

What is IBR?

The Reference Banking Indicator (IBR) is a short - term interest rate for the Colombian Peso. It reflects price expectations that participating agents in the calculation scheme are willing to offer or to collect funds at in the interbank market.

The IBR was created as a response from the system stakeholders to meet the need of an indicator that reflects supply and demand conditions of the interbank market.



Who is part of the scheme?

8 Banking Institutions

- Adequate capital
- Asset quality
- Management capacity
- Profitability
- Liquidity condition

The scheme participants are eight banking institutions selected annually through the CAMEL methodology. This selection seeks that those who set the indicator be those entities with greater financial strength in terms of (i) adequate capital (C), (ii) asset quality (A), (iii) management capacity (M), (iv) profitability (E) and (v) liquidity condition (L).

Furthermore, the long - term credit score provided by local risk agencies is evaluated as well as IBR - indexed active and passive positions.



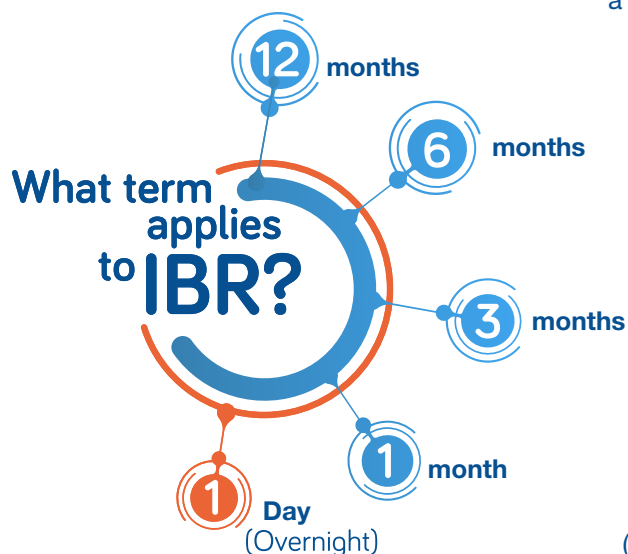
How is IBR calculated?

IBR, for its different terms (overnight, one month, three months, six months and twelve months), is calculated through an auction in which each one of the eight scheme participating banks quotes the rate they are willing to offer or to collect funds in the interbank market.

Said auction is held from 10:00 (0 seconds) a.m. and 10:15 (0 seconds) a.m. Once quotes have been prepared, the Central Bank calculates the median and as a result of such calculation the current IBR for each period is published.

Nature of operations that support IBR calculation are interbank credits for the overnight term and swap operations for the remaining terms. In the overnight term, banks whose quotations are lower than the median calculated by the Central Bank are resource offerors while those whose quotations are higher are resource suppliers. For the remaining terms, participating banks whose quotation is

lower than the median will be swap sellers; they will receive a fixed rate and will pay a variable rate. On the other hand, banks whose quotation is higher than the median will be swap buyers; that is, they will pay a fixed rate and will receive a variable rate.



Speaking of the overnight period, operations compliance is delivery and swap is executed through a nominal value of \$20,000 million Colombian Pesos while compliance for the remaining periods is non-delivery and the nominal value for operations is as follows: for one (1) month and three (3) months: \$10,000 million Colombian Pesos and for the 6- month: \$3,000 million Colombian Pesos and for the twelve (12) months indicator \$1,500 million Colombian Pesos. The Central Counterparty Clearing House (CRCC, acronym in Spanish) carries out the compensation and liquidation of such operations; it receives and pays obligations value through deposit accounts open in the Central Bank.

Who monitors IBR accurate calculation?

The IBR Steering Committee, a corporate governance agency, monitors IBR accurate calculation. Said agency is conformed by seven out of the eight scheme participating Banks. A representative from the Central Bank, one representative from the Ministry of Finance and Public Credit (MHCP, acronym in Spanish) and another one from the Stock Market Self-regulatory Agency (AMV, acronym in Spanish) participate as guests in the Committee. Asobancaria acts as the Technical Secretariat.

Such committee meets at least once every three months in order to analyze and products follow-up performance of the indicator. Monitoring is carried out based on a

follow-up report that contains IBR historical data performance and other market reference rates through different types of graphic analysis; the objective of such monitoring is to identify signals and alerts.

Furthermore, the committee, aiming at consolidating and homogenizing IBR use as the reference rate for the Colombian financial system, structured a document which presents standards with the minimum parameters suggested to issue and design IBR-indexed assets and liabilities products.



What international reference does IBR calculation have?

IBR calculation scheme is structured based on the principles for the reference index construction of the International Organization of Securities Commission (IOSCO), which recommends including the following risk factors when the indicator is calculated:

- 1. Indicator submission:** conflict of interest may arise when determining the quotation value; therefore, protocols and controls must be in place.
 - 2. Content and methodology transparency:** procedures and policies regarding the indicator calculation methodology must be documented in detail so that stakeholders' capacity to evaluate indicator credibility is not restricted.
 - 3. Governance process:** there should be processes to prevent possible indicator manipulation attempts by participants; they may submit false or misleading information to the scheme administrator.
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This being the case, in order to mitigate such risks and to look after appropriate indicator calculation, IBR counts with a Set of Rules and a Quotation Protocol¹. The following items are included in them: applicable rules for the calculation scheme and guidelines that entities part of the IBR calculation scheme should follow for the daily rate quotation process for its different terms.

Which Colombian capital market segment does IBR-indexed assets trade in?



There is an important offer of IBR-indexed securities such as Certificates of Deposits and Bonds in the fixed income market. However, most of the operations tied to the indicator are carried out in the market through Overnight Index Swap agreement (OIS). OIS are type-of-interest derivate instruments whose underlying asset is equivalent to the geometric mean of the constituted overnight rate over each payment period day.

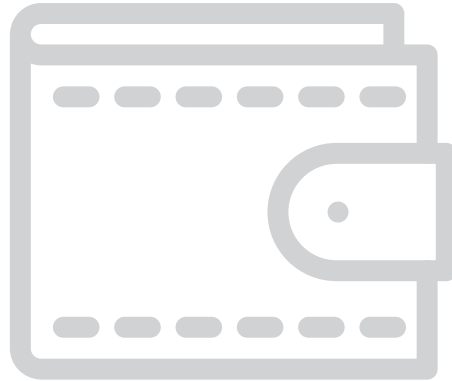
Such instruments are negotiated in Colombia in the OTC (Over the Counter) market and through the Stock Market through OIS Futures. In the IBR OIS market the 1 to 180 day range is mainly focused on monetary policy evolution.

Furthermore, there are rate quotations higher than 18 months that complement the IBR OIS curve and in which agents can take risk over the interest rates between two and 25 years; however, such rates are influenced by other factors, additional ones to the monetary policy, such as the fixed rate TES curve, private sector debt curves and real sector hedge flows.

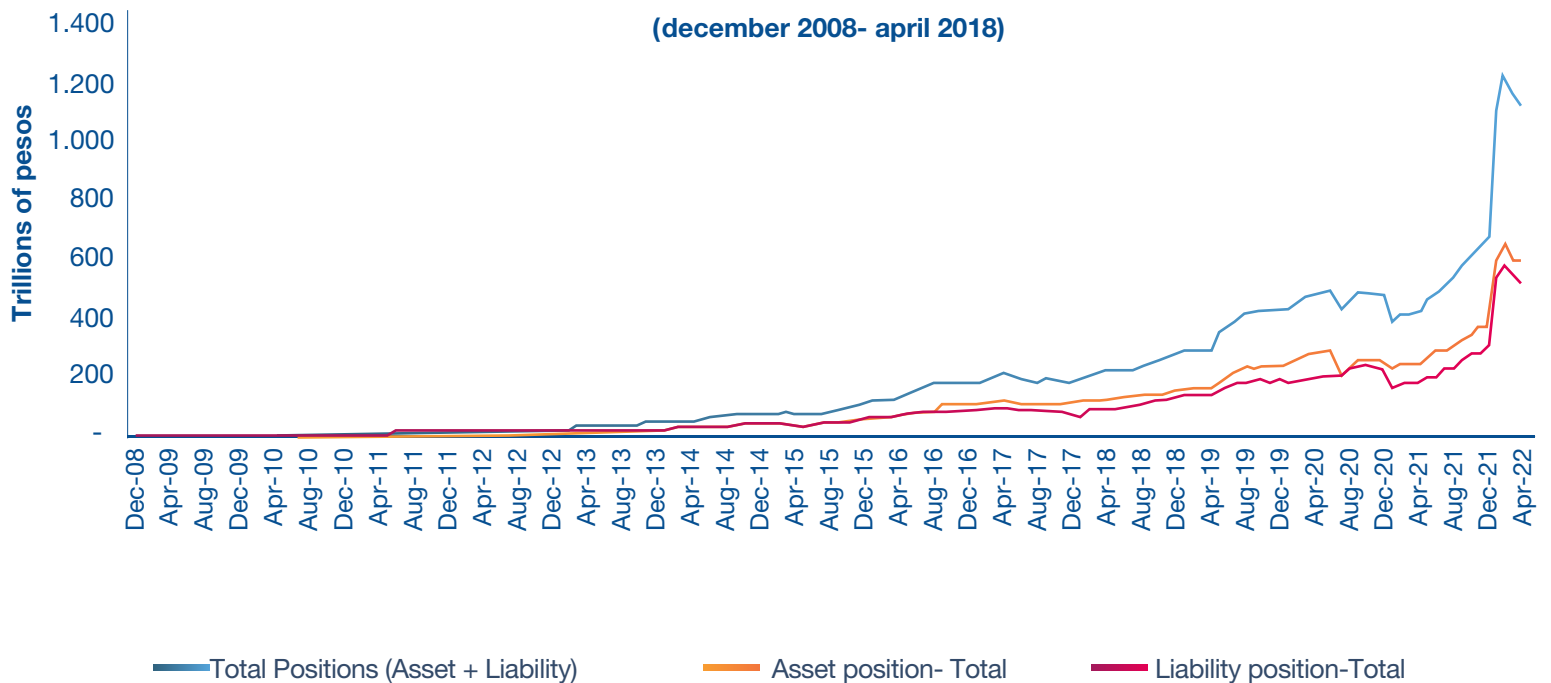
¹Please refer to: www.asobancaria.com/wp-content/uploads/2018/03/2017-12-15-Reglamento-IBR.pdf

In addition to the products traded in the capital market, are there other IBR- indexed products offered to financial consumers?

Most credit institutions in Colombia offer a product portfolio tied to IBR such as credits and Certificates of Deposits. The way to use this indicator in such products is suggested in the standards document². Said document was elaborated by IBR Steering Committee to promote IBR use as the reference rate for the financial system and recommend its minimum standards.



Evolution of indexed products to IBR - Banking institutions
(december 2008- april 2018)



²Please refer to: www.asobancaria.com/wp-content/uploads/Documento-de-est%C3%A1ndares-para-la-emisi%C3%B3n-de-productos-atados-al-IBR.pdf

