
FX Options to manage the FX exposure of the foreign reserves

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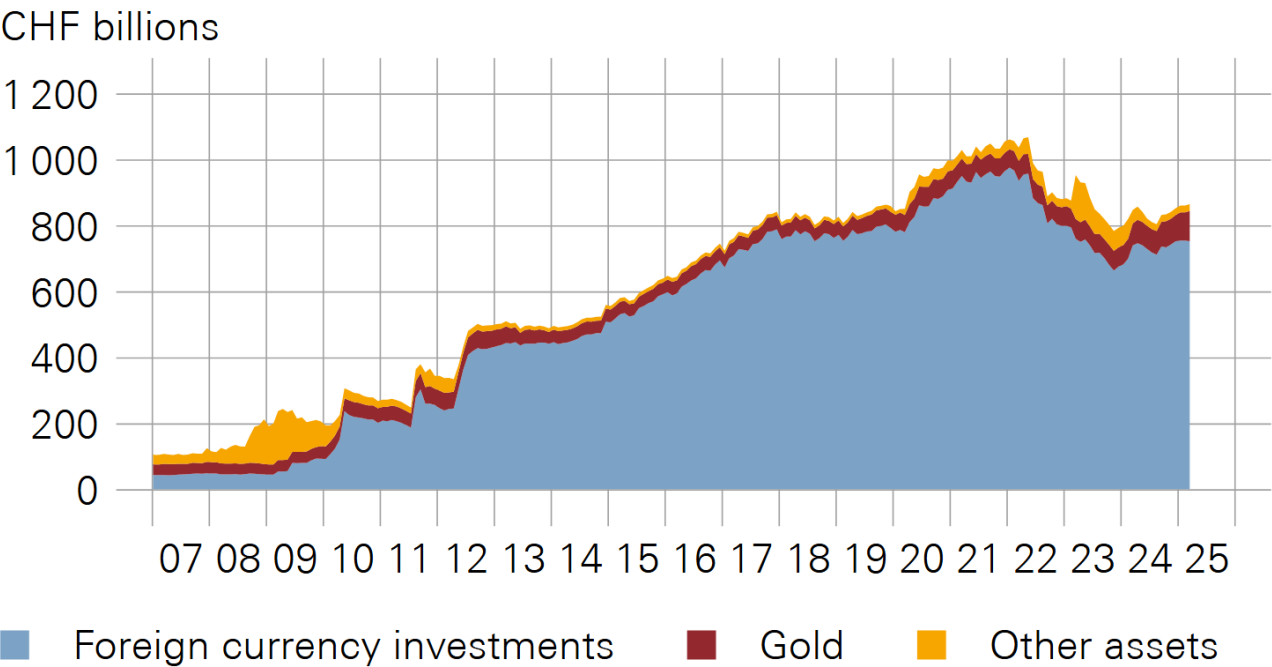


Background on the SNB's foreign currency reserves

Foreign currency reserves introduce foreign exchange risk, which the SNB mitigates through diversification.

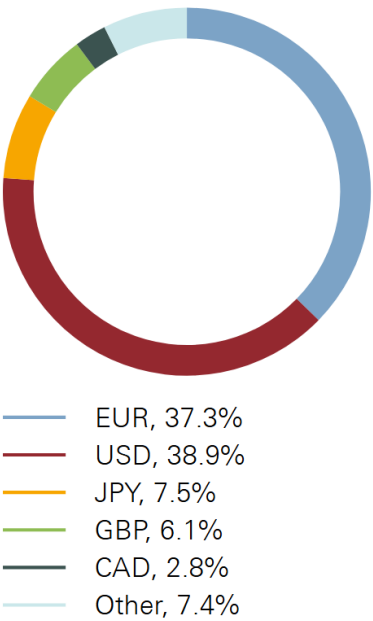
BALANCE SHEET DEVELOPMENT

As of 31.03.2025



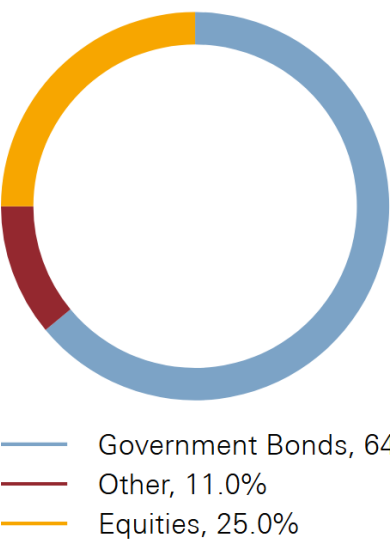
FX RESERVES: CURRENCY ALLOCATION

As of 31.03.2025



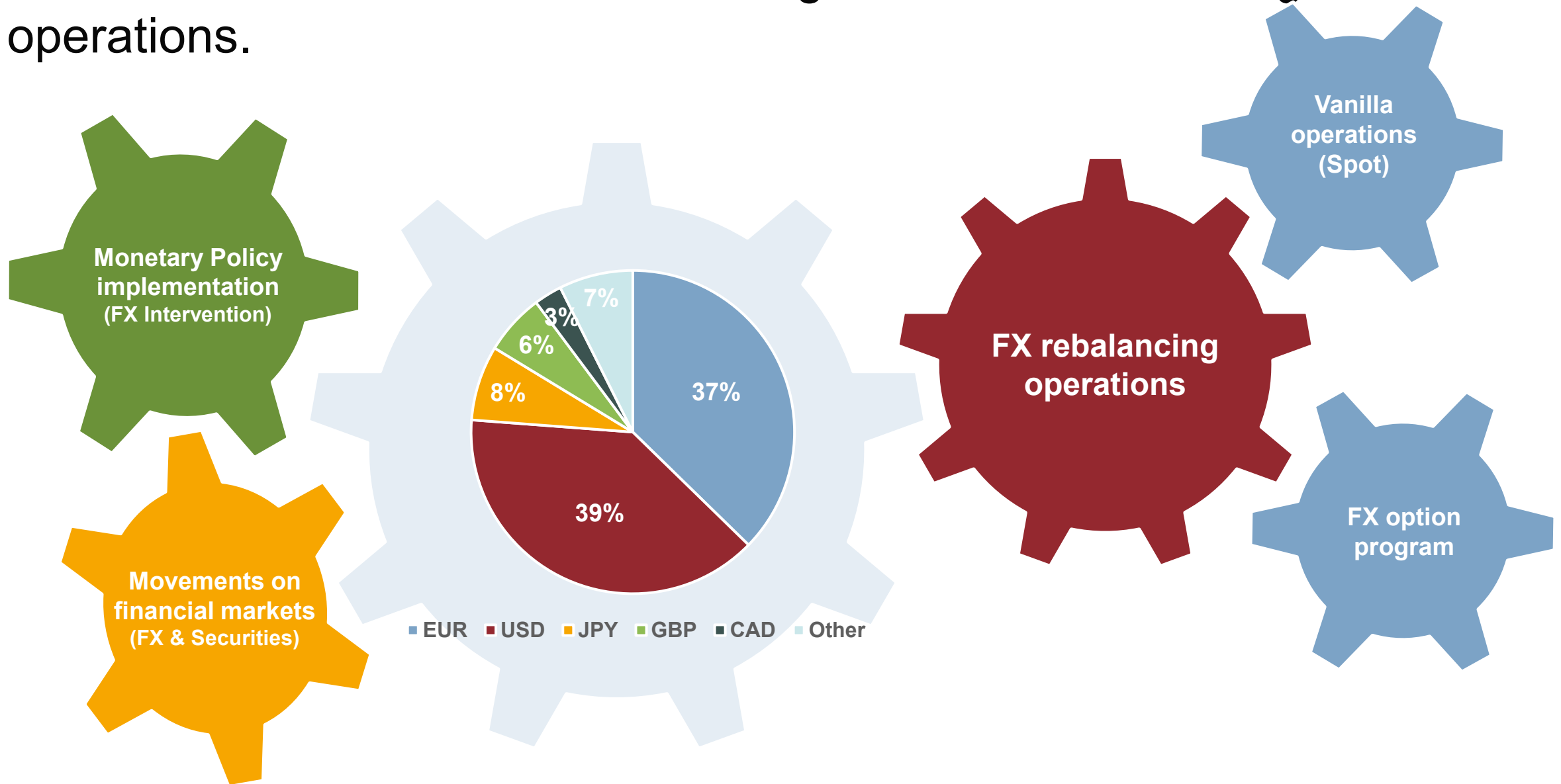
FX RESERVES: INVESTMENT CATEGORIES

As of 31.03.2025

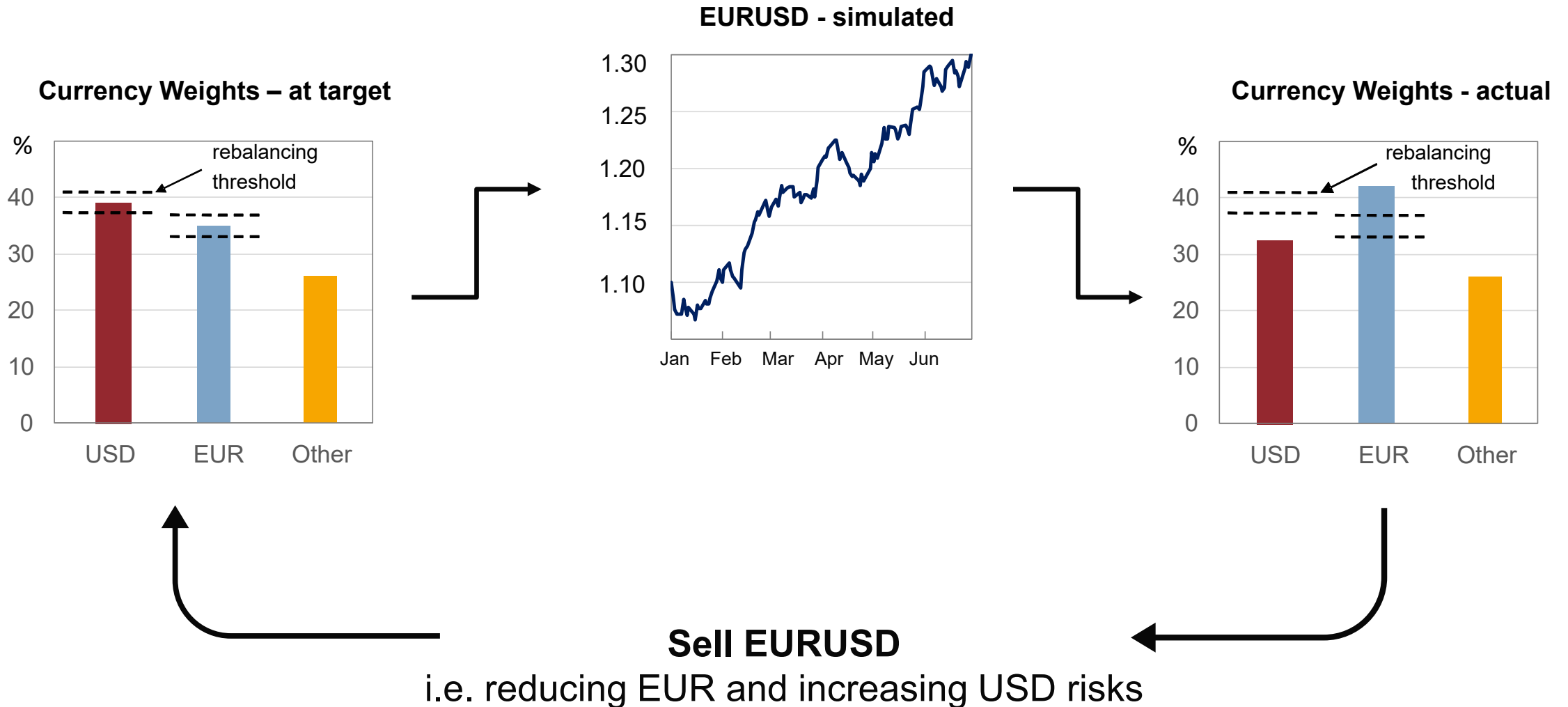


Source: SNB

FX allocations and risks are managed via FX rebalancing operations.



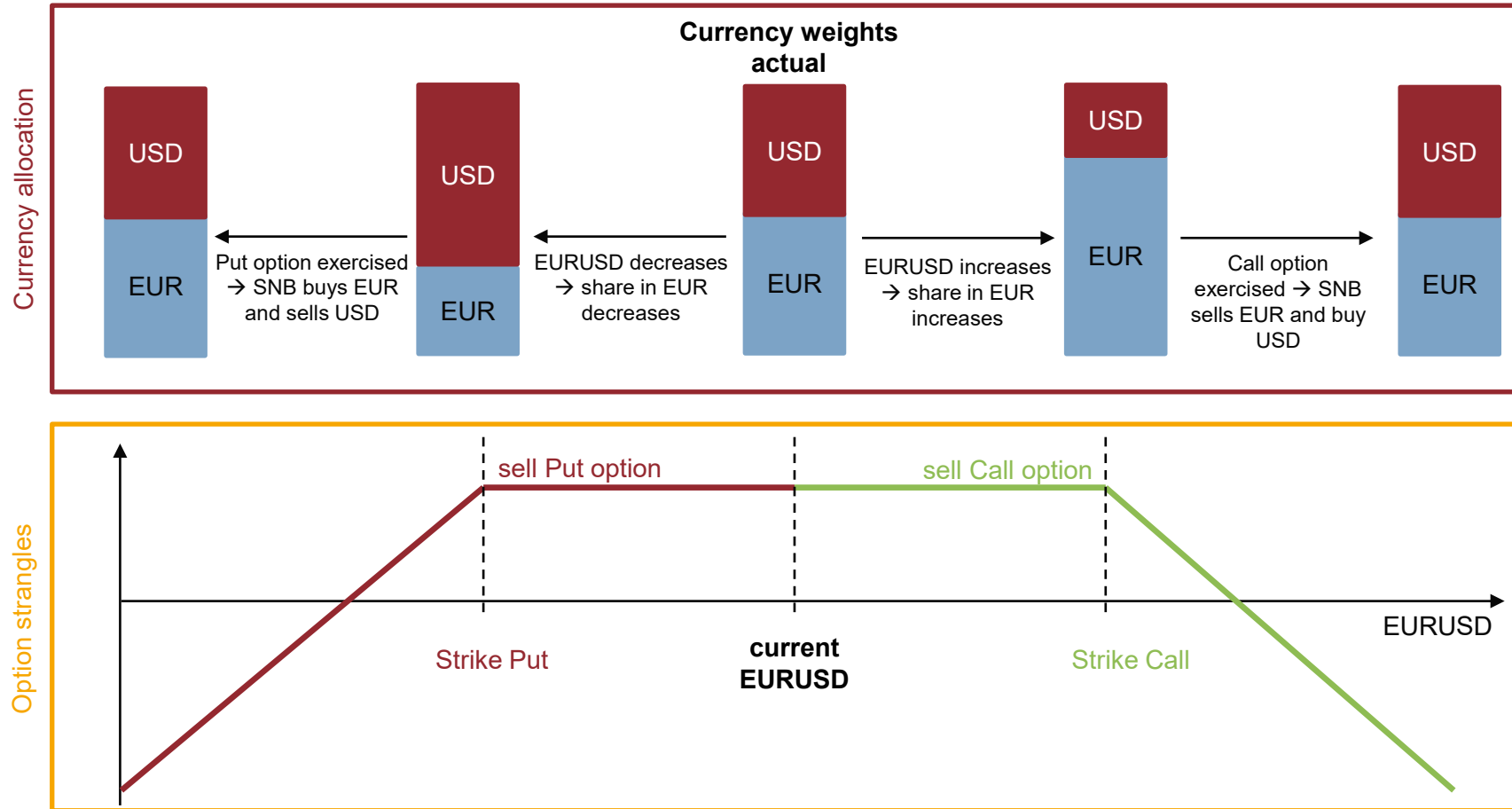
Vanilla rebalancing operations are used to bring currency weights back to target.



Rebalancing through FX option as a market
impact minimizing and cost-effective
alternative to manage FX risk

FX options rebalancing program consists of selling strangles (combination of call and put option)

e.g. sell EURUSD strangle




SNB is daily selling FX Option strangles in most liquid market segment via «request-for-quote» on electronic trading platforms

- SNB is daily selling a strangle (Call & Put Option) in EURUSD and every second day alternating between EURGBP & USDJPY respectively EURJPY & GBPUSD
- Parameters:
 - 25 Delta Strike, 1 month tenor, European option with 10 AM NY time cut
 - Liquidity providers sample rebalanced quarterly (one in, one out), putting the emphasis on consistency rather than hit ratio

EUR/USD Strangle

Spot ref. 1.12711 Hedge None Premium Spot Ccy USD











Style European Expiry Cut 10 am NY Delivery Physical Quote Style USD pips

Banks (5/16)  Swiss National Bank PB None

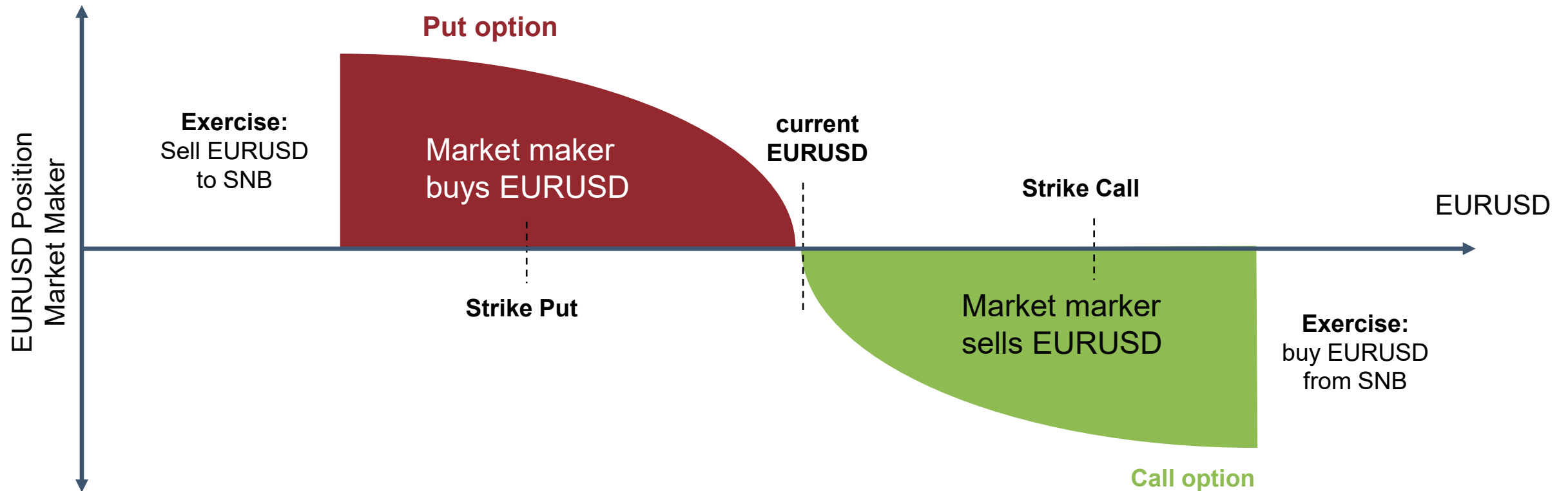
Option Type	EUR Call	EUR Put
EUR		
USD		
Strike	1.1495	1.1115
Delta %	25.96	24.64
Expiry	19-Jun-25	
Tenor	1M	
Settlement	23-Jun-25	

Strategy Set Client Strategy to save with the RFQ

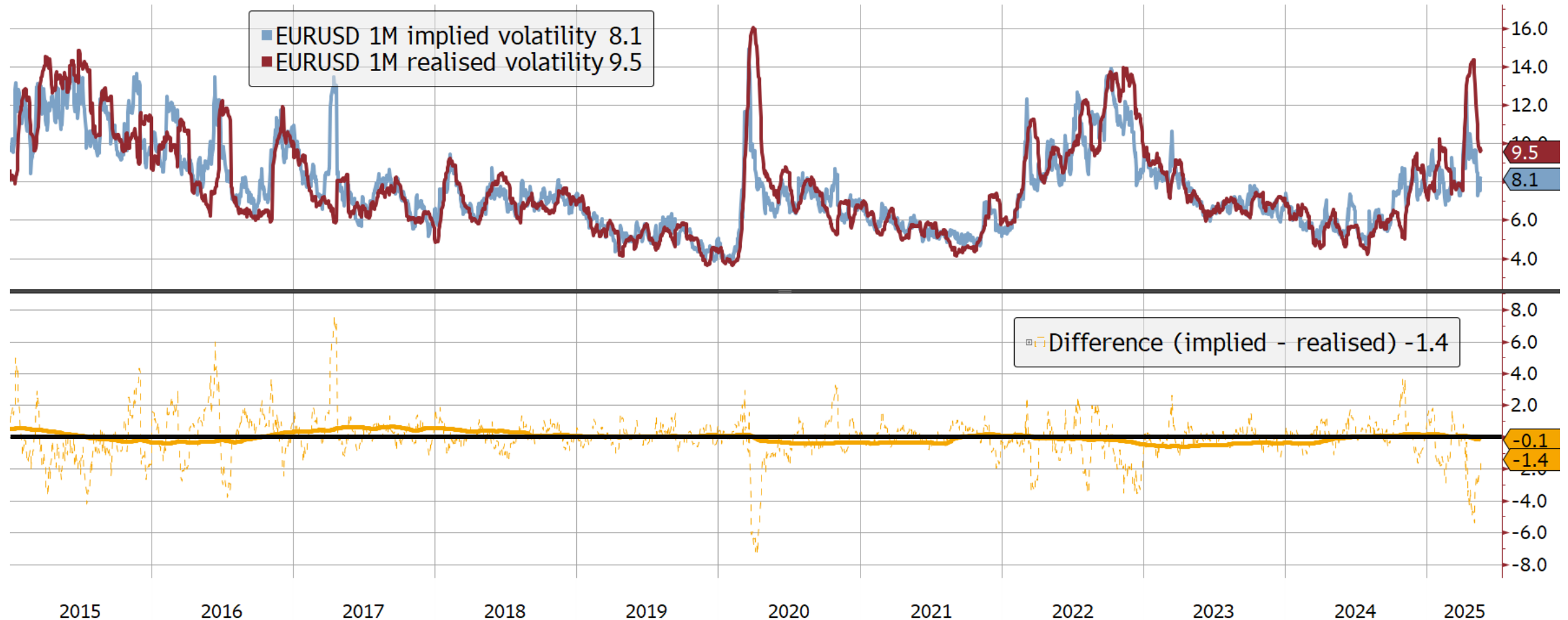
RFQ 184s

Bank	EUR Hedge	Vol Ref	Bid	Offer	Vol Ref	EUR Hedge	Bank
 Mid: 555,612	No Hedge -64.0K EUR	(8.73) (8.73)	Receive USD 560,000.00 0.00875 USD pips	Pay USD 545,920.00 0.00853 USD pips	8.63 8.63	No Hedge 1.4M EUR	 Mid: 534,994
 Mid: 559,040	No Hedge 1.8M EUR	(9.27) (8.17)	Receive USD 558,720.00 0.00873 USD pips	Pay USD 548,087.00 0.00856 USD pips	9.16 8.11	No Hedge 1.3M EUR	 Mid: 543,302
 Mid: 552,311	No Hedge -3.7M EUR	(8.65) (8.65)	Receive USD 548,940.82 0.00858 USD pips	Pay USD 555,680.23 0.00868 USD pips	8.70 8.70	No Hedge -3.7M EUR	 Mid: 552,311
 Mid: 543,302	No Hedge 1.3M EUR	(9.16) (8.11)	Receive USD 547,745.00 0.00856 USD pips	Pay USD 559,360.00 0.00874 USD pips	9.27 8.17	No Hedge 1.8M EUR	 Mid: 559,040
 Mid: 534,994	No Hedge 1.4M EUR	(8.63) (8.63)	Receive USD 545,920.00 0.00853 USD pips	Pay USD 560,000.00 0.00875 USD pips	8.73 8.73	No Hedge -198.4K EUR	 Mid: 555,612

Buyer of the FX option (Market maker) has to **gradually buy or sell to hedge its delta exposure** leading to a market minimizing FX rebalancing.

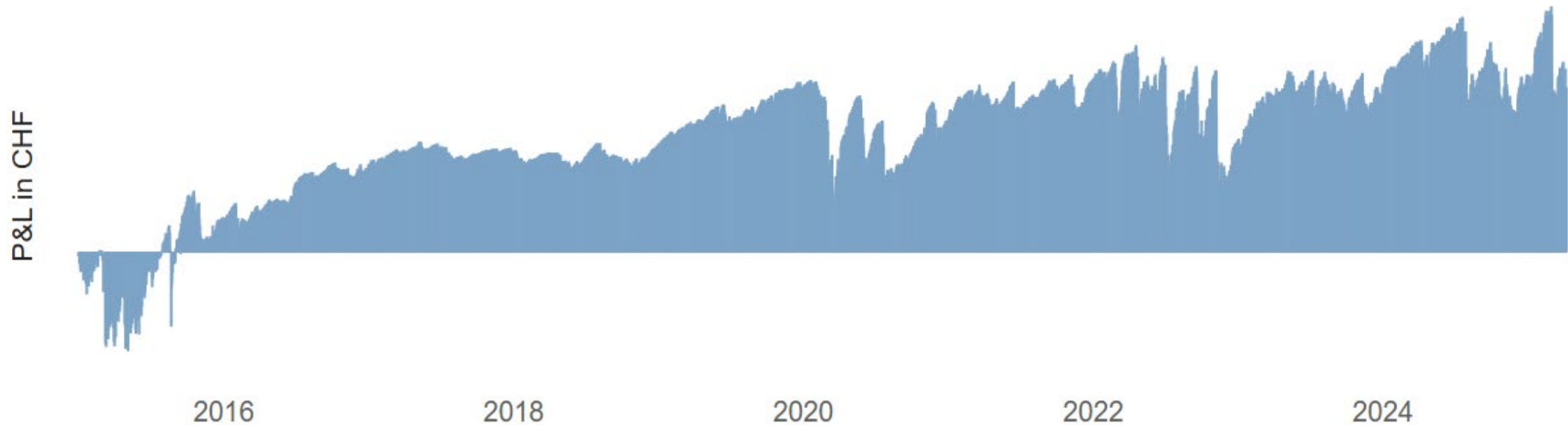


In the long run due to a risk premium for uncertainty, **implied volatility** paid as option premium is slightly **higher than realized volatility...**



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... offering opportunities for SNB to **monetize its rebalancing needs** on top of **saving transactions cost** due to less vanilla rebalancing.



⚡ Large losses might occur in case of volatility spikes requiring risk capacity.

⚡ Can lead to sizeable credit risk against market maker
(in case of SNB collateralized in CSA)

Thank you for your attention!

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