Information about Equity options

This fact sheet provides general information on equity options that can be traded through Danske Bank.

INTRODUCTION

Equity options can be traded in a regulated market place or OTC with the Bank as counterparty.

An option gives the holder the right, but not the obligation to buy (call) or sell (put) an underlying asset at a specified price (strike price), by a predetermined date (expiry date) to a given party (the seller of the option).

The buyer of an option pays a premium to the seller in exchange for the seller's obligation when entering into the contract.

OPTION TYPES

When you buy an equity option, you get <u>a right but not an obligation</u> to buy (call option) or sell (put option) the underlying asset at the strike price at a certain future date.

If you sell an equity option contract, you will have <u>an obligation</u> to buy (put option) or sell (call option) the underlying asset at the strike price at a certain future date, if the buyer of the equity option exercises his right.

- If the equity option is of the "European style", the buyer can only exercise his right to buy or sell on expiry.
- If the equity option is of the "American style", the buyer can exercise his right at any time throughout the life of the option.

Another important distinction is that between equity options with cash settlement and equity options with physical 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 asset by making or taking delivery on the settlement date concurrently with or following prior payment of the purchase price.

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 price and the strike price at expiry if the market price is greater than the strike price (call option);
- the strike price and the market price at expiry if the strike price is greater than the market price (put option).

Generally, options based on an equity index are of the European style and subject to cash settlement, while options based on individual shares are of the American style and subject to physical delivery.

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 price 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 price equals the current price of the underlying asset.

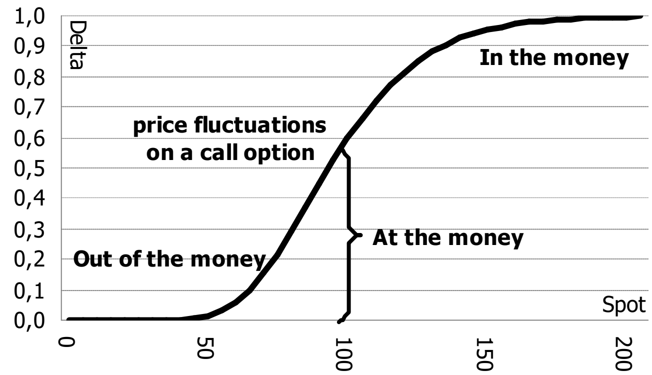
“In-the-money” indicates that a call option’s strike price is lower than the current price of the underlying asset, while the opposite applies for a put option.

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

The rate at which the option price changes as the underlying price changes in known as the delta. Delta is highly dependent on the difference between the option’s strike price and the current price of the underlying asset.

If for instance you own a call option with a strike price of 100 and the price of the underlying asset is 60, the option is out-of-the-money, and has a low delta, as shown in the chart.

If the price of the underlying asset is 10 and it increases to 20, the value of the option will be largely unchanged, as the probability of the option reaching or exceeding the strike price of 100 will remain very low.



In comparison, an increase in the underlying asset from 190 to 200 would trigger an increase in the value of the option of the same magnitude, as the option would have a delta at or close to 1 (one). This is an expression of almost certainty that the option will ultimately be in-the-money.

WHEN TO USE EQUITY OPTIONS

Equity options can be used to hedge price risk in a single share or in an equity portfolio during periods of instability.

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

TERM

Equity options have terms ranging from one day to several years.

PRICING EQUITY OPTIONS

The following factors influence the pricing of equity options:

- The option's strike price
- The price of the underlying asset
- Volatility (the expected price fluctuations of the underlying asset)
- Time to expiry
- The money market rate
- Dividend.

- The option's strike price

The lower the strike price relative to the market price of the underlying asset, the higher the value of a call option will be. On the other hand, the higher the strike price relative to the market price of the underlying asset, the higher the value of a put option will be.

- The price of the underlying asset

The price of the underlying asset may be impacted by potential dividend payments during the term of the financial instrument. The higher the market price of the underlying asset relative to the strike price, the higher the value of a call option. The lower the market price of the underlying asset relative to the strike price, the higher the value of a put option.

- Volatility

Volatility expresses the expected price fluctuations of the underlying asset. High volatility results in a high premium, because the probability of the option ending in-the-money is higher during periods of large price fluctuations.

- Time to expiry

The longer the time to expiration, the greater the probability the option will increase in value before expiry.

- The money market rate

Buying a call option is an alternative to buying the underlying asset, because the funds can be placed in the money market instead. This is priced into the call option, so a high market rate triggers a higher price for the call option. Conversely, a high market rate will trigger a lower price on a put option.

- Dividend

If dividend is paid to the shareholders the market price of the underlying asset may depreciate and consequently lead to lower premium on a call-option or higher premium on a put-option.

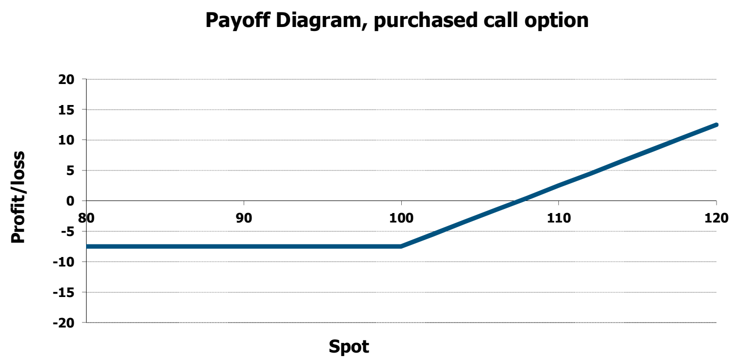
PAYOFF EXAMPLES

Shown below are a number of examples of payoff profiles for bought and sold options.

Buying an equity option (call)

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

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

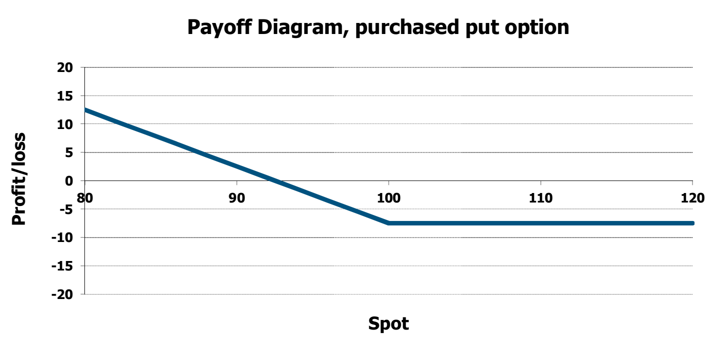


If the price is lower than the strike price at the time of expiry, the option will not be exercised, because the underlying asset can be bought in the market at a better price.

Buying an equity option (put)
The buyer of a put option has the right, but not the obligation, to sell the underlying asset at an agreed price.

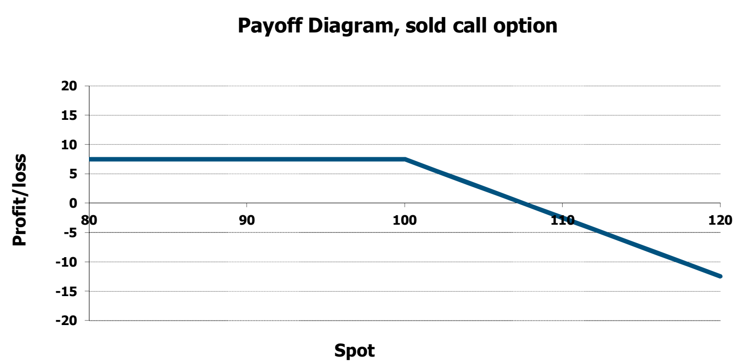
If the market price is lower than the strike price at the time of expiry, the option can be exercised at a profit.

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

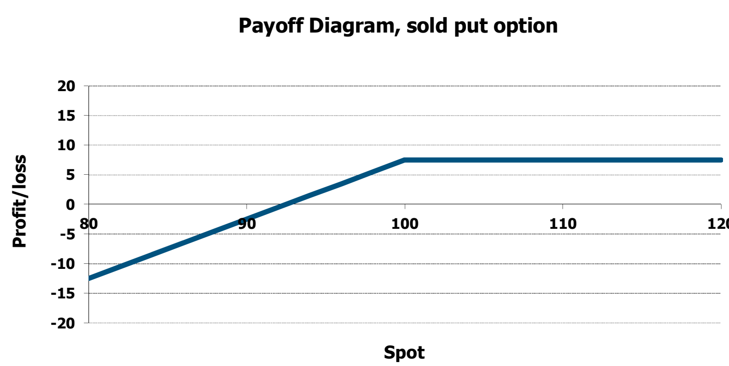


Selling an equity option (call)
The seller of a call option is under an obligation to sell the underlying asset at an agreed price, if the price is higher than the strike price at the time of expiry and the buyer exercises the option.

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



Selling an equity option (put)
The seller of a put option is under an obligation to buy the underlying asset at an agreed price, if the market price is lower than the strike price at the time of expiry and the buyer exercises the option.



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

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INVESTMENT STRATEGIES USING OPTIONS

Options may be traded as combinations of serval options and/or other derivatives and/or together with the underlying asset to enhance portfolio yield, insure against losses or take positions based on market view.

Such combinations have characteristics that may differ significantly from the payoff of a single option position. The number of possible combinations is not limited per see. Therefore, the risks involved in any particular combination cannot be described in detail in the present document.

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

RISK FACTORS

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

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

For options with cash settlement, a sale involves the risk that the option must be settled at an unfavourable strike price relative to the market price at which the underlying is trading at expiration.

In both cases, the loss may exceed the option premium the seller receives.

For the seller of a call-option not holding the underlying, the potential loss is unlimited.

The risk for the seller of a put-option equals the difference between the strike price less the premium received and zero.

The risk of a loss is enhanced by the instrument's gearing component, which is the difference between the underlying value of the instrument and the amount invested or received.

During the term of the option contract, the price of the underlying asset, the expected volatility of the underlying asset(s), dividends and the money market rate will impact the market value of the option. The impact can depend on the option type.

In the event of termination of the transaction prior its scheduled expiration, the seller may suffer a loss equal to the absolute value of the negative market value.

When buying equity options
In buying equity options, the risk is limited to the premium paid.

COLLATERAL

Danske Bank may require you to provide collateral when you enter into a transaction with us as counterparty. When you enter into transactions with a regulated market place as counterparty, the regulated market place will require margin in accordance with the terms and conditions applicable for the relevant regulated place. Such margin can be provided through us as intermediary.

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 equity options depends on
- whether you are dealing as a private individual or on behalf of a company; and
- whether the contract is performed through delivery of the underlying assets or through cash settlement.

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.

GENERAL RISK DISCLOSURE

There may be other, non instrument-specific risks involved when trading options. Including but not limited to, liquidity risk and credit risk. For further explanation of such risks, please refer to Danske Bank's general risk disclosure.

Editorial deadline: 29 October 2018.