Information about Bond futures, bond forwards and bond options

This fact sheet provides general information about bond futures, bond forwards and bond options and how they can be used. You will also find examples of investment strategies

BOND FUTURES

Bond futures and bond forward contracts are binding agreements between two parties to buy or sell a specific bond or the return on a bond index at a fixed price (the strike price) at a fixed future date (the maturity date).

The parties determine the strike price when entering into the transaction.

Bond futures are standardised instruments admitted for trading in a regulated marketplace. Price, maturity and amounts are determined by the regulated market on which the instrument listed and where a fixed procedure has been determined for the settlement of gains and losses.

Bond futures and bond forwards are subject to cash or physical settlement.

Bond futures are subject to daily cash settlement.

BOND FORWARDS

A bond forward is an OTC contract that can be customised to suit individual needs. Also included under OTC contracts are transactions derived form reference contracts based on bond futures, but which cannot be fitted to individual needs. A transaction derived from bond futures is subject to the standardisation applying to the underlying instrument.

Bond forwards are subject to cash settlement on expiry. This also applies to transactions derived from reference contract based on bond futures.

USING BOND FUTURES AND BOND FORWARDS

Bond futures and bond forwards can be used to hedge a price risk on a bond or a bond portfolio during periods of instability.

They can also be used as investment instruments for the purpose of generating a profit on expected price developments.

TERM

Bond futures and bond forwards have terms ranging from one day to several years, depending on the terms of the underlying financial instrument.

DETERMINING THE PRICE

Price fluctuations of bond futures and bond forwards are driven by changes in the underlying asset. Accordingly, changes in the price of the underlying asset will have a full impact on the value of contracts concluded.

The following factors influence pricing

- The price of the underlying asset, including the expected impact interest payments and drawings may have on the price.
- The money market rate. Bond futures and bond forward contracts can be considered as an alternative to buying the underlying asset. Accordingly, if the money market rate is high, the premium on these instruments will be high, and if the money market rate is low, the premium will be low.

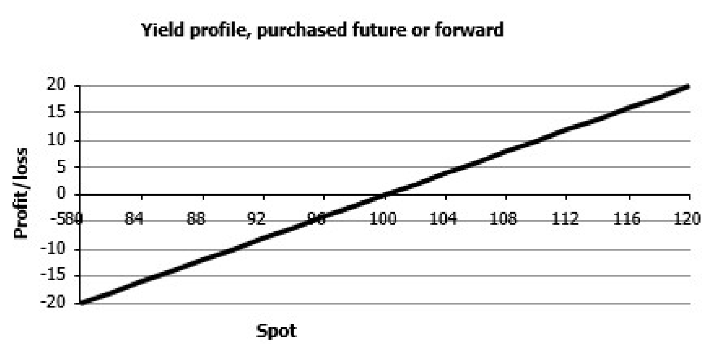
EXAMPLES OF HOW BOND FUTURES AND BOND FORWARDS CAN BE USED

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

Buying a bond future or a bond forward

The buyer of a bond future or a bond forward gets the right and the obligation to buy the underlying asset at an agreed price at a certain future date.

If the current market price appreciates, the value of purchased bond futures or bond forwards also appreciates. If the current market price depreciates, the value of purchased futures or forwards also depreciates.



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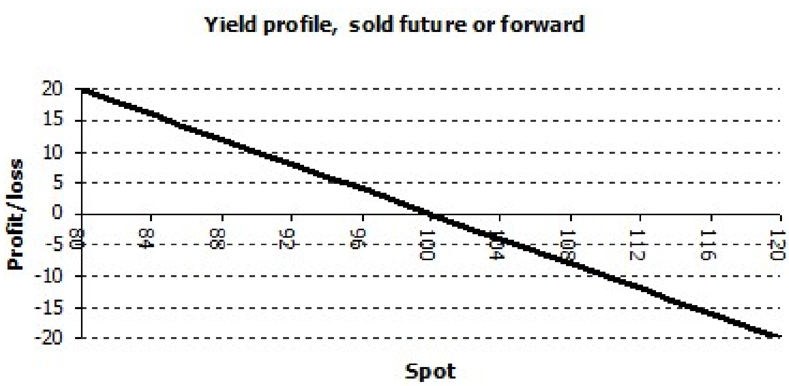
Selling a bond future or a bond forward

The seller of a bond future or a bond forward gets the right and the obligation to sell the underlying asset at an agreed price at a certain future date.

If the current market price appreciates, the value of sold bond futures or bond forwards depreciates. If the current market price depreciates, the value of sold futures or bond forwards appreciates.



RISK FACTORES

It is important to note that this type of transaction may involve substantial risk.

Bond futures and bond forward contracts imply a risk that the strike price is unfavourable relative to the market price at which the transaction will be settled at the settlement date.

You will lose money on the transaction if you have bought the underlying asset forward and the transaction is to be settled at a price that is higher than the market price. The loss equals the difference between the strike price and the market price. Similarly, the transaction will yield a gain if the agreed price is lower than the market price.

You will lose money on the transaction if you sell the underlying asset forward in a transaction that is to be settled at a price that is lower than the market price. The potential loss equals the difference between market price and the strike price.

Similarly, you will achieve a gain if the strike price is higher than the market price.

If a bond future is settled prematurely, a change in the money market rate would trigger a change in the premium or discount in excess of the change triggered by the shorter term to maturity. This could cause you to incur a loss.

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

COLLATERAL

We 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. This may imply a substantial risk of loss until market conditions are normalised.

TAXATION

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

BOND OPTIONS

When you trade a bond option contract you get either a right or an obligation to buy or sell an underlying asset at an agreed price at a certain future date. The agreed price is often called the “strike price” or the “exercise price”.

The buyer of a bond option pays a premium to the seller when entering into the contract.

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

If you sell a bond option, you will have an obligation 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 bond option exercises his right.

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

A distinction is also made between options with cash settlement and options with 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.

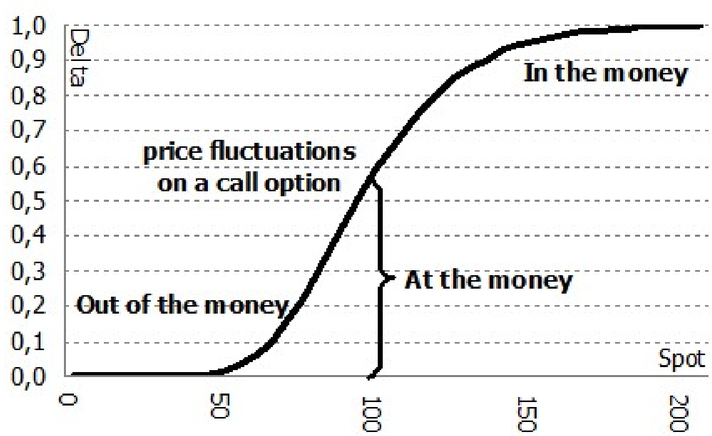
Generally, options that are in-the-money are exercised at maturity, while options that are at- or out-of-the-money are not.

Price fluctuations of an option are driven by changes in the underlying asset. An option’s volatility (fluctuation) depends on the difference between the option’s strike price and the 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 lower, the option is out-of-the-money, 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 exceeding the strike price of 100 will remain very low.

Similarly, an increase in the underlying asset from e.g. 190 to 200 would trigger a similar increase in the value of the option, as you will be almost sure that the option will ultimately be in-the-money.



WHEN TO USE BOND OPTIONS

Bond options can be used to hedge a price risk on a bond or a bond portfolio during periods of instability.

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

TERM OF MATURITY

Bond options have terms ranging from one day to several years, depending on the terms of the underlying bonds.

PRICING BOND OPTIONS

The following factors influence the pricing of bond options:

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

- The option's strike price

The lower the strike price relative to the 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 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 is impacted by expected interest payments and drawings during the term of the contract. The higher the price of the underlying asset relative to the strike price, the higher the value of a call option. The lower the 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.

- Term to maturity

The longer the term to maturity, the greater the probability that the option will end in-the-money.

- 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.

EXAMPLES OF HOW BOND OPTIONS CAN BE USED

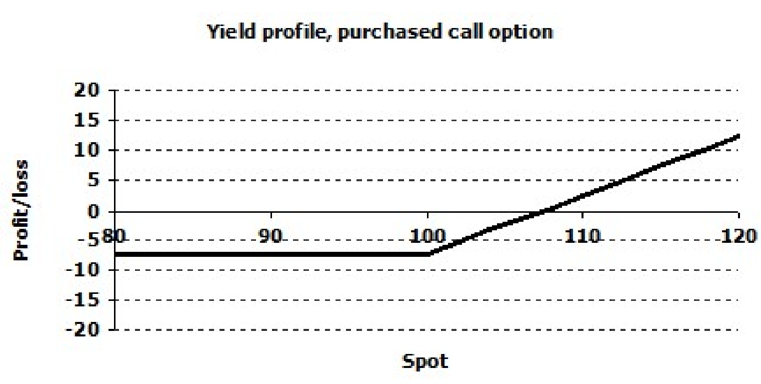
Shown below are a number of examples of return profiles that illustrate whether the transaction has a positive value or no value.

Buying a bond option (call)

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

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

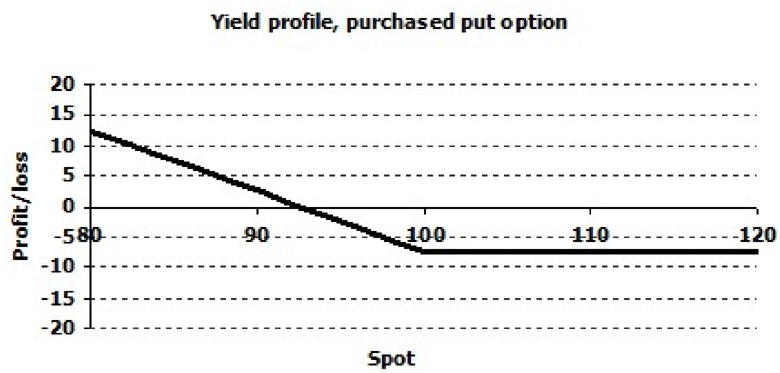
If the price is lower than the strike price at the time of expiry, the option will not be exercised, because the underlying asset can be bought in the market at a better price.



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

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

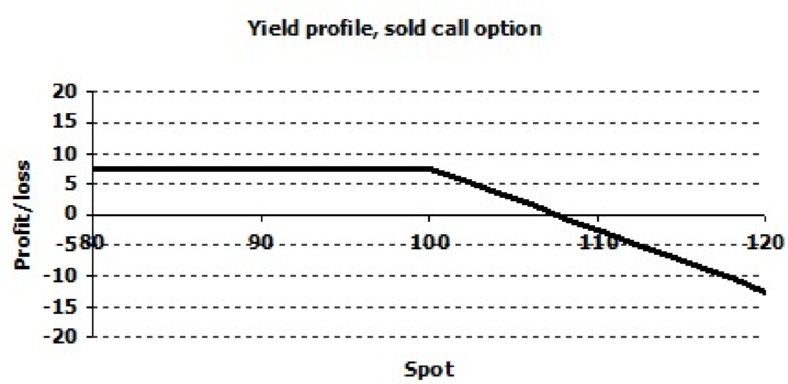
If the price is higher than the strike price at the time of expiry, the option will not be exercised, because the underlying asset can be sold in the market at a better price.



Selling a bond option (call)
The seller of a bond option (call) 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, the option will generally be exercised.

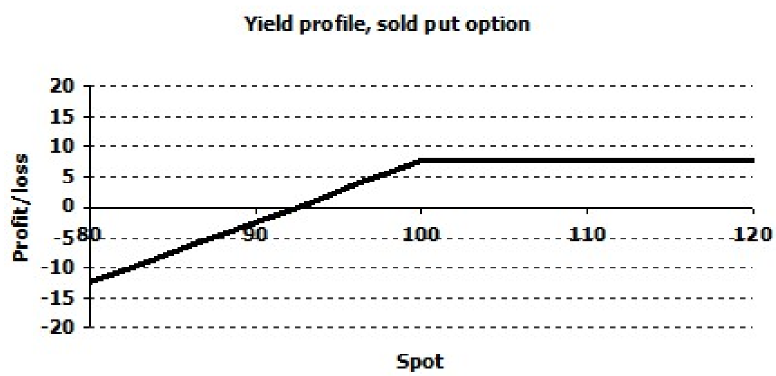
If the price is lower than the strike price at the time of expiry, the option will not be exercised, because the underlying asset can be bought in the market at a better price.



Selling a bond option (put)
The seller of a bond option (put) is under an obligation to buy the underlying asset at an agreed price.

If the price is lower than the strike price at the time of expiry, the option will generally be exercised.

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.



INVESTMENT STRATEGIES USING OPTIONS

Options may be used in combination with other options or in combination with the underlying asset and/or other derivatives 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 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 in bond options may involve substantial risk.

When selling bond options
A sale involves the risk of an unfavourable difference arising between the price at which the underlying asset must be delivered or received and the price at which the underlying asset can be bought or sold in the market.

For option contracts subject to cash settlement, the risk lies in settlement being based on an unfavourable price.

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 the premium and zero.

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

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

COLLATERAL

We 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

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.

TRANSACTION COSTS

The various prices and fees are listed in the fact sheet on transaction costs.

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