Danske Bank

Information about Currency option transactions

This fact sheet provides general information about currency option transactions that can be traded through Danske Bank. A currency option transaction can be entered into as an OTC transaction with Danske Bank as counterparty.

WHAT IS A CURRENCY OPTION TRANSACTION?

When you trade a currency option transaction, you get either a right or an obligation to buy or sell an underlying currency at an agreed rate at a certain future date (the "expiration date"). The agreed rate is often called the "strike rate" or the "exercise rate".

The buyer of a currency option pays a premium to the party issuing the option at the time the transaction is entered into.

USING CURRENCY OPTIONS

Currency options are used to hedge currency risk during periods of instability.

They can also be attractive investment instruments for the purpose of generating a profit on expected exchange rate developments.

TERM

Currency option transactions typically have maturities of up to two years.

TYPES OF OPTIONS

A *call option* gives the buyer the right to buy the underlying currency, while a *put option* gives the right to sell.

If you buy a currency option, you will have the obligation to buy (call option) or sell (put option) the underlying currency in return for paying a premium.

If you sell a currency option, you will have the obligation to sell (call option) or buy (put option) the underlying currency.

Settlement may be effected in cash or by payment on delivery.

An option settled by delivery is an agreement under which the buyer, on exercise and against payment of a premium, has the right to buy (call option) or sell (put option) the underlying currency by making or taking delivery on the settlement date at the "strike rate".

An option transaction with cash settlement is an agreement under which the buyer, on exercise of the option and against payment of a premium, has the right to receive, on the settlement date, a settlement amount, which the seller is under an obligation to pay.

The settlement amount is the difference between

- the market rate and the strike rate if the market rate is greater than the strike rate (call option); or
- the strike rate and the market rate if the strike rate is greater than the market rate (put option).

The market rate is the rate at which the currency trades at the time of expiration, typically two business days before the settlement date.

The right to buy or sell can only be exercised at the maturity date

An option can be concluded with one or more barriers. This means that, if during the barrier window-period the exchange rate reaches a barrier, the option either materialises or it lapses.

- For knock-out options, the option lapses if the barrier is reached
- For knock-in options, the option materialises if the barrier is reached.

CONCEPTS USED TO INDICATE THE VALUE OF AN OPTION

Generally, three different terms are used to express the value of an option:

''Out-of-the-money'' implies that a call option's strike rate is higher than the current market price of the underlying asset, while the opposite applies for a put option.

"At-the-money" implies for both call and put options that an option's strike rate equals the current exchange rate of the underlying currency.

''In-the-money'' indicates that a call option's strike rate is lower than the current exchange rate, while the opposite applies for a put option.

Generally, options that are in-the-money are exercised at expiry, while options that are at- or out-of-the-money are not.

Price fluctuations of an option are driven by volatility changes and changes in the underlying asset. An option's volatility is a way to express the expected fluctuation of the underlying asset.

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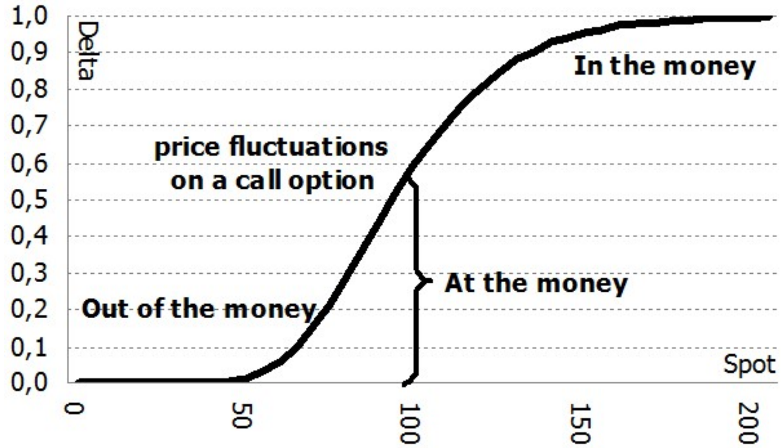

PRICING CURRENCY OPTIONS

The price (premium) of a currency option is determined by the following factors:

- Type of option (call, put, barrier, knock-out, knock-in, etc.)
- The spot rate of the underlying currency
- The expected risk (volatility) of the underlying currency
- Term
- The strike rate and any barriers agreed
- The interest rate on the currencies involved.

VOLATILITY (EXPECTED FLUCTUATIONS) EXPECTED RISK (VOLATILITY)

If a currency's exchange rate is expected to fluctuate considerably in the future, there is a greater probability that it will change relative to the current exchange rate. By extension, this also implies a greater probability that a currency option will be of value on the maturity date, indicating a higher option premium. Hence, it will be expensive to buy hedging of a currency with strong exchange rate fluctuations.

TERM

An option's maturity has a large impact on the size of the premium. The longer the period, the more expensive a standard call or put-option will be.

THE STRIKE RATE AND ANY BARRIERS AGREED

The difference between the agreed rate and the current market rate impacts the size of the option premium.

For call options, the lower the intended strike rate, the higher the premium. The lower (better) the exchange rate at which you wish to buy the currency in question, the more expensive the option will be.

The opposite applies to put options: The higher (better) the strike rate at which you wish to sell the currency in question, the more expensive the option will be.

For barrier options, the choice of barrier has a big impact on the size of the premium.
For knock-out options, the premium falls the closer to the market exchange rate the barrier levels are fixed when the transaction is entered into. For knock-in options, the premium increases the closer to the market exchange rate the barrier levels are fixed when the transaction is established.

INTEREST RATES OF THE CURRENCIES INVOLVED

The interest rates in the two currencies influence the size of the premium.

If interest rates in the primary currency (such as USD) are higher than in the secondary currency (such as DKK), call options will be cheaper and put options will be more expensive and visa versa.

EARLY TERMINATION OF CURRENCY OPTION TRANSACTIONS

If a currency option is to close before expiry, an off-setting option transaction may be established on the basis of the current exchange rates. The maturity of the off-setting option should equal the remaining term to maturity of the original option. The remaining terms should be identical to the original terms.

USING CURRENCY OPTIONS TO HEDGE RISK

In the following, we explain how currency options can be used to hedge a currency risk.

Ordinary currency options
A Danish company generating income in US Dollars from exports to the United States may hedge its foreign exchange risk by buying a put option to sell US Dollars against Danish Kroner.

When entering into the transaction, the company pays a premium in return for the right to sell US Dollars against Danish Kroner at the strike rate. The strike rate is determined by the company.

If the spot rate is lower than the strike rate at the time of expiry, the company will sell the US Dollar amount agreed at the strike rate. If, on the other hand, the spot rate is higher than the strike rate at the time of expiry, the company will sell the US Dollar amount received at the spot rate. In other words, the option will not be exercised in the latter case.

Barrier currency options
A Danish company generating income in US Dollars from exports to the United States may hedge its foreign exchange risk by buying a put option to sell US Dollars against Danish Kroner.

If the acquired put option lapses, because the DKK-USD exchange rate appreciates to a pre-defined level, it is a barrier currency option (i.e. a knock-out put option).

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The barrier option will be less expensive than the ordinary put option. The company obtains a discount, because the option will lapse if the barrier is reached during the life of the option. In this example, however, the barrier is higher than the current spot rate. This makes the company better positioned to renew the hedge if the option lapses, because the spot price is now higher than it was when the transaction was entered into.

EXAMPLES OF RETURN PROFILES WHEN USING CURRENCY OPTIONS

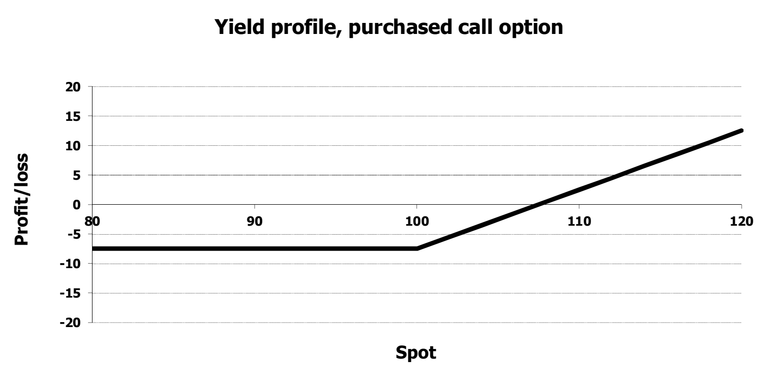
Shown below are a number of examples of return profiles that illustrate whether the transaction has a positive value or no value.

Buying a call option

The buyer of a call option has the right, but not the obligation, to buy the underlying currency at an agreed rate.

If the spot rate is higher than the strike rate at the time of expiry, the option can be exercised at a profit.

If the spot rate is lower than the strike rate at the time of expiry, the option will not be exercised, because the underlying currency can be bought in the market at a better rate.

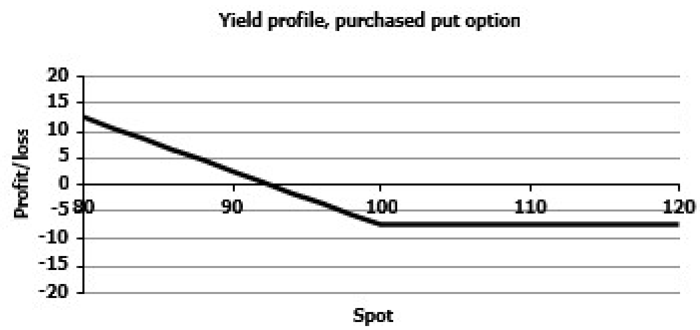


Buying a put option

The buyer of a put option has the right, but not the obligation, to sell the underlying currency at an agreed rate.

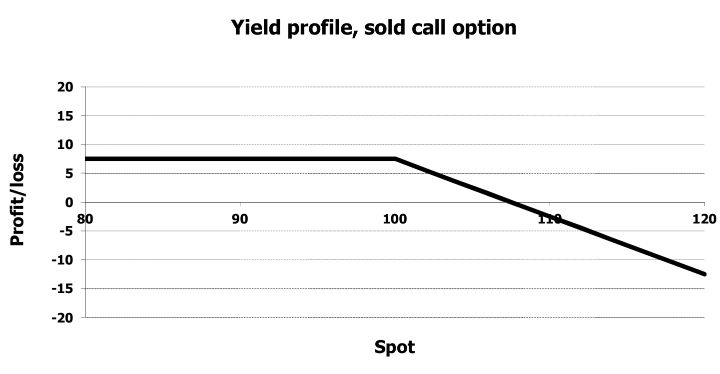
If the spot rate is lower than the strike rate at the time of expiry, the option can be exercised at a profit.

If the spot rate is higher than the strike rate at the time of expiry, the option will not be exercised, because the underlying currency can be sold in the market at a better rate.



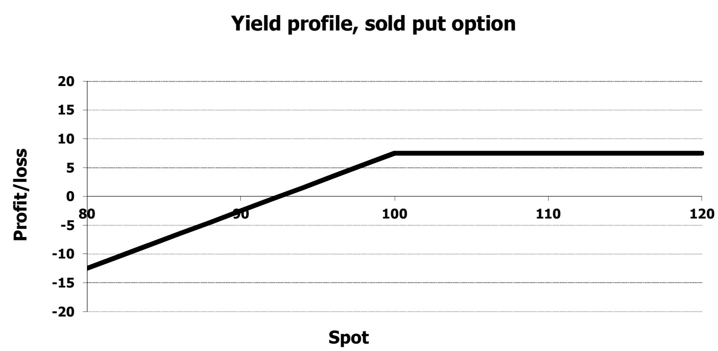
Selling a call option
The seller of a call option is under an obligation to sell the underlying currency at an agreed rate, if the spot rate is higher than the strike rate at the time of expiry and the buyer exercises the option.

If the spot rate is lower than the strike rate at the time of expiry, the option will not be exercised, because the underlying currency can be bought in the market at a better rate.



Selling a put option
The seller of a put option is under an obligation to buy the underlying currency at an agreed strike rate, if the spot rate is lower than the strike rate at the time of expiry and the buyer exercises the option.

If the spot rate is higher than the strike rate at the time of expiry, the option will not be exercised, because the underlying currency can be sold in the market at a better rate.

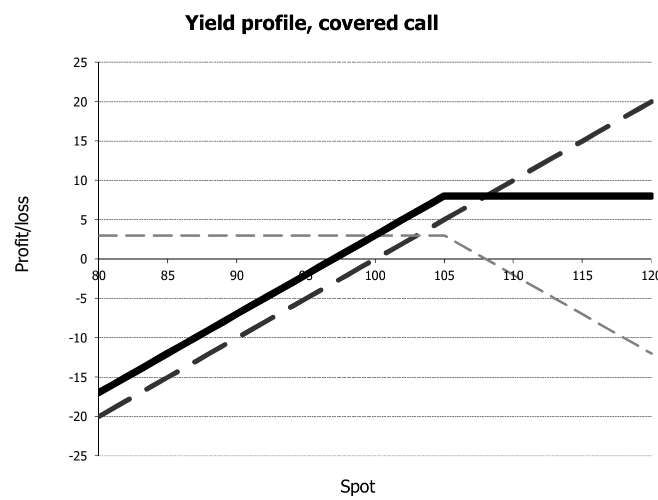


EXAMPLES OF INVESTMENT STRATEGIES USING CURRENCY OPTIONS

Covered call
A covered call consists of a sold call option with simultaneous ownership of the underlying currency. In other words, the seller has hedged his obligation to deliver the underlying currency if the buyer exercises the option.

The seller receives a premium for selling the call option in return for waiving the right to a potential appreciation gain on the underlying currency in excess of the strike rate.

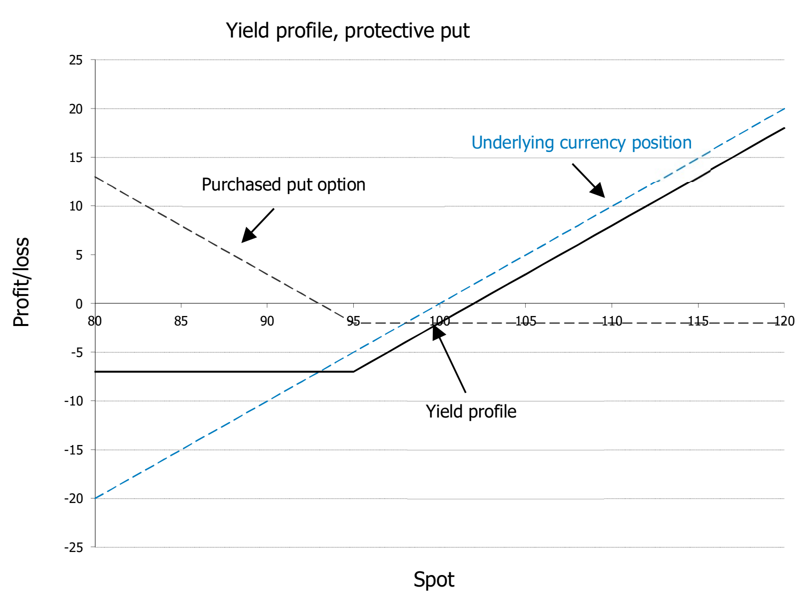
The investor should not expect the return to exceed the strike rate plus the premium received, as this marks the break-even point for the strategy.



Protective put

In a protective put, a party buys a put option while at the same time holding the underlying currency. This gives the party the right to sell the underlying currency at the option strike rate.

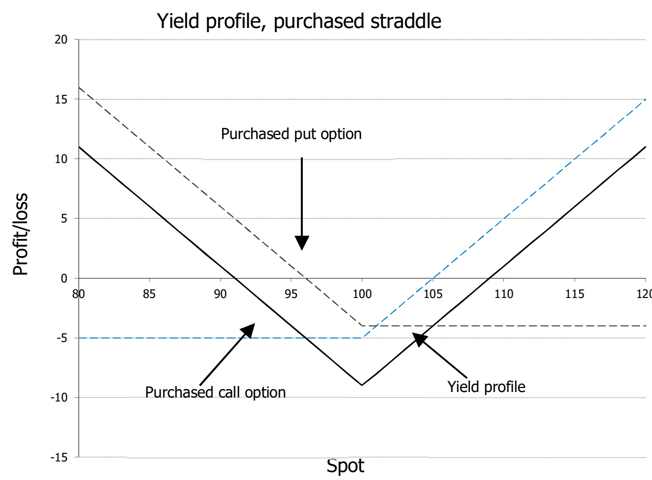
The investor pays a premium in order to buy the put option, while the potential of the underlying currency is intact.
The strategy is used to hedge against depreciation of the underlying currency.



Bought straddle

In a bought straddle, a party buys a call option and a put option at identical strike prices. This gives the party the right to buy and/or sell the underlying currency at the strike rate of the options.
The investor pays a premium to buy the options.

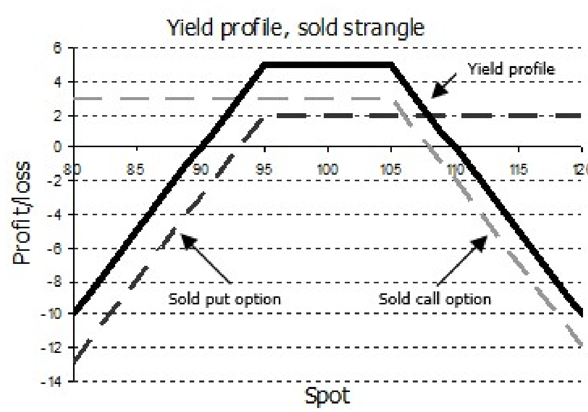
The strategy is used to hedge against an expected appreciation or depreciation in the exchange rate of the underlying currency.



Sold strangle

In a sold strangle, a party sells a call option and a put option at different strike prices. This gives the party an obligation to sell and/or buy the underlying currency at the strike rates of the options.

The investor receives a premium in return for selling the options.
The strategy is used in a situation of expected stable exchange rate developments in the underlying currency.



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RISK FACTORS

It is important to note that trading currency options may involve substantial risk.

When selling currency options
For options involving delivery, a sale involves the risk of an unfavourable difference arising between the strike rate at which delivery of the underlying currency must be made (call option) or taken (put option) and the rate at which the underlying currency can be acquired or sold in the market.

For options with cash settlement, a sale involves the risk that the option must be settled at an unfavourable strike rate relative to the spot rate at which the currency is bought. In both cases, the loss could exceed the option premium received, as shown above in the return profiles.

For the seller of a call-option the potential loss is without limit.

The risk for the seller of a put-option equals the difference between the strike rate less premium and zero
During the life of the option, the exchange rate, the expected fluctuations in the exchange rate, and the money market rate will impact the market value of the option. The impact on the market value will depend on the type of option.

In the event of a termination of the transaction prior its scheduled expiry, the seller may suffer a loss equal to the absolute value of the negative market value plus the spread on the off-setting transaction.

When buying currency options
When buying currency options, the risk is limited to a loss of the premium paid.

SPECIFIC RISKS ASSOCIATED TO COMBINED OPTIONS

A combination consists in the conclusion of two or more option contracts based on the same underlying, which differ in the option type or the characteristics of the option.
The number of possible combinations is important. Therefor the risks involved by any particular combination cannot be described in the present document. Consequently, the investor must inquire about the specific risks associated to the contemplated combination.

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It can nonetheless be noted that for any combination, the cancellation, at a certain point, of one or more options may entail substantial changes in the risk position of the investor.

COLLATERAL

We may require you to provide collateral when you enter into a transaction with us as counterparty.

SPECIAL MARKET CONDITIONS

Under special market conditions, it may be difficult or impossible to liquidate a position. This may occur, for example, at times of rapid price movements if the prices rises or falls to such extent that we are unable to stipulate a price or trading of financial instruments are suspended or restricted under the rules of the regulated market place.

TAXATION

The tax treatment of a gain or a loss on currency options depends on whether you are dealing as a private individual or on behalf of a company.

Due to the complex nature of the relevant tax rules, we recommend that you consult an accountant, tax-advisor or other professional adviser to clarify the tax and accounting consequences.