

Interest Rate Derivatives at Deutsche Bank



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1. Why is this prospectus important?

You are currently considering to take out an Interest Rate Derivative with us. In this prospectus we provide general information about Interest Rate Derivatives.

It is important that you read this prospectus, because an Interest Rate Derivative can have great influence on your financial situation. It is therefore important to us that you understand how an Interest Rate Derivative works. We also want to point out important risks to you. Please note: unfortunately, we cannot list all possible risks in this prospectus.

This prospectus consists of six sections:

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We will explain every subject in great detail on the following pages. You can contact us for advice if you have any doubts as to whether an Interest Rate Derivative will suit your financial situation. We will analyse your situation together and we will provide you with advice free of charge. Our contact details are shown on page 7 of this prospectus.

2. How does an Interest Rate Derivative work?

2.1. General

Interest Rate Derivatives can be used to hedge risks, either in full or in part, or to take on new risk with the objective to earn money on the basis of your interest rate position (speculating).

In practice, Interest Rate Derivatives are used to limit interest rate risks. By means of Interest Rate Derivatives, you are able to protect yourself against rising or falling interest rates, for example against a rise in the interest rate on your credit with the bank.

For the purpose of this prospectus, we have assumed that you consider to effect an Interest Rate Derivative to hedge a certain interest rate risk instead of speculating. This is an independent product, separate from your loan. In the event of a premature termination of your loan, the rights and obligations resulting from your derivative will continue to apply.

2.2. Effects of Interest Rate Swap

There are many different types of Interest Rate Derivatives. The most common of these is the Interest Rate Swap. An Interest Rate Swap is used to exchange (swap) a variable interest rate for a fixed interest rate. In the following sections we will explain how this product works. In Section 3 we will provide further information on other Interest Rate Derivatives.

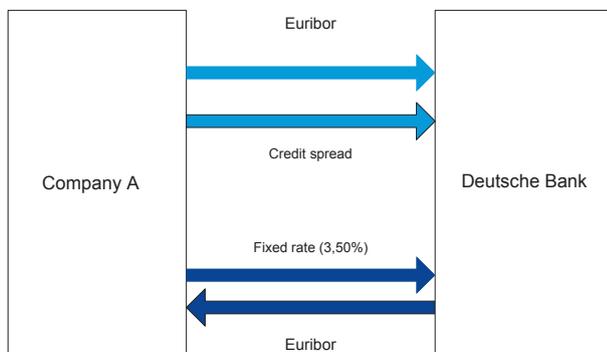
Let us assume that you have a credit facility with a floating interest rate. This floating interest rate can either fall or rise. An Interest Rate Swap would give you protection against rising interest rates. Using an Interest Rate Swap, you exchange the variable interest rate (such as Euribor) for an agreed fixed interest rate (also known as the contractual interest rate). In effect, you now swap a floating interest rate for a fixed interest rate. A possible disadvantage is that the floating interest rate could drop below the fixed interest rate you have agreed to pay.

Example of an Interest Rate Swap

Company A requires a new loan for an amount of € 4,000,000. Company A will have to pay interest on this loan. This interest consists of two components. The first is a floating rate (this could be the 3-month Euribor rate) and a credit spread forms the second component (see Section 4 for more details on credit spreads). If the Euribor rate rises, company A will have higher interest charges. It can protect itself against these by taking out an Interest Rate Derivative.

Company A now takes out an Interest Rate Swap with Deutsche Bank with a term of 5 years. As shown in the example, the company will pay a fixed interest rate of 3.5% over 5 years instead of the 3-month Euribor rate. Company A will need to pay the credit spread on top of this.

How much will company A pay? How much will company A receive? The following diagram shows the cash flows.



Company A will pay the 3-month Euribor rate to the bank, plus the credit spread. This is what has been agreed in the credit agreement and is indicated by the light blue arrows.

Company A takes out an Interest Rate Swap. Company A will receive the Euribor floating rate during the term of the Interest Rate Swap, regardless of the level at which this rate is set. In exchange, company A will pay a fixed rate of 3.5%, which is indicated by the dark blue arrows. The amounts that Company A and Deutsche Bank are required to pay to one another are offset as much as possible in practice.

A sample calculation would look as follows.

Let's assume that the variable interest rate based on Euribor is set at 2.50% for the next three months. Company A will incur interest rate charges equivalent to 2.50% (plus the credit spread) over the next three months. The interest rate charges are calculated on the basis of a notional amount of € 4,000,000.

In this example, company A will pay an agreed fixed interest rate of 3.50% to the bank as a result of the Interest Rate Swap. The bank 'repays' the floating Euribor rate to company A. This is indicated by the dark blue arrows in the graph. How much will company A pay exactly? Assuming an interest interval of 91 days, the

Interest Rate Swap is calculated as follows: $€ 4,000,000 * (3.50\% - 2.50\%) * 91/360 = € 10,111.11$ (to be paid by company A). This is the amount that company A must pay over the next three months as a result of the Interest Rate Swap.

This is on top of the interest charges arising from the credit agreement company A has entered into. This amount is made up of the variable Euribor rate and a credit spread and is represented by the light blue arrows in the diagram. Let's assume the credit spread is 2.00%. The interest charges under the credit agreement will then amount to $€ 4,000,000 * (2.50\% + 2.00\%) * 91/360 = € 45,500.00$.

The total interest charges for this period, including the swap, therefore amount to $€ 45,500.00 + € 10,111.11 = € 55,611.11$. In this case, the variable interest charges on the basis of the credit agreement and the variable interest that is reimbursed cancel each other out as a result of the swap. We could therefore also have used the following calculation: $(3.5\% + 2.00\%) * € 4,000,000 * 91/360 = € 55,611.11$.

2.3. Other key information regarding Interest Rate Derivatives

Interest Rate Derivatives are financial products that can help you to control risks. We have summarized the key features for you here.

Obligation to take out an Interest Rate Derivative

Your bank may require you to limit the interest rate risks linked to your loan and as a result, you could be obliged to take out an Interest Rate Derivative.

Tailor-made solutions are possible

You have the option to take out an Interest Rate Derivative that is tailored to your personal financial needs. You are under no obligation to match the term of an Interest Rate Derivative to that of your credit facility. This allows you to hedge your interest rate risk for a shorter period of time. There is no obligation either to hedge the notional amount in full. You could choose to hedge only part of your risk. You may have come to different arrangements with your bank.

You can lower the risk of an overhedge (please see Section 4 for a more detailed explanation of this) if you set the notional amount of the Interest Rate Derivative at a lower level than the notional amount of the loan. An example is where you have a loan of € 1 million and take out an Interest Rate Derivative for the amount of € 800,000. In this case, you would have an interest rate risk in respect of an uncovered amount of € 200,000. You could choose to do so because you are willing to and capable of absorbing this risk. By contrast, this approach does give you more flexibility to make extra repayments up to an amount of € 200,000, without running the risk of this leading to an overhedge.

You also have the option to take out an Interest Rate Derivative that starts at a future date (this is called a forward starting swap), for instance one year after your credit agreement started. During the first year, your interest rate risk will not be hedged. You can also agree to vary the notional amount per interest rate period.

Variable interest rate

The variable interest rate used depends on the credit agreement. The applicable rate could be the Euribor rate or another variable interest rate. The Euribor rate is the interest rate against which European banks are willing to provide loans to each other.

Costs

When taking out an Interest Rate Derivative, costs (commission) apply. These costs are not charged to you separately; they are included in the fixed interest rate of the Interest Rate Derivative.

Market value

The market value of the Interest Rate Swap can change over time and may go up or down. The current value of an Interest Rate Swap is also referred to as the market value. In the event of premature termination or adjustment of the Interest Rate Derivative, this is the value that must be paid. In the case of a positive market value, the bank will make a payment to you whereas a negative value will be charged to you.

The market value depends on:

- The remaining term of the Interest Rate Swap and the corresponding number of interest payments.
- The outstanding notional amount.
- The difference between the market rate for the remaining term at that time and the fixed rate of the Interest Rate Swap.
- In the beginning, the market value is also influenced by the costs the bank charges to you.

The following starting points can be used to determine the market value of an Interest Rate Swap in which floating interest rates are exchanged for fixed rates:

- The market value of the Interest Rate Swap will be negative if the market rate for the remaining term is lower than the fixed rate of the swap. In the event of premature termination, you will be liable to pay this market value.
- The market value of the Interest Rate Swap will be zero if the market rate for the remaining term is equal to the fixed rate of the swap.
- The market value of the Interest Rate Swap will be positive if the market rate for the remaining term is higher than the fixed rate of the swap. In the event of premature termination, you will receive this market value.

Example Interest Rate Swap

Remaining term: 5 years (where the 3-month Euribor rate is applied, there will be four times each year at which the variable rate will be offset against the fixed rate).

Notional Amount: € 1,000,000

Fixed Rate Swap: 1% on the basis of the 3-month Euribor rate

Scenario 1

Current interest rate for the remaining term of 5 years: 0.5% per annum.

The difference in market interest = 0.5% - 1% = -0.5%
In this example, the market value is equivalent to the difference in market interest multiplied by the remaining number of years multiplied by the notional amount.

Market value = -0.5% * 5 * € 1,000,000 = -€ 25,000 (negative for client).

Scenario 2

Current interest rate for the remaining term: 1.375% per annum. The difference in market interest = 1.375% - 1% = 0.375%

Market value = 0.375% * 5 * € 1,000,000 = € 18,750 (positive for client). This is an approximation of how the market value of an Interest Rate Derivative could be calculated, without determining the discounted value. The precise calculation of an Interest Rate Derivative is dependent on multiple factors. You are therefore advised to request a precise calculation before deciding whether to prematurely end your derivative.

3. Which Interest Rate Derivatives are available in addition to Interest Rate Swaps?

There are many different Interest Rate Derivatives available. The most commonly used Interest Rate Derivatives are what are known as straightforward or 'plain vanilla' Interest Rate Derivatives. We will now discuss a number of variants.

3.1. Interest Rate Options

In the case of an Interest Rate Option, you will pay a certain amount (a premium). In exchange for this premium you will be entitled to reimbursement if the variable interest rate (e.g. the Euribor rate) shows an unfavourable development. This reimbursement is your protection against negative fluctuations of the interest rate. Just as with an Interest Rate Swap, the Interest Rate Option will have a certain market value.

Interest Rate Cap

Interest Rate Caps are a well-known Interest Rate Option.

In the case of an Interest Rate Cap, you will agree the maximum variable interest rate that you will pay. We will refer to the agreed interest rate as the contractual rate. If the variable rate increases above this contractual rate, the difference will be reimbursed to you by the bank.

The advantage of an Interest Rate Cap is that the market value of the Cap can never be negative. However, you do pay a premium in return for 'fixing' the maximum interest charges that you'll pay. In addition to this, you will pay a credit spread.

Spread Premium Cap

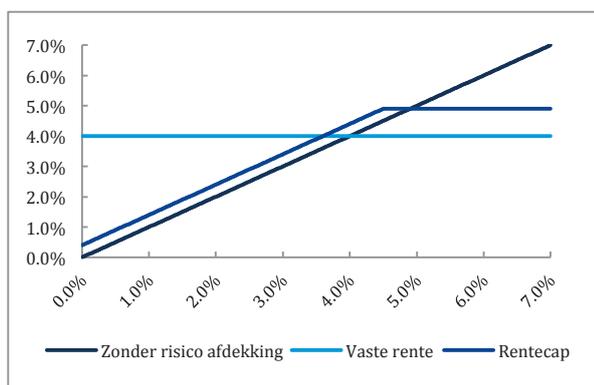
The Spread Premium Cap is a specific version of the above-mentioned Interest Rate Cap. This is a standard Interest Rate Cap, the premium for which you have chosen to pay in instalments rather than at the start of the agreement.

Example

Company A has a credit facility of € 1,000,000. The company is required to pay the 3-month Euribor rate plus the credit spread for this. Company A wants to hedge the interest rate risk and therefore decides to close an Interest Rate Cap with a contractual rate of 4.5%.

In order to take out an Interest Rate Cap, company A will need to pay an upfront premium equivalent to 2% of the notional amount. The example below is based on a Spread Premium Cap and the annual premium will therefore be 0.4%.

In the following graph, the effective interest rate (excluding the credit spread) is shown on the vertical axis and with different possible Euribor rates are shown on the horizontal axis.



Let's assume the Euribor rate is set at 2.8%. This rate is lower than the exercise price. Company A's costs for the next interest period will be 2.8% + 0.4% (the premium).

If the Euribor rate is revised to 5.3% at a later date, the protection provided by the Cap will be applicable on this date. We will explain below how much protection the cap will offer.

In this case, Deutsche Bank will reimburse company A 0.8% (5.3% - 4.5%) of its interest expenses.

The interest expenses for the next interest period will amount to 5.3% - 0.8% + 0.4% = 4.9%. If no Interest Rate Cap is taken out, the costs would amount to 5.3% in this situation.

However, please note that company A is still required to pay the credit spread. If the credit spread amounts to 2%, company A will never pay more than 6.9% in interest (4.5% + 0.4% + 2%).

Interest Rate Floor

An Interest Rate Floor is an option which offers the buyer protection against a fall in the interest rate. In the case of an Interest Rate Floor, you will set the minimum Euribor rate that a buyer will receive. The buyer will receive compensation if the interest income they would have received is less than the agreed minimum Euribor rate. This compensation will be equivalent to the difference between the agreed minimum Euribor rate and the percentage the buyer would otherwise have received. If combined with a credit facility, you as a customer will

effectively be the seller of a Floor. In doing so, you will set the minimum interest you will pay and you will not benefit from any further decreases in the interest rate.

Interest Rate Collar

An Interest Rate Collar combines a Cap and a Floor. In the case of an Interest Rate Collar, the Cap is typically purchased and the Floor is sold, with the purpose of providing protection against a rising interest rate. In the case of a Collar that is used to protect against an interest rate increase, the company purchases the cap and sells the floor (to the bank). In this way, the company creates a structure with a maximum and a minimum market interest it will pay during the term of the collar. In other words, an Interest Rate Collar provides certainty regarding the maximum interest you will pay. At the same time, however, you will no longer have the ability to take maximum benefit from decreases in the interest rate.

3.2. Swaption

A Swaption is an option on an Interest Rate Swap. Buyers who hold a Swaption have the right, but no obligation, to take out a Swap under certain predetermined conditions at a future date. This right is subject to payment of a premium.

3.3. Structured Derivatives

In the previous sections, we have explained a number of straightforward or 'plain vanilla' Interest Rate Derivatives. The individual variants can be used to form several different combinations. Combining several Interest Rate Derivatives does, however, result in a more complex overall position. You are therefore recommended to obtain expert advice regarding Structured Derivatives.

4. What are the risks and what else should be kept in mind?

Interest Rate Derivatives carry certain risks that you must bear in mind. In this section, we have highlighted the most important risks.

4.1. An increase in the credit spread

The interest rate you are liable to pay consists of two parts, a variable component and the credit spread. By taking out an Interest Rate Derivative, you are able to protect your company against rising floating interest rates. Often this relates to a rise in the Euribor rate. However, an Interest Rate does not provide protection against a possible rise in the credit spread by your bank.

As an example, let's assume the Euribor rate is set at 1.5% and the credit spread at 2.5%. The total interest payable at the time amounts to 4%. One year later the Euribor rate has increased to 3%. This has no impact on your interest charges if you arranged protection, for instance by taking out an Interest Rate Cap where the maximum Euribor interest rate to be paid by you is 1.5%. However, the bank has raised its credit spread with 0.5% after one year. The new credit spread therefore is no longer 2.5%, but now amounts to 3%. The total interest payable now stands at 4.5%.

4.2. Market value risk in the event of premature termination of an Interest Rate Derivative

An Interest Rate Derivative is concluded for a certain period. At the end of this period the Interest Rate Derivative will automatically end. At that time, there is nothing (extra) to pay.

This could be different in the event that you wish to end your Interest Rate Derivative before the agreed date. If the market value of your Interest Rate Derivative is negative at the time of termination, you will be required to pay the market value. In the case that the market value of the Interest Rate Derivative is positive at the time of termination, you will receive the market value from the bank.

If you wish to make a partial early repayment of your loan, you will also be able to end part of your derivative prematurely. In such cases, a positive or negative market value will only be calculated over the relevant part of the derivative.

4.3. Overhedge

The term overhedge is used in a situation where the notional amount or the term of the Interest Rate Derivative exceeds that of the credit facility. For example, if the outstanding debt to the bank amounts to € 1 million and you took out an Interest Rate Derivative with the value of € 1.2 million, this is deemed to be an overhedge. In this case, you have hedged an interest rate risk for a surplus amount of € 200,000. An overhedge can also arise if the term during which the derivative is in place exceeds that of your loan, for example because you expect the loan to be extended. An overhedge will then arise in the event the loan is not extended.

An overhedge is not in your best interest, as you are effectively speculating on the floating interest rate and are no longer using the derivative to hedge risk. In fact, an overhedge involves a risk. For this reason, it is important to avoid overhedging. This risk can arise if you decide to pay off more or earlier than the agreed periodic repayments. This is why you should always ask Deutsche Bank for advice before you decide to repay more or quicker on your loan than was agreed at the time you purchased your Interest Rate Derivative.

4.4. Underhedge

Underhedging is said to apply when the notional amount or the remaining term of an Interest Rate Derivative is smaller than the notional amount or the remaining term of the loan. As mentioned previously, you can purposefully choose to underhedge. In such cases, however, you must realise that you will retain an interest rate risk over the part of your credit that is not hedged.

4.5. Negative floating interest rate

Your floating interest rate (e.g. the Euribor rate) may become negative. Your credit agreement and derivatives contract may contain various stipulations in this regard, as a result of which there is a financial risk to you.

We therefore recommend that you carefully review the terms and conditions of your credit agreement and derivatives contract.

4.6. Credit Risk

Your Interest Rate Derivative will be taken out with the Deutsche Bank AG. If Deutsche Bank AG were to be declared bankrupt or experience other financial difficulties, then the risk to you is that Deutsche Bank may no longer be able to fulfil its duties towards your company.

4.7. Other things to keep in mind

Negative market value at the time of purchase

As mentioned previously under the features, taking out an Interest Rate Derivative is subject to costs. These costs are discounted in the fixed rate of the derivative. As a result of the difference between the fixed rate of the derivative and the market rate, your Interest Rate Derivative will have a negative market value at the time of purchasing.

Annual accounts

Should you decide to take out an Interest Rate Derivative, this could affect the manner in which you prepare the annual accounts for your business. It is therefore advisable to obtain further information about this from an expert. Unfortunately, we cannot advise you on this but you could consult your accountant, for example.

EMIR

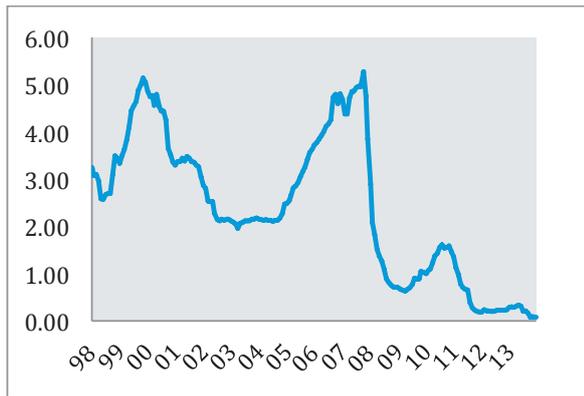
In the event that you take out an Interest Rate Derivative, you are required to comply with the European Market Infrastructure Regulation (EMIR). The main objective of this European regulation is to provide transparency concerning the derivatives that are being taken out by financial institutions and non-financial institutions (including yourself). A key obligation is that the conclusion, adjustment or termination of an Interest Rate Derivative must be reported to a Trade Repository. The regulator may impose a fine if you fail to comply with the obligations under EMIR.

5. Are there any alternatives?

There are also alternatives to interest rate derivatives available. For example, you can choose the following two options.

5.1. Floating Interest Rate

If you are able to absorb an increase in your interest charges and you accept this risk, you have the option of selecting a floating interest rate, without arranging protection against rising interest in the form of an interest rate derivative. In this instance, the 3-month Euribor could be used as the base rate (in addition to the credit spread). Each period, your interest rate will be adjusted in line with the Euribor rate applicable at that time. The graph below charts the development of the 3-month Euribor since 1999.



Source: Bloomberg

5.2. Fixed Interest Rate

If you prefer a fixed interest rate over a floating rate, you can choose a loan with a fixed interest rate instead of an Interest Rate Derivative. In such cases, you will need to agree a set rate with Deutsche Bank. Deutsche Bank may or may not be prepared to do so, depending on a number of different circumstances. Please feel free to ask us about this if you would like to know more.

In the sections below, we will highlight two key differences between a credit facility with a fixed interest rate and a credit facility with a variable interest rate combined with an interest rate derivative.

Repayment

You have the option to pay off your credit facility earlier than agreed. In some cases, you may be required to pay an additional amount to be able to do so. Whether or not you are required to pay an additional amount depends on the agreements you made with the bank in this regard.

The general terms and conditions usually state whether you are required to pay extra if you repay early. It is often

the case that you do not have to pay extra if you repay a credit facility with a floating interest rate early. In the case of a credit facility with a fixed interest rate, you usually do have to pay extra in order to repay early.

There is therefore a difference between the risks associated with a credit facility with a fixed interest rate and the risks associated with a credit facility with a floating interest rate and an interest rate derivative. If you repay a credit facility early that has a fixed interest rate, you will usually have to pay extra. If you repay a credit facility with a floating interest rate, this is usually not required. However, you are exposed to a risk in relation to the interest rate derivative. If you decide not to adjust the interest rate derivative, you will have an overhedge. If you want to end the interest rate derivative prematurely, you run the risk of having to pay the bank the negative value of the derivative. If the interest rate derivative has a positive value, the bank will of course pay an amount to you.

Remember that the additional amount you have to pay for early repayment of a credit facility with a fixed interest rate is often higher in practice than the potential negative market value if you prematurely end an interest rate derivative with a similar notional amount and remaining period.

6. Please ask us for advice if you have any questions

You may wish to obtain advice regarding your current situation, for example because you want to ensure your Interest Rate Derivative is matched correctly to your credit facility or because you wish to avoid financial losses. Deutsche Bank offers all of its clients advice free of charge. If you would like advice, please feel free to contact us on +31 (0)20 555 4882 or send an e-mail to cts.derivatives@db.com.