

➔ 7. forward extra

MIFID complexity

FX 3

product description

A forward extra deal combines the security of a forward deal with the flexibility of an option. If you have a concrete idea of the maximum forint weakening that would be advantageous to your company, you can enjoy the benefits of a pure right to sell in exchange for a level of protection that is somewhat lower (i.e. less advantageous) than the normal forward rate.

The forward extra is composed of a right to sell and a barrier obligation to sell. The obligation will be triggered when the exchange rate reaches a specific knock-in level:

- consequently, your company acquires a right to sell your foreign currency at the forward extra rate (which is lower than the forward rate) provided that the spot rate on expiry is below the forward extra rate, and if its above the forward rate as well, but in this case the option will not be exercised
- if the EUR/HUF rate reaches the trigger level, your obligation to sell will become effective at the forward extra rate

there are two types of this “knock-in” trigger level:

- European type trigger: the question of whether the obligation becomes effective at the forward extra rate depends only on the spot rate at 12 p.m. on the expiry date.
- American type trigger: the obligation may become effective at any time during the term. 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 forward extra rate a European type trigger has a less favourable knock in level than an American trigger, so the obligation to sell foreign currency may come into effect at a smaller weakening of the forint. However in case of a European type trigger, the exchange rate is not monitored during the whole tenor, it will be decided whether the obligation to sell will come into effect or not based on the spot exchange rate at only 12 p.m.. on the expiry date. In summary: before the trigger level is reached, the arrangement works like a standard put option, but if the trigger level is reached, it turns into a normal FX forward at the same strike price.

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 expects that on the expiry date the spot rate will be more advantageous than the forward rate, but it would like to have 100% protection against a potential appreciation of the forint. It cannot afford a EUR/HUF exchange rate below 300, but it expects that the EUR/HUF rate will not reach 328 during the tenor of the deal. The company is willing to take the risk that if the spot rate reaches 328 EUR/HUF at any time during the term (including the expiry date), it will only have a forward contract at a strike price of 300 EUR/HUF (including a right and an obligation), thus it enters into a forward extra transaction at a forward extra rate of 300 EUR/HUF with an American trigger at 328 EUR/HUF.

Altogether the company enjoys protection against the appreciation of the forint up to the 300 EUR/HUF rate, and can benefit from a potential depreciation of the forint until the 328 EUR/HUF rate. When the 328 level is reached, the company's obligation to sell foreign currency will be triggered, so then the conversion must take place at 300 (forward extra) EUR/HUF exchange rate on the expiry date.

parameters of the forward extra with American trigger	
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%
forward extra rate	300 EUR/HUF
trigger level (American)	328 EUR/HUF
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) during the tenor or on the expiry date the exchange rate never reaches the 328 EUR/HUF rate	
A/1) exchange rate below 300 EUR/HUF	your company can sell EUR 100 000 at a rate of 300 EUR/HUF
A/2) exchange rate above 300 EUR/HUF	Neither the right nor the obligation will be exercised. Your company can sell euros at the spot rate prevailing on expiry.
B) during the tenor or on the expiry date, the exchange rate reaches 328 EUR/HUF	your company has a forward deal for EUR 100 000 at a rate of 300 EUR/HUF
best-case scenario (treasury transaction on a standalone basis)	The EUR/HUF spot rate is below 300 on the expiry date. In this case your company can sell EUR 100 000 at a rate of 300 EUR/HUF.
worst-case scenario (treasury transaction on a standalone basis)	At any time during the tenor, the EUR/HUF rate reaches the 328 trigger level, and on the expiry date the EUR/HUF spot rate is above 300. In this case your company has to sell EUR 100 000 at a rate of 300 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	1 667 000
300	- 1 147 000
330	- 3 970 000

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

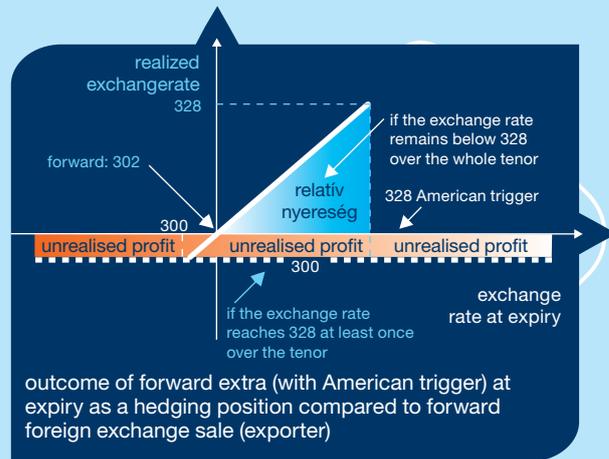
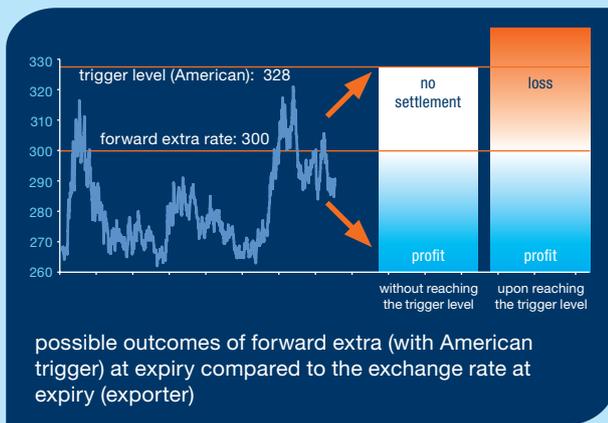
The number of possible financial outcomes is unlimited, and there may be even more extreme values than the ones presented below.

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)
270	$270 * 100\,000 = 27\,000\,000$	$(300 - 270) * 100\,000 = 3\,000\,000$	$300 * 100\,000 = 30\,000\,000$
300	$300 * 100\,000 = 30\,000\,000$	0	$300 * 100\,000 = 30\,000\,000$
320	$320 * 100\,000 = 32\,000\,000$	0	$320 * 100\,000 = 32\,000\,000$

financial outcome of some possible scenarios on the expiry date, if the exchange rate reaches the knock in 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)
270	$270 * 100\,000 = 27\,000\,000$	$(300 - 270) * 100\,000 = 3\,000\,000$	$300 * 100\,000 = 30\,000\,000$
300	$300 * 100\,000 = 30\,000\,000$	0	
330	$330 * 100\,000 = 33\,000\,000$	$(300 - 330) * 100\,000 = - 3\,000\,000$	



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 the 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 expects the spot rate on expiry to be better than the forward rate, but it would like to enjoy 100% protection against a potential appreciation of the forint. It cannot afford a EUR/HUF rate below 300, but expects that on the expiry date, the EUR/HUF rate will not reach 323. The company is willing to take the risk that that in case the EUR/HUF exchange rate reaches or goes above the level of 323 on the expiry date, it will only have a forward contract at a strike price of 300 EUR/HUF, therefore it enters into a forward extra transaction at a forward extra rate of 300 EUR/HUF with an European type trigger at 323 EUR/HUF. All in all, the company enjoys protection against the appreciation of the forint up to the 300 EUR/HUF (forward extra) rate, and can benefit from a potential depreciation of the forint until the 323 EUR/HUF rate. When the 323 level is reached on the expiry day, the company's obligation to sell foreign currency will be triggered, so then the conversion must take place at 300 EUR/HUF (forward extra) rate on the expiry date.

parameters of the forward extra with European trigger

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%
forward extra rate	300 EUR/HUF
trigger level (European)	323 EUR/HUF
trigger 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

A) exchange rate below 323 EUR/HUF at p.m. on the expiry date	
A/1) exchange rate below 300 EUR/HUF	your company can sell EUR 100 000 at a rate of 300 EUR/HUF
A/2) exchange rate between 300 and 323 EUR/HUF	Your company will not exercise its right. Your company can sell euros at the spot rate prevailing on expiry.
B) exchange rate above 323 EUR/HUF at p.m. on the expiry date	your company has a forward deal for EUR 100 000 at a rate of 300 EUR/HUF
best-case scenario (treasury transaction on a standalone basis)	The EUR/HUF spot rate on the expiry date is below 300. In this case your company can sell EUR 100 000 at a rate of 300 EUR/HUF.
worst-case scenario (treasury transaction on a standalone basis)	The EUR/HUF rate is above 323 on the expiry date. In this case your company has to sell EUR 100 000 at a rate of 300 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 perspective

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)

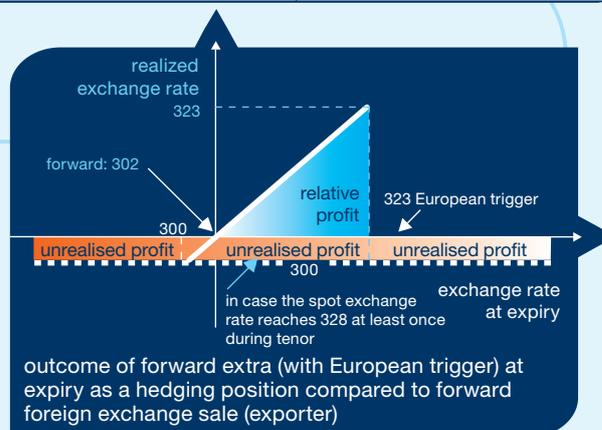
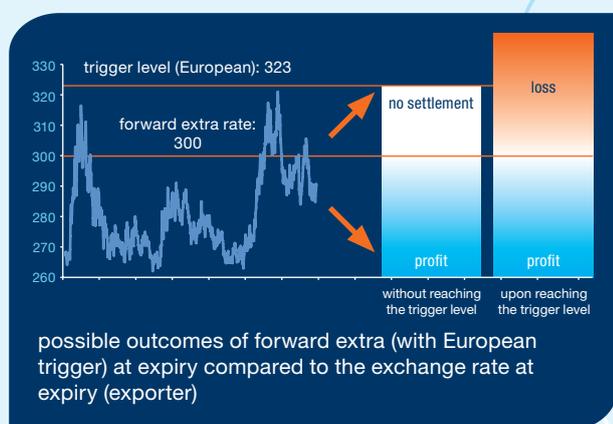
The number of possible outcomes is unlimited, and there may be even more extreme values than the ones presented below.

spot árfolyam két hét múlva (EUR/HUF)	pozíció piaci értéke (HUF)
270	1 581 000
300	- 1 072 000
330	- 4 044 000

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	$270 * 100\,000 = 27\,000\,000$	$(300 - 270) * 100\,000 = 3\,000\,000$	$300 * 100\,000 = 30\,000\,000$
300	$300 * 100\,000 = 30\,000\,000$	0	$300 * 100\,000 = 30\,000\,000$
310	$310 * 100\,000 = 31\,000\,000$	0	$310 * 100\,000 = 31\,000\,000$
330	$330 * 100\,000 = 33\,000\,000$	$(300 - 330) * 100\,000 = -3\,000\,000$	$300 * 100\,000 = 30\,000\,000$



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

- full protection against a possible appreciation of the forint, the minimum exchange rate of the future currency selling transactions is fixed in advance (the worst-case scenario is known)
- as long as the spot rate does not reach the trigger level, the company can take full advantage of exchange rate levels better than the forward rate
- no cost or separate fee charged
- the forward extra rate and the 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

- the protection level is less favourable than with a normal forward deal
- after the trigger level has been reached, the put option will be replaced by a forward contract, whereby the company will be obliged to sell its currency below the normal forward rate.
- 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 forward extra is built up of a right to sell and a barrier obligation to sell. The sections on plain vanilla options and barrier options of Chapter I/c. entitled "5 Basic Products" of "K&H Treasury Handbook of Market Risk Management", also applies to this product.

