



# Révolution de velours dans la couverture de change



**Modérateur** | Cyril Merkel

Président de la commission « placements », AFTE



**Modérateur** | Thibaut Pajot

Associé et cofondateur, Aulu



**Invité** | Nabil Bouanani

*Director client solutions group London, ING Bank Financial Markets*



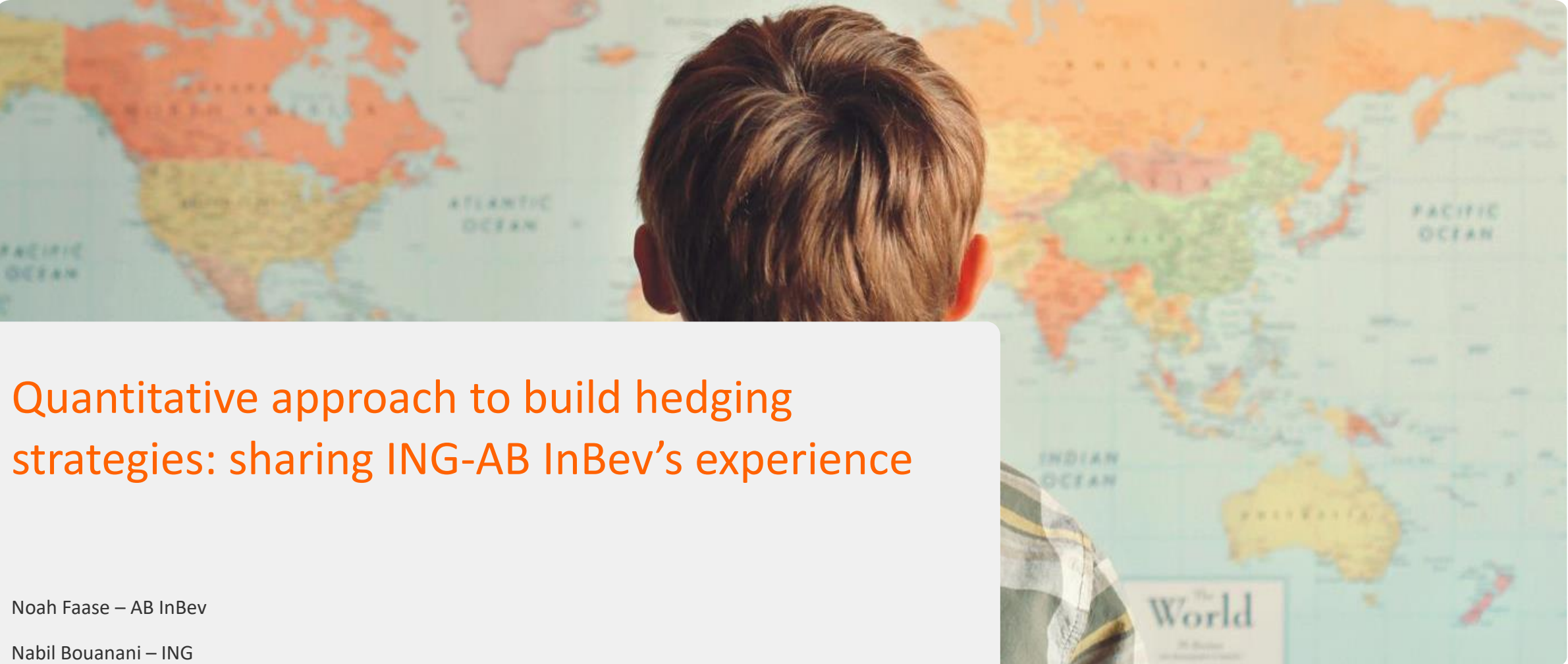
**Invité** | Noah Faase

*Head of global treasury, Anheuser-Busch InBev*



**Invité** | Charles Garnier

Directeur général adjoint France et Benelux, Western Union Business Solutions

A person with brown hair is seen from behind, looking at a world map. The map is a classic world map with continents in various colors (orange, green, yellow) and oceans in light blue. The person's head is in the center, and their hair is short and brown. The map shows North America, South America, Europe, Africa, Asia, and Australia. The Atlantic Ocean is visible to the left, and the Pacific Ocean to the right. The Indian Ocean is visible at the bottom. The title 'The World' is visible on the map.

# Quantitative approach to build hedging strategies: sharing ING-AB InBev's experience

Noah Faase – AB InBev

Nabil Bouanani – ING

Paris, November 2022

## Today's presentation

01

Risk  
Management  
Cycle

02

AB InBev Case

03

Quantitative  
approach to  
managing risks

04

Q&A

## Presenting



### Noah Faase

Global Treasury Trading Director— AB InBev

- Noah holds a Masters degree from Marquette University and a Bachelor degree from Saint John's University in Philosophy and Mathematics.
- Following 4 years as Derivative Trader, Noah has joined ABInBev in 2017 as a Global Risk Director and has been heading the Global Treasury since 2020.



### Nabil Bouanani

Financial Markets - ING

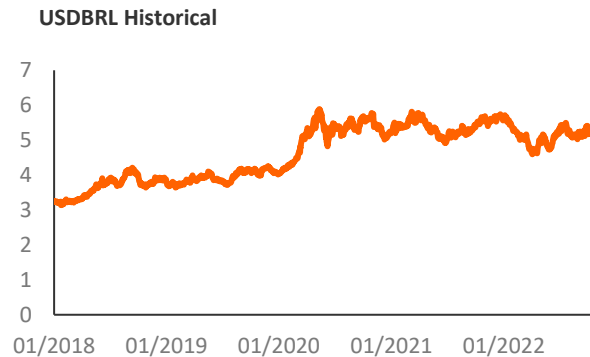
- Nabil has a Masters degree in Aerospace Engineering from the French *Institut Supérieur de l'Aéronautique et de l'Espace*, complemented with a Masters degree in Applied Mathematics and Statistics from Paul Sabatier University.
- For more than a decade, he has been working in the dealing room where he has frequent discussions on risk quantification and portfolio optimisation with treasuries and CFOs across the globe.

# Risk Management Cycle

# Risk Management: the key steps in the hedging journey

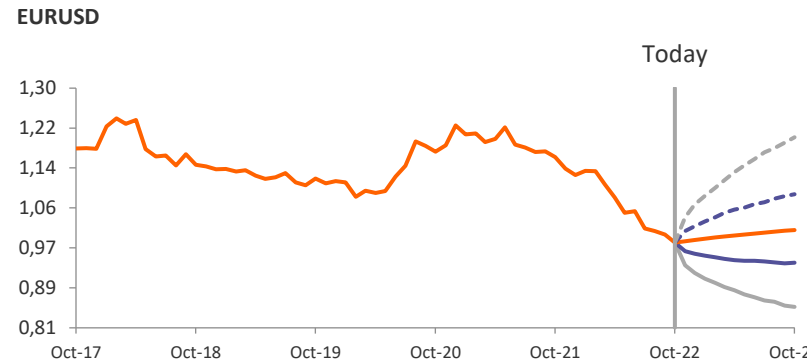
## Step 1: Identify exposures

What are my main exposures and how do they move?



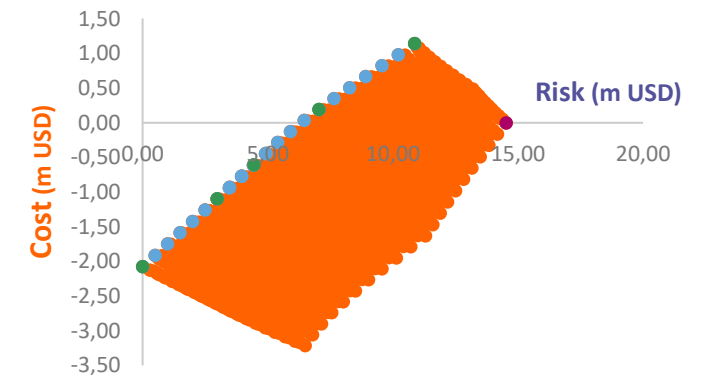
## Step 2: Quantify risks

How much could I lose by not hedging my different exposures ?



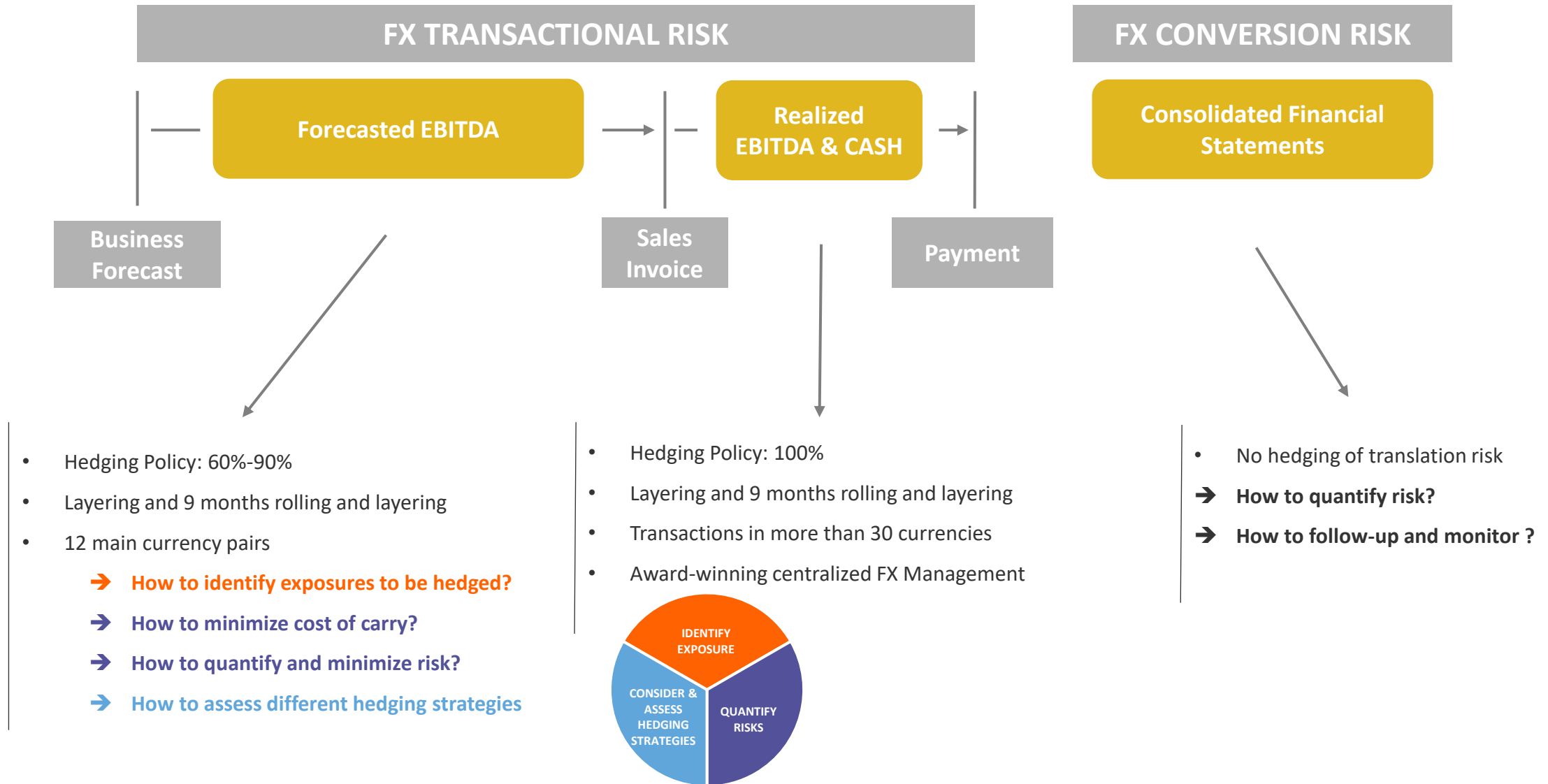
## Step 3: Assess hedging strategies

What is the end goal of my hedging strategy and how much will it cost ?



# AB InBev Case

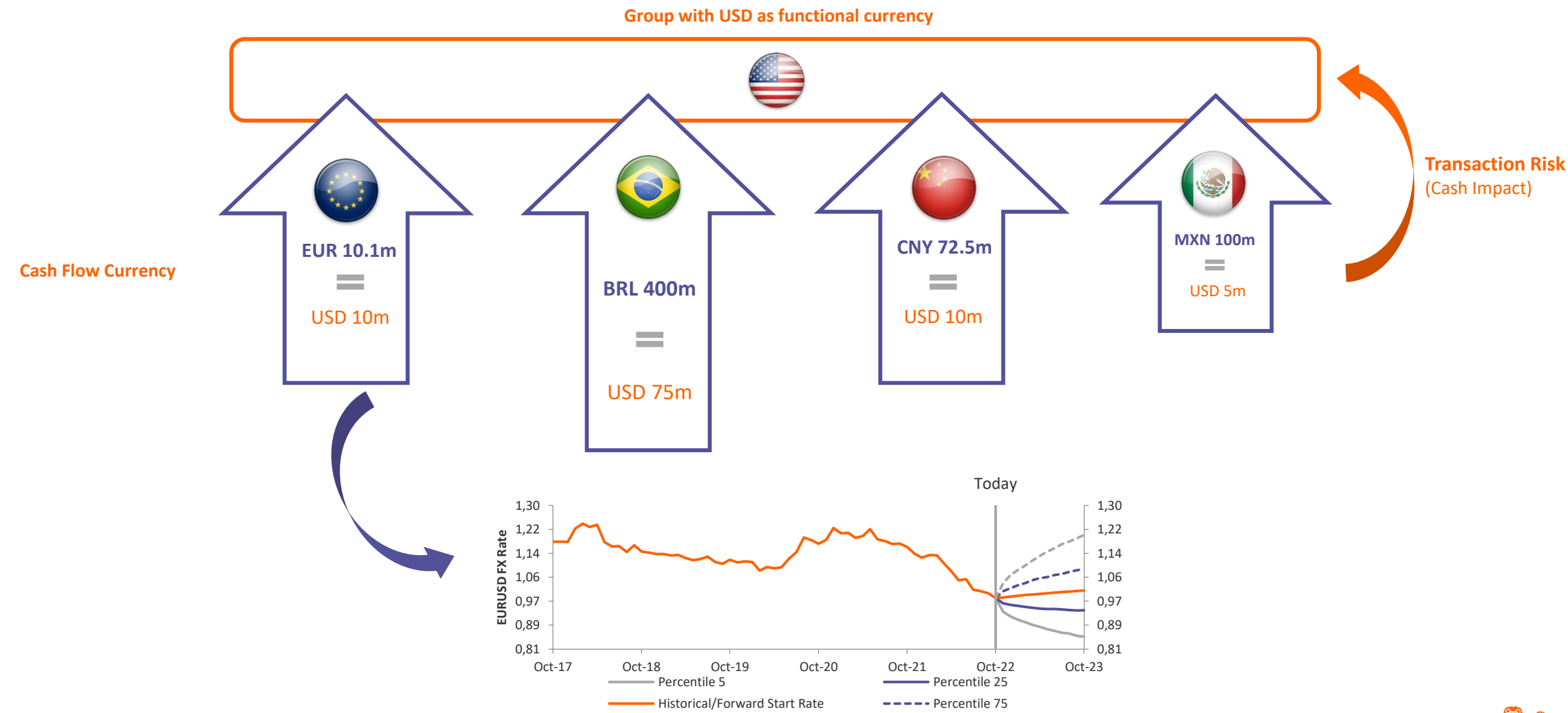
## FX Risk Management: a complex equation that requires advanced tools



# Quantitative approach to managing risks

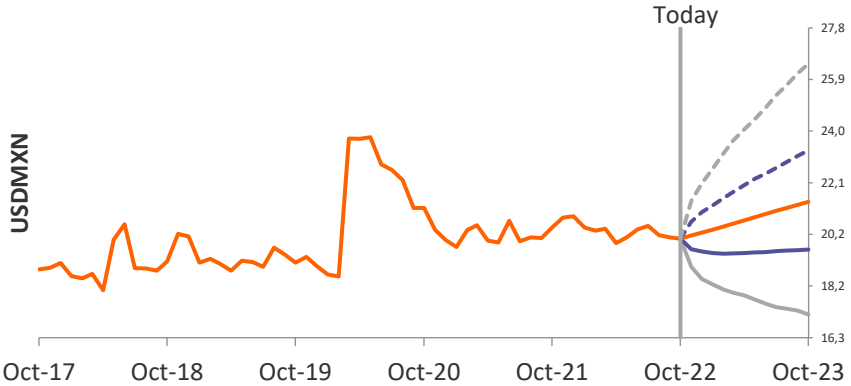


# FX Risk Management: a complex equation that requires advanced tools



# A statistical way to understand and quantify risks

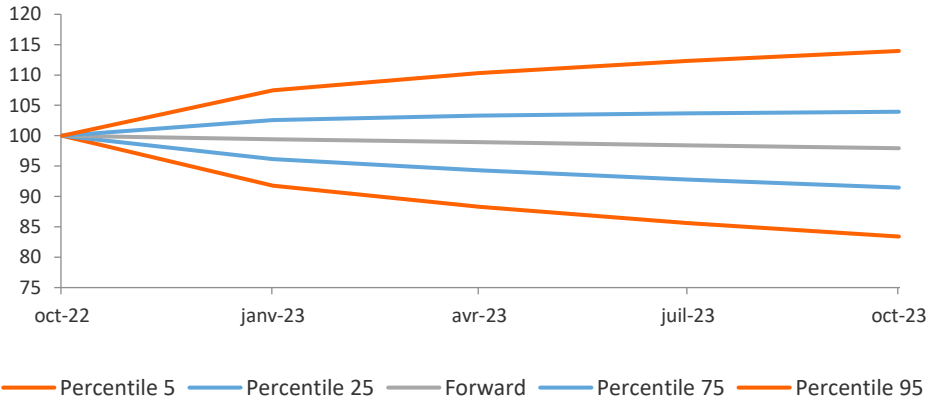
Market variables simulations



Correlation Matrix

|        | EURUSD | USDCNY | USDBRL | USDMXN |
|--------|--------|--------|--------|--------|
| EURUSD | 100%   | 57%    | 34%    | 42%    |
| USDCNY |        | 100%   | 28%    | 28%    |
| USDBRL |        |        | 100%   | 57%    |
| USDMXN |        |        |        | 100%   |

Evolution of annual FX exposure simulation



## Going a step further

Can we use those statistical models to efficiently mitigate our risks ?

# Looking for Efficient Hedges

## Optimization and comparison of different hedging strategies

| USD | CNY | BRL | MXN | Worst 5% Decrease in Net Cash Flow (m USD) | Carry cost (m USD) |
|-----|-----|-----|-----|--------------------------------------------|--------------------|
|     |     |     |     |                                            |                    |

**5% worst case decrease** is the Value at Risk (VaR). It means that loss in NCF over the given time horizon exceeds will exceed X value with a 5% probability



● Efficient Frontier Data Points ● 5 Selected Efficient Frontier Data Points ● Other Scenario

**Carry Cost** arises from the difference between the spot and forward exchange rates used to translate the non-USD currencies back to the base currency USD

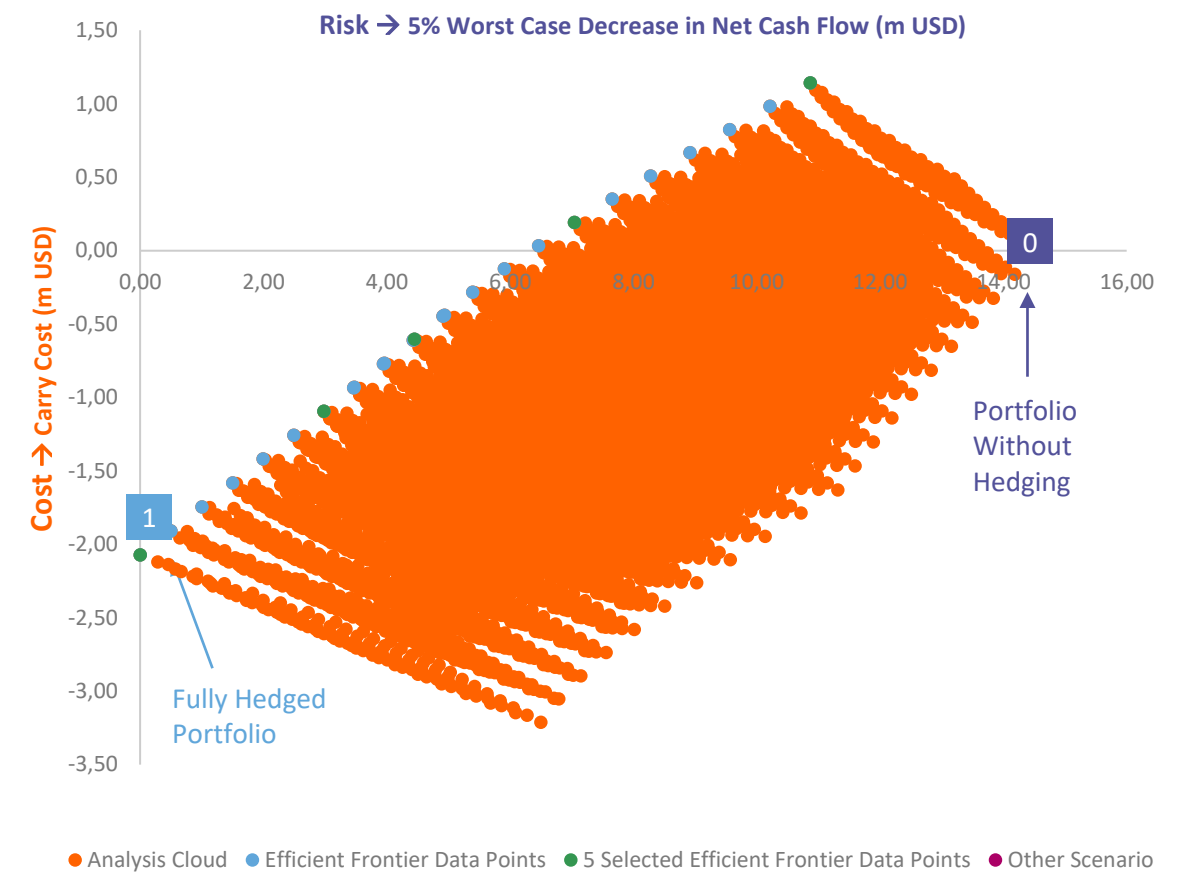
# Looking for Efficient Hedges

Optimization and comparison of different hedging strategies

|                           | USD  | CNY  | BRL  | MXN  | Worst 5%<br>Decrease in<br>Net Cash Flow<br>(m USD) | Carry cost<br>(m USD) |
|---------------------------|------|------|------|------|-----------------------------------------------------|-----------------------|
| Portfolio Without Hedging |      |      |      |      |                                                     |                       |
| 0                         | 0%   | 0%   | 0%   | 0%   | 14.5                                                | 0.0                   |
| Fully Hedged Portfolio    |      |      |      |      |                                                     |                       |
| 1                         | 100% | 100% | 100% | 100% | 0                                                   | -2                    |

**Carry Cost** arises from the difference between the spot and forward exchange rates used to translate the non-USD currencies back to the base currency USD

**5% worst case decrease** is the Value at Risk (VaR). It means that loss in NCF over the given time horizon exceeds will exceed X value with a 5% probability



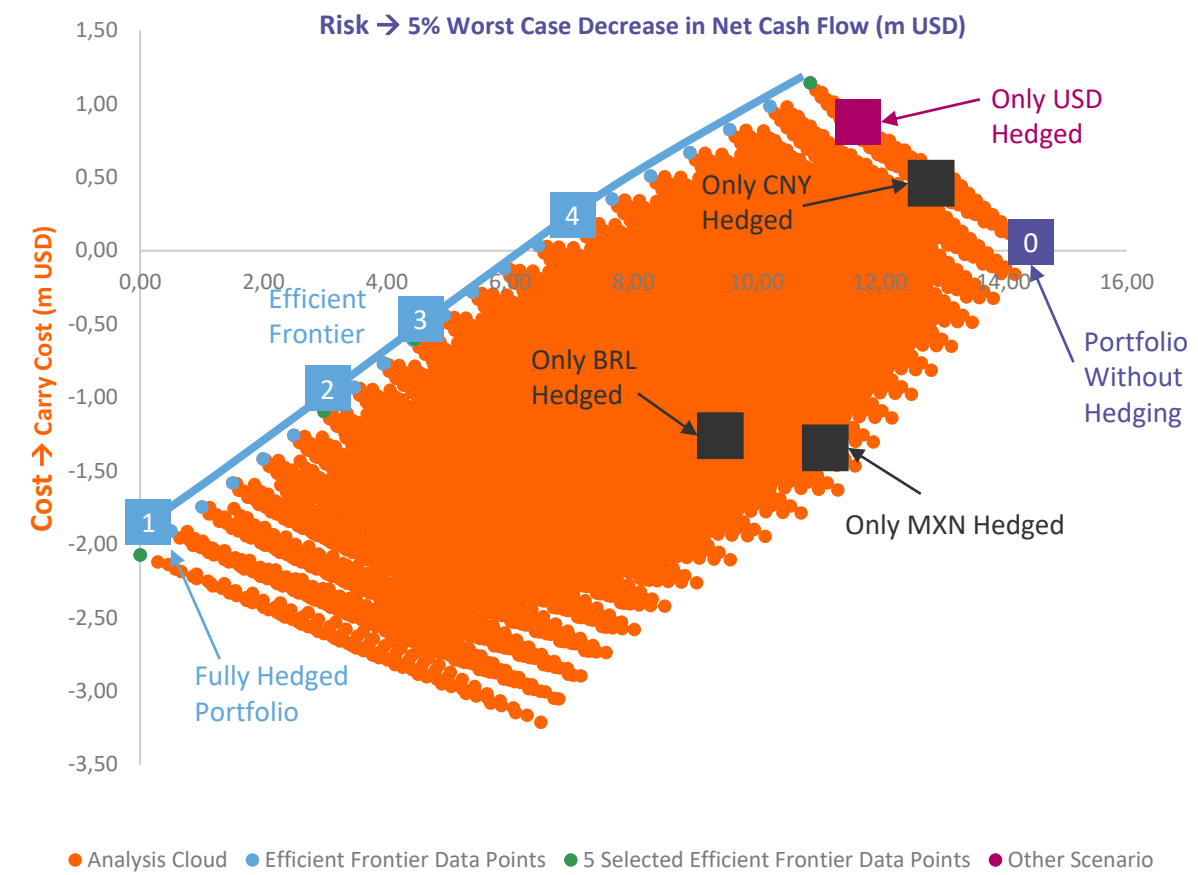
# Looking for Efficient Hedges

Optimization and comparison of different hedging strategies

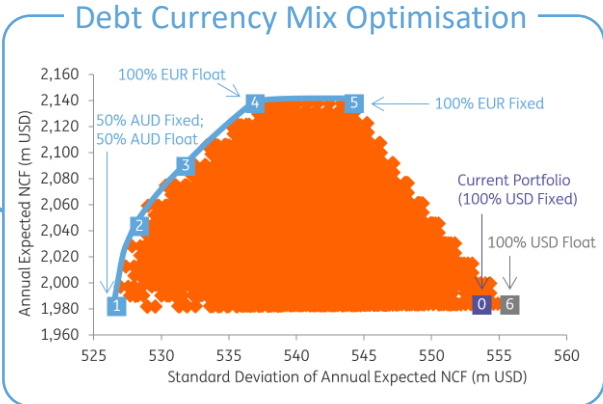
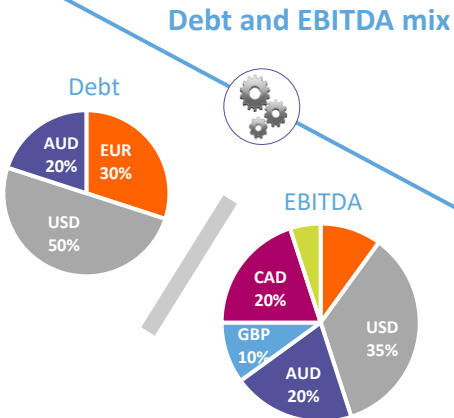
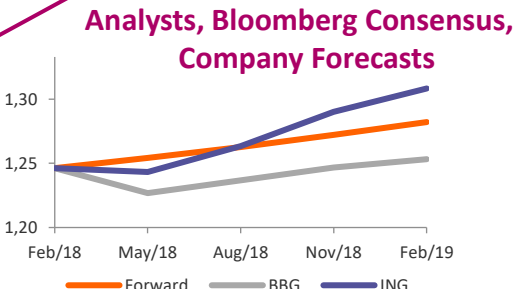
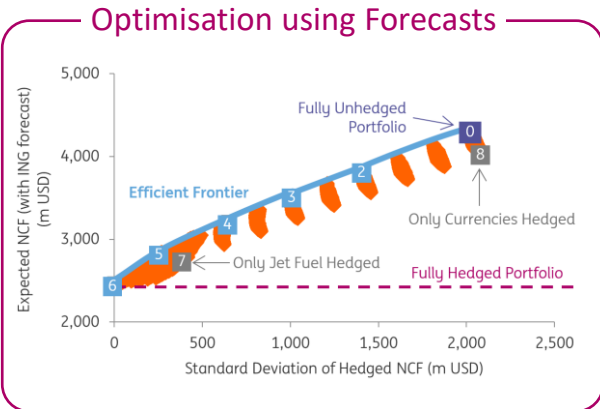
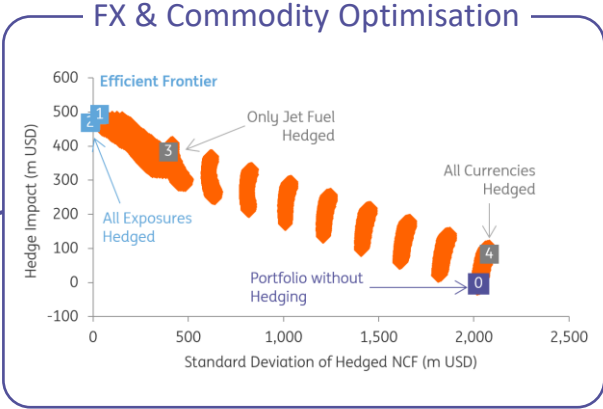
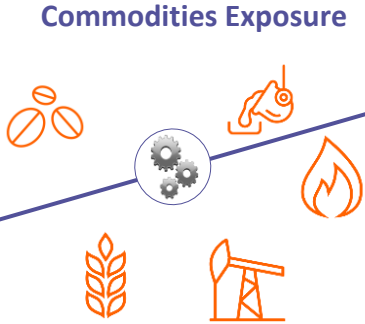
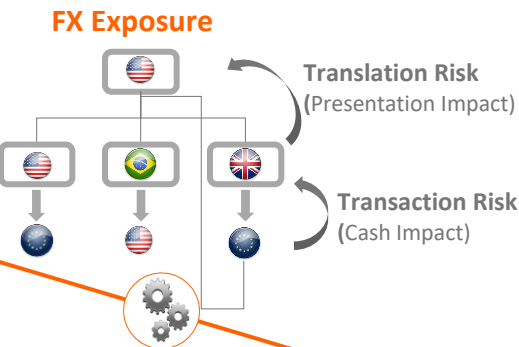
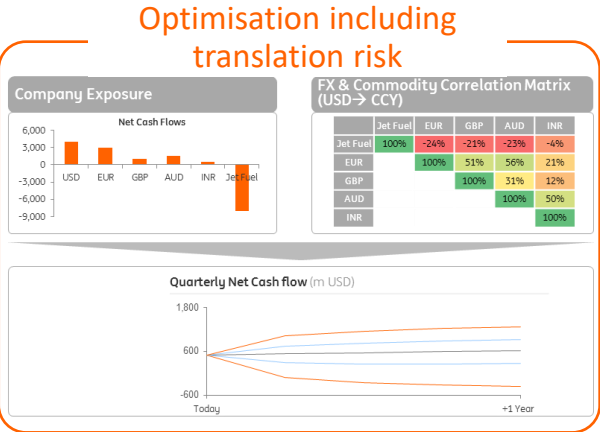
|                           | USD  | CNY  | BRL  | MXN  | Worst 5%<br>Decrease in<br>Net Cash Flow<br>(m USD) | Carry cost<br>(m USD) |
|---------------------------|------|------|------|------|-----------------------------------------------------|-----------------------|
| Portfolio Without Hedging |      |      |      |      |                                                     |                       |
| 0                         | 0%   | 0%   | 0%   | 0%   | 14.5                                                | 0.0                   |
| Efficient Frontier        |      |      |      |      |                                                     |                       |
| 1                         | 100% | 100% | 100% | 100% | 0                                                   | -2                    |
| 2                         | 100% | 100% | 100% | 40%  | 2.9                                                 | -1                    |
| 3                         | 100% | 100% | 100% | 10%  | 4.4                                                 | -0.6                  |
| 4                         | 100% | 100% | 60%  | 0%   | 7                                                   | 0.2                   |

**Carry Cost** arises from the difference between the spot and forward exchange rates used to translate the non-USD currencies back to the base currency USD

**5% worst case decrease** is the Value at Risk (VaR). It means that loss in NCF over the given time horizon exceeds will exceed X value with a 5% probability



# Further applications of such quantitative tool



## Insights from AbInbev on their journey



# Thank you

# Do you have any questions?

## Contact details



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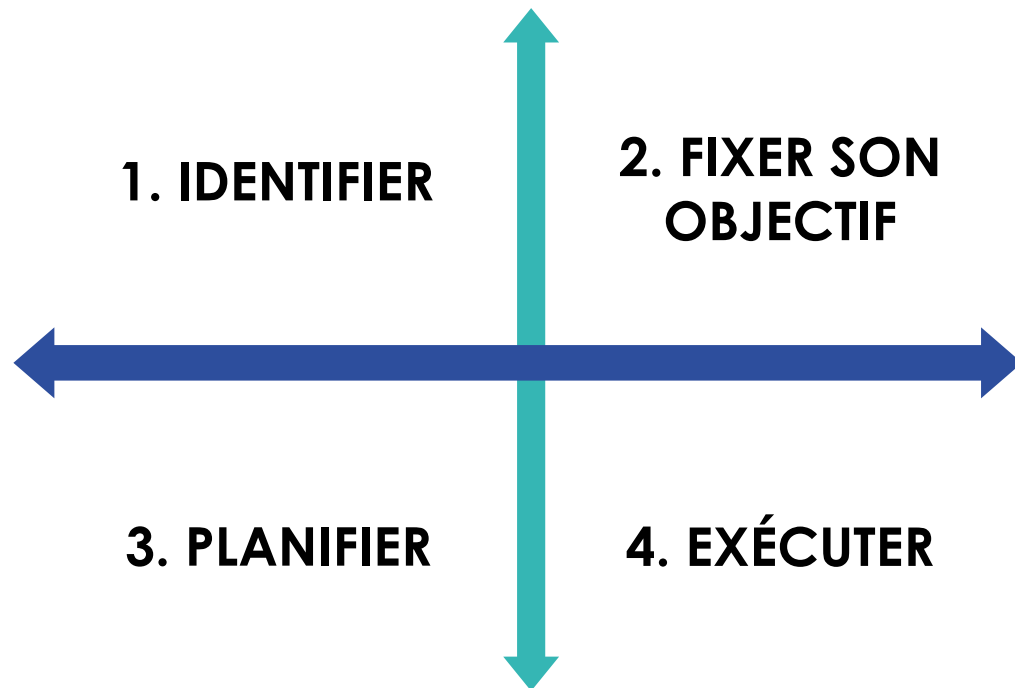
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# Une révolution de velours « traditionnelle »



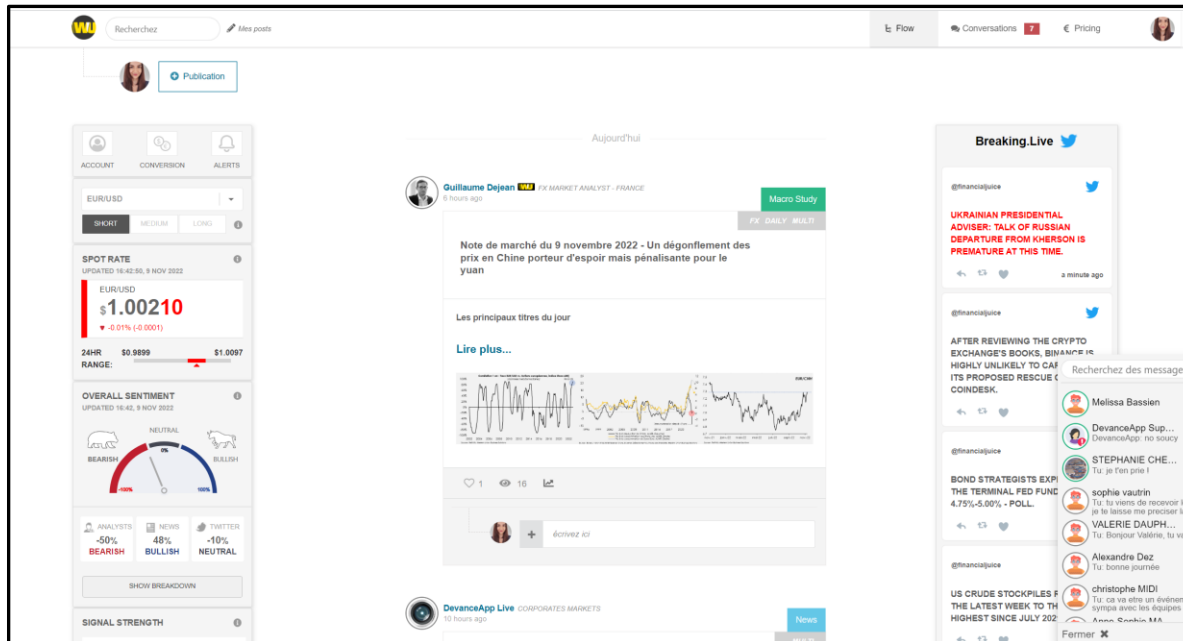
## Instruments financiers :

- Stop Loss/ Take Profit
- Forwards
- Options Vanilles : Participatif
- Options Structurées

# Une révolution de velours « technologique »



## Notre salle des marchés online



The screenshot displays the Western Union Business online trading platform interface, specifically the 'Pricing' tab. The top navigation bar includes a search bar, a 'Pricing' button, and tabs for 'Flow', 'Conversations', and 'Pricing'. The main content area is a form for entering trade details:

- Type:** Radio buttons for Spot, Forward, Option (selected), and Option restructuring.
- Devise 1:** EUR, with radio buttons for Acheteur and Vendeur (selected).
- Devise 2:** USD, with radio buttons for Acheteur and Vendeur (selected).
- Exposition maximale:** 2 000 000.
- Devise:** USD.
- Echéance:** 2023-11-30.
- Nom du type de publication:** European KI Forward with leverage.
- Titre:** European KI Forward with leverage - Acheteur USD.
- Complexité:** Radio buttons for Niveau 1, Niveau 2, and Niveau 3 (selected).
- Formule:** A text area containing the formula  $\frac{1}{1 + \frac{r}{n}} \times \left( \frac{1}{1 + \frac{r}{n}} \right)^n$ .
- Margin:** 5%.
- Ajouter pdf(s) et excel(s):** A text area for uploading documents.

# Une révolution de velours « verte »





Notre produit Green Hedging  
Couverture de change écologique

WesternUnionWU | Business Solutions

## Des couvertures de change qui décarbonnent !

Gold Standard

STANDARD + SOLUTIONS INNOVATIONS TAKE ACTION RESOURCES ABOUT US

for Gold Standard for the Global Goals



SUSTAINCERT



Official certification body for  
Gold Standard  
for the Global Goals

**GOLD STANDARD**  
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Our work has been supported by:



Climate-KIC  
Climate-KIC is supported by the EC, a body of the European Union



Deutscher Nachhaltigkeitsrat  
Bundesministerium für Wirtschaft und Klimaschutz  
Bundesministerium für Umwelt, Naturschutz und nukleare Energie  
Offizielles Partner des Bundesministeriums für Wirtschaft und Klimaschutz



UNEP  
United Nations Environment Programme



UNEP  
United Nations Environment Programme



WORLD BANK GROUP



United Nations  
Framework Convention on  
Climate Change



UNEP  
United Nations Environment Programme



BID  
Banco Interamericano de Desarrollo



Goldman Sachs



Australian AID



ESMAP  
Energy Sector Management Assistance Project



CLEAN COOKING ALLIANCE



WWF



CARBON TRUST



FAIRTRADE



CLIMATE & CLEAN AIR COALITION  
CLIMATE & CLEAN AIR COALITION  
CLIMATE & CLEAN AIR COALITION

Gold Standard

STANDARD + SOLUTIONS INNOVATIONS TAKE ACTION RESOURCES ABOUT US

Offset your unavoidable emissions

Most of us cannot yet reduce our carbon footprint to zero. After reducing your climate impact, you can support the transition to a low-carbon future by offsetting your unavoidable emissions with high-impact carbon credits from Gold Standard-certified projects.

OFFSET YOUR CARBON FOOTPRINT



CLEAN WATER ACCESS  
\$12.00 USD/TONNE



BIOGAS  
\$18.00 USD/TONNE



WIND  
\$10.00 USD/TONNE



SOLAR  
\$12.00 USD/TONNE



COOKSTOVES  
\$18.00 USD/TONNE



FORESTRY  
\$10.00 USD/TONNE