6th Meeting of the Working Group on Alternative Reference Rates in Mexico (GTTR)
October 2022
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 TIIE 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 TIIE 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 TIIE rates rates with tenors greater than one business day.
  B. Set final transition dates for the use of TIIE 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 TIIE 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 TIIE rates with tenors greater than one business day, instead of using fallback rates (as it was done with LIBOR rates).**

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

However, **the aforementioned TIIE 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 TIIE 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\(^1/\)

- 68% for the proposed methodologies
- 18% for Compounded overnight target rate
- 7% for Compounded TIIE de Fondeo
- 7% for Other methodology
- 20% for No comments

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

Source: ABM.

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

- 60% for the proposed methodologies
- 20% for Compounded overnight target rate
- 20% for Compounded TIIE de Fondeo
- 20% for Other answers

Note: In other answers, one participant suggested to use a methodology based on TIIE 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:

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

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.
A. New proposed methodology: TIIE de Fondeo (ON TIIE 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 TIIE.
- Derivatives clearing houses mentioned the possibility to transform the current interest rate swaps contracts (IRS) to OIS contracts linked to the ON TIIE Funding rate.

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

Source: Banco de México.

**It is important to mention that the ON TIIE Funding rate is currently being published until 5:00 p.m., therefore changing the methodology of TIIE 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

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

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

I. **Ban the usage of the 91-day and 182-day term TIIE, 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 TIIE Funding rate should be used for new trades/contracts.

II. **Ban the usage of the 28-day term TIIE, 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 TIIE Funding rate should be used for new trades/contracts.
Topics

1. Methodology for legacy contracts
2. Transition calendar for 28, 91 and 182-day TIIE 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 TlIE 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 TlIE. In the press release, there will be an exhortation to stop using TlIE rates with tenors greater than one business day and to start using only the ON TlIE Funding rate.

The Central Bank will start publishing compounded in advance rates of the ON TlIE 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 TIIE with tenors greater than one business day?

• Is there any additional comment about the proposed deadlines for the transition applicable to TIIE 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 “TIIE de Fondeo Primero”.

• If there are any additional comments please submit them as soon as possible (before October 14th, 2022).
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: TIIE de Fondeo compounded *in advance* (similar to SOFR Average)

Following international experience, a reference rate that could be published is TIIE de Fondeo compounded *in advance*; in other words, with a methodology similar to SOFR Average.¹/ For any published date, TIIE de Fondeo compounded *in advance* includes all the values published of TIIE de Fondeo during the last 28, 91, and 182 calendar days, depending on the term requested.

The formula to estimate TIIE de Fondeo compounded *in advance* on different terms, would be as follow:

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

Where:
- $TF_i =$ TIIE 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: TIIE de Fondeo Index (similar to SOFR Index)

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

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

$$TIIE \ de \ Fondeo \ Index_{D} = \begin{cases} 1.00000000, & D = \text{January 2, 2006} \\ \prod_{i=\text{January 2, 2006}}^{D-1} \left(1 + \frac{TF_{i}}{360}\right)^{n_{i}}, & D > \text{January 2, 2006} \end{cases}$$

Where:

$TF_{i} = $ TIIE de Fondeo published on the business day $i$,  
$n_{i} = $ number of calendar days applicable for the $TF_{i}$.

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

$$TIIE \ de \ Fondeo \ compounded \ between \ D_{1} \ and \ D_{2} = \left(\frac{TIIE \ de \ Fondeo \ Index_{D_{2}}}{TIIE \ de \ Fondeo \ Index_{D_{1}}} - 1\right) \times \frac{36000}{\delta}.$$  

Where:

$D_{1} =$ first date of the period.  
$D_{2} =$ last date of the period.  
$\delta =$ the number of days between $D_{1}$ and $D_{2}$.  