II/b exposure to foreign exchange rates - treasury deals for importers

types of products

1. forward and average forward

MIFID complexity
FX 1

1.a. hedging of foreign currency expenses for a single expiry

product description

You can fix the exchange rate of the conversion of a foreign currency expense due some time in the future at the present point in time already, with respect to the future date in question. Whatever the spot exchange rate upon expiry is, your company will buy the foreign currency needed at the forward rate set as part of this deal. In other words, your company will acquire a right as well as an obligation to buy foreign currency upon the trade date, and both the foreign exchange gains and losses can be unlimited in theory.

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: a Hungarian importer expects to incur a year from now EUR 100 000 in expenses. Let us assume that the current spot exchange rate is 290 EUR/HUF. This company wants to eliminate the foreign exchange risk by entering into a forward transaction for buying EUR 100 000. Upon the trade date, the EUR/HUF forward rate is 12 forint above the spot rate for one-year forward transactions. The difference is the result of the fact that the one-year HUF interest rate is higher at the time of the deal than the one-year EUR interest rate.

parameters of the forward	
notional amount	EUR 100 000
currency pair	EUR/HUF
tenor	1 year
expiry date	end of first year
spot rate prevailing at pricing	290 EUR/HUF
forward rate	302 EUR/HUF
transaction cost on the trade date	zero
possible scenarios on expiry	
exchange rate below 302 EUR/HUF	your company buys EUR 100 000 at a rate of 302 EUR/HUF
exchange rate at or above 302 EUR/HUF	
best-case scenario (treasury transaction on a standalone basis)	The EUR/HUF spot rate on the expiry date is above 302. In this case your company buys EUR 100 000 at a rate of 302 EUR/HUF.
worst-case scenario (treasury transaction on a standalone basis)	The EUR/HUF spot rate on the expiry date is below 302. In this case, your company buys EUR 100 000 at a rate of 302 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)

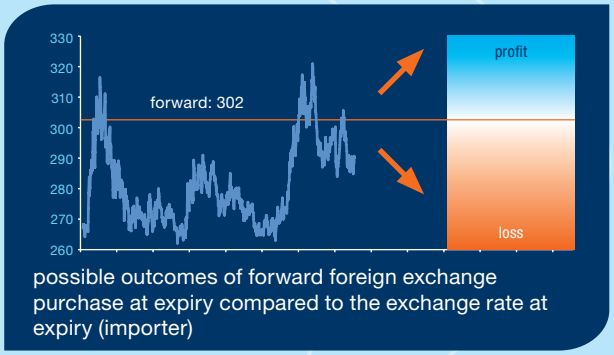
The number of possible outcomes is unlimited, and there may be even more extreme values than the ones presented below.

spot rate in two weeks (EUR/HUF)	market value of the position (HUF)
270	- 2 050 000
300	950 000
330	3 950 000

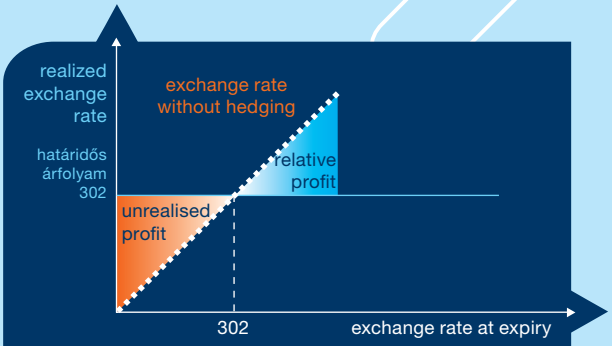
financial outcome of some possible scenarios on the expiry date

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	(270 – 302) * 100 000 = - 3 200 000	302 * 100 000 = 30 200 000
300	300 * 100 000 = 30 000 000	(300 – 302) * 100 000 = - 200 000	
330	330 * 100 000 = 33 000 000	(330 – 302) * 100 000 = 2 800 000	



possible outcomes of forward foreign exchange purchase at expiry compared to the exchange rate at expiry (importer)



outcome of forward foreign exchange purchase at expiry as a hedging position (importer)

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.

1.b. hedging of foreign currency expenses for various expiries – average forward

product description

If foreign currency expenditures are due on different future dates, you can fix the same forward exchange rate for each of those future dates at the present time. Whatever the spot rate may be on the expiry date, your company will buy foreign currency at the average forward exchange rate set as part of this deal. In other words, your company will upon the trade date acquire a right as well as an obligation to buy foreign currency, and both the potential foreign exchange gains and losses can be unlimited in theory.

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: a Hungarian importer expects to incur EUR 100 000 per month in the next year in expenses. Let us assume that the current spot rate is 290 EUR/HUF, and the one-year forward rate is 302 EUR/HUF. The company would like to exclude all foreign exchange risk, and buy euros on all expiry dates at the same exchange rate, so it enters into an average forward deal at the EUR/HUF exchange rate of 296.50.

parameters of the average forward	
notional amount	EUR 1 200 000 = 12 * EUR 100 000
notional amount on each expiry	EUR 100 000
currency pair	EUR/HUF
tenor	1-12 months
number of expiry dates	12
expiry dates	trade date + 1 month, +…, + 12 months
spot rate prevailing at pricing	290 EUR/HUF
forward rates prevailing at pricing, for each expiry	
month 1	291 EUR/HUF
month 2	292 EUR/HUF
month 3	293 EUR/HUF
month 4	294 EUR/HUF
month 5	295 EUR/HUF
month 6	296 EUR/HUF
month 7	297 EUR/HUF
month 8	298 EUR/HUF
month 9	299 EUR/HUF
month 10	300 EUR/HUF
month 11	301 EUR/HUF
month 12	302 EUR/HUF
average forward rate	296.50 EUR/HUF(arithmetic average of the forward rates for each expiry)
transaction cost on the trade date	zero
possible scenarios on each expiry date	
exchange rate is below 296.50 EUR/HUF	your company buys EUR 100 000 at a rate of 296.50 EUR/HUF
exchange rate is at or above 296.50 EUR/HUF	
best-case scenario (treasury transaction on a standalone basis)	The EUR/HUF spot rate is above 296.50 on the expiry date. In this case, your company buys EUR 100 000 at a rate of 296.50 EUR/HUF.
worst-case scenario (treasury transaction on a standalone basis)	The EUR/HUF spot rate is below 296.50 on the expiry date. In this case, your company buys EUR 100 000 at a rate of 296.50 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

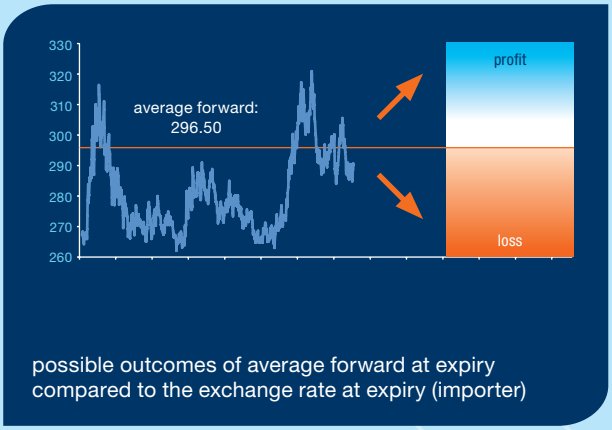
market value: the cost of closing the position calculated at a given point of time and under the prevailing market terms and conditions (the deal can be closed with profit if the market value is positive) (assumption: except for the spot market rate, all other factors are unchanged)
The number of possible 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	-24 600 000
300	11 400 000
330	47 400 000

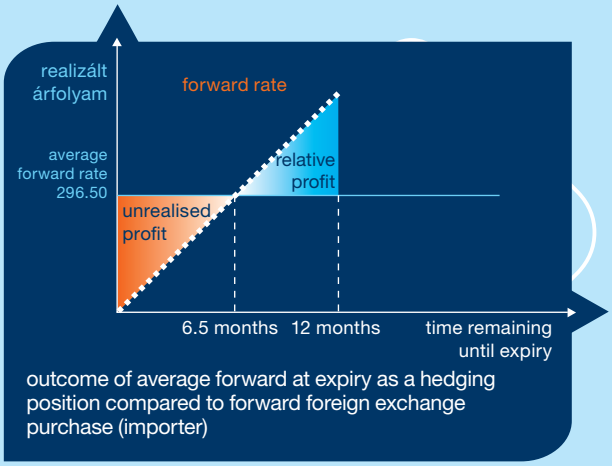
financial outcome of some possible scenarios on the expiry date

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 in total: 12 * 27 000 000 = 324 000 000	(270 – 296,50) * 100 000 = - 2 650 000 in total: 12 * 2 650 000 = - 31 800 000	296,50 * 100 000 = 29 650 000 in total: 12 * 29 650 000 = 355 800 000
300	300 * 100 000 = 30 000 000 in total: 12 * 30 000 000 = 360 000 000	(300 – 296,50) * 100 000 = 350 000 in total: 12 * 350 000 = 4 200 000	
330	330 * 100 000 = 33 000 000 in total: 12 * 33 000 000 = 396 000 000	(330 – 296,50) * 100 000 = 3 350 000 in total: 12 * 3 350 000 = 40 200 000	



possible outcomes of average forward at expiry compared to the exchange rate at expiry (importer)



outcome of average forward at expiry as a hedging position compared to forward foreign exchange purchase (importer)

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

- the exchange rate applicable to foreign currency buying transactions in the future is fixed in advance
- full protection against any depreciation of the forint
- potential foreign exchange gains are unlimited (on the treasury deal itself)
- with an average forward deal you can achieve better rates for expiries in the second half of the tenor than with a regular forward deal for those expiries (in case the forint – foreign exchange swap points are positive)
- no cost or separate fee charged
- if the hedge is no longer needed, the position can be closed with a counter deal (forward selling of euros for an expiry coinciding with the expiry date of the original deal) with net settlement on expiry. This may result in profit or loss, depending on the prevailing market conditions.

risks of transaction

- even if the exchange rate on expiry is lower than the forward rate, the client will be obliged to buy euros at the forward rate, which means that a foreign exchange loss will incur. The potential foreign exchange loss can be unlimited in theory.
- if you decide to close your position before expiry by means of a counter deal (forward selling of euros for an expiry coinciding with the expiry date of the original deal), you may incur a loss.
- if an average forward deal is concluded, the exchange rates that are achievable on the first few expiries may be worse than the forward rates applicable to the expiry dates in question (provided that the forint – foreign exchange interest rate differential is positive)
- the actual market value of the forward deal is influenced by the spot rate, the interest rate levels of the two currencies for the given tenor and their differential, basis swaps and time until maturity. 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

This product is built up of forward deals. The product can be built up of two options as a synthetic forward deal, about which you can find detailed explanation in the 3. part of the actual Chapter. The section on forward deals and options of Chapter I/c. entitled "5 Basic Products" of "K&H Treasury Handbook of Market Risk Management" also applies to this product.