

MATHFINANCE 



Our topics:

- 26th MathFinance Conference - Early bird discount until 30th June 2026
- Publications
- Trainings & Talks
- FX-Column

Newsletter - MathFinance AG

Feb 2026

Have you registered for the 26th MathFinance Conference yet? Make sure you take advantage of our early bird discount, which is valid until 30 June 2026.

Don't miss out: this year's speakers include Blanka Horvath, Hans Bühler, Jürgen Hakala and Milind Sharma!

There will also be dedicated streams on quantitative asset management and quantitative risk management.

For more information please visit our website:

www.mathfinance.com



2. PUBLICATIONS

Uwe Wystup's FX Column "Sales Slide for the Shark Forward" in Wilmott Magazine, March Issue is available for subscribers!

3. TRAININGS

LONDON

Prof. Wystup offers a course in London on Apr 27 + 29, 2026:

<https://londonfs.com/course/FX-Exotic-Options>



WARSAW

Prof. Wystup offers following course in Warsaw on May 28 + 29, 2026

<https://ceeta.pl>



Upcoming talks:

BELGIUM

Actuarial Science Seminar

Prof. Wystup on: *Rising fees in private health insurance based on a 3-point regression*

Date: Tuesday, 10 March - 16:30h CET

Organized by: National Bank of Belgium

<https://www.nbb.be/en/news-events/events/rising-fees-private-health-insurance-based-three-point-regression>

GERMANY

SME Roundtable

Prof. Wystup on: *Document Intelligence – Extracting Information from Insurance Contracts*

Date: 19 March 2026 18:00h CET

Organized by: Nassauische Sparkasse and hosted by

Otto ID Solutions GmbH, Vilbeler Landstrasse 36, 60386 Frankfurt

<https://events.sparkasse.de/s/1ab140e1-6067-455d-a8a0-a91a9d6707b4>

4. FX COLUMN

Sales Slide for the Shark Forward

A treasurer with EUR-USD exposure is generally advised to hedge future cash flows against currency movements. The most popular, most used, most applied hedging strategy is to do nothing, wait for better times and check again tomorrow. Let me explain an alternative that has long since become successful because it is easy to sell: the shark forward.

We consider a treasurer who needs to buy USD 10M in 6 months (EUR seller = USD buyer, importer in the EUR zone or exporter in the USD zone).

EUR-USD Market

We consider the currency pair EUR-USD on 5 January 2026 with assumed market data as in [Table 1](#).

Spot	1.1700	ATM-volatility	5.75%
USD-6-M-Money-Market	3.55%	25-Delta-Risk-Reversal	+0.55%
6-M-Forward	1.1800	25-Delta-Butterfly	0.25%

Table 1: EUR-USD Market Data as of 5 January 2026

Shark Forward

The shark forward is also called forward plus or forward extra or enhanced forward or forward with profit potential. It is suitable for companies that want to fix a forward price while benefiting from a spot movement they believe in. It gives a certain range of profit potential, while maintaining a worst-case level near the forward rate. It is composed of a synthetic forward contract with an agreed forward price as the worst case and a reverse knock-out option, whose payoff profile looks like a shark fin. Whether the term 'shark' is helpful in sales efforts is still investigated. We distinguish two kinds of shark forward contracts.

(shark) forward plus: the treasurer benefits from a favorable spot movement.

(shark) forward extra: the treasurer benefits from a spot movement against his position.

Shark Forward Plus

Importer in the Euro zone: The buyer of 10 M USD, who needs protection against a rising USD (equivalent to falling EUR-USD exchange rate), but expects the USD to weaken, can get a worst case of 1.1700, equal to the current spot and only 1 big figure worse than the outright forward rate, a participation level of 1.1700 and an American style knock out trigger of 1.2400. The market mid price of this strategy is -2,000 EUR, i.e. the treasurer trades the shark forward plus for zero cost and the sell-

side keeps EUR 2,000 as a total profit (to be split between sales and trading). The exchange rate the treasurer gets is **max(worst case, spot at maturity)**, as we are looking at the following scenarios.

- If the spot at maturity is below 1.1700, then the client is entitled to buy 10 M USD at the worst case 1.1700.
- If the spot at maturity is above 1.1700 and the trigger has not been touched, then the treasurer can buy 10 M USD at the spot price, higher and better than the worst case.
- If the trigger has been touched, then the treasurer must buy 10 M USD at the worst case.

In both cases the treasurer has a guaranteed worst-case protection at zero cost and can participate in a favorable spot movement. A comparison with an outright forward is illustrated in **Figure 1**, which resembles a shark fin above the water surface.

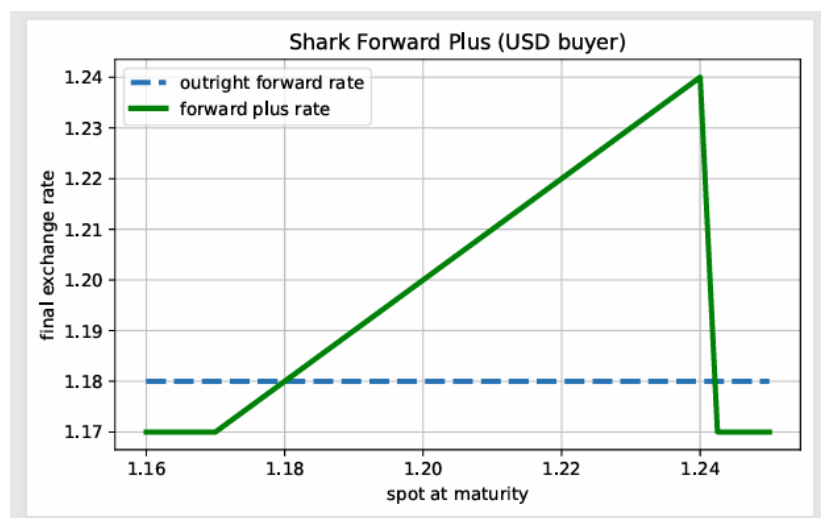


Figure 1: EUR-USD 6 Months Shark Forward Plus: Comparing the Outright Forward Rate with the Effective EXchange Rate on the Spot Space.

The Compliant Sales Slide

This is easy to sell: the treasurer locks in a guaranteed worst case of 1.1700 EUR-USD, the current spot rate, for his 10M USD purchase, participates in a weaker USD up to level of 1.2400 EUR-USD, and gets the deal for free. The sales slide in **Figure 1** supports the argument that the treasurer gives up very little (the 1 big figure difference between the spot 1.1700 and the forward 1.1800) and gets the entire participation range between 1.1700 and 1.2400 for free.

The sell-side makes a total of EUR 2,000 profit (maybe divided into EUR 800 sales margin and EUR 1,200 traders' mid-offer spread) and can recycle this structured product multiple times to make it a profitable flow product.

Too good to be true?

First, one may argue that if spot rises to levels above 1.2400, so the barrier is hit and the effective exchange rate bounces back to 1.1700. That might feel like a missed opportunity when it happens, but one can counter-argue that the treasurer still gets the 1.1700 exchange rate, which is today's spot and which he might have used as a budget rate anyway. And even compared to an outright forward, this is only 1 big figure worse. So compared to the popular do-nothing strategy and compared to the outright forward contract, the shark forward plus can still be viewed advantageous.

Second, the wide range of participation shown in **Figure 1** isn't the full story. It is an example of a fully correct, fully compliant scenario illustration, which is, however, still deceiving. I show in **Figure 2** how the participation range shrinks on a wider spot space.

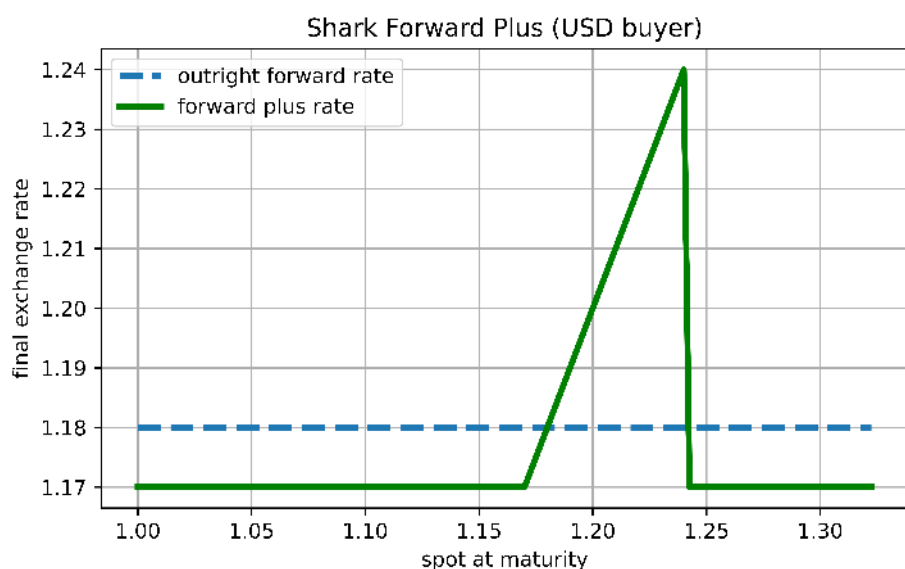


Figure 2: Identical EUR-USD 6-Months Shark Forward Plus: Comparing the Outright Forward Rate with the Effective Exchange Rate on a Wider Spot Space

The sales slide illustrates the scenarios correctly; however, it conceals the many scenarios in which the treasurer faces the worst-case scenario. The upper barrier is hit with 19% probability, and the spot will be below worst case 1.1700 at maturity with 43% probability.

Decomposition

The graphs in **Figure 1** and **Figure 2** are not payoffs. The y-axis shows the *effective exchange rate* the treasurer gets in 6 months depending on the prevailing spot. This type of illustration is more likely what the treasurer is interested in. The structurer on the sell-side needs to compose the shark forward from a range of standard derivatives products. In our example, the treasurer buys a vanilla USD call

= EUR put option struck at worst case and sells a vanilla USD put = EUR call option struck at worst case. In combination this is a synthetic USD buyer forward contract. Since the synthetic forward rate is above (i.e. worse) the market outright forward rate, the initial market value of the synthetic forward contract is negative and allows the treasurer to go shopping and buy a EUR call = USD put reverse knock-out option (RKO), see **Figure 3**. The barrier is chosen to get a total package value slightly negative.

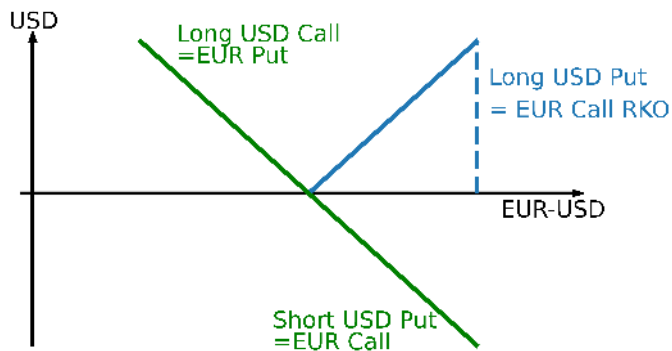


Figure 3: EUR-USD 6-Months Shark Forward Plus: Payoff Diagrams of the Building Blocks

Many trading systems combine the short vanilla EUR call and the long RKO EUR call into a short reverse knock-in (RKI) EUR call, see **Figure 4**.

The *general idea* for structured forward contracts with worst case is:

Synthetic Forward with Worst Case + Participation in Market View

In the *specific case* of a shark forward plus this means:

$$\begin{aligned} & \text{EUR Put} - \text{EUR Call} + \text{EUR Call RKO} \\ & = \text{EUR put} - \text{EUR Call RKI} \end{aligned}$$

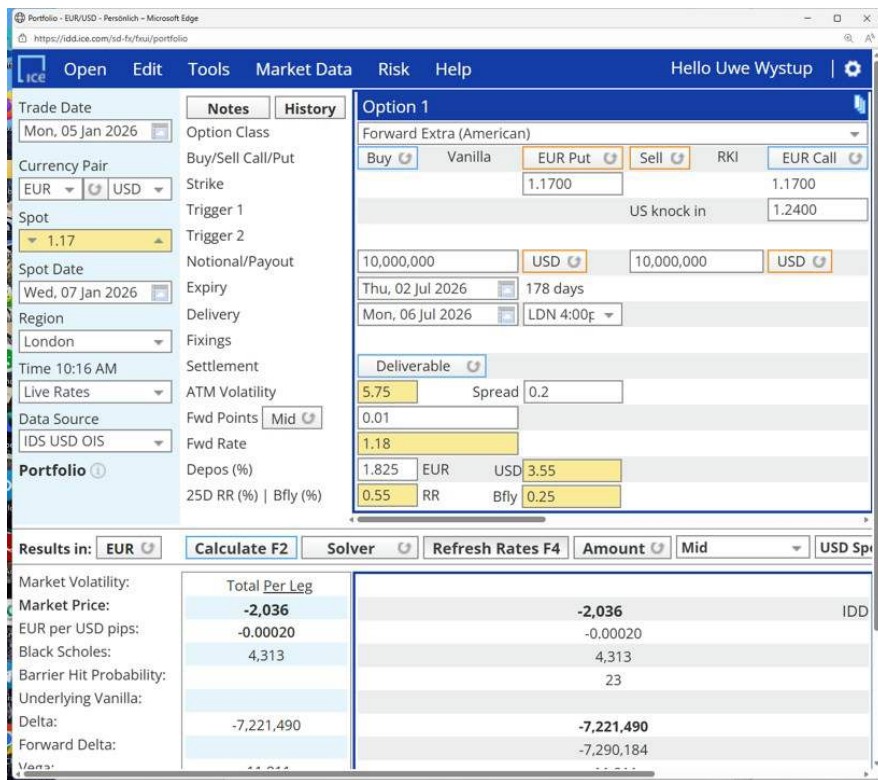


Figure 4: EUR-USD 6-Months Shark Forward Plus (labelled Forward Extra (American) in ICE Data Services).

Summary

1. The shark forward can turn out to be a very attractive hedging structure, where all parties involved feel they get a deal.
2. It is easy to explain and easy to sell in certain market conditions: contango forward for the buyer of the domestic (counter) currency or backwardation forward for the buyer of the foreign currency.
3. Fully compliant scenario illustrations may not show event probabilities and can hence further support sales efforts.

REFERENCES

(1) Uwe Wystup: FX Options and Structured Products, Second Edition, Wiley 2017.

24 Feb. 2026 – MathFinance AG – Kaiserstraße 50 – 60329 Frankfurt am Main – Germany – www.mathfinance.com

WE WANT TO

Do you have suggestions, questions or comments? Then contact us at: info@mathfinance.com



HEAR FROM YOU

We look forward to your feedback! You are welcome to forward our newsletter to colleagues, partners and other interested parties.

Not yet receiving our newsletter?
Sign up [here](#)

25 February 2026

Mathfinance AG

Kaiserstraße 50, 60329, Frankfurt am Main

info@mathfinance.com

www.mathfinance.com

Follow us on

[Instagram](#)

[LinkedIn](#)

This E-Mail was sent to **{{ contact.EMAIL }}**
You have received this e-mail because you have
subscribed to our newsletter.

[unsubscribe](#)