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5th Meeting of the Working Group on Alternative Reference Rates in Mexico (GTTR)

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Introduction

- The IBORs transition continues at an international level. Following the example of other jurisdictions, to promote the transition to risk-free rates (RFRs), it is deemed appropriate **to stop publishing the TIIE with terms greater than one business day.**

- Therefore, in the meeting of the Working Group on Alternative Reference Rates in Mexico (GTTR) on December 2, 2021 **the main dates and methodologies proposed for this transition were discussed.**

- Banco de México has received comments from the GTTR's participants and other institutions to analyze the convenience of taking any decision related to the local transition of interest rates.

- Furthermore, several meetings have been organized with various participants who are involved in the transition to understand the expressed concerns and deepen our analysis.

- From this process, Banco de México proposes to:
  - **Set a single methodology to estimate the fallback rates for TIIE with terms greater than one business day.**
  - **Postpone the dates to stop publishing the TIIE with terms greater than one business day,** from the ones originally proposed.

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Topics

1 Fallback rates methodology

2 Transition calendar of the 28, 91 and 182-day term TIIE

3 Other topics about the term TIIE transition

4 The international transition experience

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Fallback rates methodology analysis for TIIE with terms greater than one business day

Banco de México acknowledges the importance of providing certainty regarding the fallback rates methodology that will be used once the term TIIE are no longer published.

In the derivative's international market, the most important fallback rates are the ones established by the International Swaps and Derivatives Association (ISDA). **However, this methodology (in arrears) is not the best option for all instruments, given that some participants (such as those active in banking products and certain bonds) need to know the interest rate at the beginning of the interest compounding period.**

Following international experience, initially, the possibility of implementing an "in arrears" methodology (similar to ISDA) for derivatives and an "in advance" methodology (similar to SOFR Average) for other products, such as the banking ones was analyzed.[1/]

Nonetheless, having different methodologies for the fallback rates may distort the flows between some instruments and their hedges (i.e. between a bond with an "*in advance*" fallback rate and a hedging derivative with an "*in arrears*" fallback rate). Thus, **it was decided that the best option is to have only one methodology for the fallback rates.**

1/ For more information on the period of calculation of both methodologies, see Annex 1.

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Fallback rates methodology analysis for TIIE with terms greater than one business day

The "*in advance*" methodology could be used to set a single fallback rate. **However, the problem with this rate is that it takes into account stale information that does not contain monetary policy changes executed during the interest compounding period.**

On the other hand, some jurisdictions have used fallback rates based on derivatives linked to overnight reference rates, such as **Term SOFR** or **Term SONIA**. However, **the Overnight TIIE futures market is not yet fully developed** (see Annex 2). Hence, it is not possible to estimate the fallback rates by such means since **this methodology should remain in place until all existing contracts mature.**

Therefore, a proposal shall be made to Banco de México's Board of Governors in order for the methodology for the fallback rates to be as similar as possible to the current term TIIE, with low volatility, and known at the beginning of the compounding interest period. This methodology will be described in the following slides: [1/]

1/ Note that there is no optimum methodology to estimate the fallback rates for all the markets. Thus, the proposed methodology only aims to replicate the best option possible.

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Defined fallback rates methodology for TIIE with terms greater than one business day

- The methodology to estimate the fallback rates uses the **monetary policy target rate at fixing date, compounded for the applicable term, plus a historical spread adjustment.** In other words:

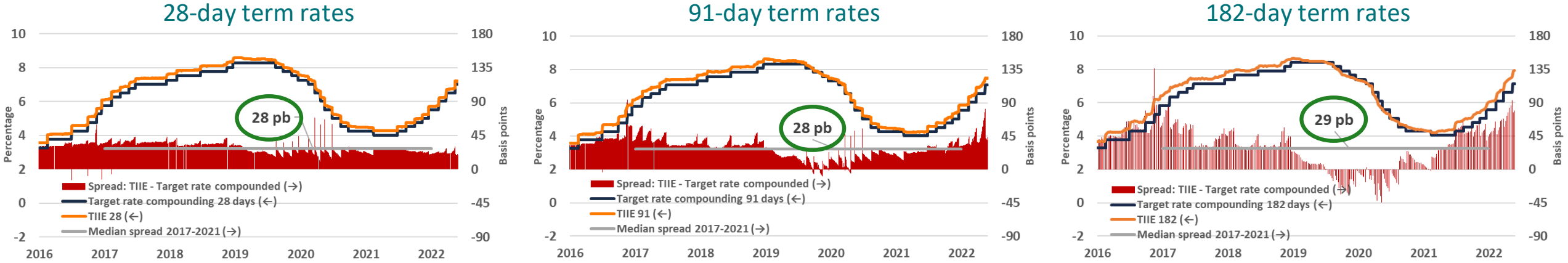
$$\textit{Fallback}_{\textit{TIIE with terms greater than one business day}} = \textit{Compounded target rate} + \textit{Adjustment}$$

Where:

- ***Compounded target rate*** = **Monetary policy target rate at fixing date, compounded n days, dependent on the term**.[1/]
- ***Adjustment*** = **Historical median of the last five years** (January 2017 - December 2021) of the daily **spreads** between the term TIIE and the target rate compounded by the number of days of the corresponding term (28, 91, or 182 days, which would imply similar adjustments across terms of **28, 28, and 29 bps; respectively**).

- The historical adjustment defined as the median of the last five years is consistent with ISDA's proposal, and, in the case of Mexico, **considers both restrictive and easing monetary policy periods.**

Compounded monetary policy target rate and its corresponding term TIIE spread



Source: Banco de México. 1/ The methodology consists in compounding the same target rate of the date to a term of 28, 91 or 182 days.

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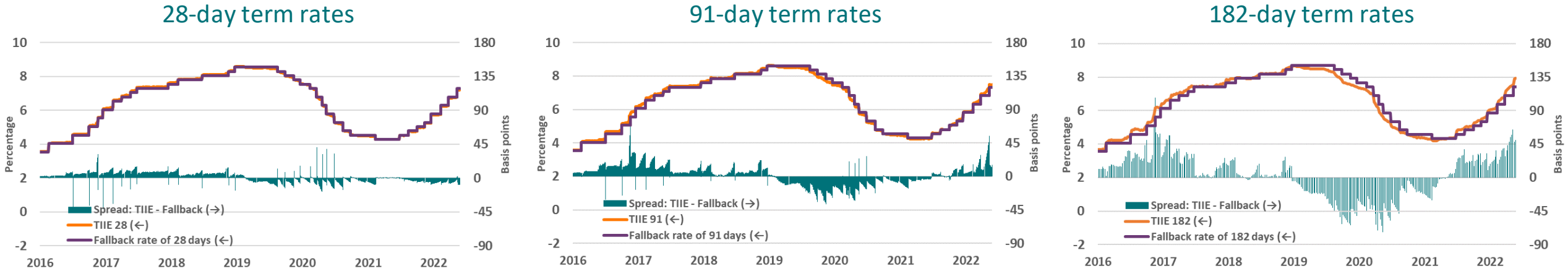
The fallback rates for TIIE with terms greater than one business day

- **<u>The spread between the proposed fallback rates and term TIIE is small for shorter terms, which, incidentally, are the most used terms.</u>** This occurs since the proposed methodology is similar to how term TIIE are currently quoted and computed.

Proposed fallback rates vs corresponding term TIIE



- These fallback rates share similar characteristics to the current term TIIE:
  - **They would be known at the beginning of the interest calculation period.**
  - **It would be the same reference for all instruments and markets.**
  - **They have a similar behavior to TIIE 28** (the most used reference in the Mexican market).

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Following steps before discontinuing the publication of TIIE with terms greater than one business day

- Based on the comments received from several market participants, **the transition calendar of TIIE with terms greater than one business day was updated**:[1/]

  I. **Start publishing the fallback rates for 28, 91 and 182-day term TIIE** with a history of at least 10 years (second semester of 2022). This does not imply that the fallback rates should be used immediately. The publication would only have an **informative purpose,** and they would be used once the publication of the term TIIE stops.

  II. **Stop publishing 91 and 182-day term TIIE** (announce during the second semester of 2022, with effects after the last business day of 2023). From this point onward, the fallback rates should be used for outstanding contracts.

  III. **Stop publishing TIIE with a term of 28 days** (announce during the second semester of 2022, with effects after the last business day of 2024). From this point onward, the fallback rates should be used for outstanding contracts.

1/ The delay to stop the publication of the term TIIE should not suppose that the plan for the transition on the systems is also delayed. The objective of this change is to give more time to make the updates in the systems.

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Additional Transition Process Topics

As mentioned previously, **the methodology applied will be the same for all terms and will prevail until all current contracts expire.**

Currently, it is stated in article 160 BIS of Circular 3/2012 that, in the event that the determination and publication of TIIE with terms greater than one Banking Business Day ceases, **Banco de México will indicate the rate that will replace them, facilitating the transition. There is no need to modify contracts, since the procedure is already established in the regulation. These fallback rates will be published daily in the Official Gazette of the Federation, as is currently the case for term TIIE.**

Fallback rates should only be used for outstanding transactions at the time the publication of term TIIE is ceased (legacy). **New transactions will have to be referenced to the Overnight TIIE Funding Rate (TIIE de Fondeo) in its simple rate or in any composition thereof.**

Additionally, it is considered that rates based on information from financial derivatives linked to the Overnight TIIE (such as the Term SOFR or Term SONIA) may be used **in new contracts**, once the Overnight TIIE derivatives market has developed.

All issues related to the transition process of the TIIE with terms greater than one bank business day will be addressed in the relevant financial market Committees, as deemed necessary for the development of the market.

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International experience regarding the change of references in the swap market

At the international level, in order to facilitate the transition from LIBOR in the derivatives market, some clearing houses have proposed exchanging LIBOR-linked swap contracts to international RFRs.

- Thus, for example, the Chicago Mercantile Exchange (CME) has a plan in which it has converted existing IBOR swap exposures to RFR OIS products. Under this plan, each IBOR-linked swap is terminated and replaced by an OIS of RFRs (replacement swap). The conversion of swaps in Swiss francs and Japanese yen were executed on December 3, 2021, swaps in pounds sterling were executed on December 17 of that year, while USD conversions will be executed in the second quarter of 2023.[1/]
- This has provided market participants with the certainty that existing (legacy) and new contracts can be fungible, promoting the development of RFRs.

In this context, **Banco de México will support that Clearing Houses exchange all current swaps linked to TIIE with terms greater than one bank business day for OIS products that include Overnight TIIE.**

1/ For additional information: https://www.cmegroup.com/trading/interest-rates/files/cme-ibor-conversion-for-chf-jpy-and-gbp-cleared-swaps.pdf y https://www.cmegroup.com/trading/interest-rates/files/cme-conversion-for-usd-libor-cleared-swaps.pdf

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Progress of the transition at the local level: topics for discussion

- Are there any additional comments on the fallback rate methodology?
- What additional considerations or risks should be taken into account to establish fallback rates?
- What is your opinion regarding the dates proposed for the transition of the TIIE with terms greater than one bank business day?
- Are there any additional issues that need to be considered?

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Impact of the LIBOR transition in Mexico

As it is well known, on December 31, 2021, the publication of LIBORs in different terms ceased.[1/] In this context, a reduction in the use of LIBOR has been observed in the Mexican market, as well as an increase in transactions linked to new RFRs.

For example, in the **IRS market**:[2/]

- The new **LIBOR-linked transactions represented** $11 USD billions (**87**% of the total linked to foreign currencies) in December 2021 and they declined to only $2 USD billions (**31**%) by May 2022.
- **RFR-linked** transactions increased from $0.9 USD billions (**7**%) to $4 USD billions (**57**%), in the same period.

In the **cross currency swaps** market: [3/]

- **LIBOR-linked transactions** decreased from $6 USD billions (**51%**) in December 2021 to $1 USD billions (**14%**) in May 2022.
- **RFR-linked transactions** increased from $0.4 USD billions (**3%**) to almost $5 USD billions (**50**%) in the same period.

While big steps have been made in the right direction, additional efforts are still needed to stop LIBOR usage in new contracts.

1/ Publication of all 7 euro LIBOR settings, all 7 Swiss franc LIBOR settings, the Spot Next, 1-week, 2-month and 12-month Japanese yen LIBOR settings, the overnight, 1-week, 2-month and 12-month sterling LIBOR settings, and the 1-week and 2-month US dollar LIBOR settings ceased immediately after 31 December 2021.
2/ For more information see Annex 3.
3/ For more information see Annex 4.

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Definition of details for the next meeting

a) **Final comments:**

- *Are there any additional comments regarding the LIBOR transition process in Mexico, considering the cessation of the publication of the first rates?*
- *If you have additional comments in the next few days please send them before July 19.*

b) **Next meeting date.** To be defined.

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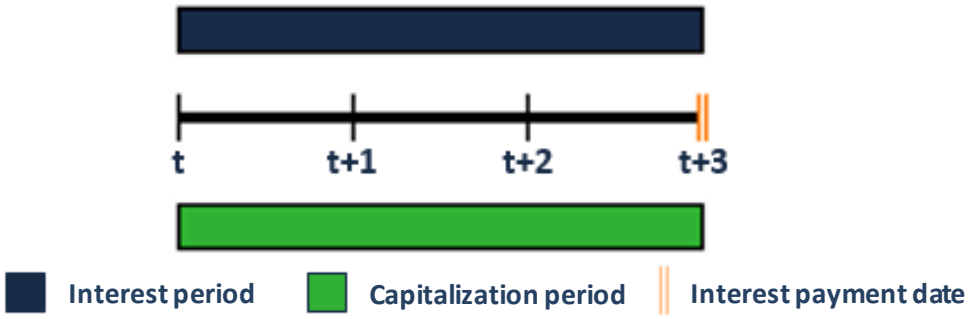
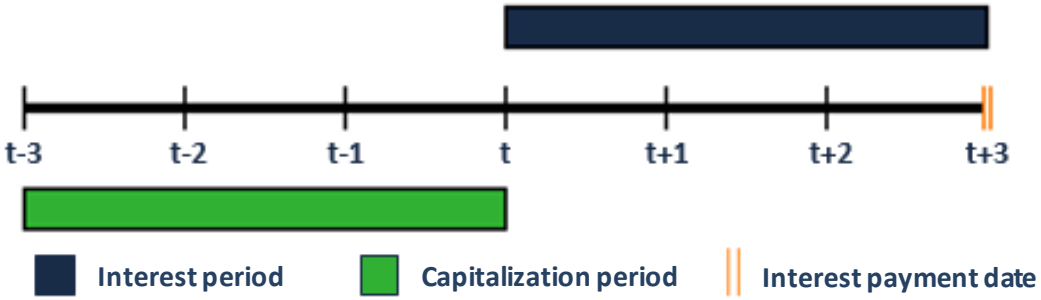
Annex 1: Compounded in arrears vs in advance

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 (**Bonde D type or SONIA compounded index or SOFR Index**).



1) 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 (**SOFR Average type**).



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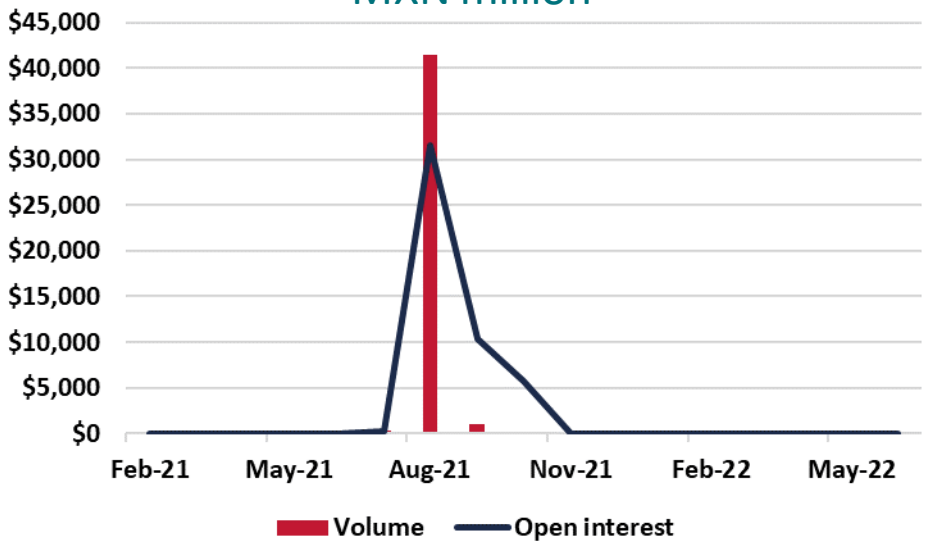
Annex 2: Overnight TIIE futures transactions in CME and MexDer

- The trading volume of Overnight TIIE futures is very limited, despite the fact that there are bid and ask prices from which information is obtained to generate curves used in the valuation of other derivative and financial instruments. However, this market needs to be developed in order to increase executed trades.

Monthly volume and end-of-month open interest of MexDer's Funding TIIE Futures

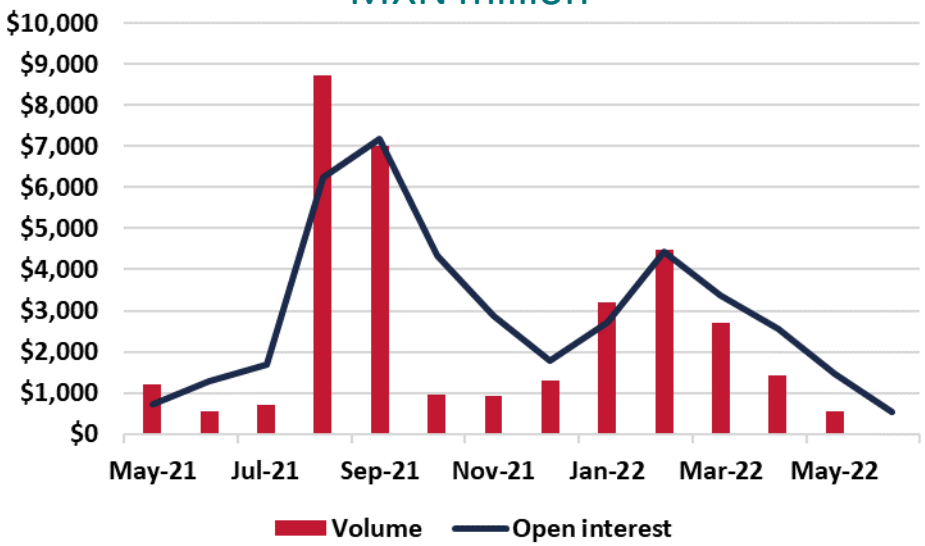
MXN million



Source: MexDer.

Monthly volume and end-of-month open interest of CME's Funding TIIE Futures

MXN million



Source: CME.

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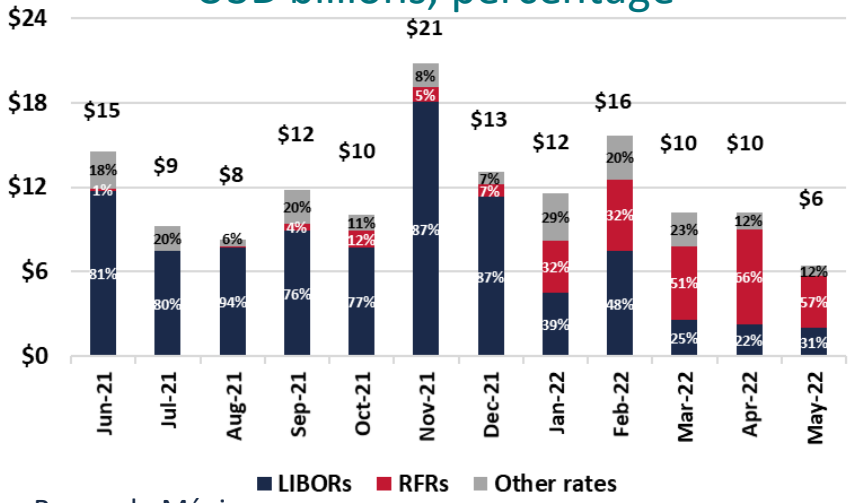
Annex 3: LIBOR and the IRS market in Mexico

- In the IRS market, new trades linked to LIBOR and executed after December 2021 represent less than 50% of the total trading in each month.[1/] This shows a significant adjustment if one considers that in the last two months of 2021 these type of transactions represented more than 85% of said market. These changes have been accompanied by an increase in the use of contracts linked to RFRs. In May, new contracts in RFRs represented 57% of the IRS market.[1/]
- It is worth mentioning that the new LIBOR trades were, for the most part, linked to USD LIBOR.

LIBOR and RFRs new contracts traded in the IRS market[1/]

USD billions, percentage

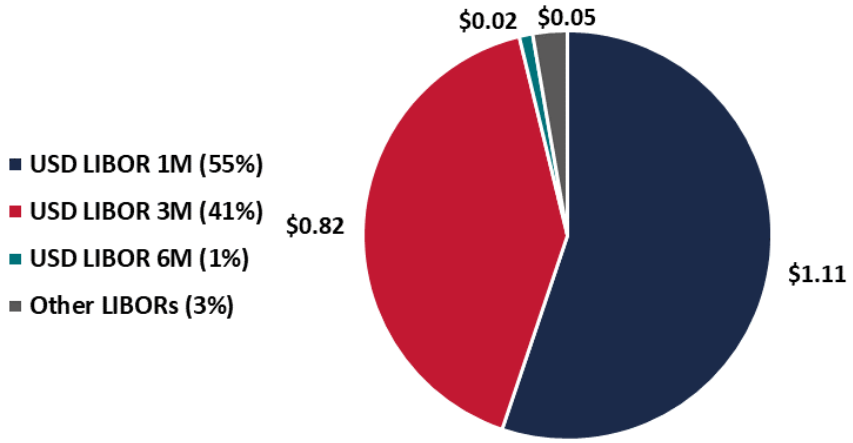


Source: Banco de México.

1/ Only transactions involving rates in foreign currency are considered.

LIBOR-linked new contracts transacted in the IRS market[1/]

USD billions, percentage



Source: Banco de México. Data as of May 2022.

1/ Only transactions involving rates in foreign currency are considered.

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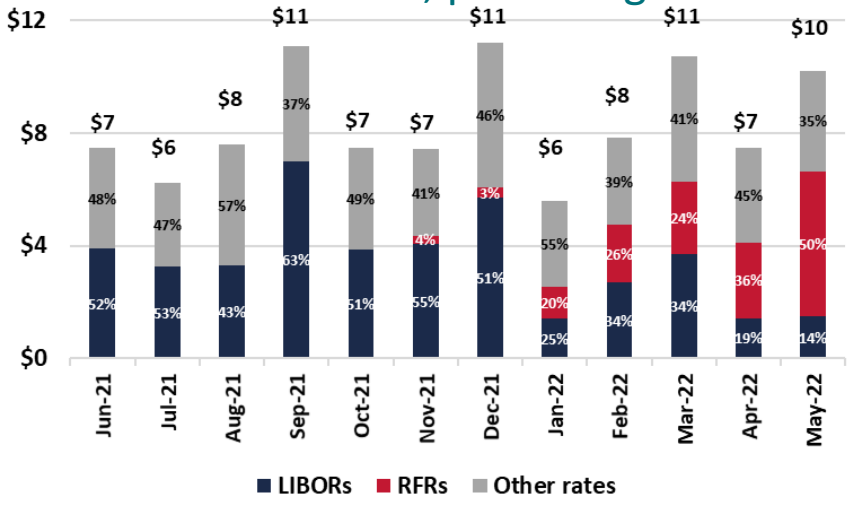
Annex 4: LIBOR and the cross currency swap market in Mexico

- The cross currency swaps market has shown a behavior similar to the IRS market. In this market, there was a decrease in the use of LIBOR after 2021, accompanied by an increase in the use of RFRs since January of this year. In this context, contracts linked to RFRs increased from 3% in December 2021 to 50% in May this year.
- Similar to the IRS market, new LIBOR trades are linked mainly to USD LIBOR (in this case, only in the one month tenor).

LIBORs and RFRs new contracts traded in the *cross currency swaps* market

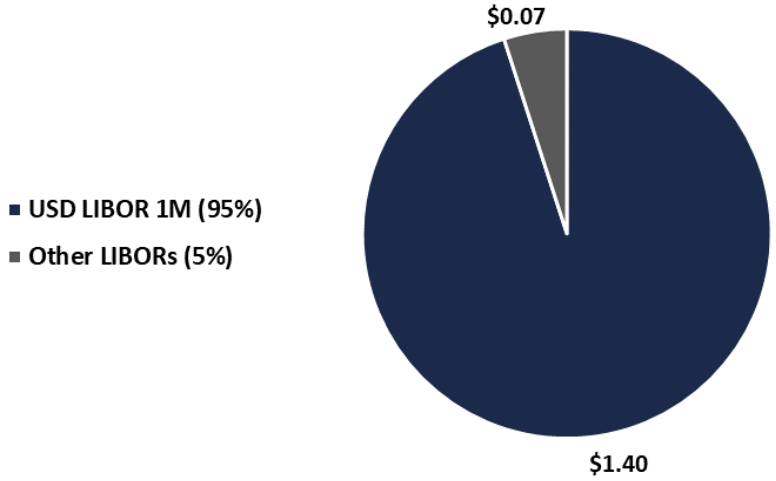
USD billions, percentage



Source: Banco de México.

LIBOR-linked new contracts transacted in the IRS market

USD billions, percentage



Source: Banco de México. Data as of May 2022.

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