Danske Bank

Information about Interest rate swaptions

This fact sheet provides general information about interest rate swaptions that can be traded through Danske Bank. Interest rate swaptions can be entered into as an OTC transaction with Danske bank as counterparty.

What is an interest rate swaption?

An interest rate swaption is an option on an interest rate swap.

If you buy a swaption, you get the right to enter into an interest rate swap on certain pre-set conditions. By exercising a swaption, you get the right to pay or receive a pre-determined fixed rate in an interest rate swap that begins at a pre-determined point in time. As the buyer, you will have to pay a premium to the seller when entering into the agreement.

Types of swaption

In a *Payer* swaption, the buyer has the right to enter into an Interest Rate Swap as the fixed rate payer.
In A *Receiver* swaption, on the other hand, the buyer has the right to enter into an Interest Rate Swap as the fixed rate receiver.

For *European* swaptions, the right to establish an interest rate swap only applies at a specified date: the swaption's expiry date.

American swaptions can be exercised anytime during the life of the option.

A *Bermuda* swaption is a hybrid of a European and an American swaption. It can be exercised at pre-determined dates during the life of the swaption, such as every six months, for example.

A swaption can be customised to suit individual needs. Examples of parameters that can be agreed prior to entering into the transaction include:

- the terms of the underlying swap, such as notional amount, payment frequency rate of interest, the daycount convention, etc. (see the fact sheet on interest rate swaps for more details);
- the term and type of the swaption;
- the swaption strike rate; and
- settlement (physical settlement or cash settlement).

The life of the swaption equals the period from the effective date of the swaption until expiry of the swaption which also is the effective date of the underlying swap. On expiry of the option, the buyer will exercise the swaption, if the underlying swap has a positive market value.

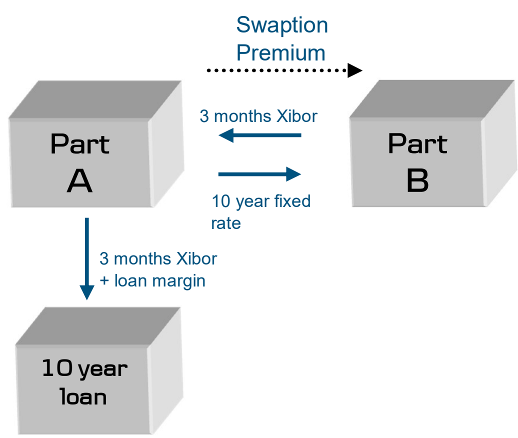
Physical settlement occurs if the buyer enters into the interest rate swap on expiry of the option and, cash settlement will occur if the positive market value of the underlying swap is disbursed to the buyer of the swaption. In the latter case, the buyer does not establish an interest rate swap.

USING SWAPTIONS

The following is an example of how a swaption can be used.

In the example shown in the figure, A has raised a loan with a maturity of ten years. The interest rate is floating and fixed every three months. A has an overall interest payment every third month equal to the Xibor rate plus a loan margin.

A wants to hedge the loan against rising interest rates but also to benefit from the floating rate, should fixed interest rates not rise above a certain predefined level (the Swaptions strike-rate)



The purchase of a payer swaption could hedge the risk of rising interest rates. If interest rates increase, A may exercise the swaption and be a party to an interest rate swap as a payer of a fixed rate of interest. If the swap-rate is below the swaptions strike-rate at the exercise-date, it will not be exercised and A will continue to have floating-rate funding.

PRICING SWAPTIONS

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

- the type of option (payer, receiver, American, European, Bermuda);
- the market price on the underlying swap (the market price corresponds to the fixed rate on an interest rate swap, which starts at the expiry of the swaption);
- the term of the underlying swap;
- the swaption strike rate;
- the expected risk (volatility) of the underlying swap rate; and
- the expiry date of the swaption

As previously mentioned, European swaptions may only be exercised on a specified date, Bermuda swaptions on a number of agreed dates and American swaptions at any time during the life of the swaption.

The more exercise dates a swaption has, the higher the premium. Hence, American swaptions are more expensive than Bermuda swaptions, which again are more expensive than European swaptions.

- The expected risk (volatility)

Large price fluctuations on the underlying swap-rate will increase the probability of the swaption being exercised and thus increase the premium.

- The swaption strike rate

The strike rate relative to the market rate impacts the size of the swaption premium.

For payer swaptions, the lower the strike rate, the higher the premium. The lower (better) the interest rate you want the right to pay in the underlying interest rate swap, the more expensive the swaption will be. On the other hand, the premium will go down for payer Swaptions, the higher the strike rate you require.

The opposite applies to receiver swaptions: The premium will increase, the higher (better) rate you want to receive in the underlying swap, and the premium will decrease, the lower the rate you want to receive in the underlying swap.

TERM

When you buy a swaption, the further away the expiry date the higher the premium. This is referred to as the Swaptions time value.

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RISK FACTORS

It is important to note that trading in swaptions may involve substantial risk.

- When selling swaptions:

When you sell a swaption, there is a risk that the option will be exercised into an interest rate swap that for you will be of negative value. The loss may exceed the option premium you receive.
During the life of the swaption, the market rate and the expected fluctuations in the market rate will impact its market value. The size of the impact will depend on the option type. If you settle the swaption prematurely, you may suffer a loss equal to the absolute value of the negative market value.

- When buying swaptions:

When buying swaptions, your risk is limited to loss of the premium paid.

COLLATERAL

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

TAXATION

The tax treatment of a gain or a loss on an interest rate swaption 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.