

## ➔ 8. boosted forward

MIFID complexity

FX 3

### product description

By entering into a boosted forward deal, your company acquires a right and an obligation to sell foreign currency at an exchange rate higher (i.e. more advantageous) than the standard forward rate. In return for the better exchange rate, your company is willing to run the risk that both your right and your obligation (i.e. the boosted forward deal itself) is terminated if at any time during the tenor the exchange rate reaches a so-called trigger (in this case “knock-out”) level.

The boosted forward is built up of a barrier right and a barrier obligation to sell foreign currency. If the exchange rate reaches the knock out trigger level fixed in advance, both the right and the obligation are terminated in the same time.

Consequently, your company:

- has a right to sell foreign currency at the boosted forward rate (which is above the forward rate), provided that the spot rate on expiry is below the boosted forward rate, but above the knock out trigger level, and it does not reach the knock out level over the tenor
- has an obligation to sell foreign currency at the boosted forward rate (which is above the forward rate), provided that the spot rate on expiry is above the boosted forward rate, and it does not reach the knock out level over the tenor
- has neither right nor obligation, provided that the EUR/HUF rate reaches the trigger level, because in this case, both the right and the obligation is terminated at the boosted forward rate

There are two types of knock-out trigger levels:

- European type trigger: the termination of the deal depends only on the spot rate at 12 p.m. on the expiry date.
- American type trigger: the deal may terminate at any time during the tenor. The trigger is available also as a partial/window barrier, when the trigger exists only over a certain part time period (window), which is fixed in advance.

For a given boosted forward rate a European type trigger has a less favourable knock out level than an American trigger so the right to sell foreign currency terminates after a smaller appreciation of the forint. However, in the case of a European type trigger, the exchange rate monitoring is not over the whole tenor, only at 12 p.m. on the expiry date will be decided whether the right to sell will terminate or not based on the spot exchange rate at 12 p.m. on the expiry date.

In summary: before the trigger level is reached, the deal is like a standard forward, but if the trigger level is reached, it terminates.

It is important to see that the deal might cease to exist when it would be the most necessary and valuable for the client. As after the termination the client's underlying exposure of the terminated deal remains unhedged, our Bank does not recommend hedging more than 50% of the treasury limit with products that can terminate before maturity.

Costs and revenues of the underlying exposure can compensate both the potential gains and losses of the deal, as long as the company assesses its underlying exposure and market situation properly. The deals are made in order to stabilize the results, not to realise standalone financial gain.

**example for an American type trigger:** a Hungarian exporter expects to receive a year from now EUR 100 000 in revenues. Let us assume that the current spot exchange rate is 290 EUR/HUF, and the one-year forward rate is 302 EUR/HUF. The company would like to achieve a level of protection that is more advantageous than the forward rate, and it does not expect the EUR/HUF rate to drop below or reach 274 in the next year. Because it is willing to run the risk that the hedge can be terminated, it enters into a boosted forward deal with 320 as a boosted forward rate and 274 as a knock-out trigger level.

parameters of the boosted forward	
notional amount	EUR 100 000
currency pair	EUR/HUF
tenor	1 year
expiry date (date of exchange rate monitoring)	2 business days before end of tenor
exchange rate monitoring	EUR/HUF spot rate at 12:00 p.m. (CET) on the expiry date
settlement date	end of tenor
spot rate prevailing at pricing	290 EUR/HUF
forward rate prevailing at pricing	302 EUR/HUF
ATMF volatility	15%
boosted forward rate	320 EUR/HUF
trigger level (knock-out)	274 EUR/HUF
knock-out level monitoring	continuously, the EUR/HUF spot rate from the trade date until 12:00 p.m. (CET) on the expiry date
transaction cost on the trade date	zero
possible scenarios on expiry depending on the spot market rates at 12:00 p.m. on the expiry date	
A) the exchange rate never reaches the 274 EUR/HUF level during the tenor	
A/1) exchange rate is below 320 EUR/HUF	your company has a right to sell EUR 100 000 at a rate of 320 EUR/HUF
A/2) exchange rate is above 320 EUR/HUF	your company has an obligation to sell EUR 100 000 at a rate of 320 EUR/HUF
B) the exchange rate reaches the 274 EUR/HUF level during the tenor	the hedge ceases to exist, in other words, it is as if no transaction were made at all
best-case scenario (treasury transaction on a standalone basis)	During the tenor, the exchange rate never reaches 274EUR/HUF, and on the expiry date the EUR/HUF spot rate is below 320 but above 274. In this case your company sells EUR 100 000 at a rate of 320 EUR/HUF.
worst-case scenario (treasury transaction on a standalone basis)	During the tenor, the exchange rate never reaches the 274 EUR/HUF level, and on expiry the EUR/HUF rate is above 320. In this case, your company sells EUR 100 000 at a rate of 320 EUR/HUF. The resulting foreign exchange loss can be unlimited.

#### the market value of the position two weeks after the trade date from the customer's point of view

market value: the cost of closing the position calculated at a given point of time and under the prevailing market terms and conditions (the deal can be closed with profit if the market value is positive)

(assumption: except for the spot market rate, all other factors are unchanged)

The number of possible outcomes is unlimited, and there may be even more extreme values than the ones presented below.

spot rate in two weeks (EUR/HUF)	market value of the position (HUF)
270	0
300	- 458 000
330	- 1 589 000

#### financial outcome of some possible scenarios on the expiry date, if the exchange rate does not reach the knock out level during the tenor

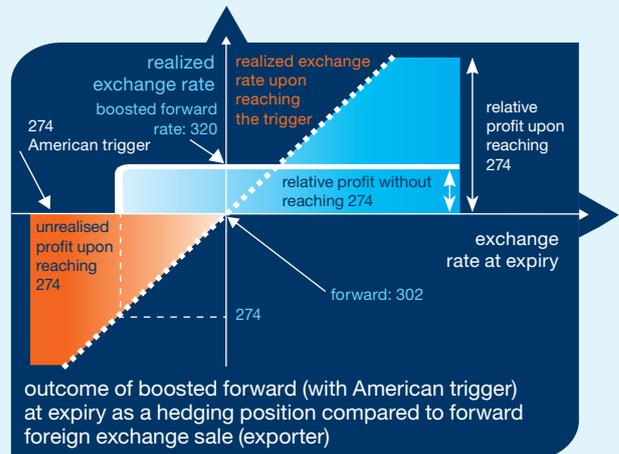
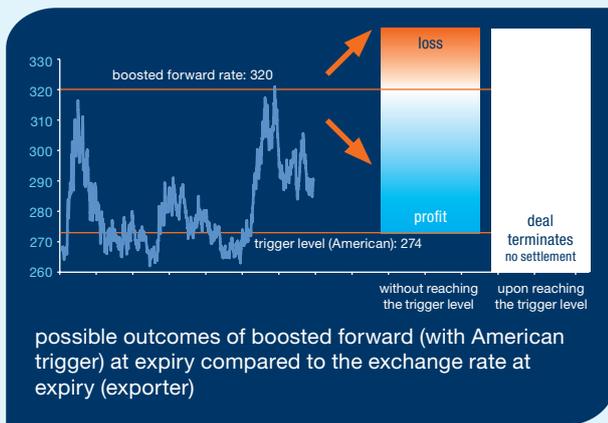
The number of possible financial outcomes is unlimited, and there may be even more extreme values than the ones presented below.

exchange rate on the expiry date (EUR/HUF)	underlying exposure's financial outcome with no treasury transaction (HUF)	profit / loss of the product on a standalone basis (HUF)	underlying exposure's financial outcome with the treasury transaction, hedged position (HUF)
280	$280 * 100\,000 = 28\,000\,000$	$(320 - 280) * 100\,000 = 4\,000\,000$	$320 * 100\,000 = 32\,000\,000$
300	$300 * 100\,000 = 30\,000\,000$	$(320 - 300) * 100\,000 = 2\,000\,000$	
330	$330 * 100\,000 = 33\,000\,000$	$(320 - 330) * 100\,000 = -1\,000\,000$	

#### financial outcome of some possible scenarios on the expiry date, if the exchange rate reaches the knock out level during the tenor

The number of possible financial outcomes is unlimited, and there may be even more extreme values than the ones presented below.

exchange rate on the expiry date (EUR/HUF)	underlying exposure's financial outcome with no treasury transaction (HUF)	profit / loss of the product on a standalone basis (HUF)	underlying exposure's financial outcome with the treasury transaction, hedged position (HUF)
280	$280 * 100\,000 = 28\,000\,000$	deal terminated	$280 * 100\,000 = 28\,000\,000$
300	$300 * 100\,000 = 30\,000\,000$	deal terminated	$300 * 100\,000 = 30\,000\,000$
330	$330 * 100\,000 = 33\,000\,000$	deal terminated	$330 * 100\,000 = 33\,000\,000$



The chart illustrates the possible financial outcomes; profit or loss of the transaction may be balanced out by the financial outcome of the underlying exposure. The evolution of the historical exchange rate on the chart only intends to show a comparison between the level(s) of the transaction and the exchange rates prevailing in the past. Future evolution of the exchange rate and exchange rate fluctuations until maturity are unknown in advance, extent of profit or loss depends on the exchange rate level upon expiry. Number of possible outcomes is infinite and there may be even more extreme values than the ones presented below. The chart is not suitable to forecast the market value of the position during the tenor.

**example for a European type trigger:** a Hungarian exporter expects to receive a year from now EUR 100 000 in revenues. Let us assume that the current spot exchange rate is 290 EUR/HUF, and the one-year forward rate is 302 EUR/HUF. The company would like to achieve a level of protection that is more advantageous than the forward rate, and it does not expect the EUR/HUF rate to appreciate below 276 on the expiry date. Because it is willing to run the risk that the hedge can be terminated, it enters into a boosted forward deal with 310 as a boosted forward rate and 276 as a European knock-out trigger level.

parameters of the boosted forward	
notional amount	EUR 100 000
currency pair	EUR/HUF
tenor	1 year
expiry date (date of exchange rate monitoring)	2 business days before end of tenor
exchange rate monitoring	EUR/HUF spot rate at 12:00 p.m. (CET) on the expiry date
settlement date	end of tenor
spot rate prevailing at pricing	290 EUR/HUF
forward rate prevailing at pricing	302 EUR/HUF
ATMF volatility	15%
boosted forward rate	310 EUR/HUF
trigger level (knock-out)	276 EUR/HUF
knock-out level monitoring	EUR/HUF spot rate at 12:00 p.m. (CET) on the expiry date
transaction cost on the trade date	zero
possible scenarios on expiry depending on the spot market rates at 12:00 p.m. on the expiry date	
the exchange rate is below 276 EUR/HUF	the hedge ceases to exist, in other words, it is as if no transaction was made at all
exchange rate is between 276 and 310 EUR/HUF	your company has a right to sell EUR 100 000 at a rate of 310 EUR/HUF
exchange rate is above 310 EUR/HUF	your company has an obligation to sell EUR 100 000 at a rate of 310 EUR/HUF
best-case scenario (treasury transaction on a standalone basis)	On the expiry date the EUR/HUF spot rate is below 310 but above 276 In this case your company sells EUR 100 000 at a rate of 310 EUR/HUF.
worst-case scenario (treasury transaction on a standalone basis)	On expiry the EUR/HUF rate is above 310. In this case, your company has an obligation to sell EUR 100 000 at a rate of 310 EUR/HUF. The resulting foreign exchange loss can be unlimited.

### the market value of the position two weeks after the trade date from the customer's point of view

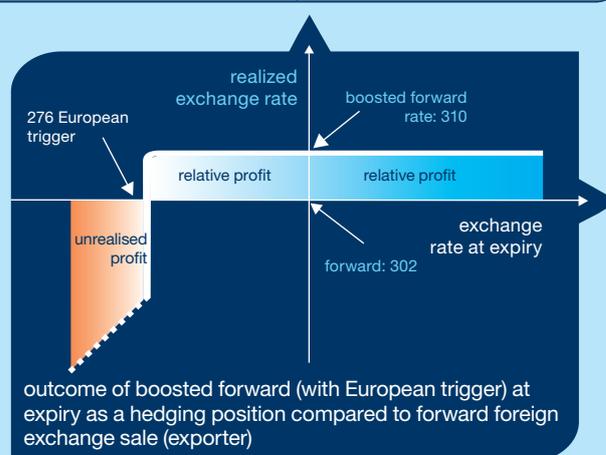
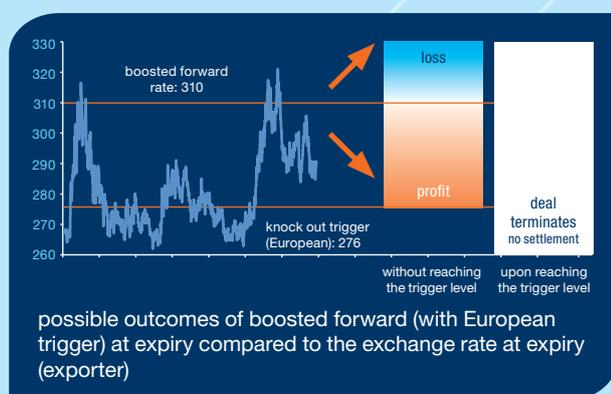
market value: the cost of closing the position calculated at a given point of time and under the prevailing market terms and conditions (the deal can be closed with profit if the market value is positive) (assumption: except for the spot market rate, all other factors are unchanged)  
The number of possible outcomes is unlimited, and there may be even more extreme values than the ones presented below.

spot rate in two weeks (EUR/HUF)	market value of the position (HUF)
270	243 000
300	- 748 000
330	- 3 467 700

### Financial outcome of some possible scenarios on the expiry date

The number of possible financial outcomes is unlimited, and there may be even more extreme values than the ones presented below.

exchange rate on the expiry date (EUR/HUF)	underlying exposure's financial outcome with no treasury transaction (HUF)	profit / loss of the product on a standalone basis (HUF)	underlying exposure's financial outcome with the treasury transaction, hedged position (HUF)
270	$270 * 100\,000 = 27\,000\,000$	deal terminated	$270 * 100\,000 = 27\,000\,000$
300	$300 * 100\,000 = 30\,000\,000$	$(310 - 300) * 100\,000 = 1\,000\,000$	$310 * 100\,000 = 31\,000\,000$
330	$330 * 100\,000 = 33\,000\,000$	$(310 - 330) * 100\,000 = -2\,000\,000$	$310 * 100\,000 = 31\,000\,000$



The chart illustrates the possible financial outcomes; profit or loss of the transaction may be balanced out by the financial outcome of the underlying exposure. The evolution of the historical exchange rate on the chart only intends to show a comparison between the level(s) of the transaction and the exchange rates prevailing in the past. Future evolution of the exchange rate and exchange rate fluctuations until maturity are unknown in advance, extent of profit or loss depends on the exchange rate level upon expiry. Number of possible outcomes is infinite and there may be even more extreme values than the ones presented below. The chart is not suitable to forecast the market value of the position during the tenor.

### advantages of transaction

- opportunity to obtain an exchange rate much better than the forward rate
- no cost or separate fee charged
- the boosted forward rate as well as the knock-out / trigger level can be tailored to your expectations, plans and budget. Changing a parameter entails change in the rest
- if the hedge is no longer needed, the position can be closed with a counter deal at any time before the expiry date. This may result in profit or loss, depending on the prevailing market conditions.

### risks of transaction

- after reaching the knock-out trigger level, the deal, including protection against the appreciation of the forint, is terminated
- if during the exchange rate monitoring (in case of an American trigger during the whole tenor until expiry date at 12:00 p.m., in case of an European trigger only on expiry date at 12:00 p.m.) the spot rate does not reach the knock-out level and on expiry it is above the boosted forward rate, your company will be obliged to sell foreign currency at the boosted forward rate with an unlimited foreign exchange loss potential
- if you decide to close your position before expiry by means of a counter deal, you may incur a loss
- the market value of options is determined by the evolution of the spot exchange rate, the interest rate levels of the two currencies for the given tenor, the difference between the interest rates for the given tenor, the number of days remaining until the expiry of the transaction, and the evolution of market volatility. The drop in market liquidity could lead to a bid-offer spread widening, which could also affect the market value of the position negatively.
- the change in market value could lead to an obligation of temporary or permanent increase of collateral which may affect the company's liquidity and solvency negatively. In case of exceptional market circumstances (e.g. money market and other crises) the negative market value of the position from the Client's viewpoint

could reach such extreme levels that providing sufficient collateral may cause the company to become insolvent. Moreover, failure to provide additional collateral in time might lead to the closure of open positions thus prompt realization of losses, which may affect the company's liquidity and solvency negatively.

- chapter I/b. entitled "Risk Factors" of "K&H Treasury Handbook of Market Risk Management" lists those risks that do not originate exclusively from the nature of the product described here but rather from other factors.

**product structure**

The boosted forward is built up of a barrier right and a barrier obligation to sell foreign currency. The section on barrier options of Chapter 1/c. entitled "5 Basic Products" of "K&H Treasury Handbook of Market Risk Management" also applies to this product.

