Révolution de velours dans la couverture de change

Modérateur I **Cyril Merkel**
Président de la commission « placements », AFTE

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Invité I **Nabil Bouanani**
Director client solutions group London, ING Bank Financial Markets

Invité I **Noah Faase**
Head of global treasury, Anheuser-Busch InBev

Invité I **Charles Garnier**
Directeur général adjoint France et Benelux, Western Union Business Solutions

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

Noah Faase – AB InBev

Nabil Bouanani – ING

Paris, November 2022

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Today's presentation

01 Risk Management Cycle

02 AB InBev Case

03 Quantitative approach to managing risks

04 Q&A

Presenting

ABInBev

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.

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Nabil Bouanani
Financial Markets - ING

- Nabil has a Masters degree in Aerospace Engineering from the French *Institut Superieur de l'Aeronautique 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 treasures and CFOs across the globe.

Risk Management Cycle

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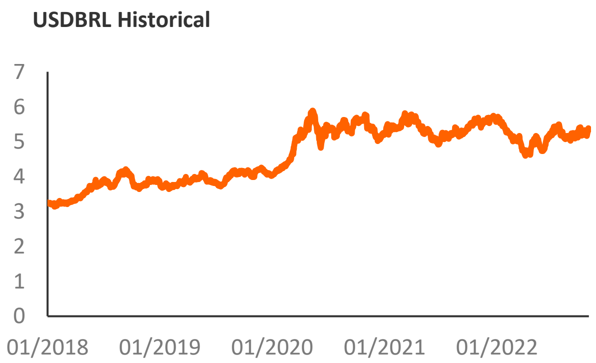
Risk Management: the key steps in the hedging journey

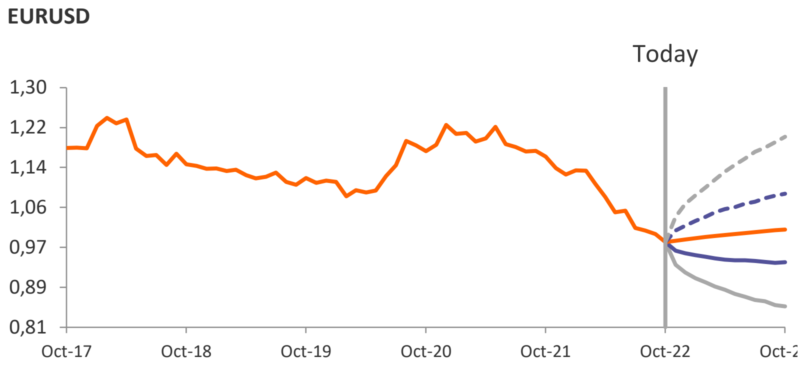
Step 1:
Identify exposures

What are my main exposures and how do they move?



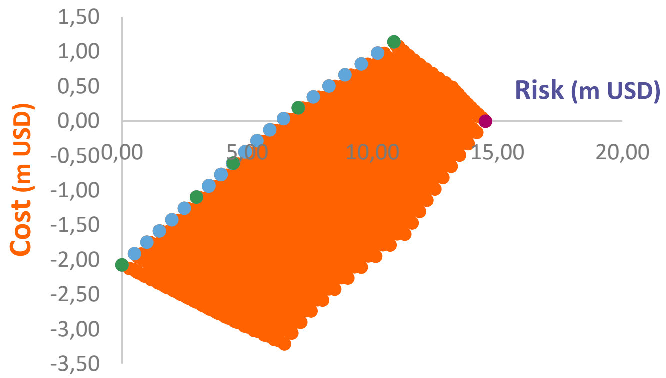
Step 2:
Quantify risks

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

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FX Risk Management: a complex equation that requires advanced tools

FX TRANSACTIONAL RISK

Forecasted EBITDA → Realized EBITDA & CASH →

Business Forecast | Sales Invoice | Payment

- Hedging Policy: 60%-90%
- Layering and 9 months rolling and layering
- 12 main currency pairs

  → **How to identify exposures to be hedged?**

  → **How to minimize cost of carry?**

  → **How to quantify and minimize risk?**

  → **How to assess different hedging strategies**

- Hedging Policy: 100%
- Layering and 9 months rolling and layering
- Transactions in more than 30 currencies
- Award-winning centralized FX Management

FX CONVERSION RISK

Consolidated Financial Statements

- No hedging of translation risk

→ **How to quantify risk?**

→ **How to follow-up and monitor ?**

Quantitative approach to managing risks

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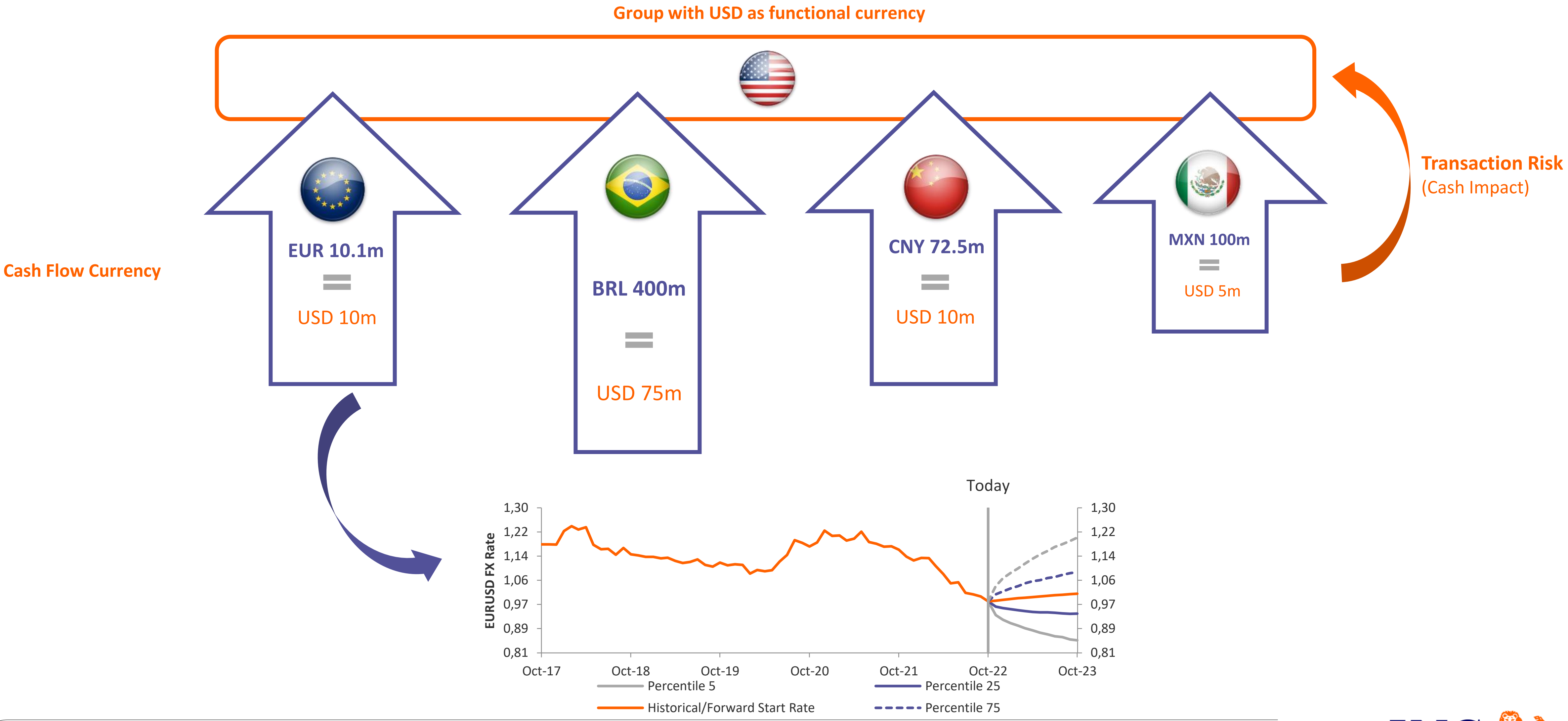
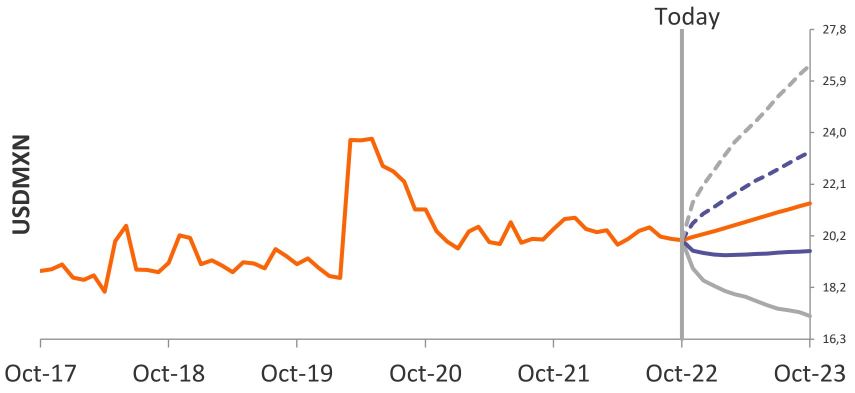
FX Risk Management: a complex equation that requires advanced tools



A statistical way to understand and quantify risks

Market variables simulations



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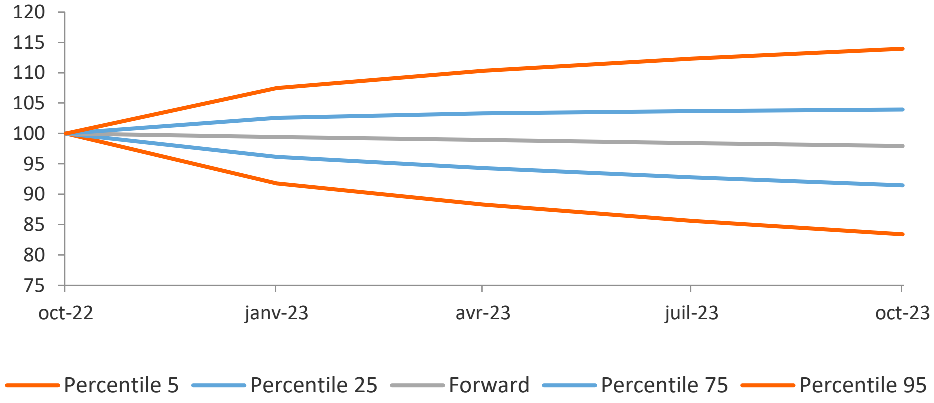
Correlation Matrix

	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

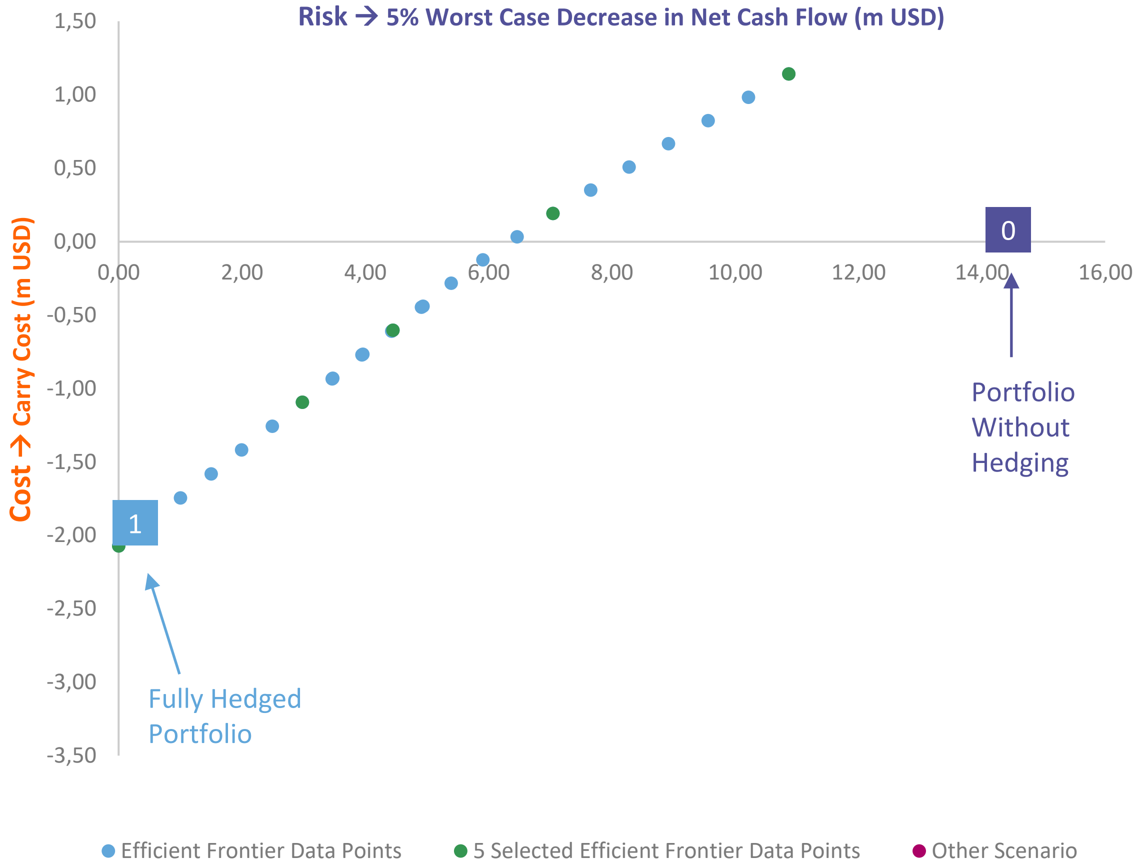
Can we use those statistical models to efficiently mitigate our risks ?

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*



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*

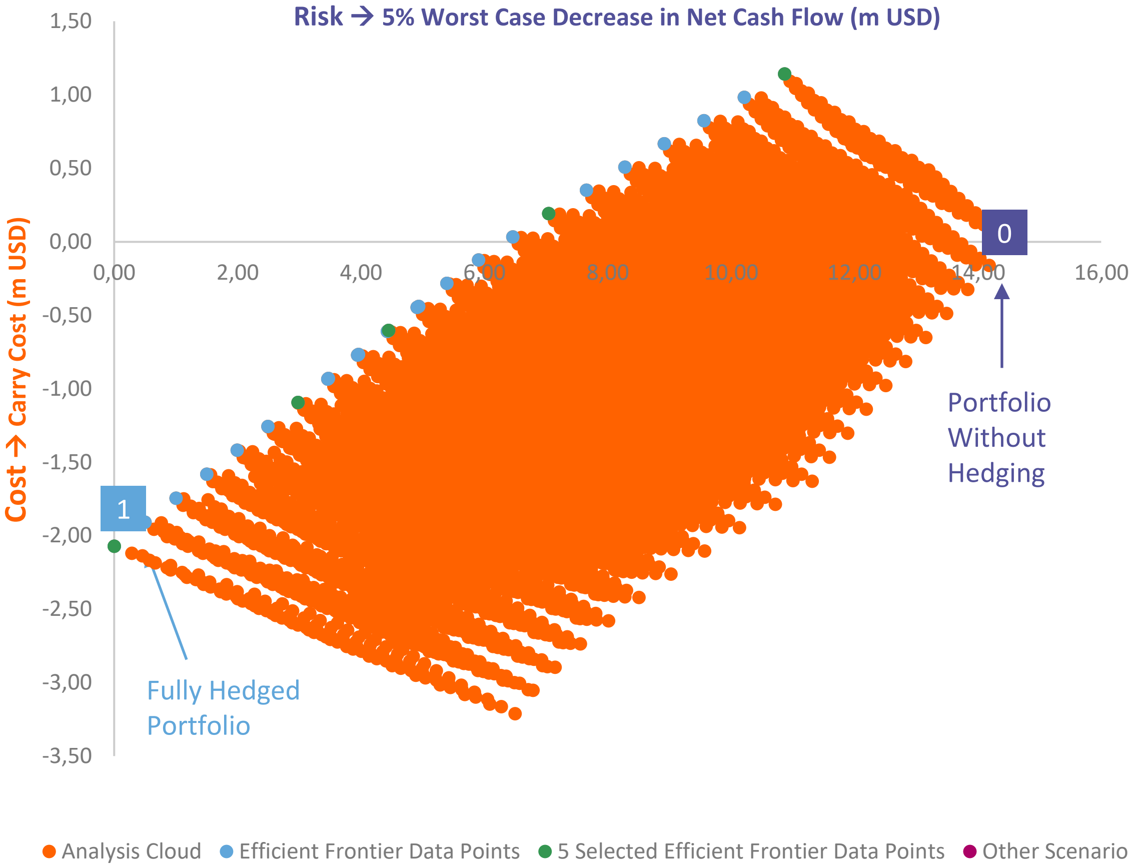
Looking for Efficient Hedges

Optimization and comparison of different hedging strategies

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



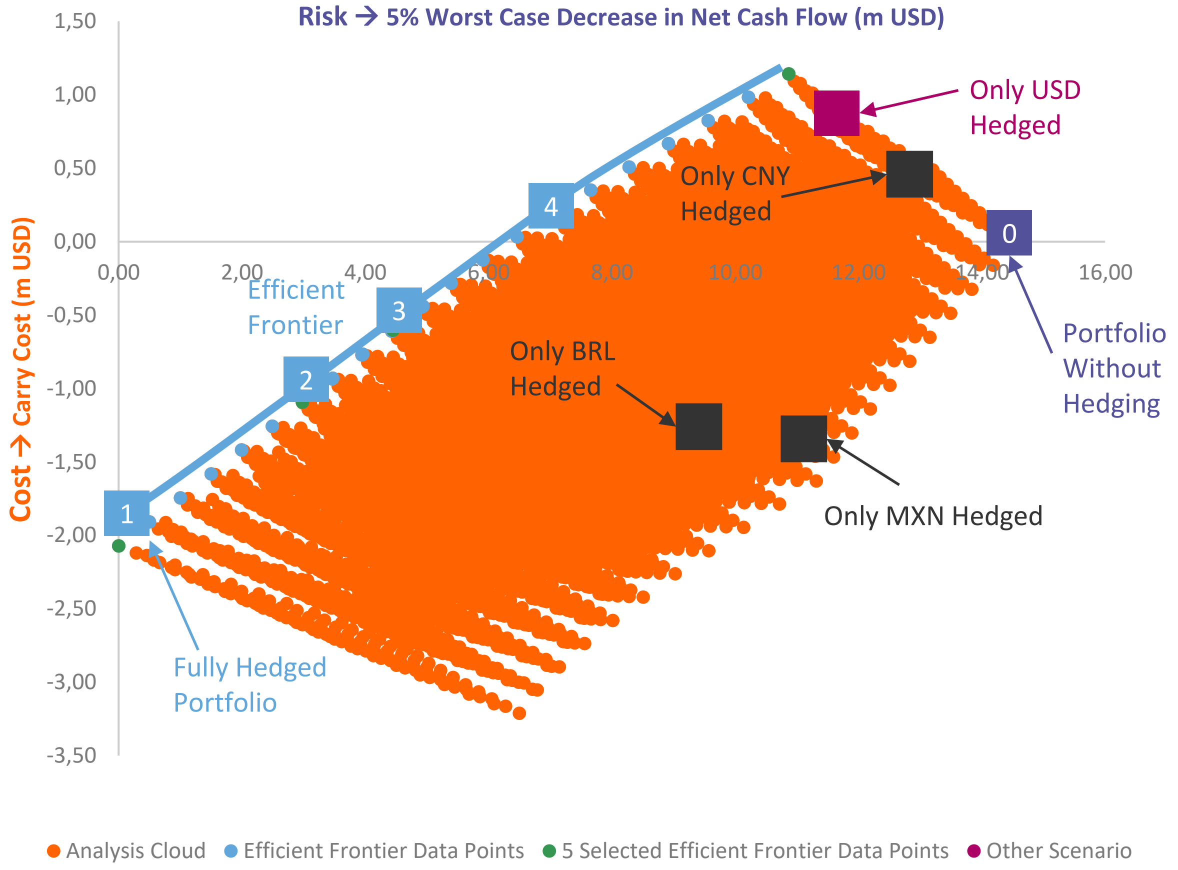
Looking for Efficient Hedges

Optimization and comparison of different hedging strategies

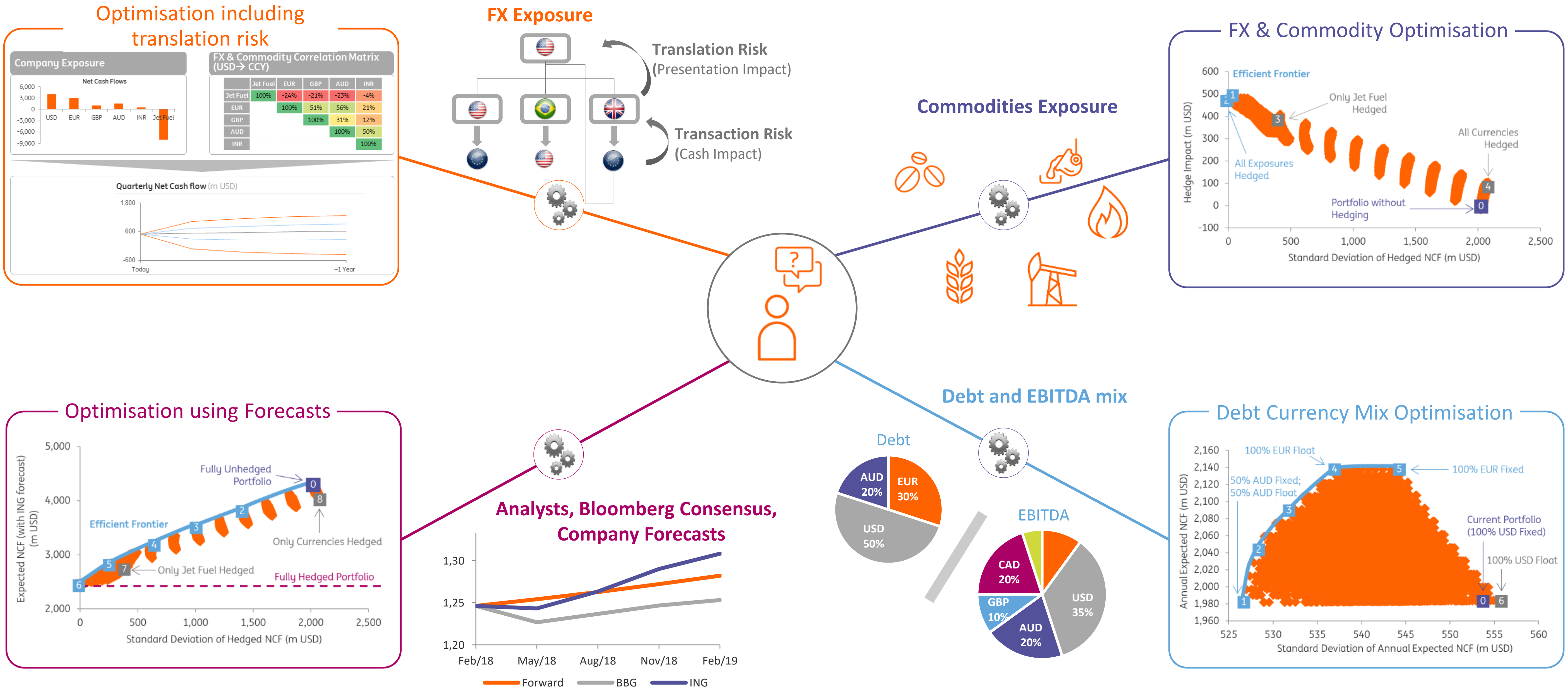
	USD	CNY	BRL	MXN	Worst 5% Decrease in Net Cash Flow (m USD)	Carry cost (m USD)
Portfolio Without Hedging						
0	0%	0%	0%	0%	14.5	0.0
Efficient Frontier						
1	100%	100%	100%	100%	0	-2
2	100%	100%	100%	40%	2.9	-1
3	100%	100%	100%	10%	4.4	-0.6
4	100%	100%	60%	0%	7	0.2

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?

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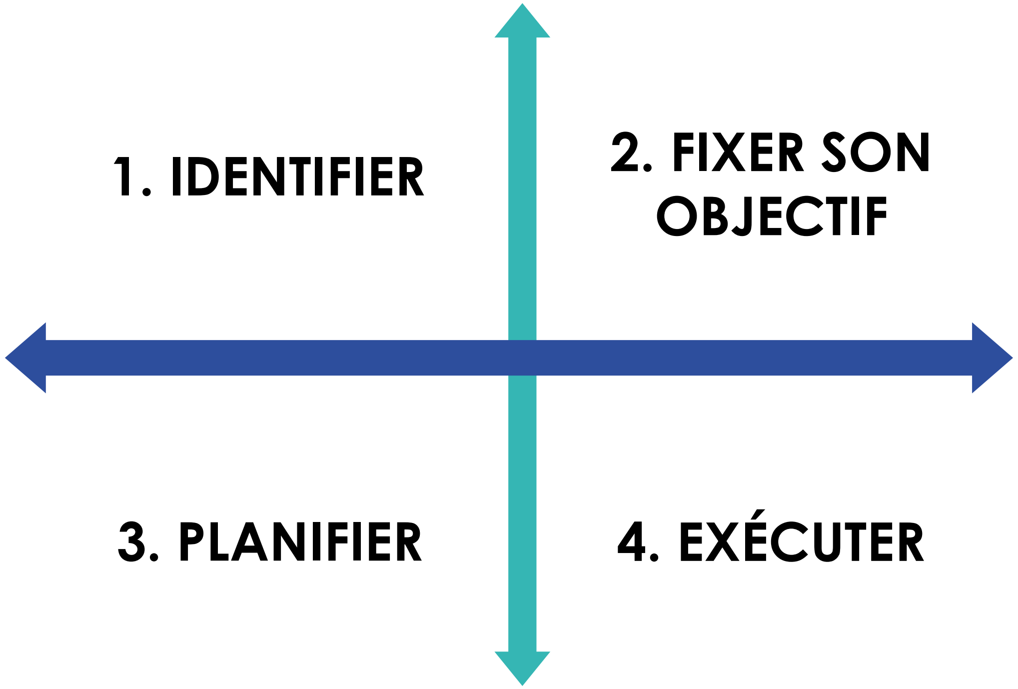
Une révolution de velours « traditionnelle »



<u>Instruments financiers :</u>

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

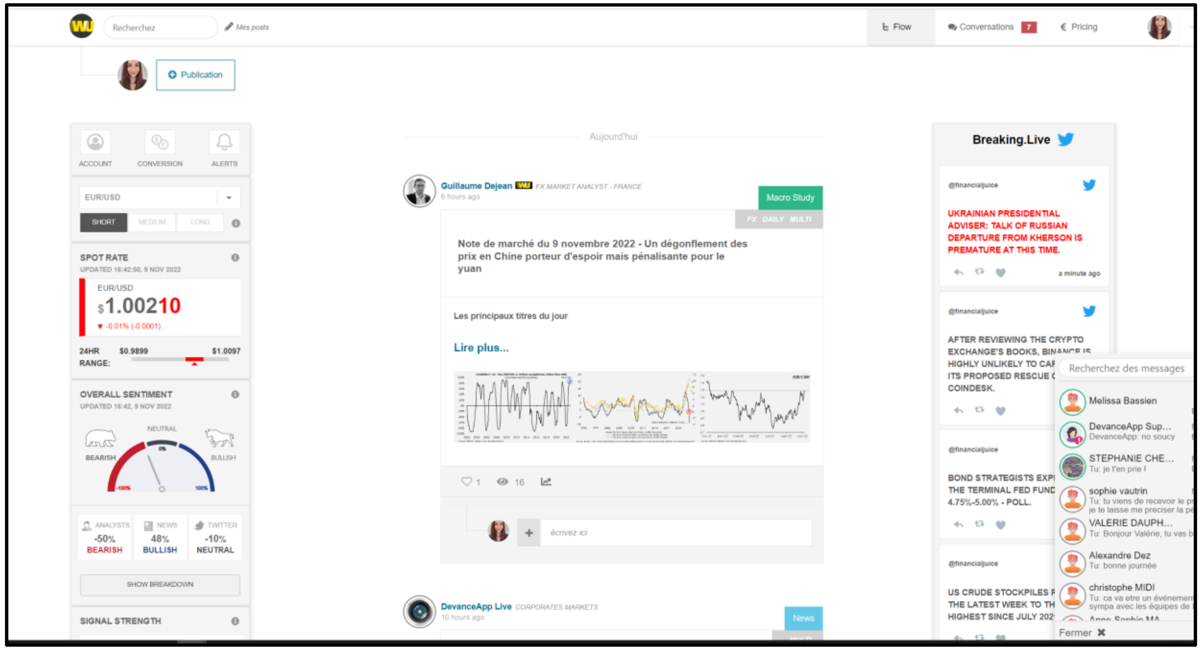
Une révolution de velours « technologique »

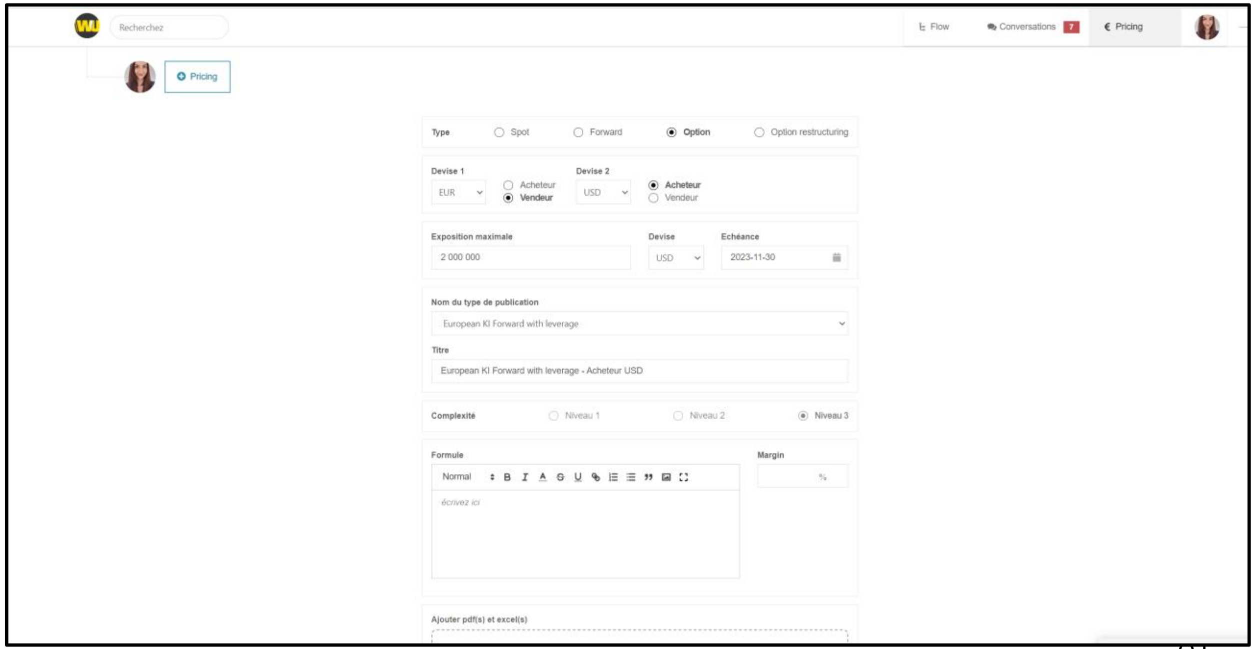
WESTERN UNION WU BUSINESS

convera

DevanceApp

Notre salle des marchés online





Une révolution de velours « verte »

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Des couvertures de change qui décarbonnent !