clearing houses mentioned **the possibility to transform the current interest rate swaps contracts (IRS) to OIS contracts linked to the ON TIE Funding rate.**

New proposed methodology vs corresponding TIE with tenors greater than one business day

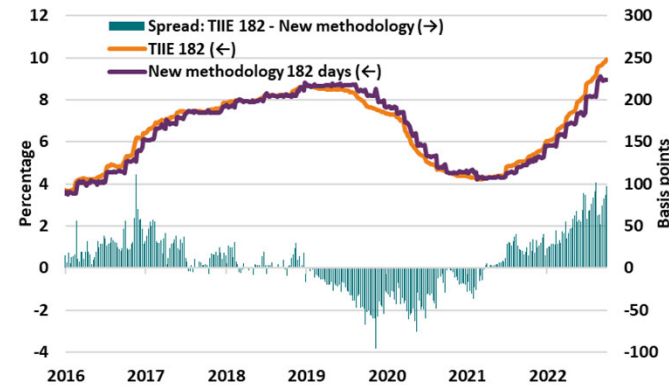
28-day term rates



91-day term rates



182-day term rates



Source: Banco de México.



It is important to mention that the ON TIE Funding rate is currently being published until 5:00 p.m., therefore changing the methodology of TIE with tenors greater than one business day will imply a delay in their publication. Only few institutions expressed an inconvenience due to their internal processes (if any participant has a significant impact because of this change, it should inform Banco de México during the corresponding public consultation period so that it is further analyzed).

Topics

- 1 Methodology for legacy contracts
- 2 Transition calendar for 28, 91 and 182-day TIE rates
- 3 Additional issues to consider for the transition process

B. Estimated timeline for the methodological change of TIE rates with tenors greater than one business day

 The transition calendar of TIE rates with tenors greater than one business day would be as follows:

- I. Ban the usage of the 91-day and 182-day term TIE, with effects after the last business day of 2023, for new contracts. From this point onward, the new methodology rates should be used only for legacy contracts and the ON TIE Funding rate should be used for new trades/contracts.
- II. Ban the usage of the 28-day term TIE, with effects after the last business day of 2024, for new contracts. From this point onward, the new methodology rates should be used only for legacy contracts and the ON TIE Funding rate should be used for new trades/contracts.

Topics

- 1 Methodology for legacy contracts
- 2 Transition calendar for 28, 91 and 182-day TIE rates
- 3 Additional issues to consider for the transition process**

Additional issues to consider for the transition process



The Central Bank will support the conversion made by the derivatives clearing houses of all IRS contracts linked to TIIE with tenors greater than one business day into OIS products linked to ON TIIE Funding rate.



In order for clearing houses to be able to make this conversion, it is vital that derivatives market participants start providing liquidity into the existing futures contracts to develop solid valuation curves, and to set prices based on these curves.







At the same time, it is important to start developing the OIS market linked to the ON TIIE Funding rate. The Central Bank is willing and will be alert of any action that authorities could undertake to accelerate this process.



Additionally, to provide more alternatives/incentives to participants to use the ON TIIE Funding rate, Banco de México is planning to publish compounded rates of the ON TIIE Funding rate for 28, 91, and 182 days tenors with “in advance” methodologies, as well as complementary indices to be used as reference (e.g. SOFR Index) (Annexes 2 and 3).

Next steps

-  The methodological change of TIE rates with tenors greater than one business day and the transition dates exposed here, will be presented to the Board of Governors of Banco de Mexico for its approval.
-  The modifications to the applicable regulation (Circulars), will be subject to public consultation.
-  A press release will be issued announcing the next steps to take during the transition process as well as the final definition of the new methodology for term TIE. In the press release, there will be an exhortation to stop using TIE rates with tenors greater than one business day and to start using only the ON TIE Funding rate.
-  The Central Bank will start publishing compounded *in advance* rates of the ON TIE Funding rate for 28, 91, and 182 days tenors, as well as complementary indices, to be used as reference.

Local progress in the transition process: issues for discussion

- Is there any additional comment about the change in methodology of TIE with tenors greater than one business day?
- Is there any additional comment about the proposed deadlines for the transition applicable to TIE with tenors greater than one business day?
- Is there anything Banco de México could do, as a financial authority, in order to encourage a similar initiative to SOFR First? It could be called “TIE de Fondeo Primero”.
- If there are any additional comments please submit them as soon as possible (before October 14th, 2022).



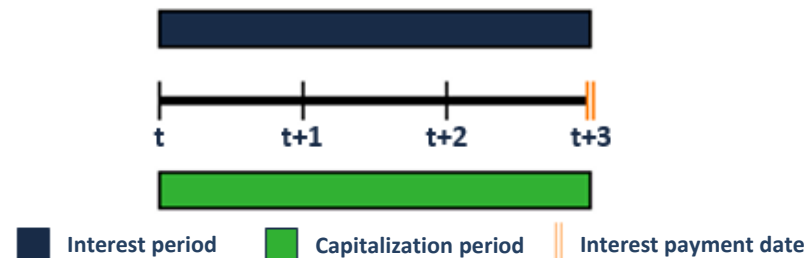
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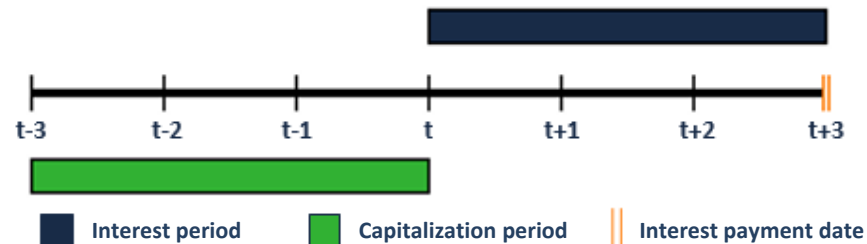
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Annex 1: Compounded *in arrears* vs *in advance*

- 1) The ***compounded in arrears rate*** methodology capitalizes, on a daily basis, the observed overnight rate throughout **the interest payment period**, so the obtained information is aligned with the computation period (similar to Bonde F, Bonde G, SONIA compounded index, or SOFR Index).



- 2) The ***compounded in advance rate*** methodology capitalizes, on a daily basis, the observed overnight rate throughout the **period prior** to the interest payment period, so the obtained information has a lag (similar to SOFR Average).



Annex 2: TIE de Fondeo compounded *in advance* (similar to SOFR Average)

- Following international experience, a reference rate that could be published is TIE de Fondeo compounded *in advance*; in other words, with a methodology similar to SOFR Average.^{1/}
- For any published date, TIE de Fondeo compounded *in advance* includes all the values published of TIE de Fondeo during the last 28, 91, and 182 calendar days, depending on the term requested.
- The formula to estimate TIE de Fondeo compounded *in advance* on different terms, would be as follow:

$$\text{TIE de Fondeo compounded } in\ advance = \left[\prod_{i=1}^{d_h} \left(1 + \frac{TF_i}{360} \right)^{n_i} - 1 \right] \times \frac{360}{d_c},$$

Where:

TF_i = TIE de Fondeo published on the i business day,

n_i = number of calendar days applicable for the TF_i ,

d_c = number of calendar days of the estimation period (28, 91, or 182 days),

d_h = number of business days during the estimation period.

^{1/} See Annex 1 for a comparison between *in advance* and *in arrears* methodologies.

Annex 3: TIE de Fondeo Index (similar to SOFR Index)



To **facilitate the estimation of the interest rate compounded with TIE de Fondeo** in a specific period, it is possible to publish a **TIE de Fondeo Index**. This index will measure the cumulative impact of capitalizing TIE de Fondeo in a unit of investment since January 2, 2006.



The formula to estimate the TIE de Fondeo Index for the business day k is as follows:

$$TIE\ de\ Fondeo\ Index_D = \begin{cases} 1.00000000, & D = \text{January 2, 2006} \\ \prod_{i=\text{January 2, 2006}}^{D-1} \left(1 + \frac{TF_i}{360}\right)^{n_i}, & D > \text{January 2, 2006} \end{cases}$$

Where:

TF_i = TIE de Fondeo published on the business day i ,

n_i = number of calendar days applicable for the TF_i .



The **TIE de Fondeo Index will allow to estimate the compounded interest rate for any period between two days with a published TIE de Fondeo rate**. The formula would be as follows:

$$TIE\ de\ Fondeo\ compounded\ between\ D_1\ and\ D_2 = \left(\frac{TIE\ de\ Fondeo\ Index_{D_2}}{TIE\ de\ Fondeo\ Index_{D_1}} - 1 \right) \times \frac{36000}{\delta}$$

Where:

D_1 = first date of the period.

D_2 = last date of the period.

δ = the number of days between D_1 and D_2 .