

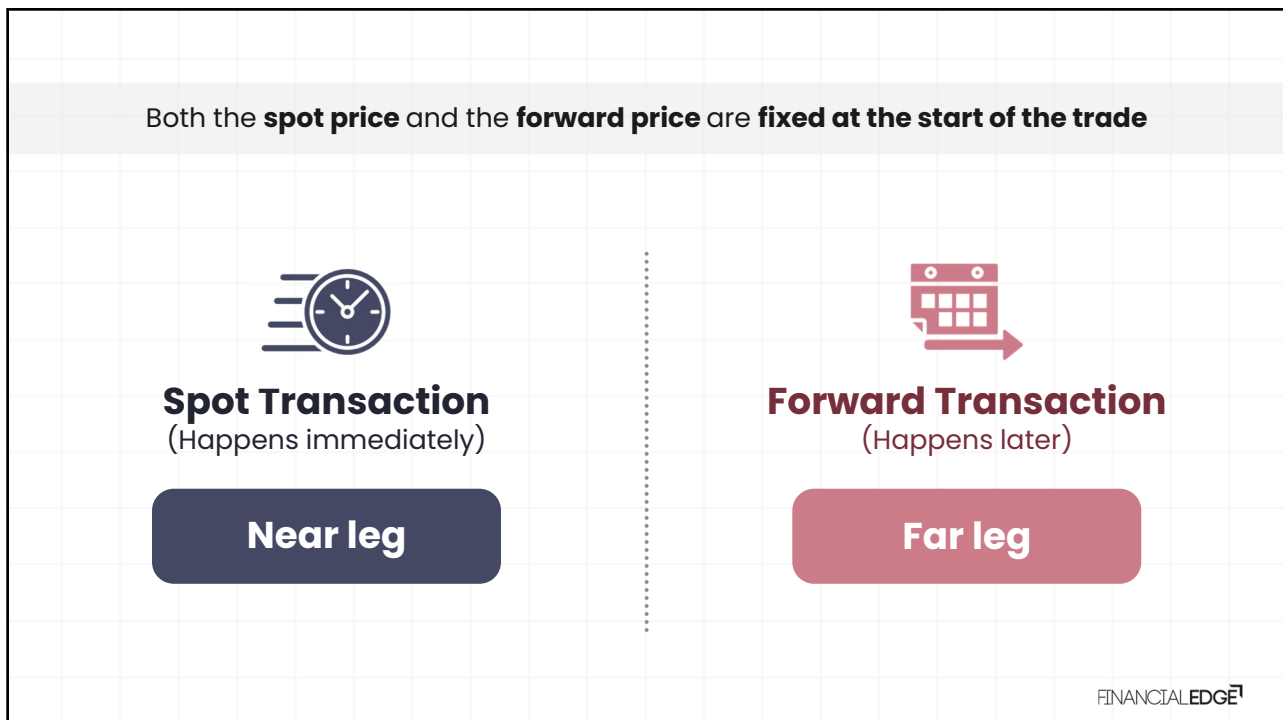
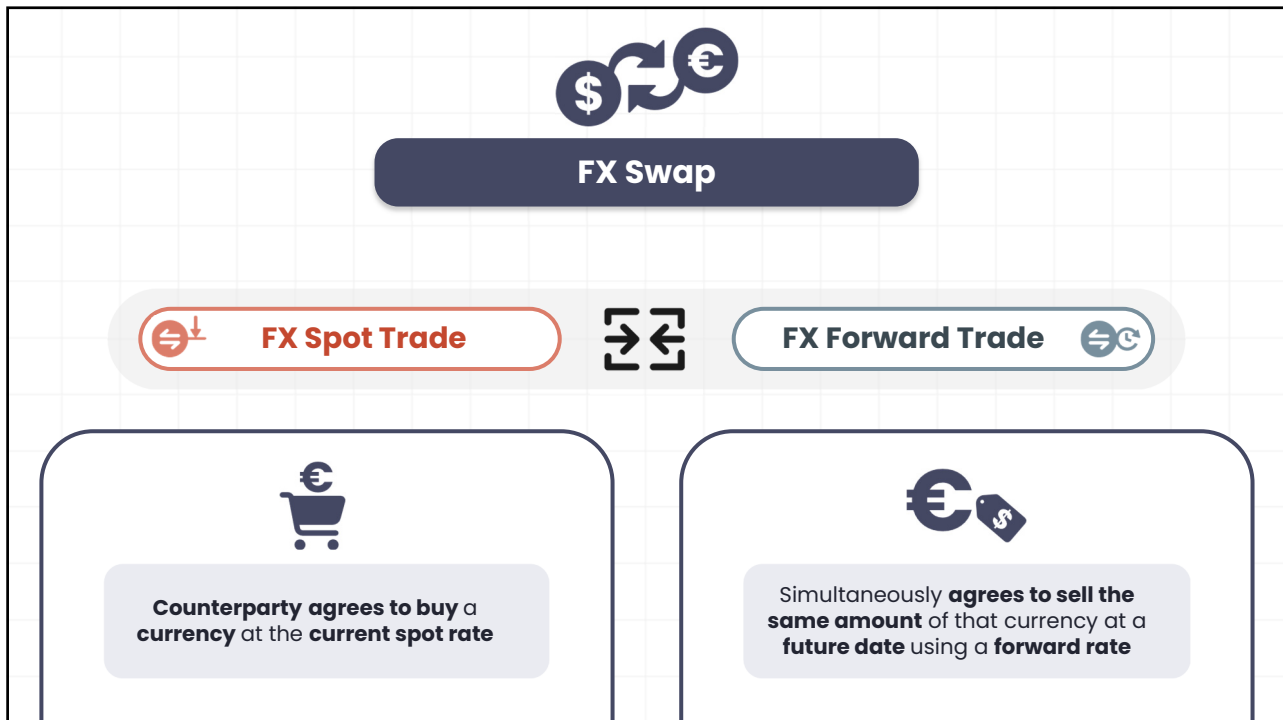


FX Swaps and Cross Currency Swaps

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FX Swap

FINANCIALEDGE¹





Investor enters into a **6-month EUR/USD FX Swap** to **buy** and **sell 100 million dollars**

Current market data

EURUSD spot rate

1.0950

6-month forward points

+89.10

Near leg

The investor **buys 100 million USD against EUR**

At the **spot rate of 1.0950**

Receives

100 million USD

Pays

91,324,200.91 EUR

Far leg

Investor **sells 100 million USD against EUR**

Six months after the spot date using the current 6-month forward rate

FINANCIALEDGE⁷



Forward Rate

EURUSD Currency pair

One forward point

1/10000 of a dollar

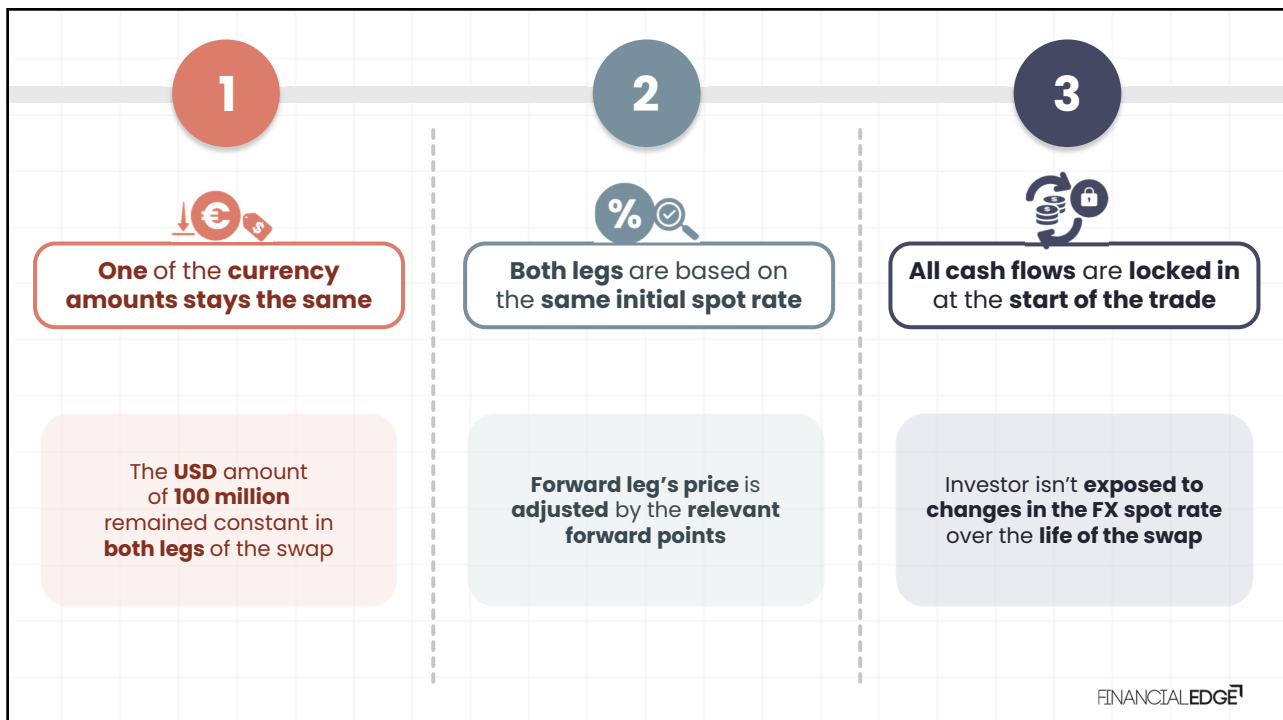
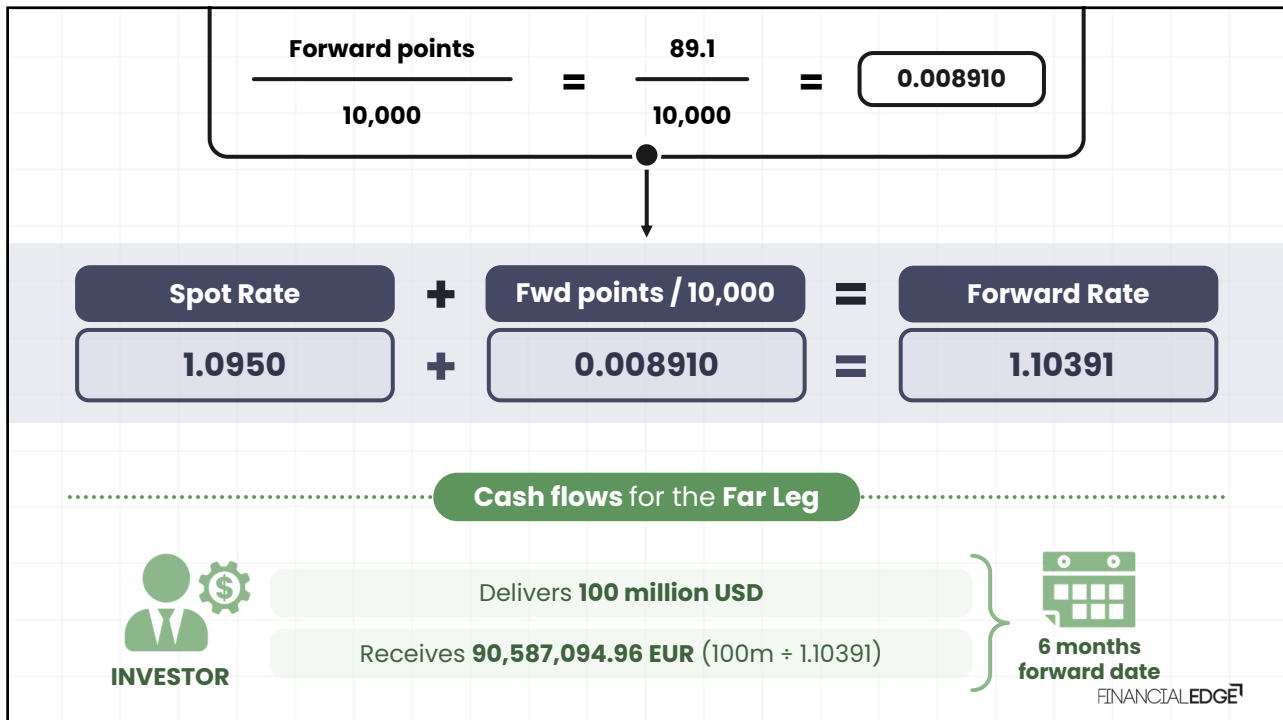
or

0.0001 dollars

To calculate the EURUSD **6-month forward rate**

$$\frac{\text{Forward points}}{10,000} = \frac{89.1}{10,000} = \boxed{0.008910}$$

FINANCIALEDGE⁷



If **FX swaps** don't expose the **investor** to **changes in FX rates**, why would anyone use them?

FX swaps are primarily used for:



Liquidity Management



Short-term Funding



Corporation needs **temporary access** to a **foreign currency**



Use an **FX swap** to **get the currency** they need without **taking on FX risk**

FINANCIALEDGE¹

FX Product Breakdown

FINANCIALEDGE¹



FX Swaps in Global Financial Markets

They serve as **essential tools** for:



Banks



Corporations



Investors

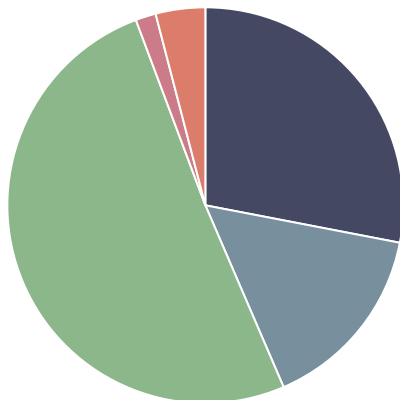
Liquidity Management

Facilitating

Short-term Funding

FINANCIALEDGE¹

OTC FX derivatives turnover by instrument



■ Spot ■ Outright ■ FX swaps ■ Currency swaps ■ FX options

Source: Triennial Central Bank Survey conducted by the Bank for International Settlements (BIS).

FX swaps dominate the OTC (Over the Counter) FX derivatives landscape

FX Swaps

51% of the global FX turnover

\$3.8 trillion

in daily average turnover

Based on **April 2022** transaction data

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Cash Management with FX Swaps

FINANCIALEDGE¹

Cash and Liquidity Management



FX Swaps are frequently used by **companies** to **manage short-term liquidity**



To meet **short-term obligations**



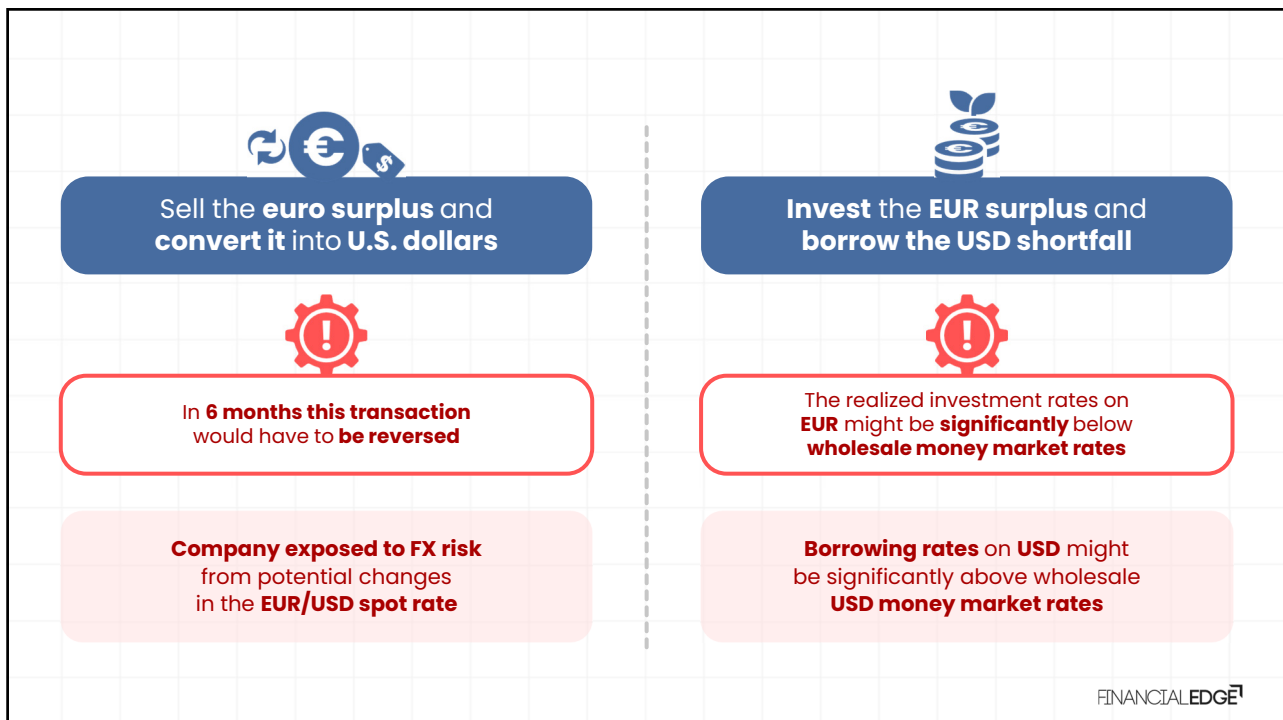
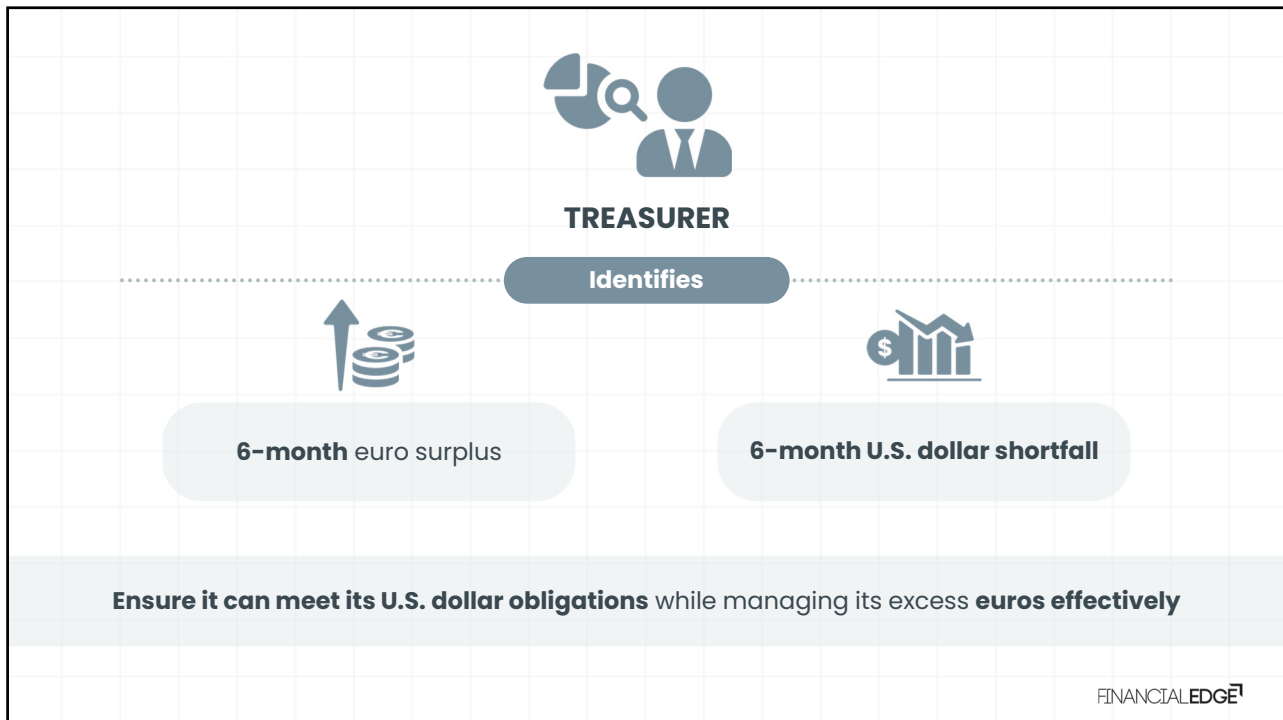
• **COMPANIES** •
Need to have **enough cash available**



To **avoid** holding excessively **high cash balances**

Idle cash doesn't generate high returns, and large cash holdings can drag down overall performance

FINANCIALEDGE¹



Is there a more **cost-effective solution** that **doesn't introduce FX risk**?

FX Swaps



COMPANY



Sells the **EUR surplus** for **USD** in a **spot transaction**



Agree to **reverse the transaction** in **6 months**

Lock in exchange rate for the reversal (eliminating FX risk)

FINANCIALEDGE¹

Why might this **synthetic borrowing** be cheaper than **regular borrowing**?

FX Swaps

Collateralized Borrowing

COMPANY



Borrowed USD



EUR surplus = Collateral



Reduces the **credit risk** for the **lender**

Lower the implied **borrowing cost**

FINANCIALEDGE¹

Why might this **synthetic borrowing** be cheaper than **regular borrowing**?

FX Swaps



FX Swap doesn't involve **explicit borrowing charges**



Companies can **efficiently manage short-term liquidity** across currencies, **minimizing costs and FX risk**

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Spot Risk in FX Swaps

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Outright FX Forwards



Mark-to-market (MTM) values

Fluctuate significantly as FX spot rates change

Agreed to buy

€100 million

Against U.S. dollars

Six-month forward basis

If the **USD strengthens**:

Mark-to-market
(MTM) loss



Stronger
dollar

Allows you to buy those €100 million for
fewer dollars at the **new spot rate**

FINANCIALEDGE¹

FX Swaps

Interpreted as **collateralized borrowing** and **lending transactions**

Carry **no exposure** to
spot rate changes

Mostly True

There is still a small
element of **residual
spot risk in FX swaps**



Why?

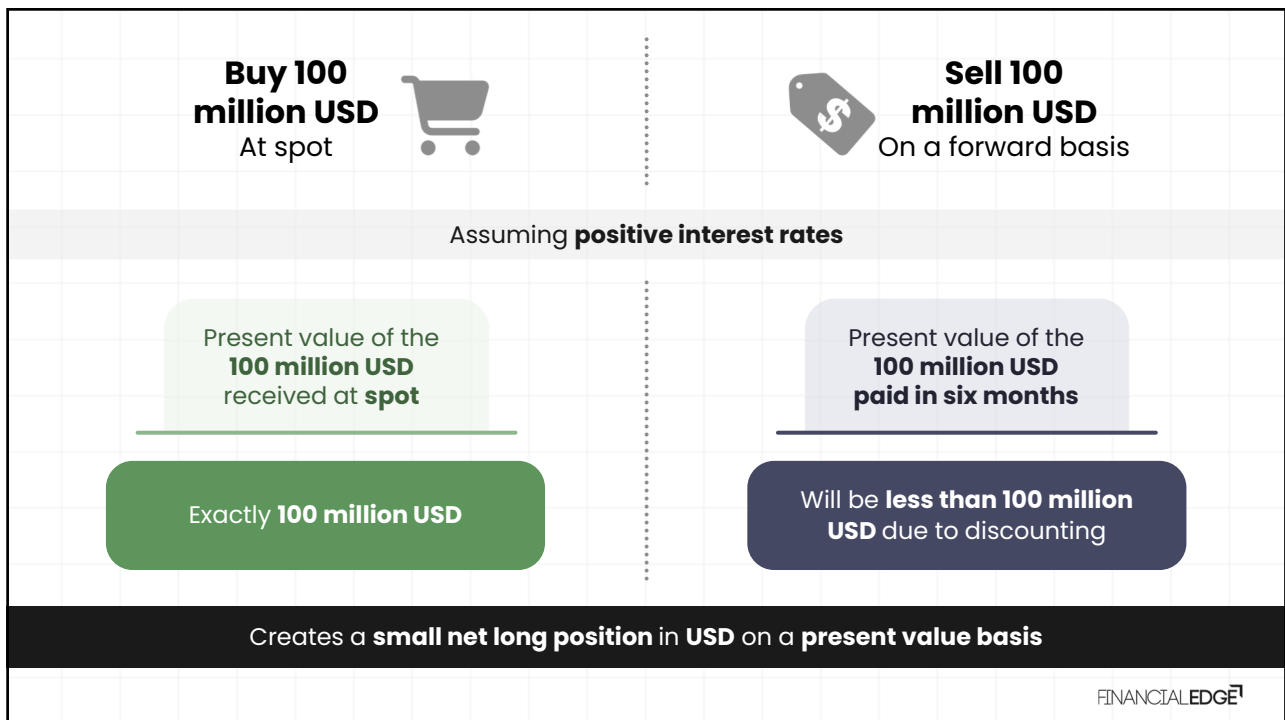
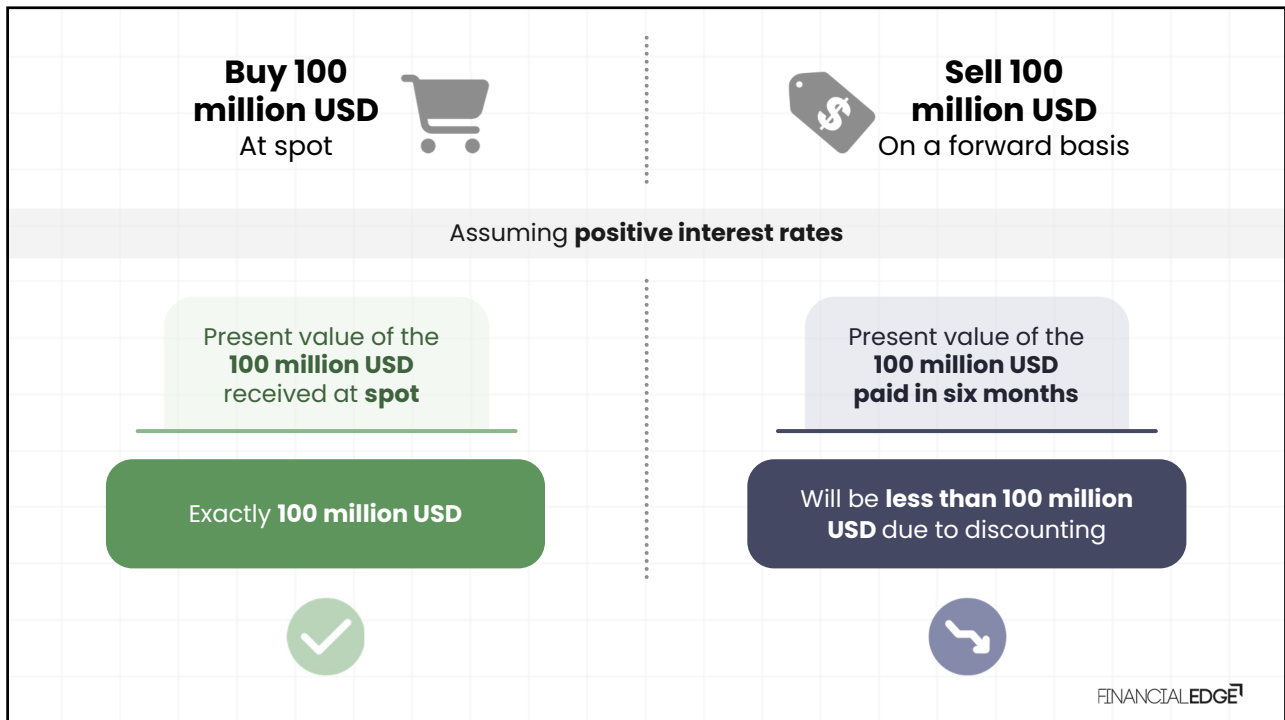
One of the two currency amounts is **typically kept constant**

**Buy 100
million USD**
At spot



**Sell 100
million USD**
On a forward basis

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FX Basis

FINANCIALEDGE⁷

FX Basis

Market data from November of 2023

EUR/USD spot FX Rate

1.0950

USD 6-month interest rate

5.395% (ACT/360)

Quoted forward rate

1.1039

$$EURUSD_{6m\ FWD} = EURUSD_{SPOT} \times \frac{\left(1 + i_{USD} \times \frac{days}{basis}\right)}{\left(1 + i_{EUR} \times \frac{days}{basis}\right)}$$

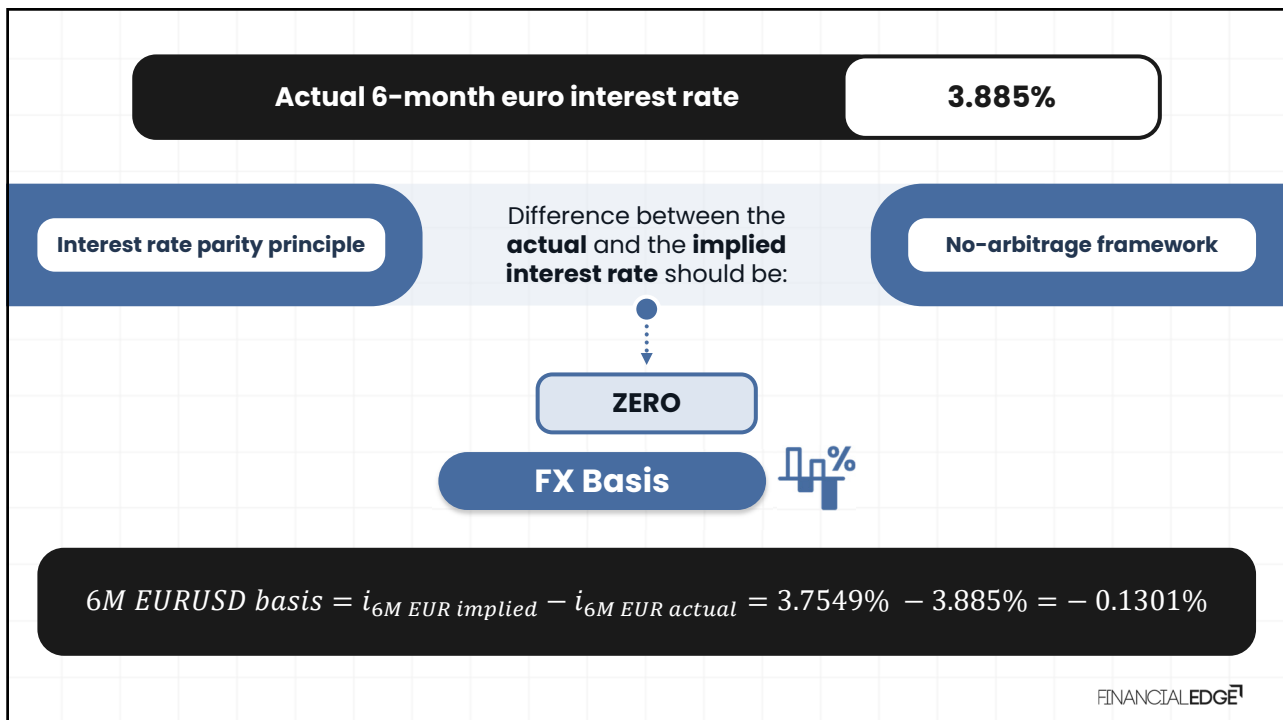
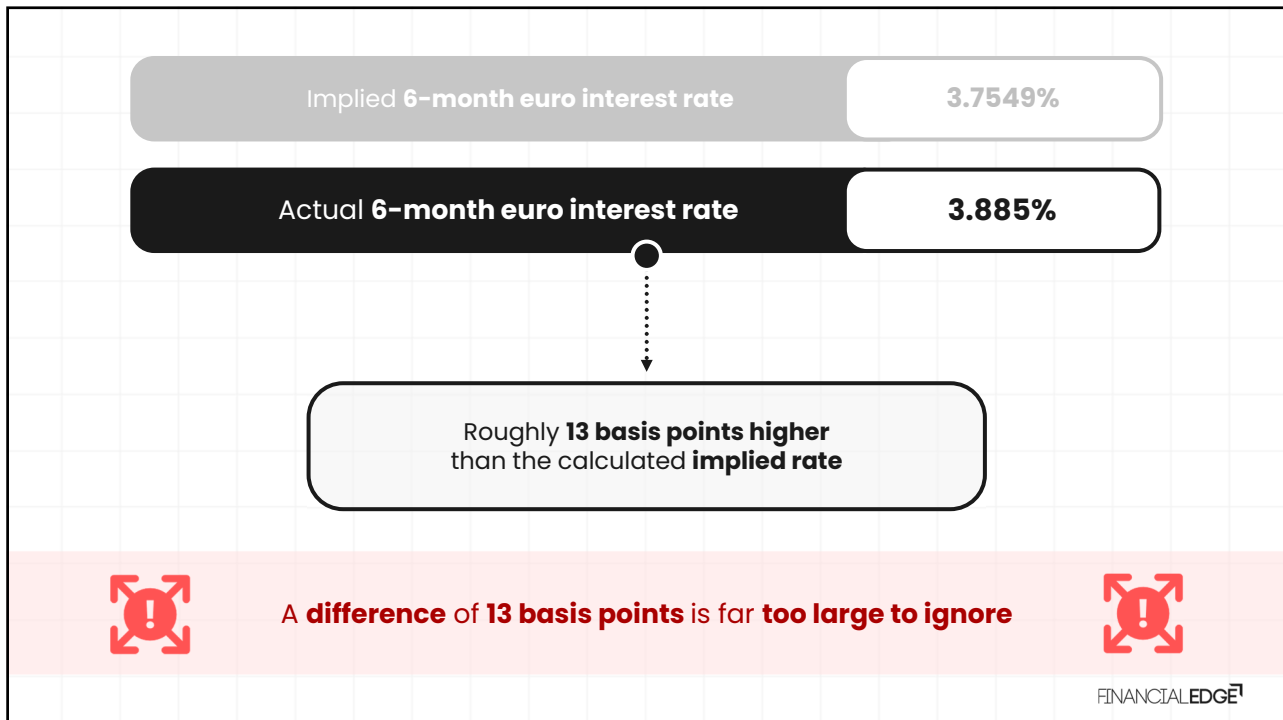
$$1.1039 = 1.0950 \times \frac{\left(1 + 5.3950\% \times \frac{182}{360}\right)}{\left(1 + i_{EUR} \times \frac{182}{360}\right)}$$

Rearrange the equation to solve for the missing value of the **6m euro interest rate**

Implied **6-month euro interest rate**

3.7549%

FINANCIALEDGE⁷





Something fundamentally changed **during and after 2008**

Basis became significantly negative at several points



FX Basis

-13 basis points in November 2023

EURUSD basis has been persistently negative since the beginning of 2008

Autumn 2008



Marked the peak of the global financial crisis

Banks across the globe faced severe liquidity shortages



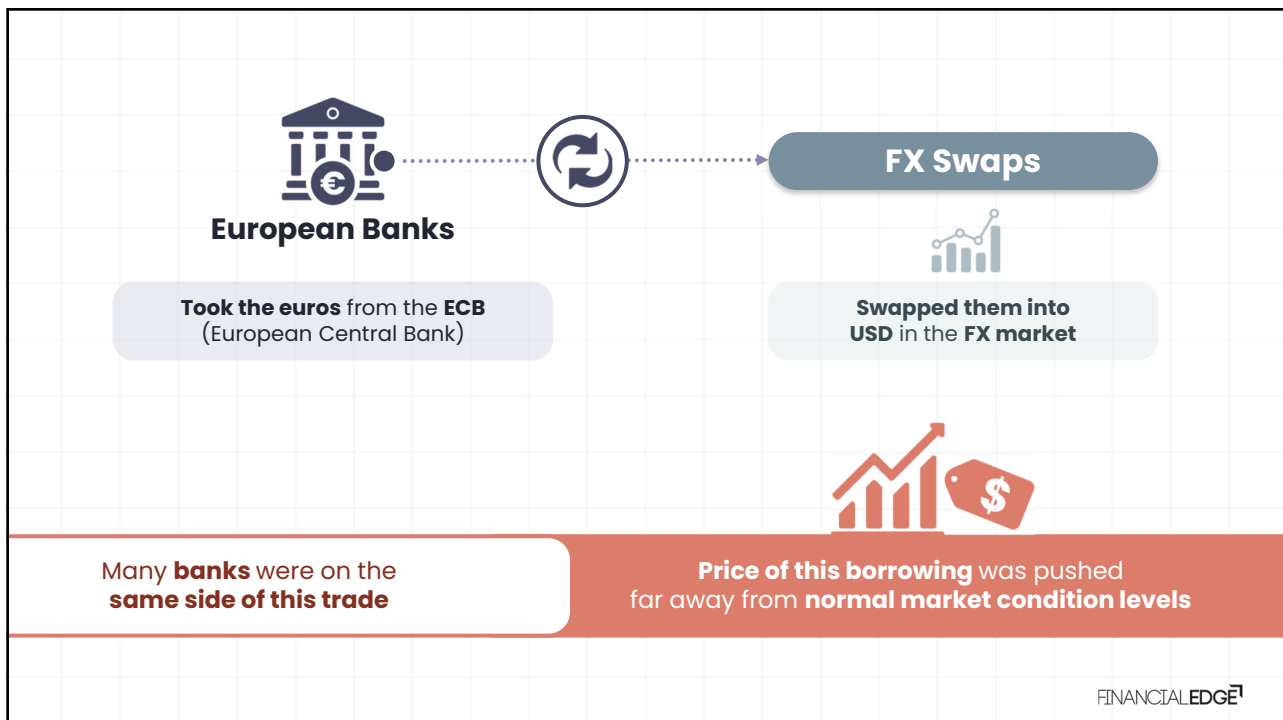
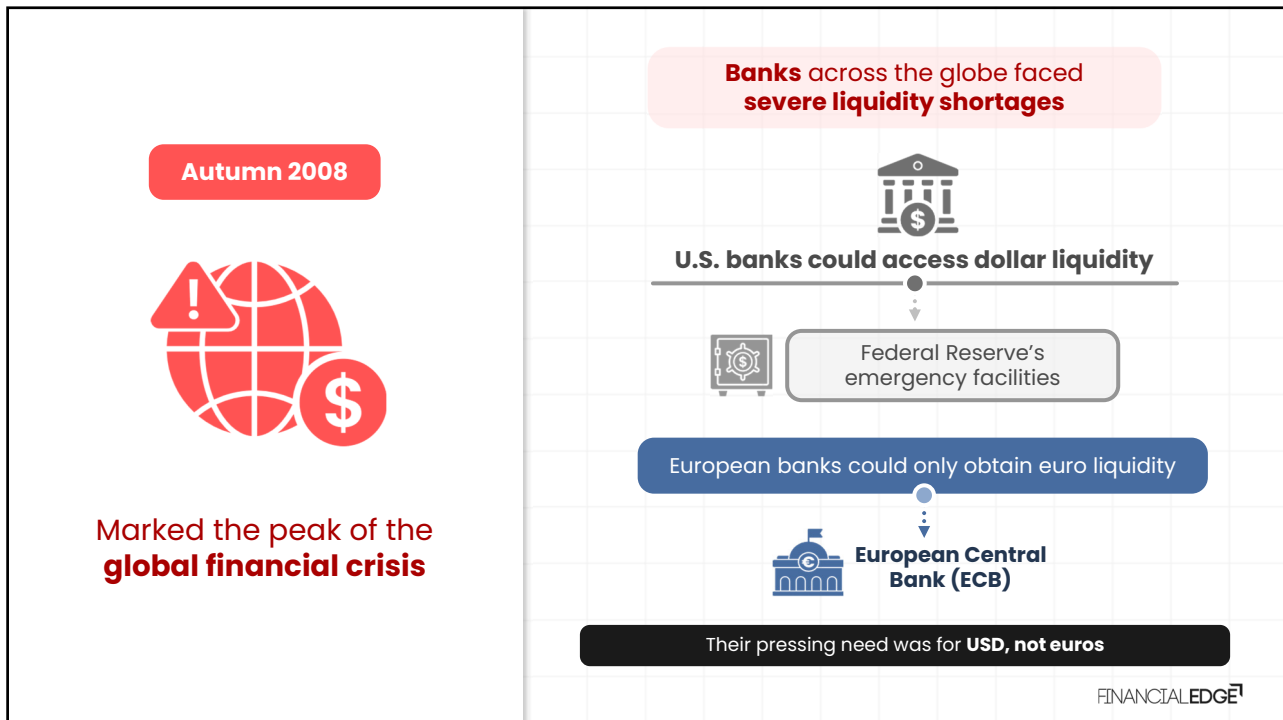
European Banks

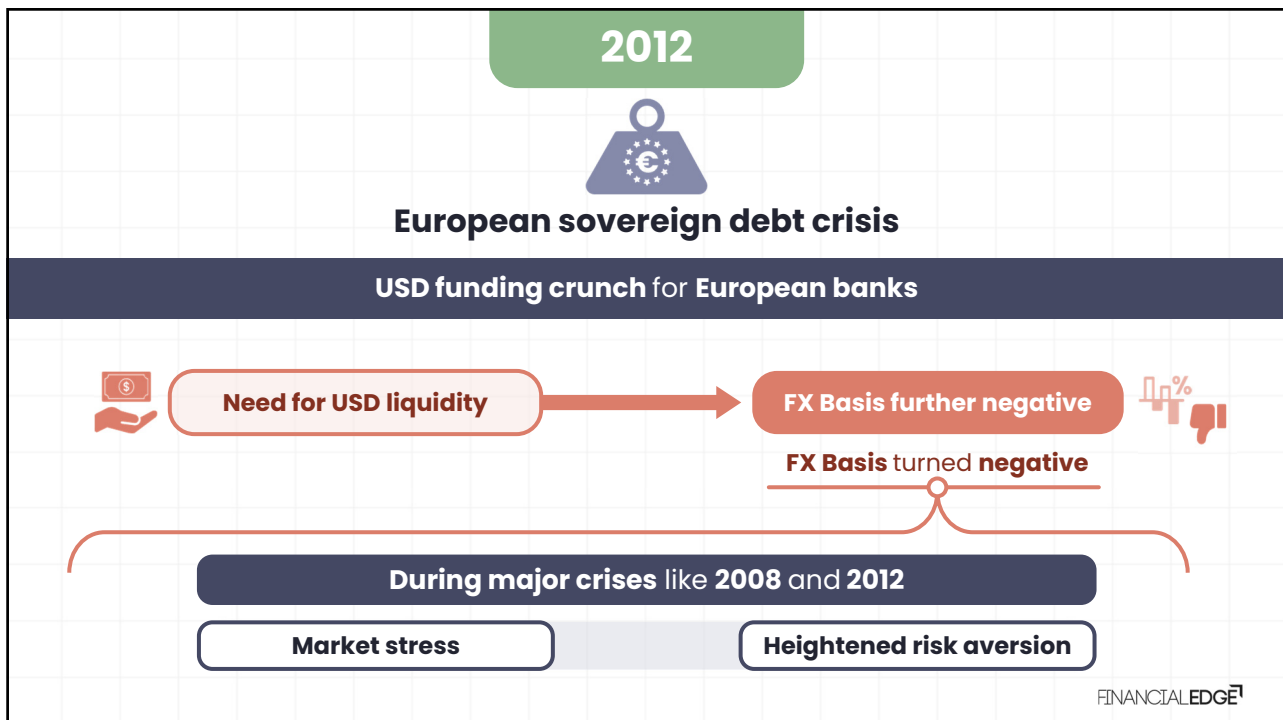
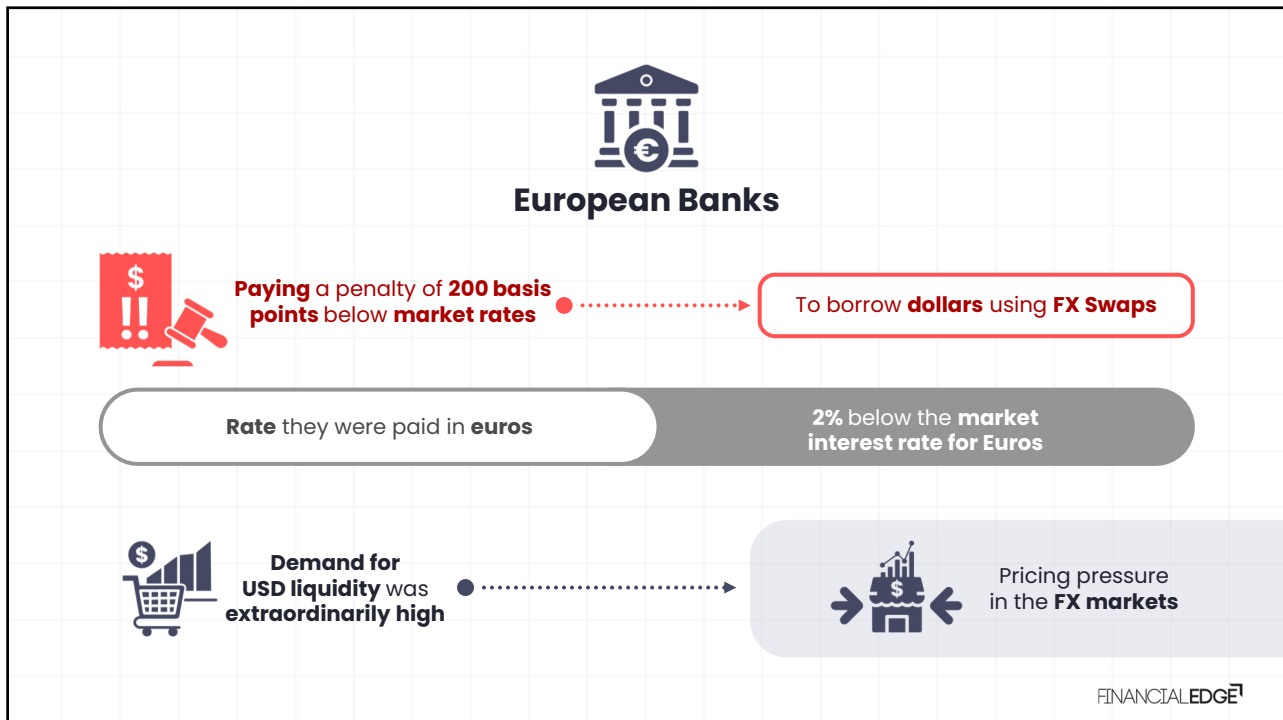
Held **USD-denominated assets**

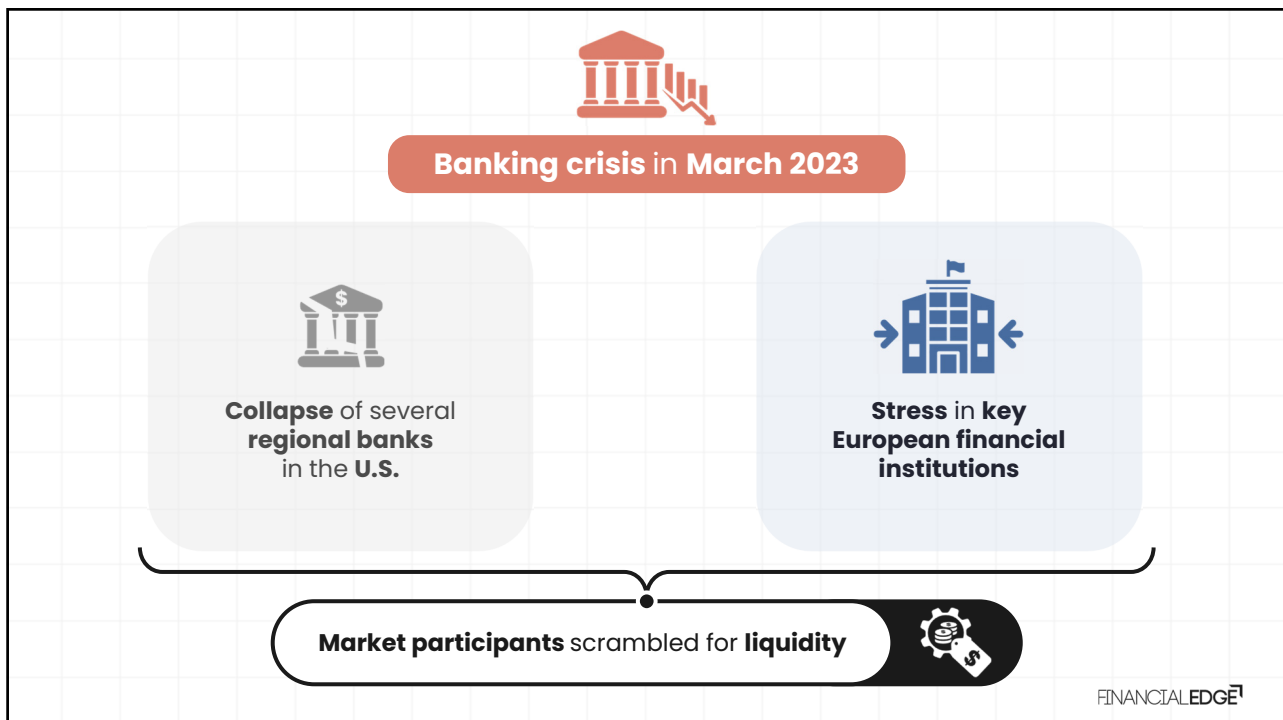
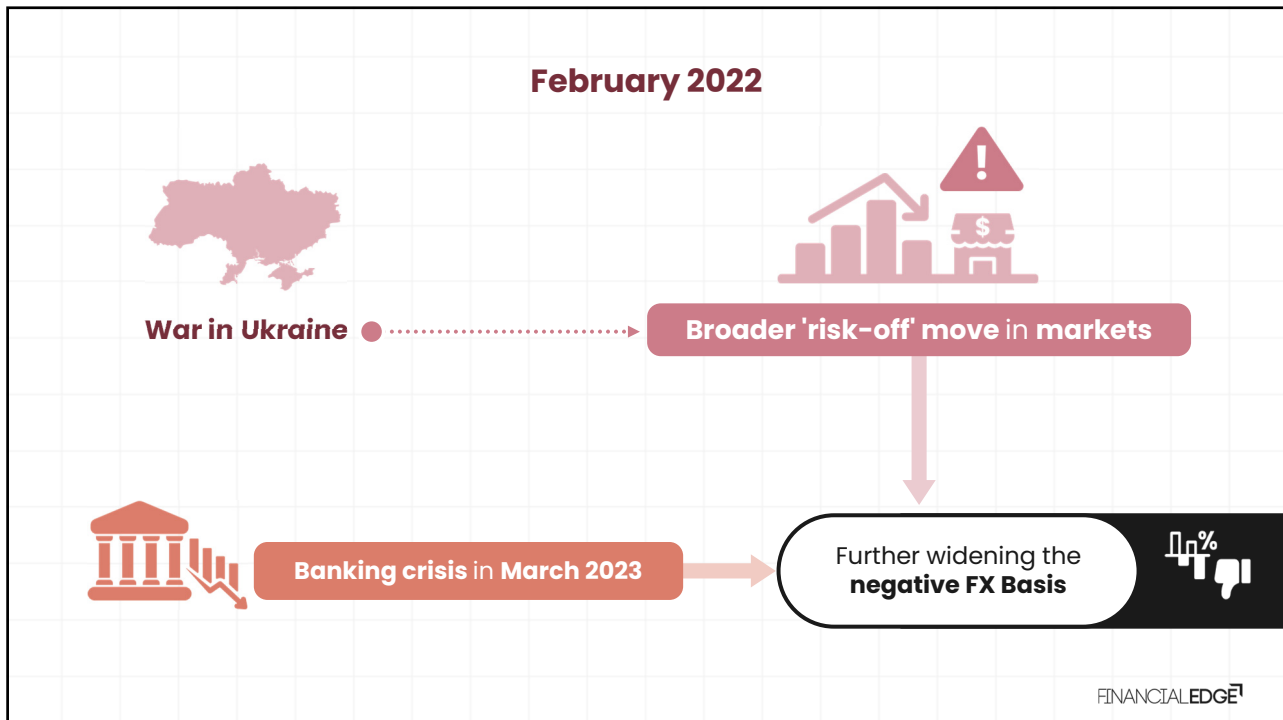
Became illiquid



Needed to meet their **USD funding liabilities**









FX Basis

Dynamic metric

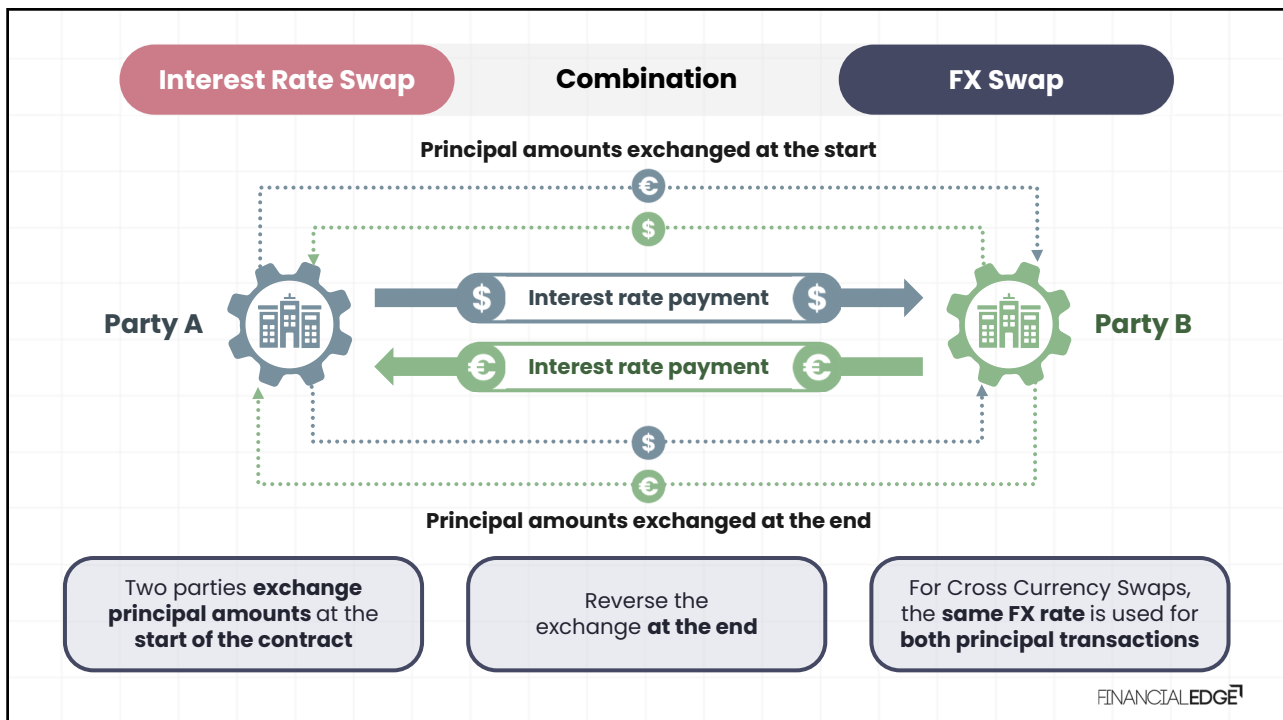
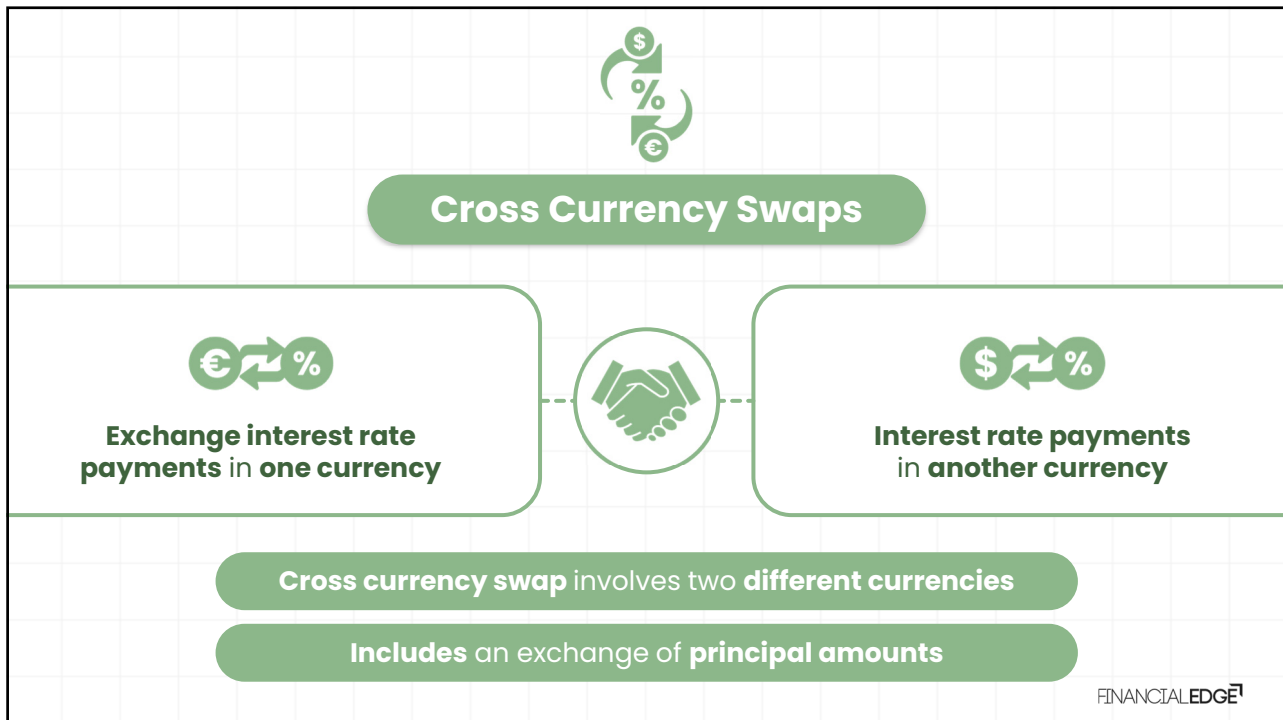


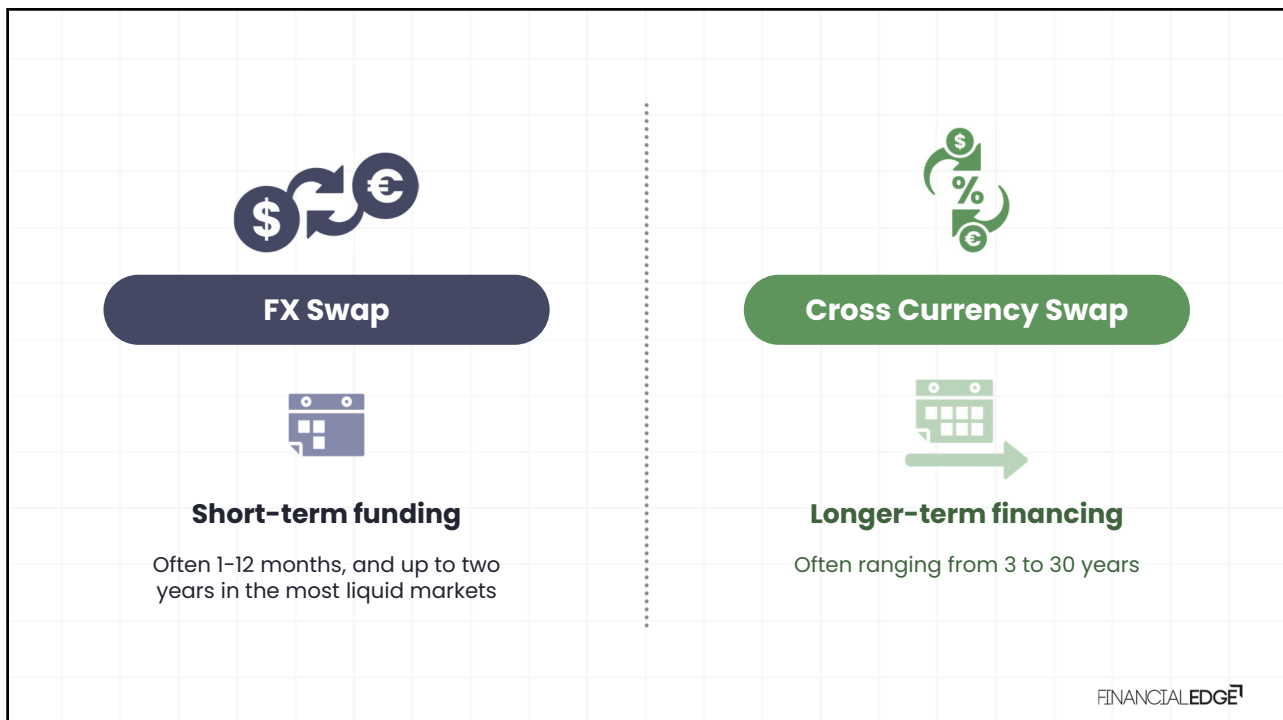
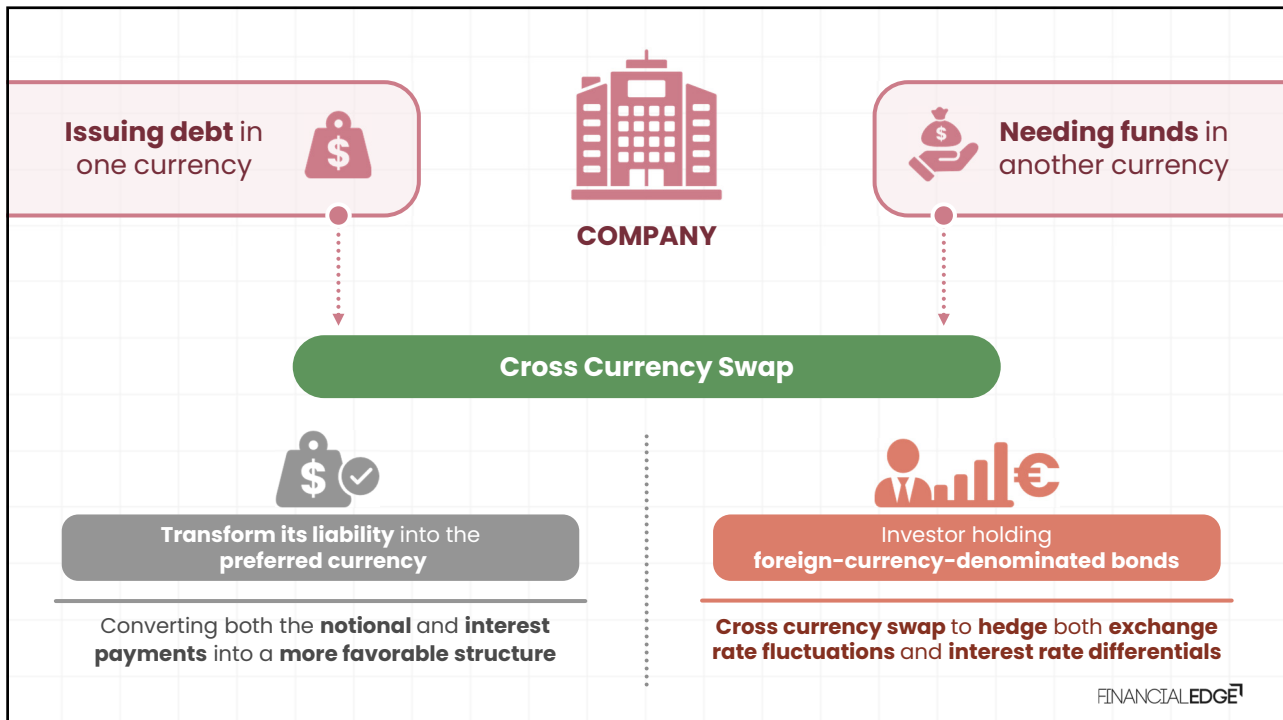
Reflects the **real-world stresses** of **funding markets**

FINANCIALEDGE¹

Cross Currency Swaps (XCCY)

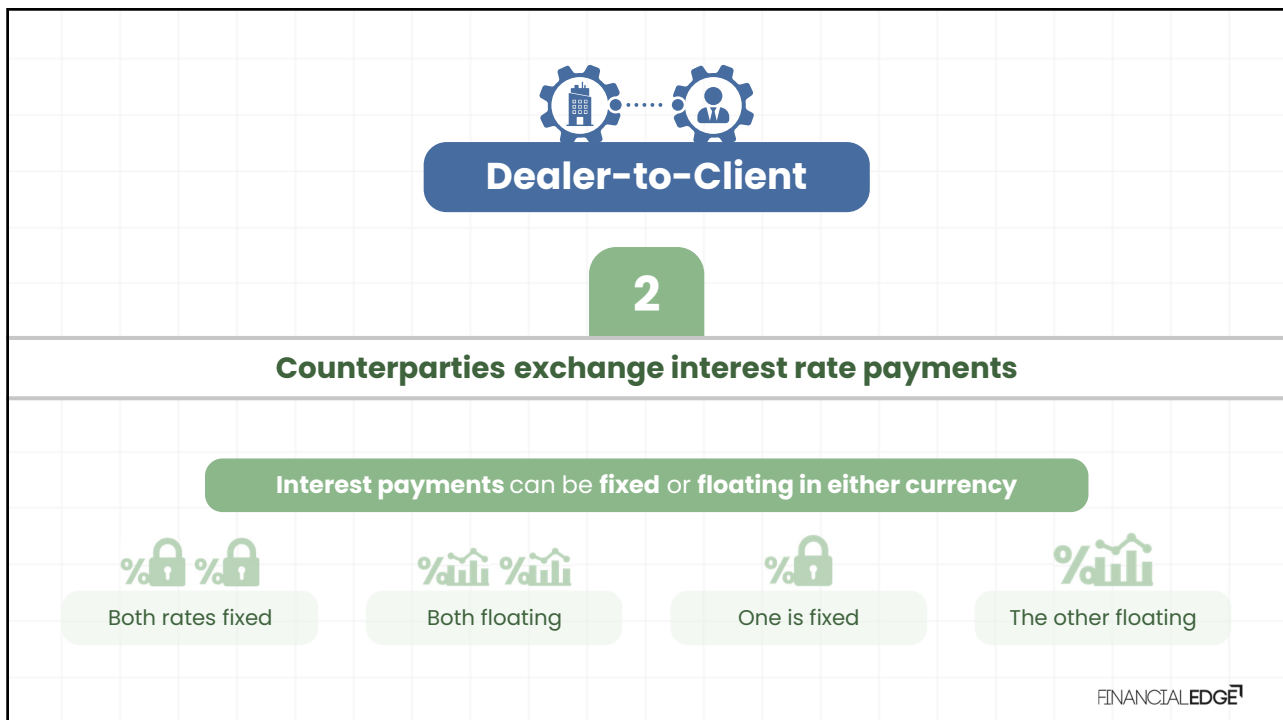
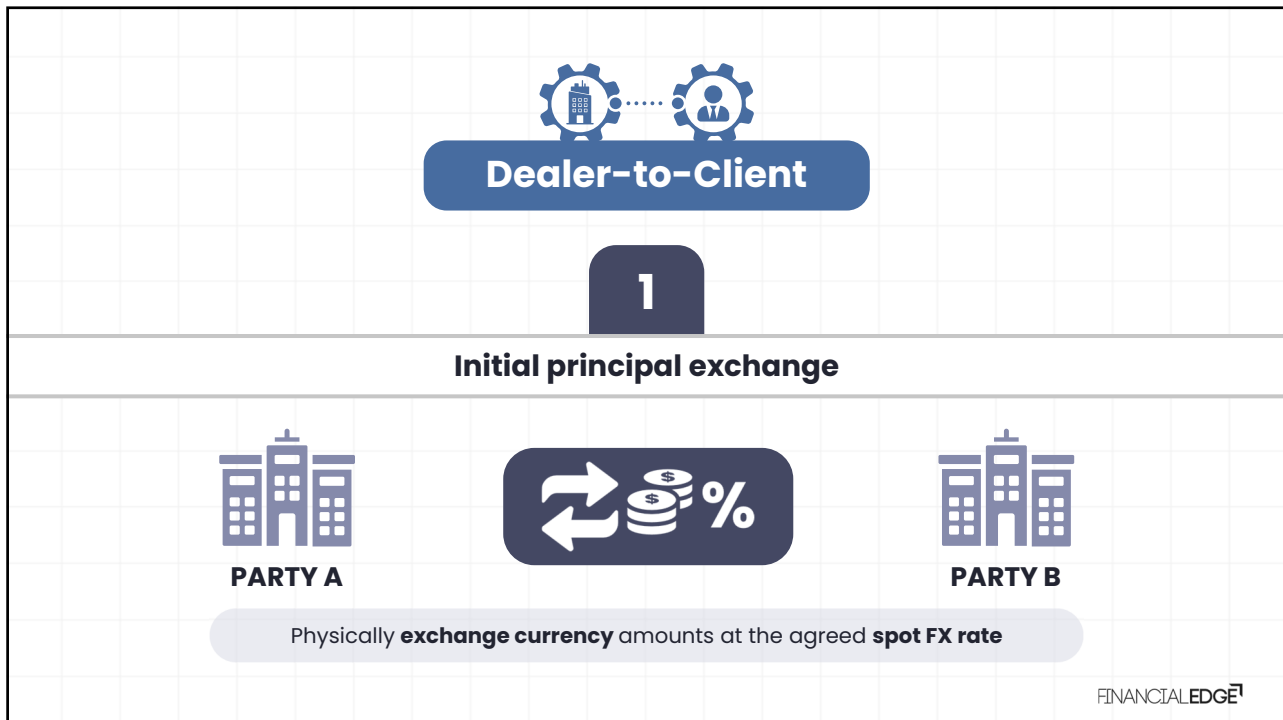
FINANCIALEDGE¹

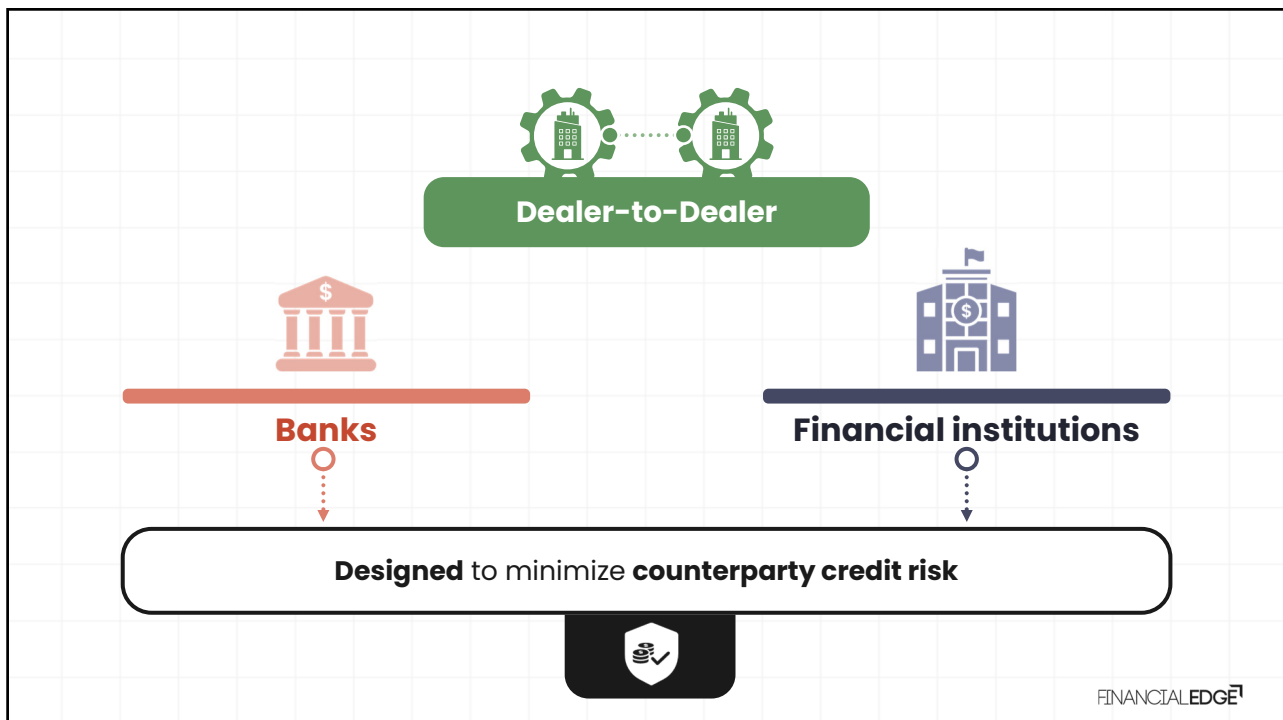
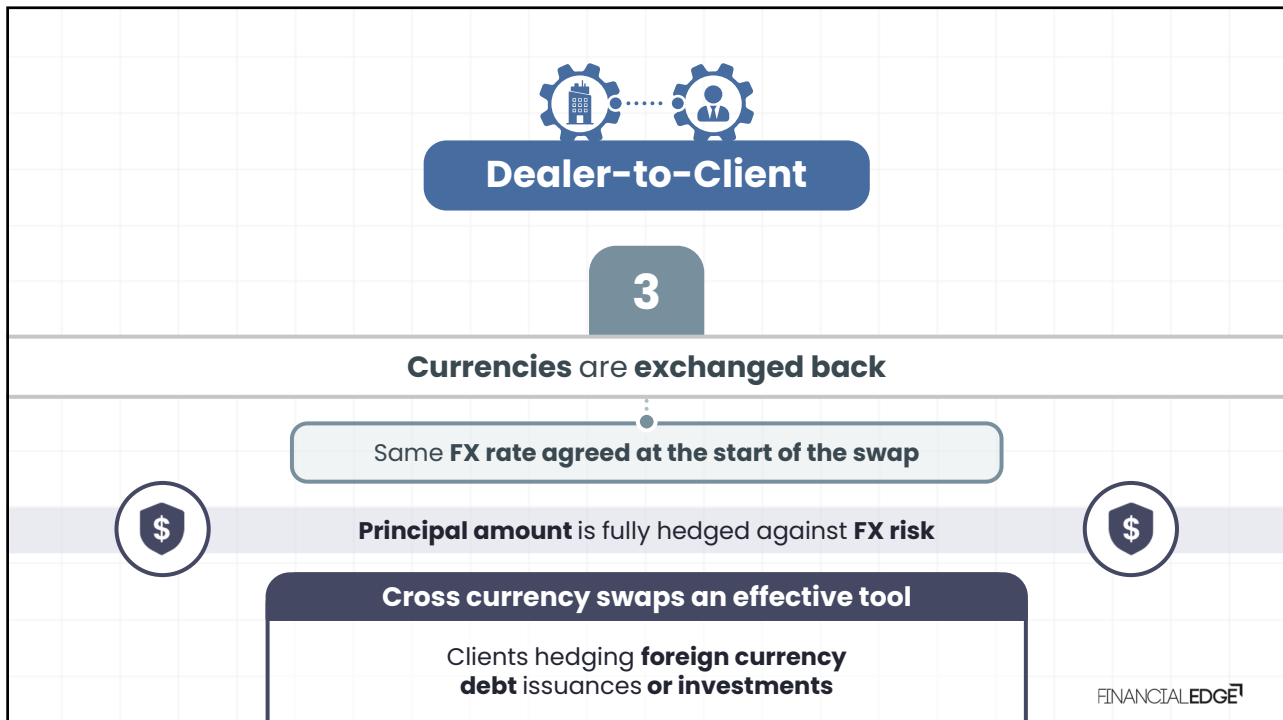


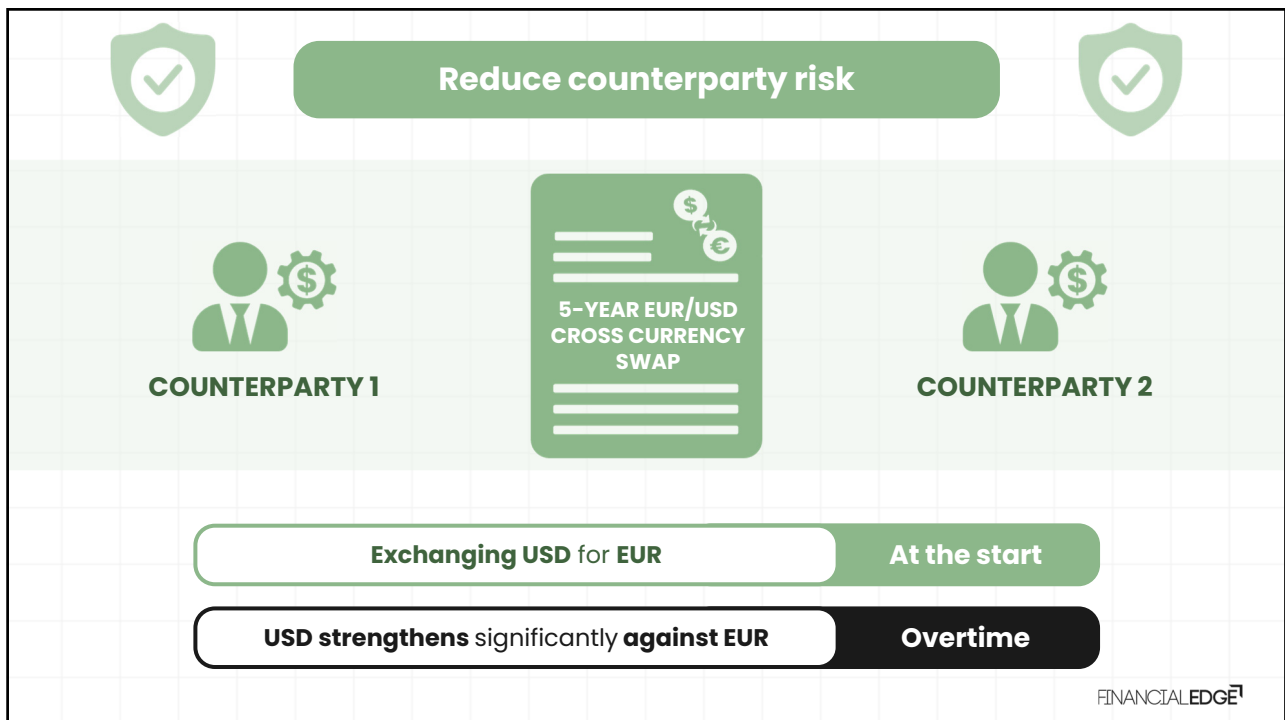
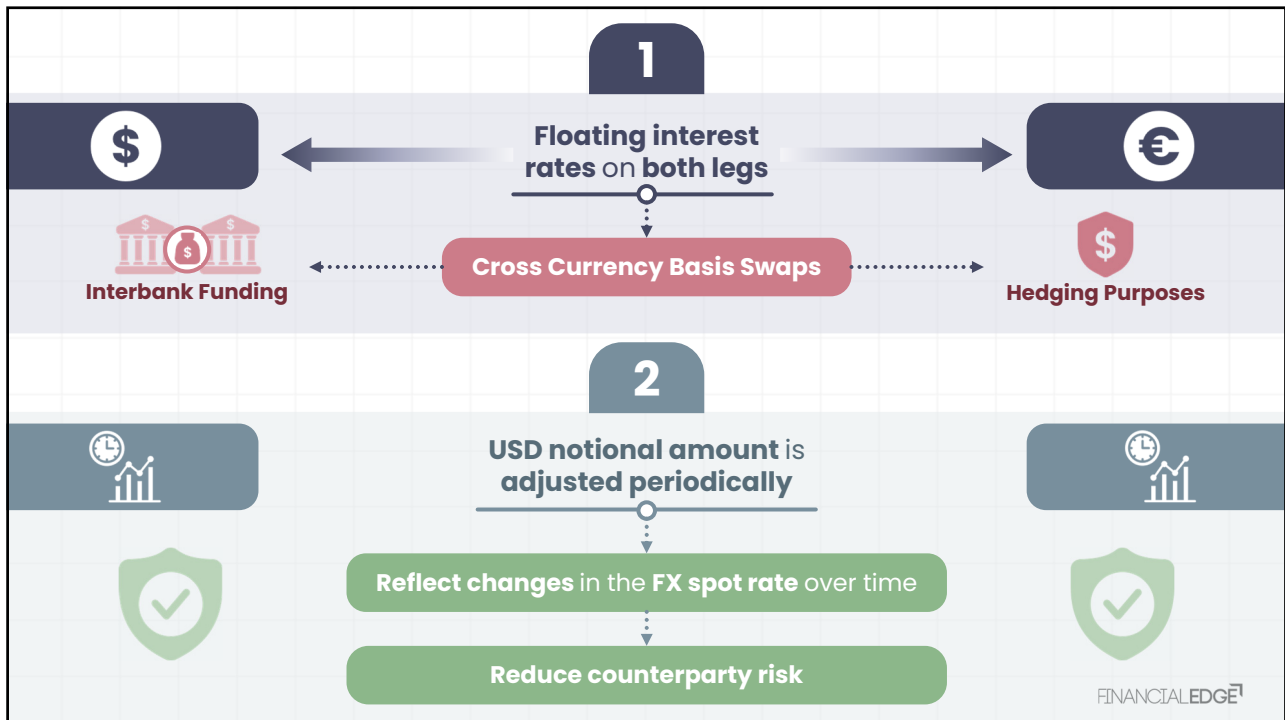


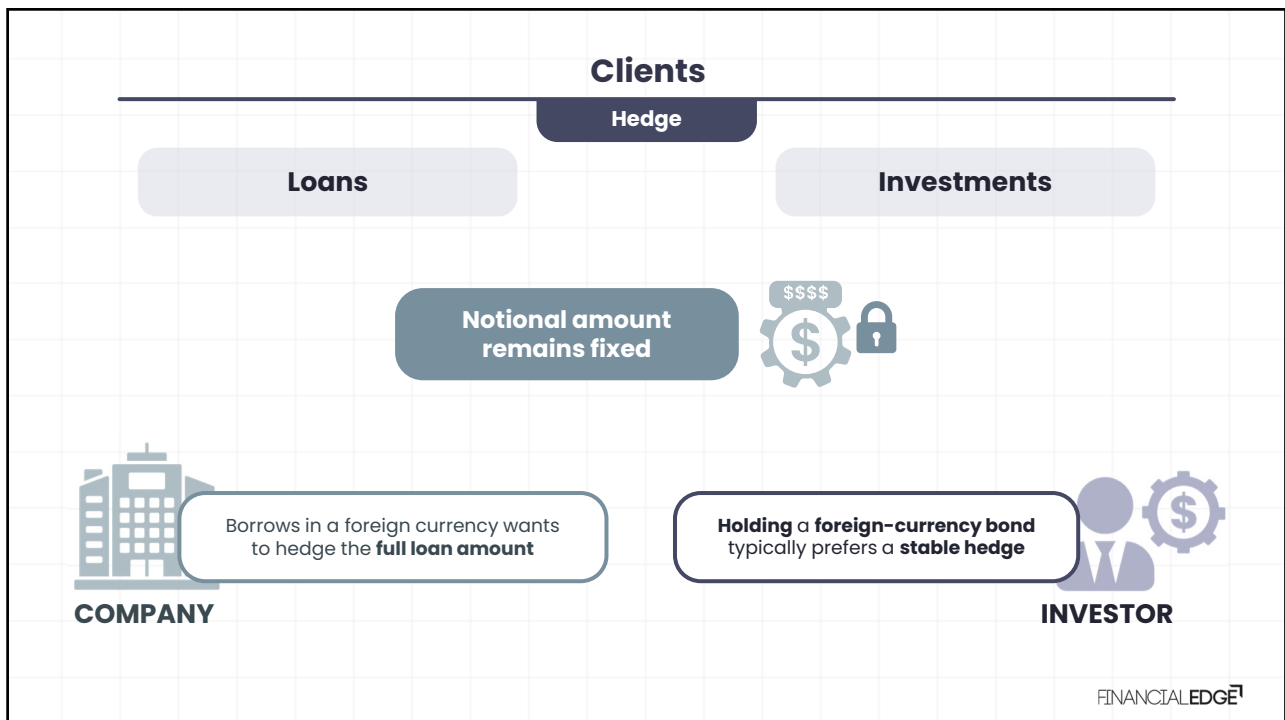
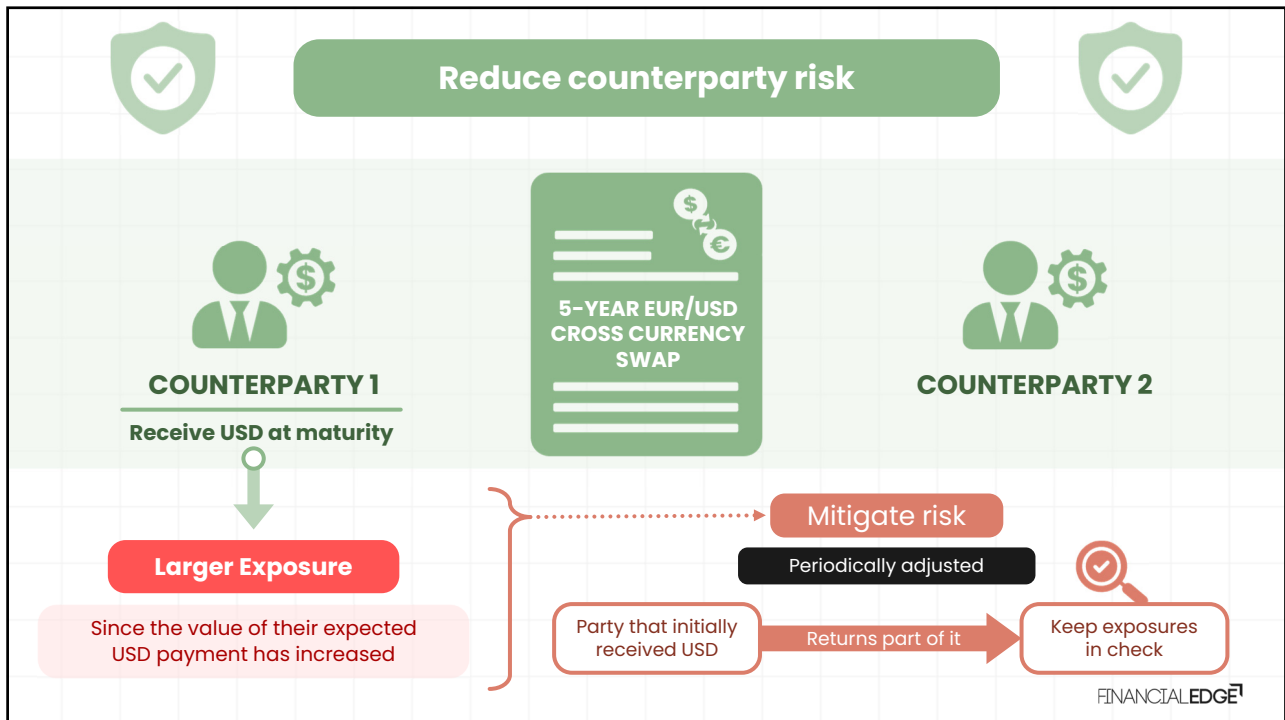
Two-Tier Market

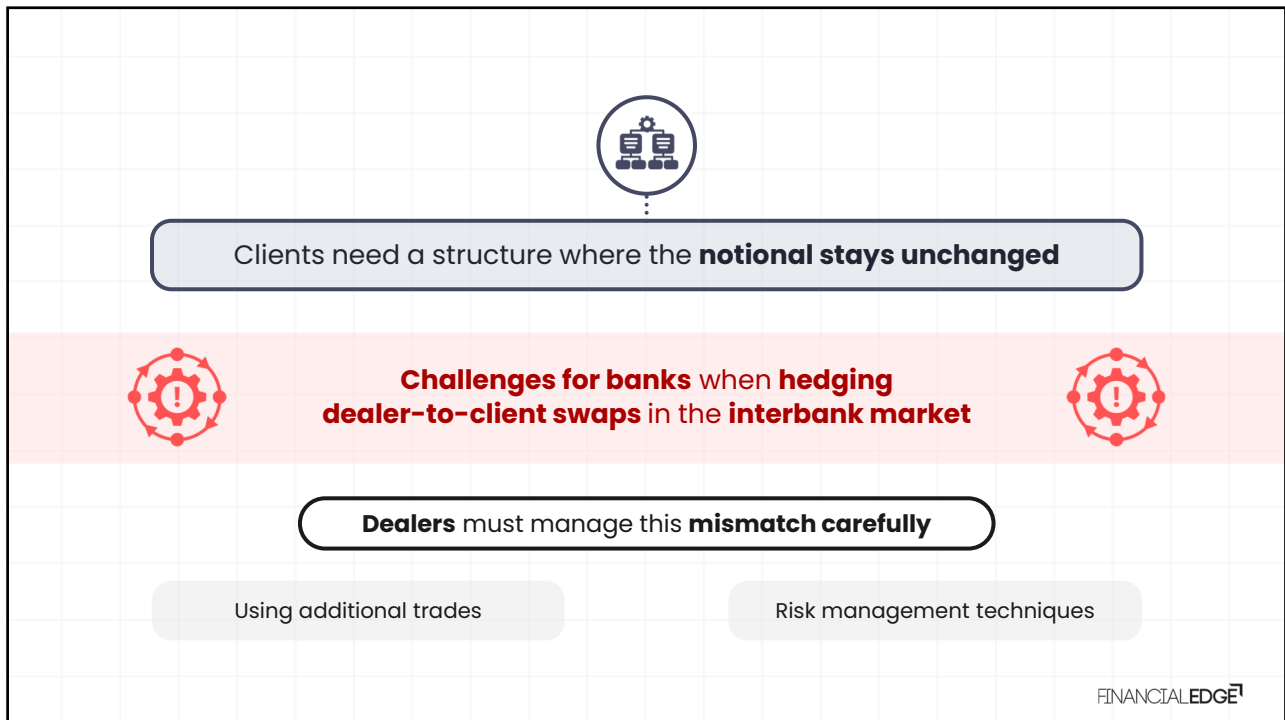
FINANCIALEDGE¹**Dealer-to-Client****Dealer-to-Dealer**FINANCIALEDGE¹



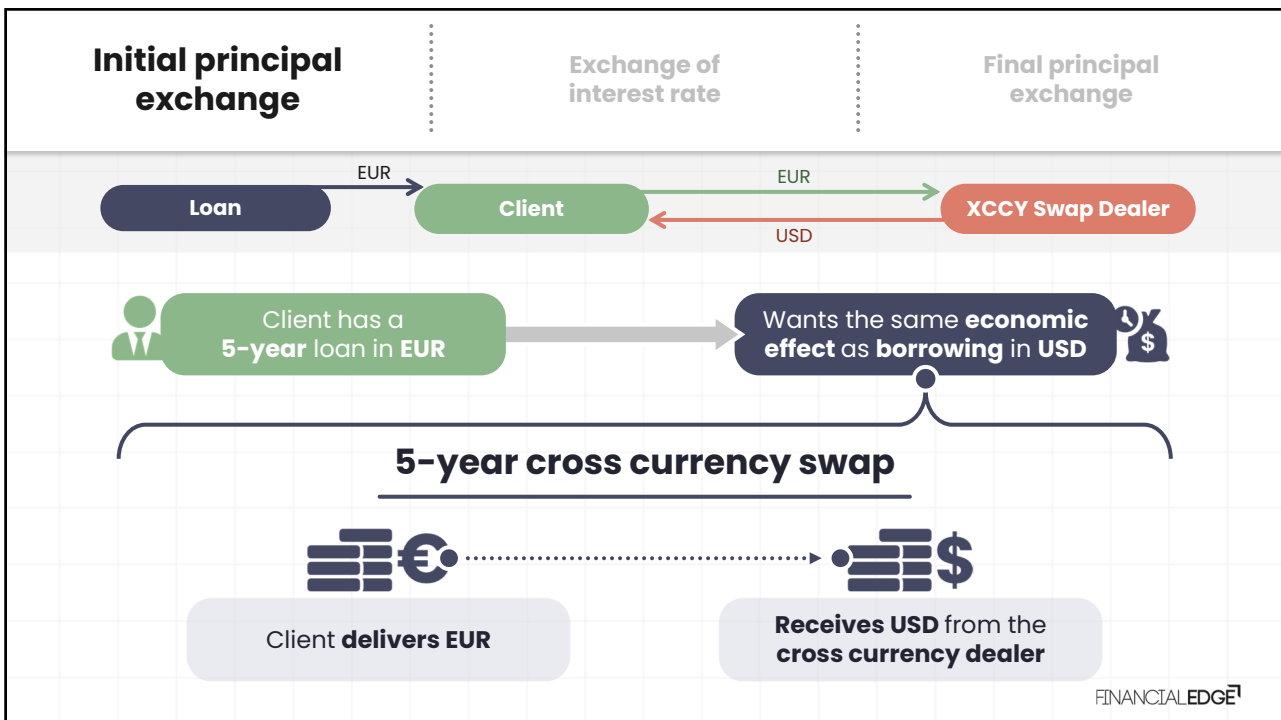


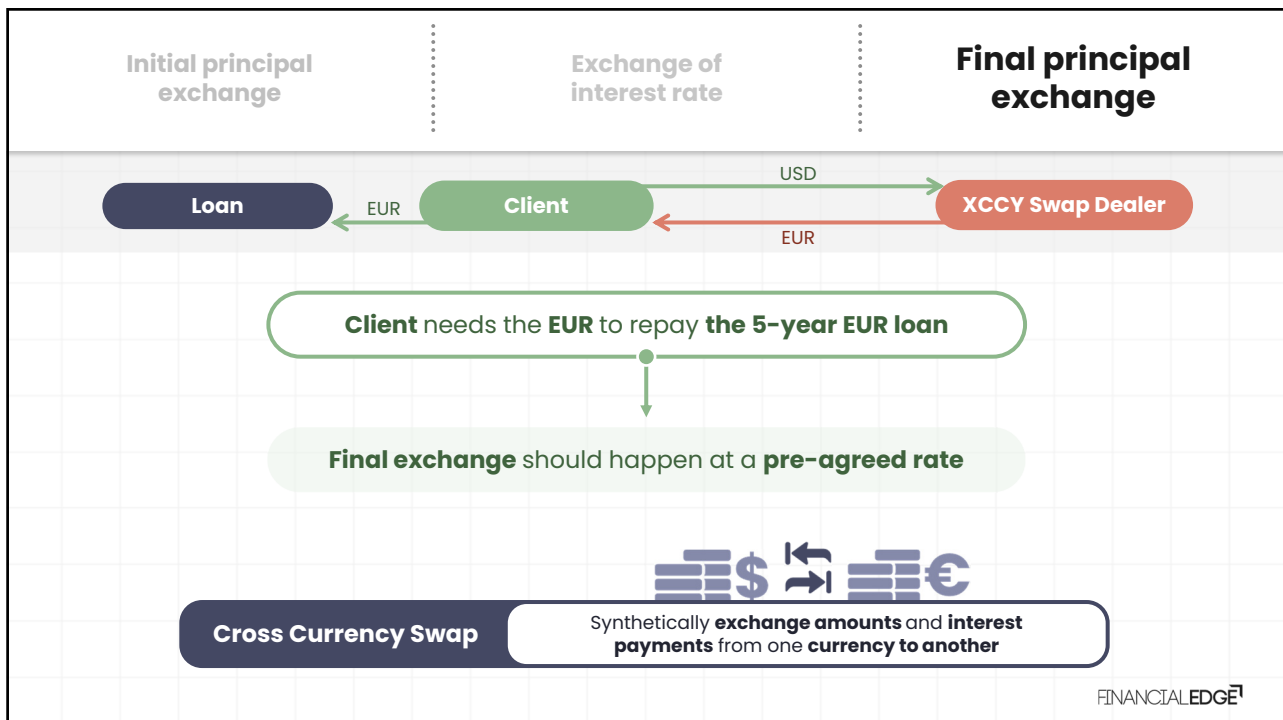
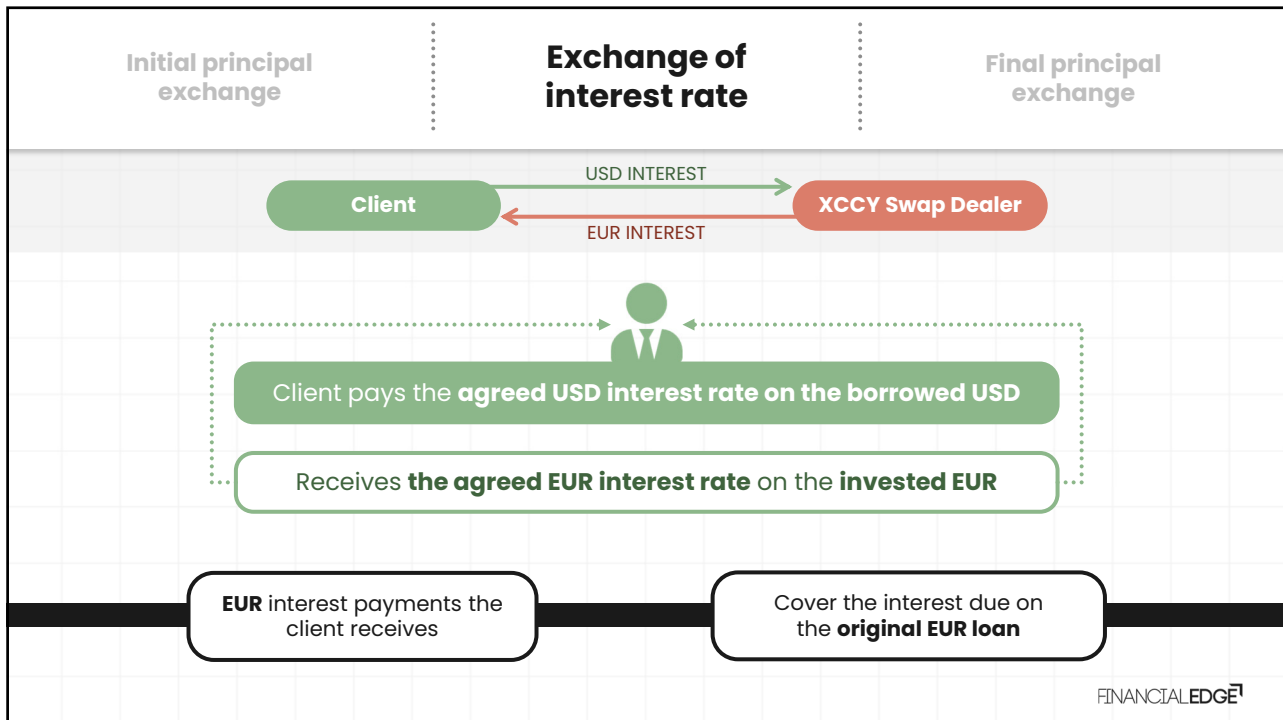


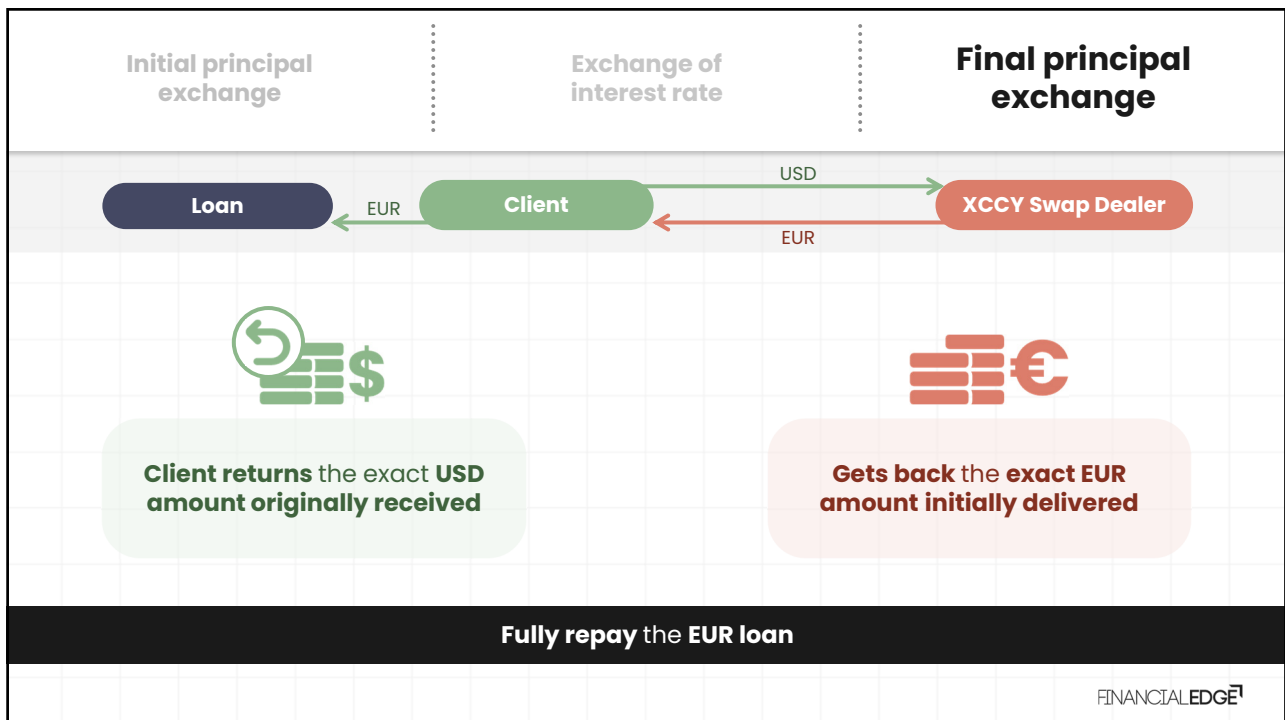
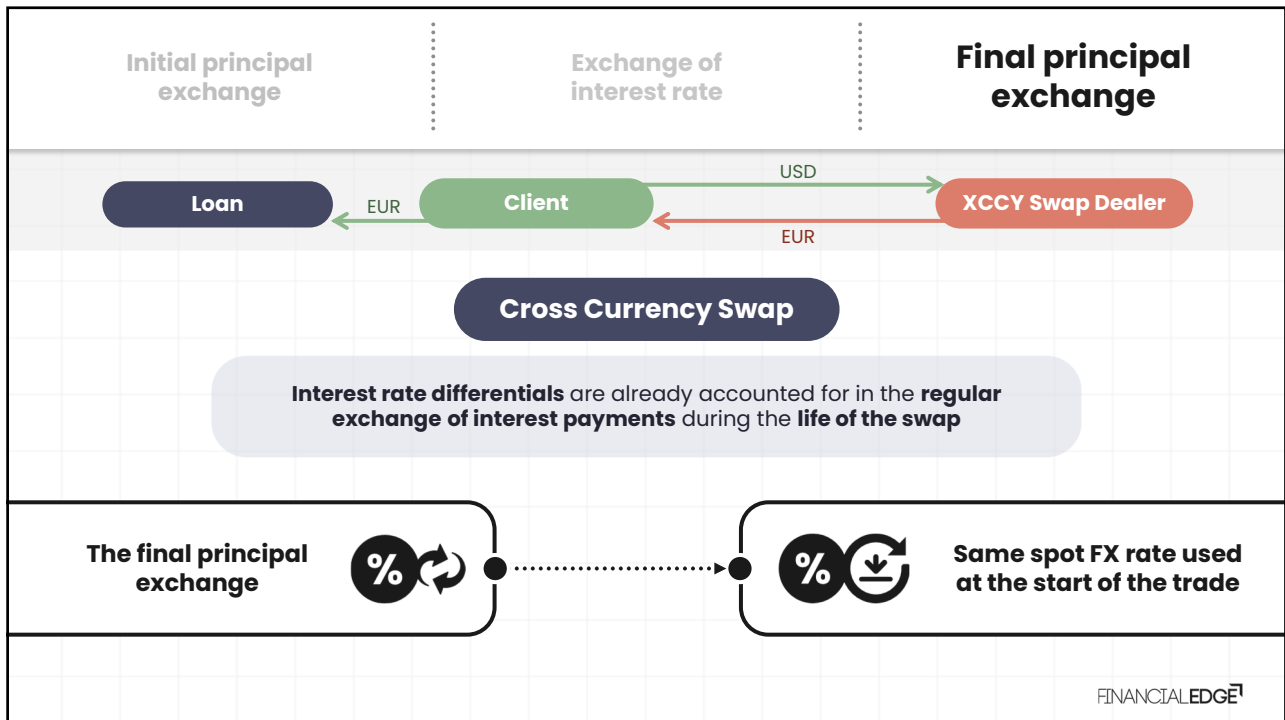




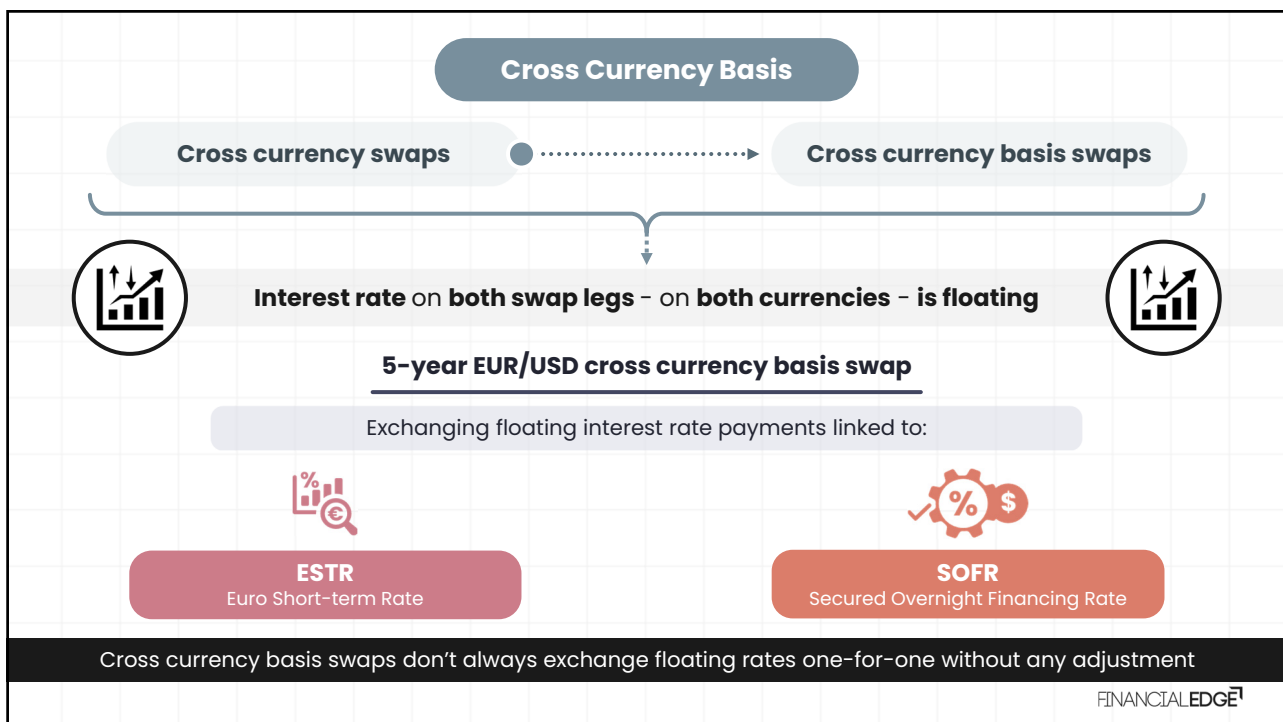
Typical Structure of Cross Currency Swap

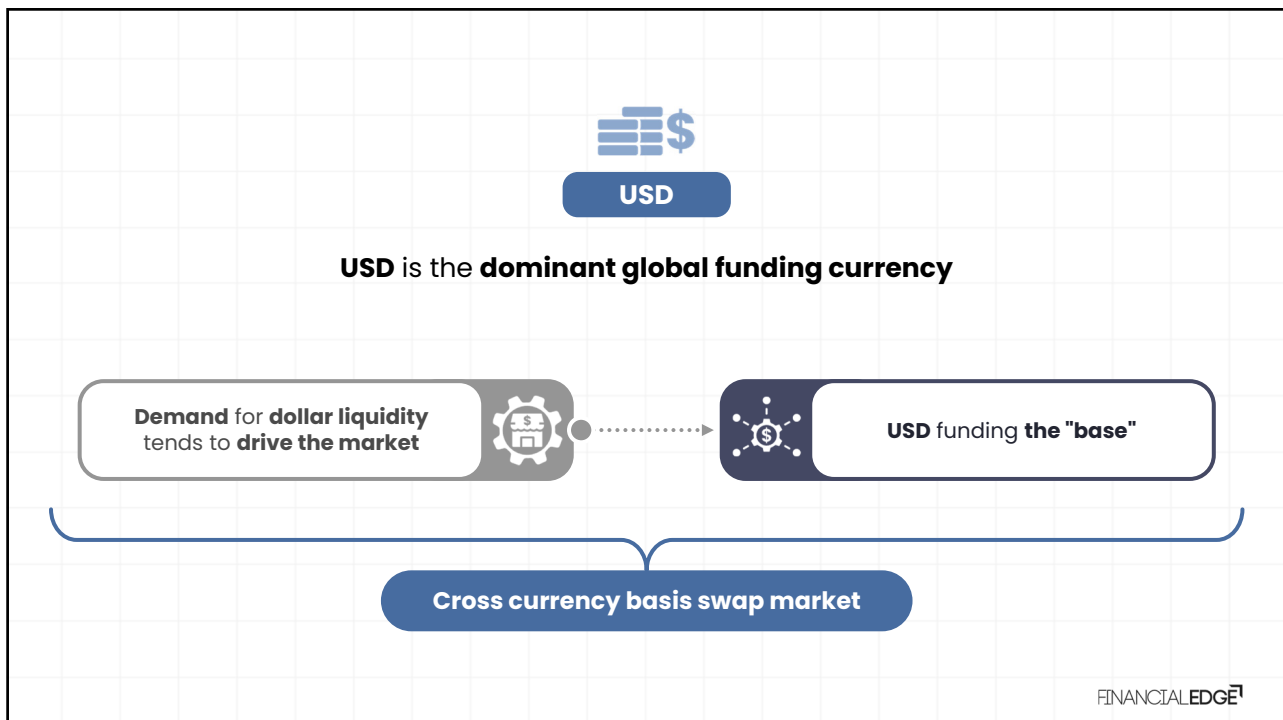
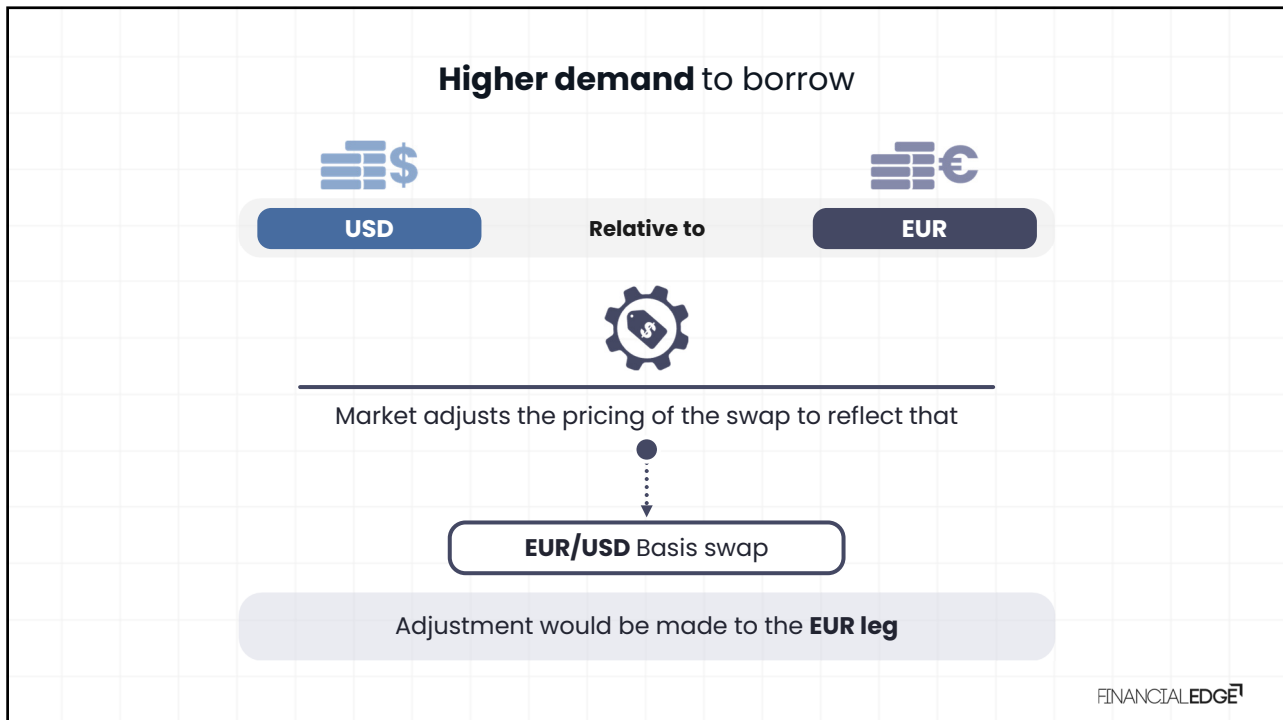
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The Cross Currency Basis

FINANCIALEDGE¹



5-year EUR/USD cross currency basis trades at -16 to -12 basis points

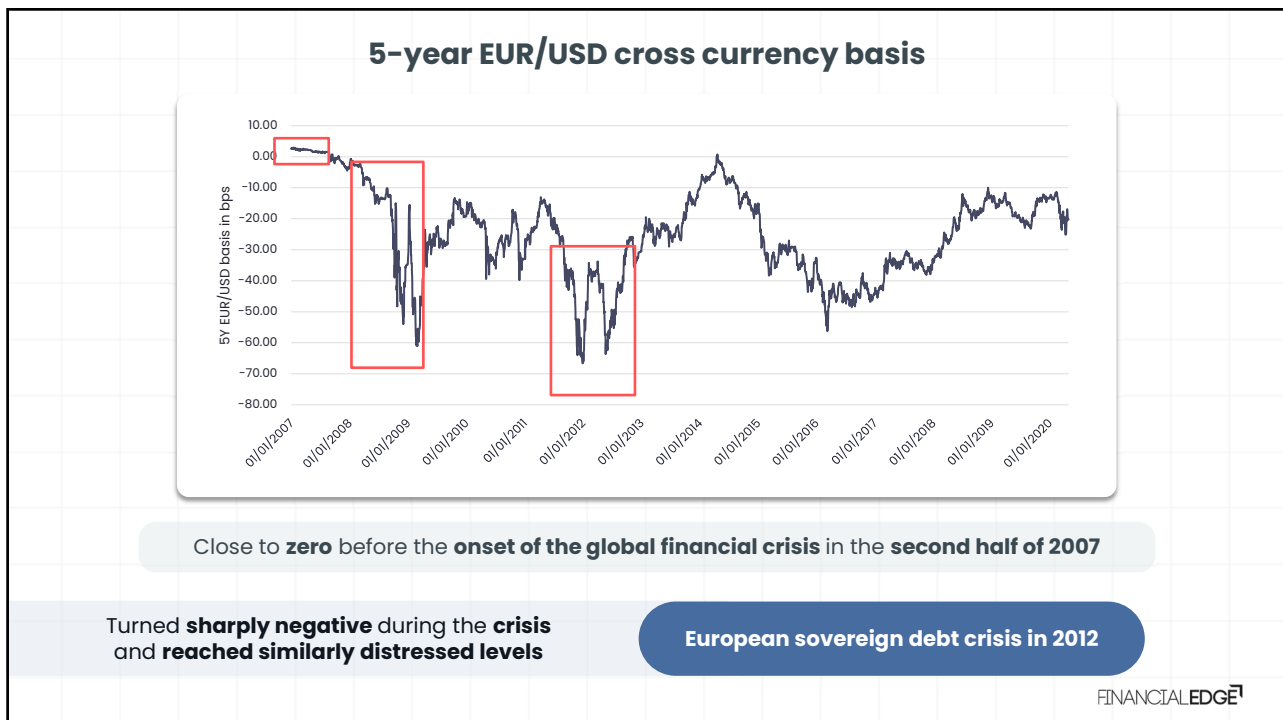
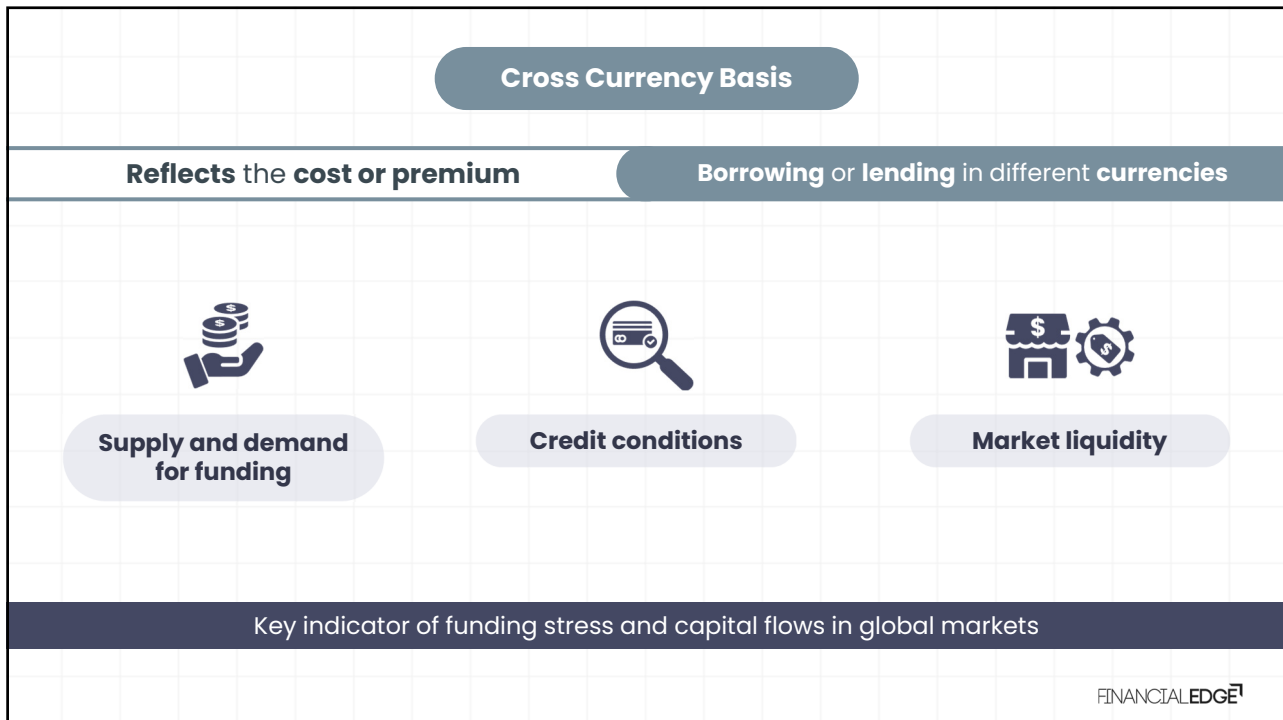
	Bid	Ask
Y01	-11.750	-7.750
Y02	-13.125	-9.125
Y03	-14.250	-10.250
Y04	-15.125	-11.125
Y05	-16.000	-12.000

Source: Infront

As a market taker, you could enter into a **5-year swap where you:****Pay SOFR flat****Receive ESTR**Minus 16
basis points**Receive SOFR flat****Pay ESTR**Minus 12
basis pointsFINANCIALEDGE¹

5Y EUR/USD Cross Currency Basis

FINANCIALEDGE¹



5-year EUR/USD cross currency basis



FX swaps allow for **short-term synthetic borrowing**

Typically for 3 or 6 months

Cross Currency Swaps

Allow for **longer term synthetic borrowing**

FINANCIALEDGE⁷

European banks faced a **unique challenge**

USD-denominated assets

Illiquid

Could only obtain **Euro liquidity** from the **European Central Bank**


Their pressing need was for **USD, not Euros**

European Banks

Cross Currency Swap

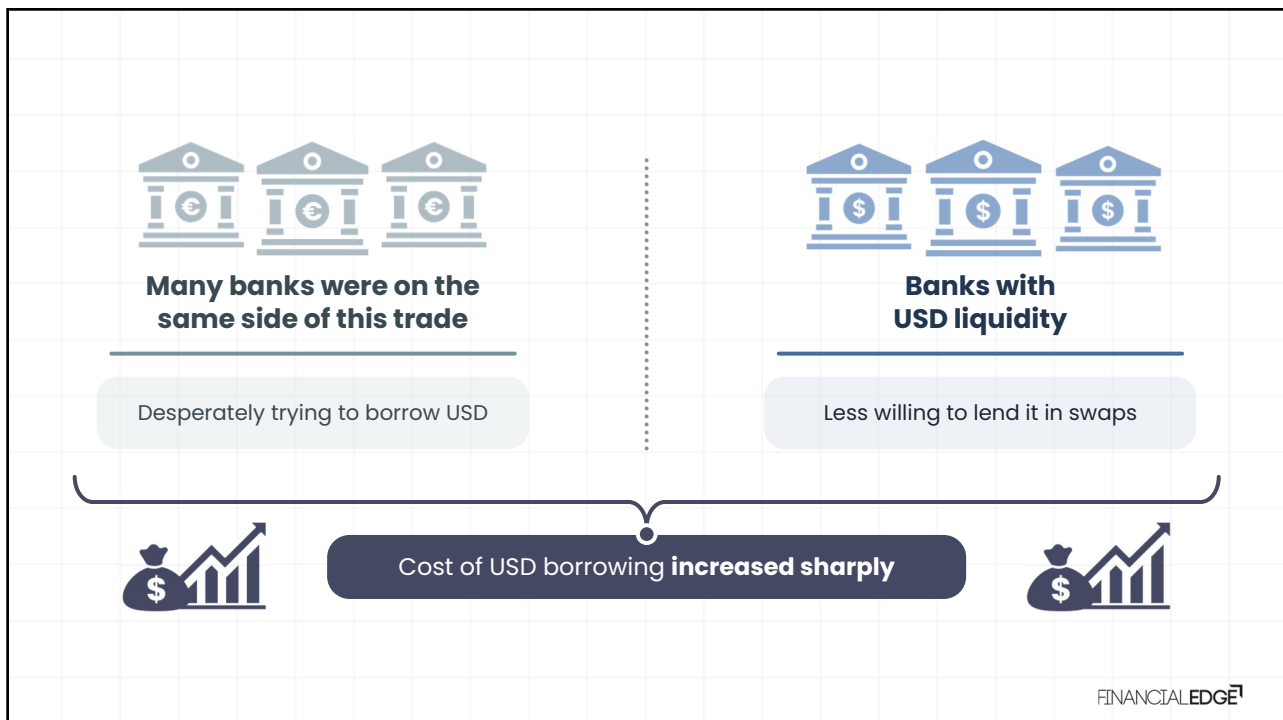
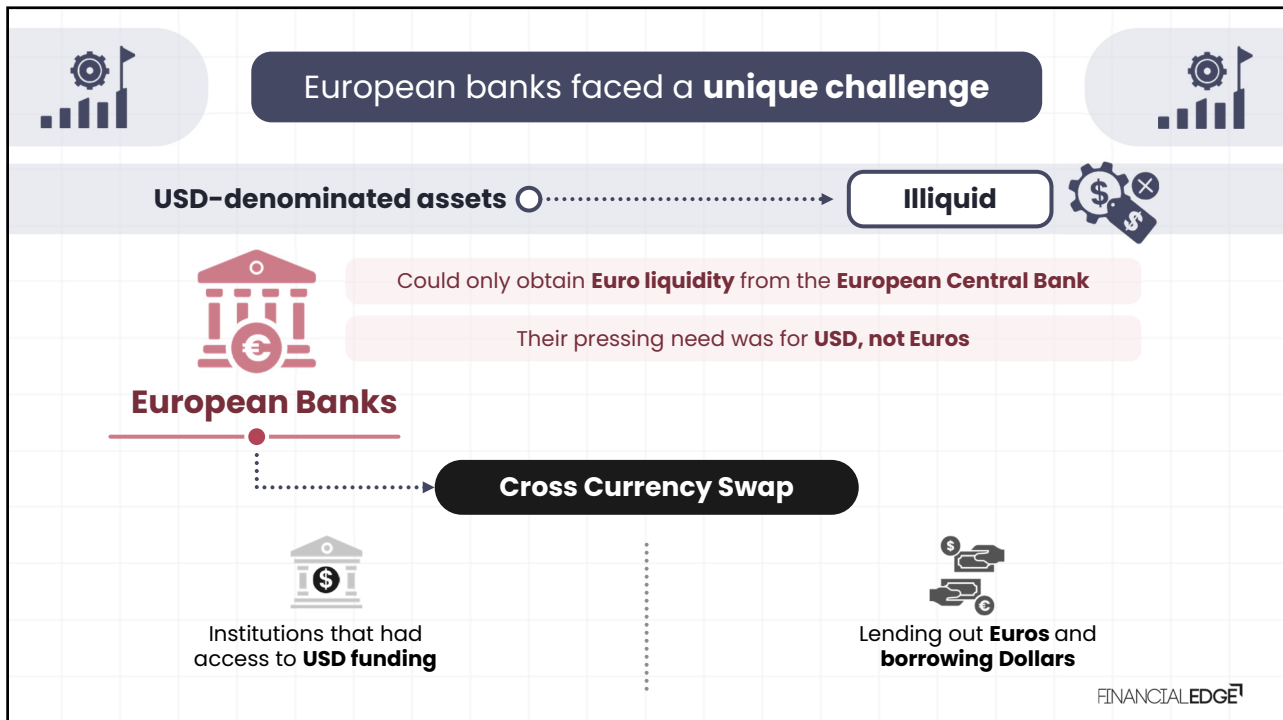


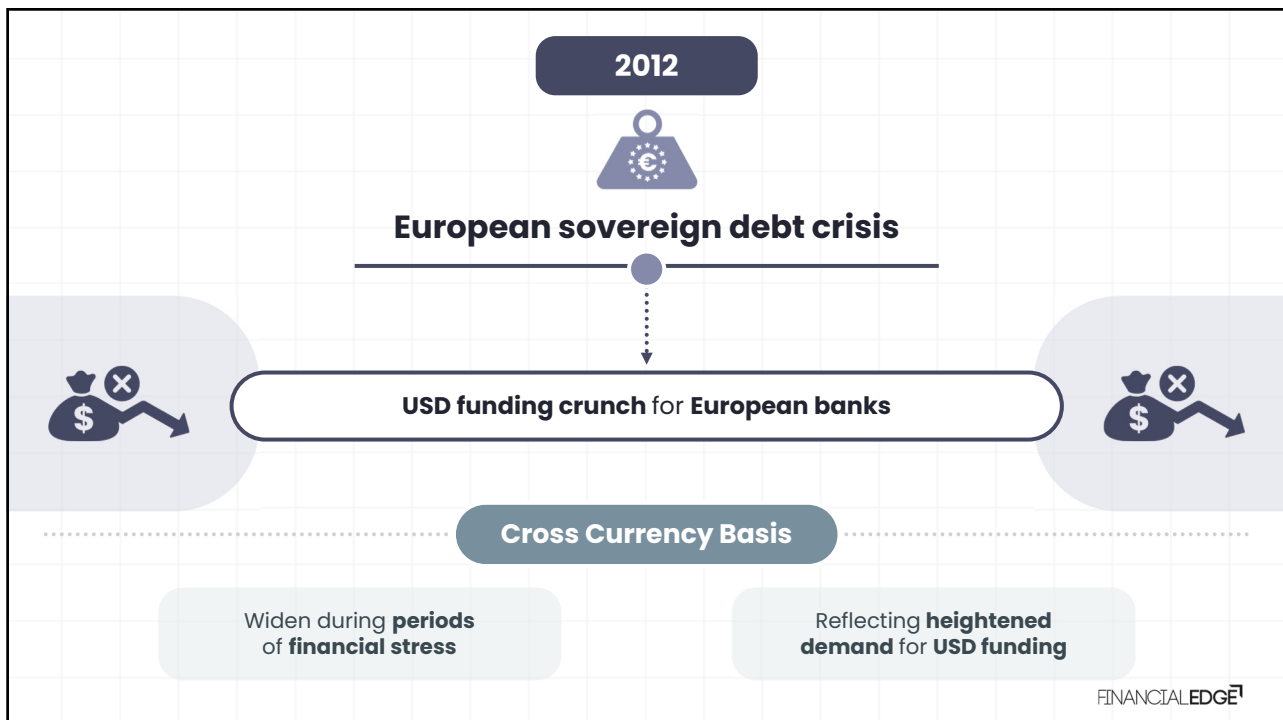
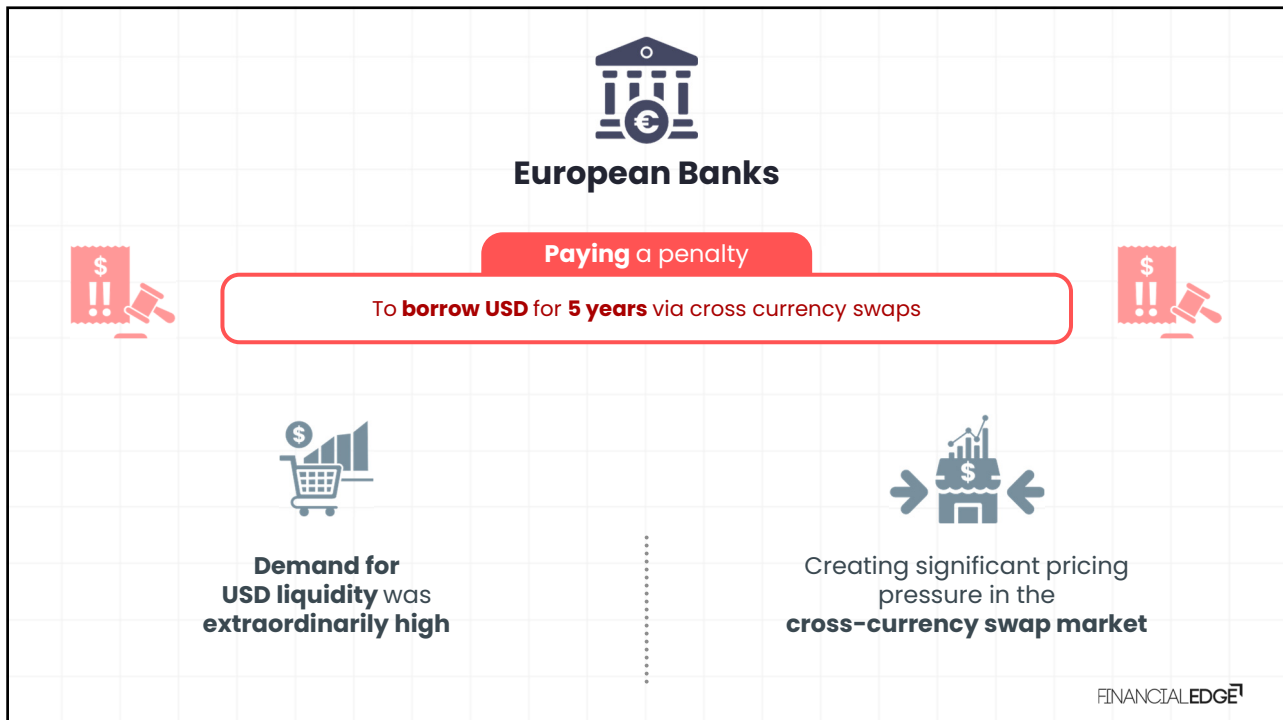
Took the Euros they had
 access to from the ECB
 (European Central Bank)



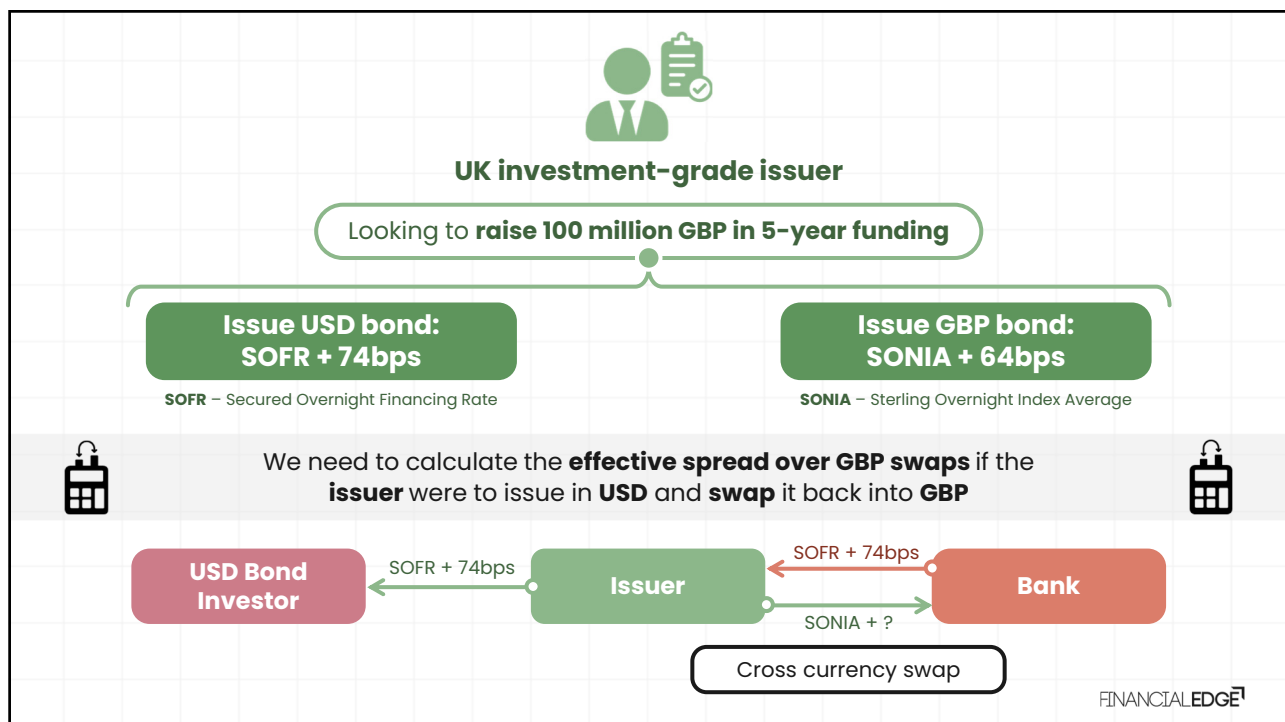
 Synthetically **converted**
 them into **USD**

FINANCIALEDGE⁷



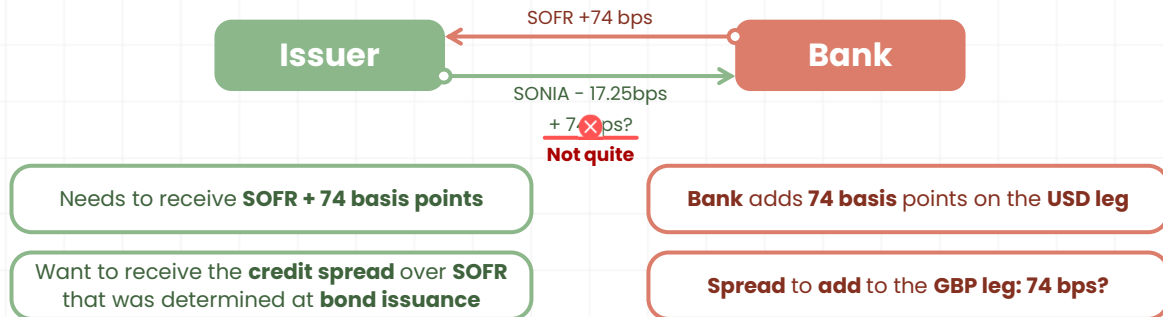


Cross-Currency Swap in Funding Example

FINANCIALEDGE¹

Cross Currency Basis

The **5-year GBP/USD basis swap** was trading at **-17.25 basis points**

FINANCIALEDGE¹

Conversion Factors



Basis points in different currencies are **not always directly comparable** due to **interest rate differentials**

One basis point in USD is **not equal** to **one basis point in GBP**, we need to apply a **conversion factor**

GBP/USD spot is 1.25

1bp in USD: 57,742 USD (46,193 GBP)

OR

1bp in GBP: 46,646 GBP

One basis point in **USD** did not equal **one basis point** in **GBP**

1bp in USD = 0.9903 bp in GBP

FINANCIALEDGE¹



Conversion Factors



GBP/USD spot is 1.25

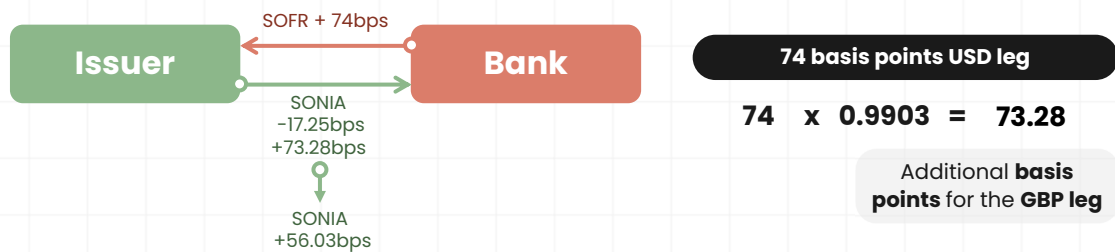
1bp in USD: 57,742 USD (46,193 GBP)

OR

1bp in GBP: 46,646 GBP

One basis point in **USD** did not equal **one basis point** in **GBP**

1bp in USD = 0.9903 bp in GBP



FINANCIALEDGE¹



UK investment-grade issuer

Looking to **raise 100 million GBP** in 5-year funding

Issue USD bond:
SOFR + 74bps

Issue GBP bond:
SONIA + 64bps

Swap into GBP using **XXCY swap**

GBP: SONIA + 56.03bps

Is the **cheaper option** when **swapped back into GBP**



FX Basis

Traded at a negative level

Reducing the cost of swapping USD funding into GBP

FINANCIALEDGE¹

Fixed-to-Fixed and Fixed-to-Floating Swaps

FINANCIALEDGE¹

Interbank Market

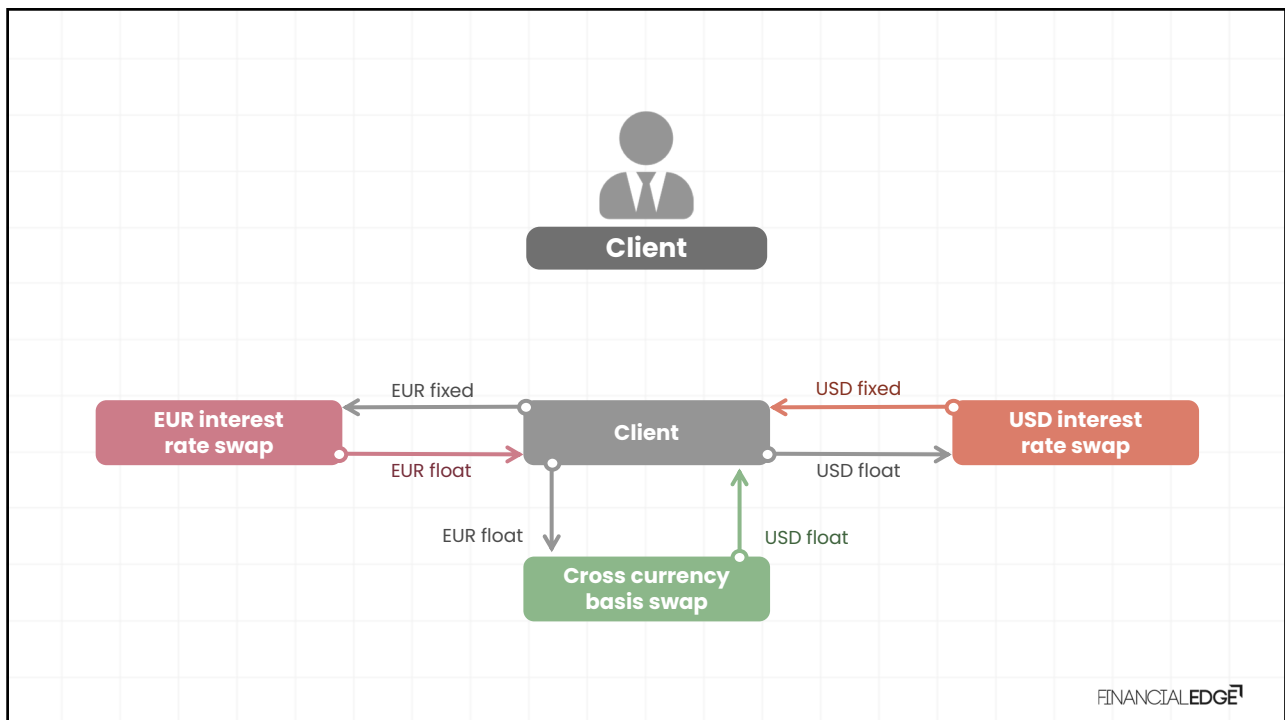
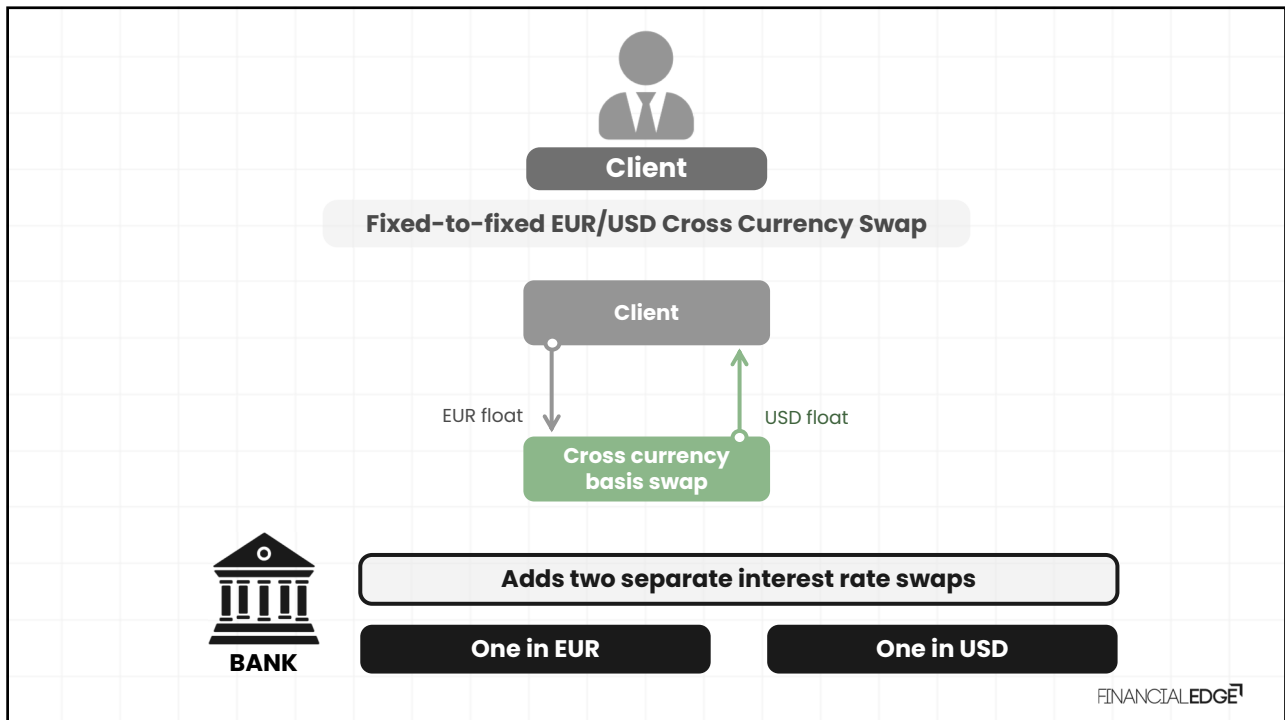
Cross currency swaps are generally quoted and traded as **floating-to-floating basis swaps**

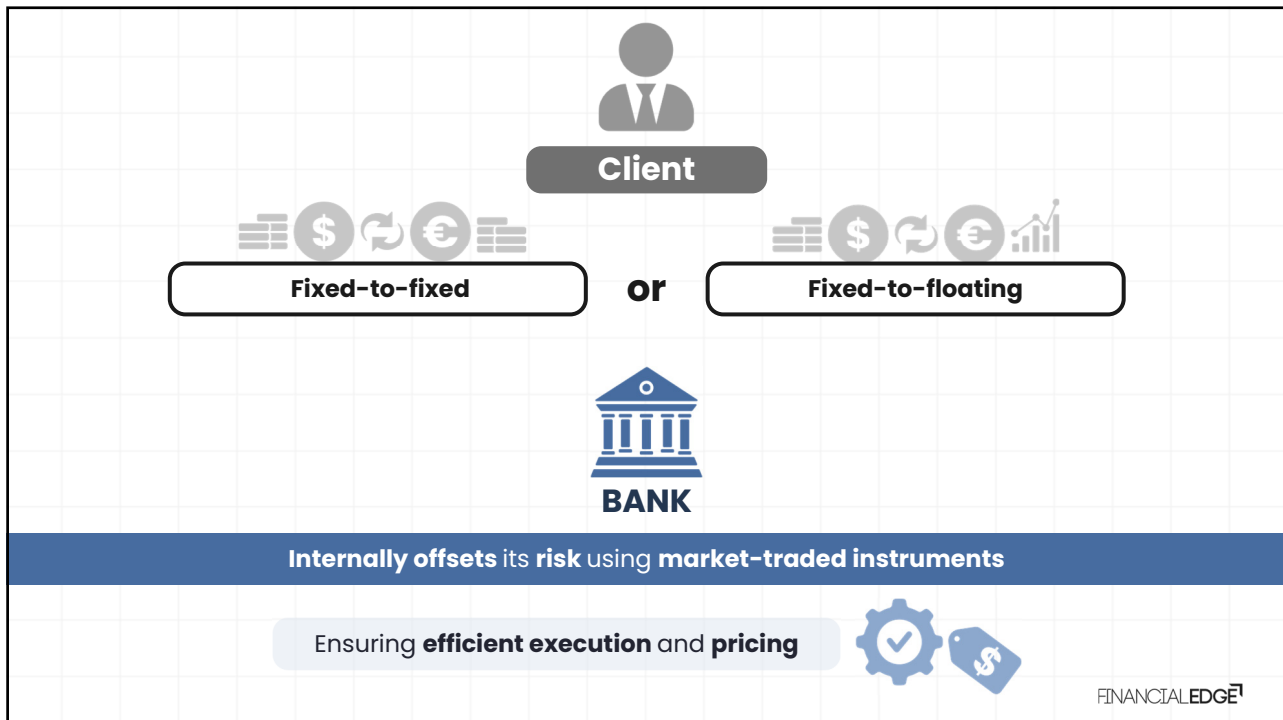
Corporates or investors managing fixed-rate liabilities

Fixed-to-floating

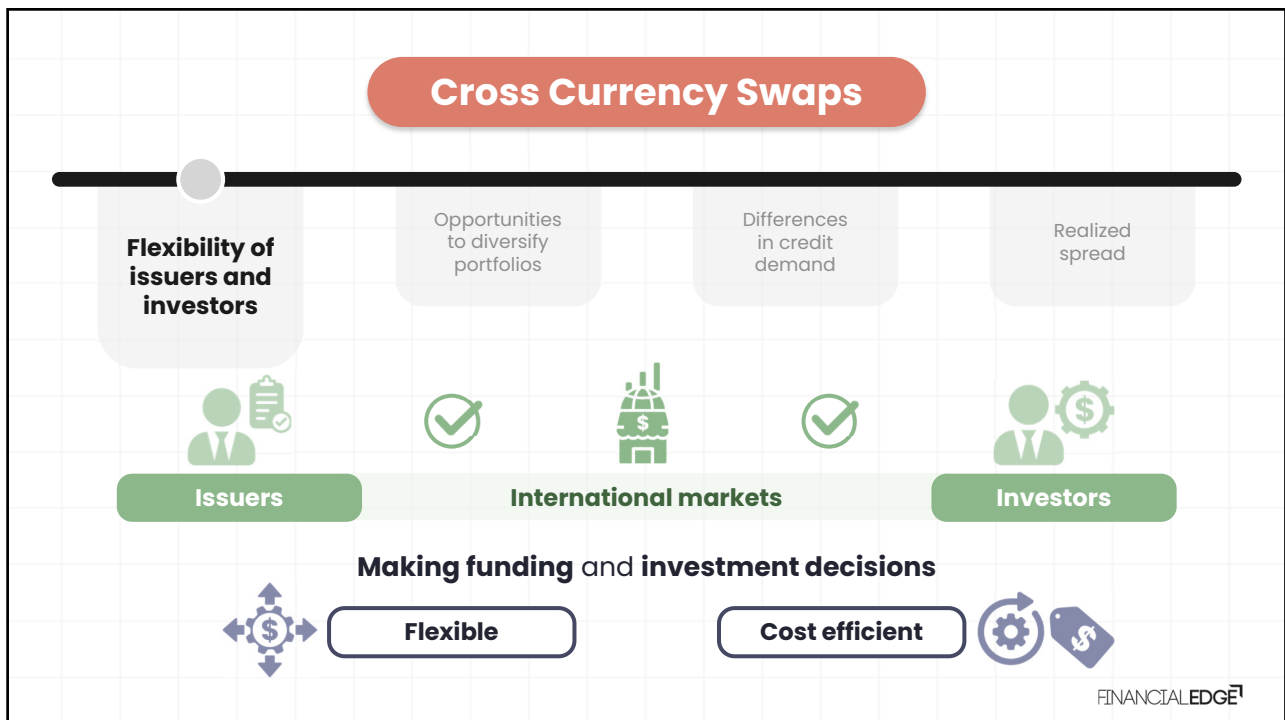
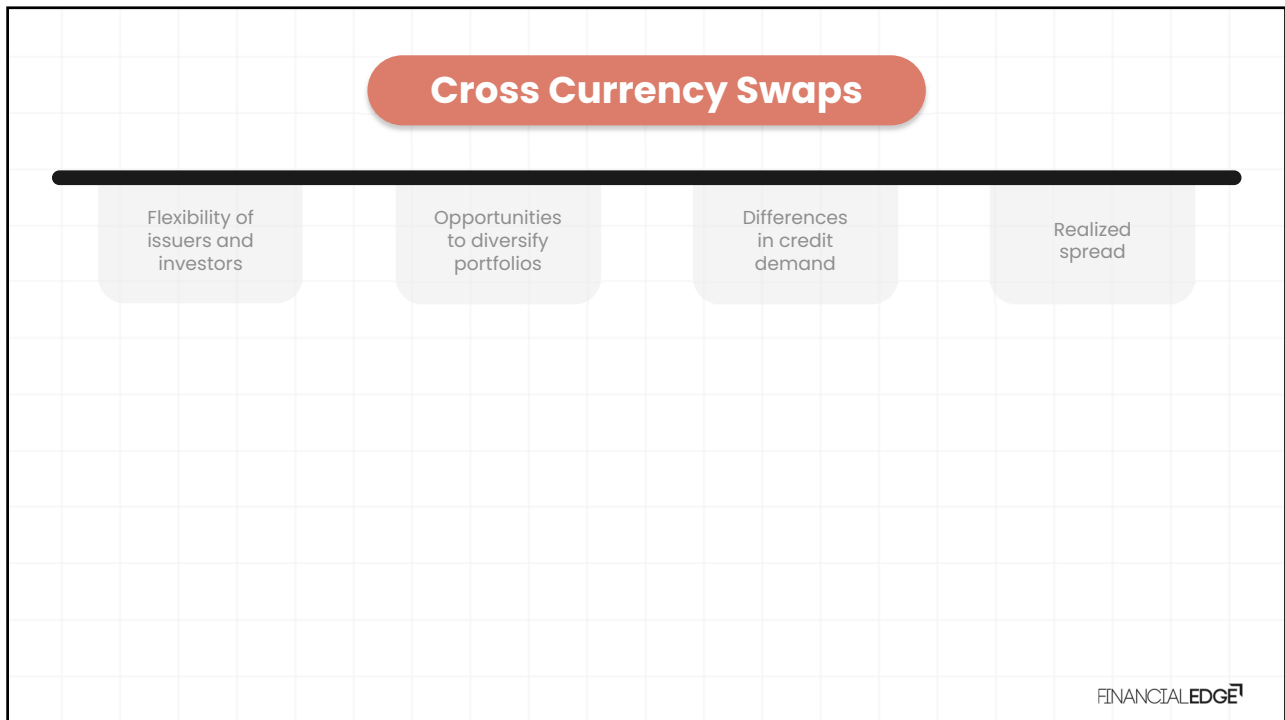
Fixed-to-fixed

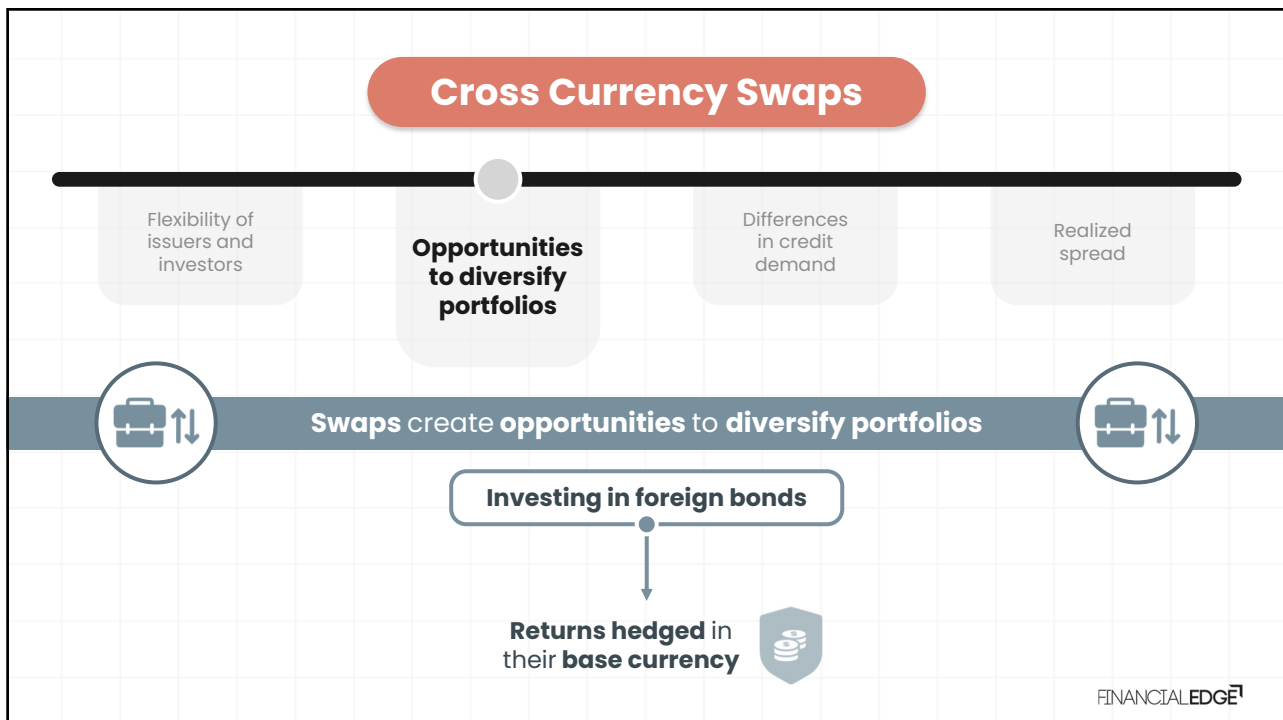
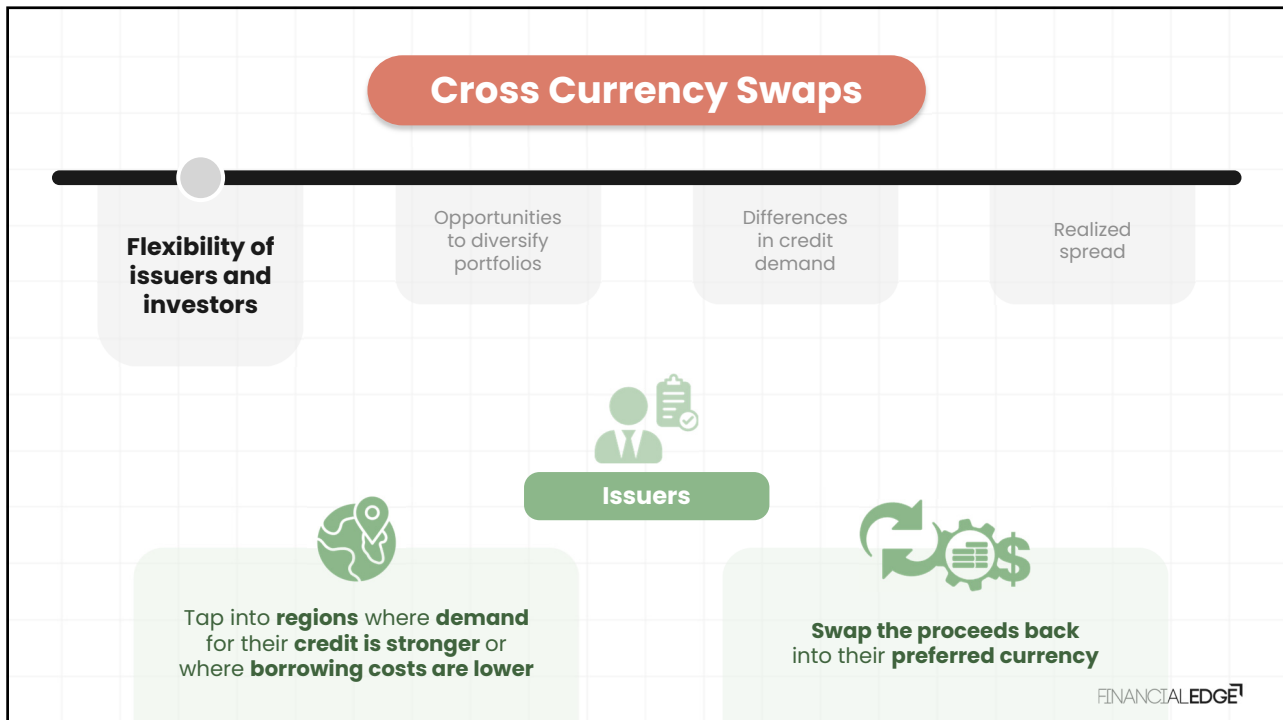
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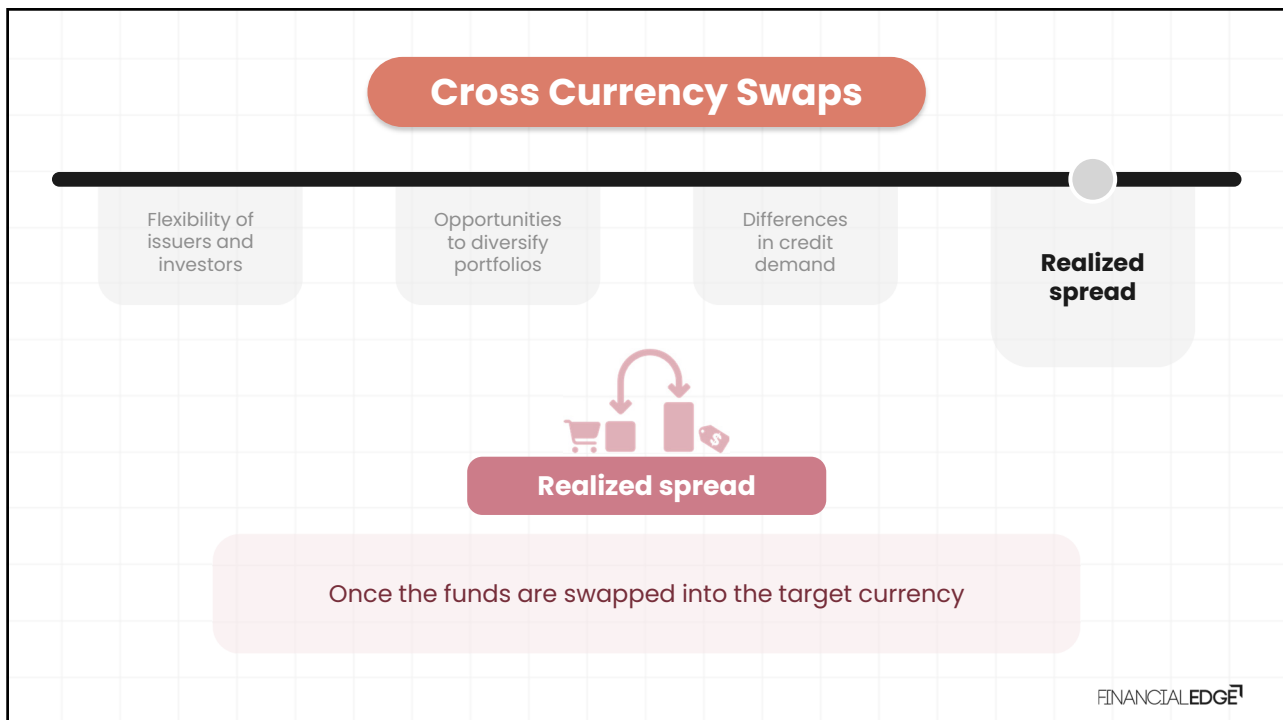
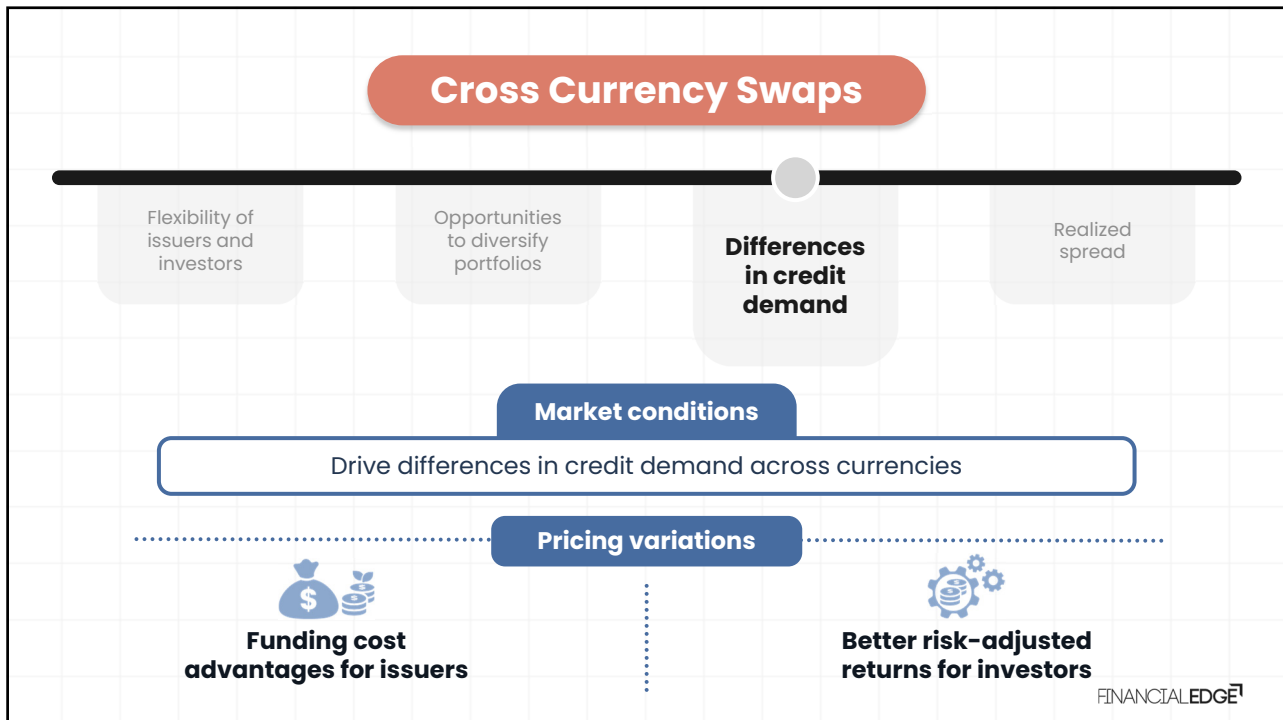




Relative Value







Cross Currency Swaps



Global opportunities

Ensuring that **currency fluctuations** don't impact their **financial objectives**

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