ROADMAP

INDEX OPTIONS

BRASIL
BOLSA
BALCÃO

Ibovespa Options

Main Initiatives

Roadmap Ibovespa Options

Trading on Expiration

Procedure to allow trading the Index Options on expiration date

Confirmed launch date:

February 17, 2025

Reduction in size

Reduction of Ibovespa Options size

Confirmed launch date:

February 17, 2025

Weekly Options

Launch of Ibovespa Weekly Options

Confirmed launch date:

February 17, 2025

Fee Incentive for Structured Ibovespa Derivatives Transactions

50% discount on specific Ibovespa Derivatives Transactions

Tick Size

Change of Ibovespa Options tick size from 1 to 5 points

Launch of VIX Brazil - B3 recently launched the S&P/B3 Ibovespa VIX

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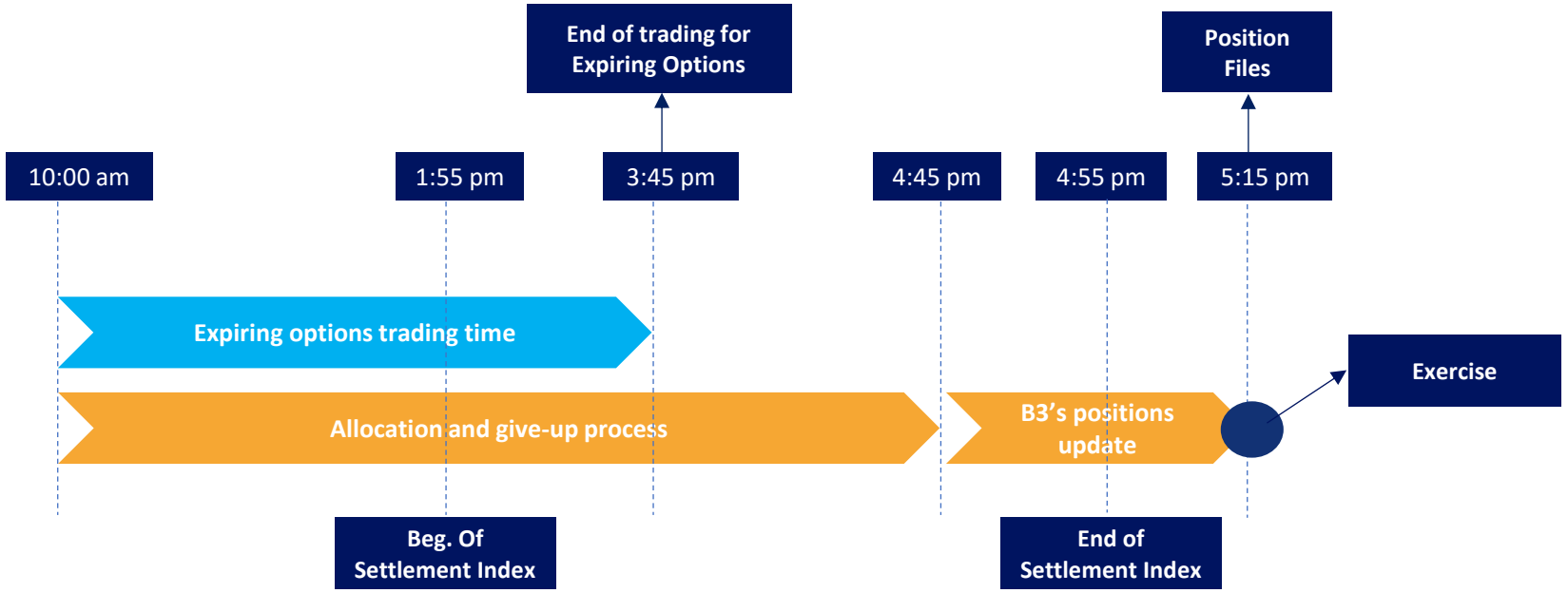
Trading on expiration date

Index Options (IBRX-50, Small Cap, and Ibovespa)

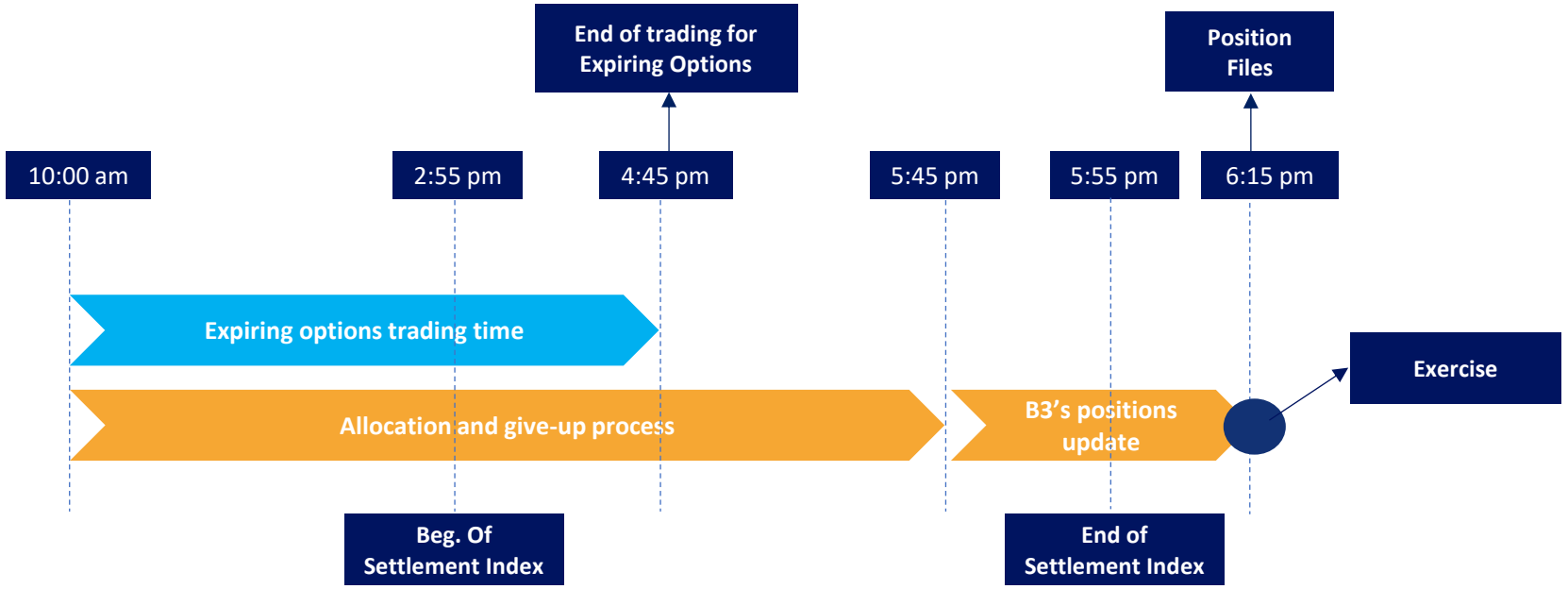
Trading window, allocation/give-up and exercise for Index Options (March to October)



Important messages

- Index options will begin trading on the expiration date
- Exercise will be **15 minutes after** the current
- Expiring options will trade for **1h50** of **the Settlement Index** calculation and **will not** trade on the **last 1h10** of the calculation
- The process will be launched for all Index Options (IBRX-50, Small Cap, and Ibovespa)
- **Confirmed launch date: February 17, 2025**

Trading window, allocation/give-up and exercise for Index Options (November to March)



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Reduction in size of the contract

Ibovespa Options

Reduction in size of Ibovespa Options

Size (points per contracts)	Contract	Mean Premium (per contract)	% Underlying	Tick Size	Round-lot	Size per point	Minimum Premium
1:1	ETF Ibovespa Options	BRL 2.30	1.8%	0.01	1	BRL 1	BRL 0.01
1:1	Ibovespa Options	BRL 1,400	1.1%	5	1	BRL 1	BRL 5
1:100	Ibovespa Options	BRL 14	0.011%	5	1	BRL 0.01	BRL 0.05

Current contracts

Confirmed launch date: February 17, 2025

Size of **BRL 0.01 per point** → Reduction in **100x**

Example on the next slide

Important messages

- Quotation will remain in Index points. The change will be on the total financial volume (in BRL) of the trade
- On the UMDF channels, the size of the contract will be included as "*pricedivisor*" with value equal to 100. **Therefore, it must be applied as a divisor to represent the correct value of the option**
- On the BVBG.028, the size of the contract will be included as **"<PricFctr>100</PricFctr>"**
- On the BVBG.086, traded volume in BRL will be displayed divided automatically
- **The adjustment of open positions will be made on February 14 at the end of the trading session, so that on the launch day, all positions are adjusted.**

Example for financial volume calculations in BRL after size reduction of Ibovespa Options

Current

Example for financial volume calculation

$$Total\ Financial\ Volume\ (BRL) = \text{Premium in points} \times ContractMultiplier \times \text{Number of Contracts Traded}$$

Example:

- Premium in points (quoted): 1,400 points
- Number of Contracts Traded: 50 contracts
- *ContractMultiplier*: 1 (fixed at 1)

$$Total\ Financial\ Volume\ (BRL) = 1{,}400 \times 1 \times 50 = \text{BRL } 70{,}000.00$$

After

Example for financial volume calculation

$$Total\ Financial\ Volume\ (BRL) = \frac{Premium \text{ in } points \times ContractMultiplier \times \text{Number of Cont}racts\ Traded}{\boldsymbol{PriceDivisor}}$$

Example:

- Premium in points (quoted): 1,400 points
- Number of Contracts Traded: 50 contracts
- *ContractMultiplier*: 1 (fixed at 1)
- *PriceDivisor:* 100 (fixed at 100)

$$Total\ Financial\ Volume\ (BRL) = \frac{1{,}400 \times 1 \times 50}{\mathbf{100}} = \text{BRL } 700.00$$

Important Messages

- **On Market data channels (UMDF), the size of the contract will be included on the field "*pricedivisor*" at value 100**
- **On BVBG.028, the size of the contract will be represented by the field "<PricFctr>100</PricFctr>"**

Important: **There are no changes to the Futures Contracts**; however, please see below an illustration of how the calculation is done on the financial volume (BRL) based on the field "*ContractMultiplier*"

Example for financial volume calculation

$$Total\ Financial\ Volume\ (BRL) = Index\ \text{Price in points} \times ContractMultiplier \times \text{Number of Contracts Traded}$$

Example for WIN:

- Index Price in points (quoted): 135,560 points
- Number of Contracts: 2 contracts
- *ContractMultiplier*: 0.2 (fixed at 0.2)

$$Total\ Financial\ Volume\ (BRL) = 135{,}560 \times 0.2 \times 2 = \text{BRL } 54{,}224.00$$

Example for SML:

- Index Price in points (quoted): 2.118,10 points
- Number of Contracts: 5 contracts
- *ContractMultiplier*: 10 (fixed at 10)

$$Total\ Financial\ Volume\ (BRL) = 2{,}118.10 \times 10 \times 5 = \text{BRL } 105{,}905.00$$

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Launch of Weekly Options

Ibovespa Options

Ibovespa Weekly Options

Specifications

Expiration
Every Wednesday
Except on Monthly expirations

Operational
= Monthly
For Trading, Post, and Exercise

Ticker Structure
Same pattern as Weekly SSO
IBOVA160W1

Number of strikes*
**To be defined*

5 to 6
Maturities open

Other expirations can be created by demand

Considerations

- Differently for stocks, it will have expirations on the 3ª Wednesday (W3)
- No changes in files layouts
- Contract will be BRL 0.01 per point, displayed the same as the monthly
- There will be trading on expiration date

Confirmed launch date: February 17, 2025

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Improvement on Pricing

Ibovespa Options

Current Pricing:

$$call_{BS} = S_0 . N(d_1) - K . e^{-rT} . N(d_2)$$

$$put_{BS} = -S_0 . N(-d_1) + K . e^{-rT} . N(-d_2)$$

$$d_1 = \frac{ln\left(S_0/K\right) + \left(r + \frac{\sigma^2}{2}\right).T}{\sigma . \sqrt{T}}$$

$$d_2 = \frac{ln\left(S_0/K\right) + \left(r - \frac{\sigma^2}{2}\right).T}{\sigma . \sqrt{T}} = d_1 - \sigma\sqrt{T}$$

S_0 : Underlying

K : Strike

T : Time to expiration

σ : Implied Volatility

r : Continuous interest rate

Yield Inclusion "q"

$$call_{BS} = S_0 . e^{-qT} . N(d_1) - K . e^{-rT} . N(d_2)$$

$$put_{BS} = -S_0 . e^{-qT} . N(-d_1) + K . e^{-rT} . N(-d_2)$$

$$d_1 = \frac{ln\left(S_0/K\right) + \left(r - q + \frac{\sigma^2}{2}\right).T}{\sigma . \sqrt{T}}$$

$$d_2 = \frac{ln\left(S_0/K\right) + \left(r - q - \frac{\sigma^2}{2}\right).T}{\sigma . \sqrt{T}} = d_1 - \sigma\sqrt{T}$$

$$q = \ln\left(1 + \frac{TxCY}{100}\right)$$

$$TxCY = \left(\left(\frac{\left(1 + \frac{Pre}{100}\right)^T}{Futuro_{Ind}/Ibovespa_{Liq}}\right)^{1/T} - 1\right) * 100$$

S_0 : Underlying

K : Strike

T : Time to expiration

σ : Implied Volatility

r : Continuous interest rate

q : Yield

Pre : Value of Fixed rate Curve (PRE) to Options Expiration

$Futuro_{Ind}$: Value of Ibovespa Futures at Options expiration

$Ibovespa_{Liq}$: Ibovespa Settlement value

Thank you!

In case of questions, please contact derivativosequities@b3.com.br