

# Instruments Category

April 2008

## What is an instrument category?

Instrument category is the term used by JGAM in its classification of financial instruments traded by JGAM. You can apply for re-categorisation within a certain instrument category or for all of the categories. Under "re-categorisation" and in our general business conditions, you can read which criteria must be met to apply for re-categorisation.

We have decided to divide financial instruments into three categories:

**1. Basic** consists mainly of the most often traded financial instruments:

- [Bonds](#)
- [Shares](#)
- [Mutual fund units](#)

**2. Intermediate** comprises financial instruments aimed at clients who need complex hedging of risk:

- [Structured products](#)
  - Structured products with close to full principal protection
    - Jyske Bank's products
  - Structured products with guaranteed minimum redemption price
- [Futures](#)
  - Futures traded in the market
  - Futures traded with Jyske Bank as the counterparty
- [Repos and reverse repos](#)
- [Certificates](#)
- [Forward contracts](#)
  - Forward exchange contracts
  - Forward contracts involving securities
  - Forward commodity contracts
- [Options – plain vanilla](#)
- [Swaps](#)
  - Interest-rate swaps
  - Currency swaps
- [Hedge funds](#)
- [Mortgage deeds](#)
  - Guaranteed mortgage deeds
- [Forward Rate Agreement](#)

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**3. Advanced** comprises financial instruments aimed at clients who need highly specified hedging of risk:

- Derivatives
  - Exotic options
  - Yield spread options
  - Advanced interest rate swaps
    - Barrier swaps
    - Ratchet swaps
    - LIBOR swaps
    - CMS swaps
    - Commodity swaps
- Other
  - CMOs/CBOs/CLOs

You are welcome to contact your adviser for a description of one or more of the financial instruments in the list.

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## BONDS

**Facts:** A bond is a debt instrument whose issuer undertakes to pay interest and installments to the bond holder at regular intervals and to redeem the bond at a defined price at maturity. Bonds are typically issued by sovereign states, companies or mortgage credit institutions.

The specific terms and conditions pertaining to individual bonds are available in the offer material prepared in connection with the bond issue.

**Return:** The return on a bond consists typically of capital gain and interest income; extraordinary redemptions may add to the return.

**Risk:** The issuer may default, whereby the bond may lose value or become wholly valueless.

The prices of fixed-rate bonds fluctuate, partly due to changes in interest rates, partly to changes in the issuer's creditworthiness, so an investor who wishes to draw on his investment before bond maturity runs the risk that the value of the bond is lower than what he originally paid for it.

For floating-rate bonds there is a risk that the return proves to be lower than expected because of a reduction in the interest rate. Also in this case, the return may be affected by a change in yields as well as a change in the issuer's creditworthiness.

Typically there is correlation between the issuer's creditworthiness and the risk/return ratio, which in practice means that the lower the creditworthiness, the higher the risk and the higher the yield/return.

If you buy a bond or a portfolio of bonds denominated in a currency other than your base currency, you take on a currency risk.

**Disadvantages:** Bonds are bought and sold on an exchange, and trading in individual bonds is therefore typically restricted to the opening hours of the stock exchange in question.

It should be noted that there may be big differences in liquidity from one bond to the next.

**Requirement:** To buy a bond you must have the full buying price plus accrued interest, if any, at your disposal in an account.

## Bond types

### Government bonds

**Facts:** Government bonds are issued by sovereign states or state-guaranteed undertakings. In the bond market, bonds denominated in the currency of the issuing state are generally held to be absolutely good (i.e., repayment is certain), because a sovereign state will always be able to meet obligations in its own currency.

Government bonds denominated in a foreign currency are subject to higher risk, because it cannot be taken as an absolute certainty that a government can fulfill such an obligation.

Whether bonds are denominated in the currency of the issuing state or in a different currency, it should be noted that the creditworthiness of the sovereign states may differ, and that the investor is in principle not better off than if he had bought a bond not issued by a sovereign state.

Short-term government bonds are typically Treasury Bills or certificates of deposit, and one of their characteristics is that these instruments are sold at a discount and redeemed at 100.

A government bond may also be a premium bond on which the investor receives no interest, but takes part in a lottery at regular intervals, at which a few bond holders receive the interest accrued for the entire issue.

### Mortgage bonds

**Facts:** Mortgage bonds are issued by mortgage banks and are typically used to finance home buying, so they will in most cases be secured on real estate.

Issuers of mortgage bonds are typically subject to regulation and to supervision by a government authority. Typically, the issuer has a lower creditworthiness than the sovereign state by which it is regulated and supervised.

It should be noted that mortgage banks' creditworthiness may differ.

Moreover, it should be noted that certain mortgage bonds may be illiquid.

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Danish, and a few international, fixed-rate mortgage bonds may be redeemed before maturity, because the borrowers of the underlying loans are entitled to repay their loans in full at any interest-payment date. Therefore, if you invest in a mortgage bond, you should be aware that individual mortgage bonds or part of your mortgage bond portfolio may be redeemed before maturity, and in that case you will have to re-invest the redeemed amount at a lower rate of interest.

Danish mortgage bonds may be index-linked, which means that either the interest rate or the principal is linked to the development in a defined inflation index. The holder of an index-linked bond thus enjoys inflation adjustment of his investment.

## Corporate bonds

**Facts:** Corporate bonds are issued by commercial enterprises and are typically used to finance investment and operations.

Creditworthiness differs widely among issuers of corporate bonds and so do the investor's risk and the yield obtainable.

Moreover, it should be noted that a corporate bond's priority ranking makes a big difference.

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## SHARES

**Facts:** A share is an instrument which represents an ownership share of a company, so the shareholder becomes a co-owner of the company in question. The price of the share - and thus the return on the share investment - depends mainly on the earnings capacity of the company in question and extensively on market expectations about the company's future earnings.

Shareholders normally receive dividend once annually immediately after the annual general meeting.

**Return:** The return typically consists of dividend and capital gain. Some companies do not pay any dividend, so their shares return solely capital gain. The dividend is usually a proportion of the net profit and is determined at the annual general meeting.

**Risk:** Being part owners, a company's shareholders are affected by the success or otherwise of the company. Four factors play a role: internal circumstances, external circumstances (competitors), business trends and market sentiment (financial markets). A company can go bankrupt, and in that case the value of its shares may be 0.

The price of a share in a company can fluctuate widely in a short time, so investing in shares for a short time involves a considerable risk of loss. By buying shares in several companies (diversification), you make yourself less dependent on the price of one share. A diversified share investment historically gives a relatively high return.

If you buy a share or a portfolio of shares denominated in a currency other than your base currency, you take on a currency risk.

**Disadvantages:** Shares are bought and sold on an exchange, and trading in individual shares is therefore typically restricted to the opening hours of the stock exchange in question.

It should be noted that there may be big differences in liquidity from one share to the next.

**Requirement:** To buy a share, you must have the full purchase price at your disposal in an account.

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## MUTUAL FUNDS UNITS

**Facts:** Mutual fund units are securities which represent ownership shares in the assets of a mutual fund. Mutual fund units are alternatives to buying securities direct. Mutual funds are subject to regulation by a public authority. International investment funds are typically designated ETF, Exchange-Traded Funds.

The price of a mutual fund unit corresponds largely to the net asset value - i.e. the value of the securities held by the fund (adjusted for trading costs) divided by the number of units in circulation. The net asset value of a mutual fund unit is calculated several times a day and reported to a stock exchange.

**Return:** The return on a mutual fund unit typically consists of dividend and capital gain. Many mutual fund units pay a dividend, but some of them are cumulative, so the return on those is reflected solely in capital gain.

The object of mutual funds is typically to generate a return which is in line with or exceeds a comparable reference portfolio or benchmark. A reference portfolio will typically be an index of an asset class, a geographical area or a sector.

If the investor were to invest in the underlying reference portfolio, he would have to make big investments. If he invests in mutual fund units, he will get the return even on a small investment.

**Risk:** The risk attached to investment fund units is a portfolio risk, which means that at all times the investor runs the same risk as if he had himself invested in the securities that the mutual fund invests in. Therefore the risk is comparable in part or in full with the risk attached to the reference portfolio.

If you buy a mutual fund unit denominated in a currency other than your base currency, you take on a currency risk.

**Disadvantages:** The investor does not select specific securities. A mutual fund incurs certain costs, which are shared by the unit holders.

**Requirement:** To buy a mutual fund unit, you must have the full purchase price at your disposal in an account.

## STRUCTURED PRODUCTS

### 1. Structured products with close to full principal protection - Jyske Bank's products

**Facts:** these are Jyske Bank instruments which have been structured to give a certain degree of exposure to one or several markets, the issuer guaranteeing a minimum redemption price of close to 100% at a certain time in the future.

One example of a structured product is an instrument whose return depends on developments in selected share indices. The instrument typically consists of a bond and an option. The bond contributes an element of safety, while the option entitles the holder to a return corresponding to a proportion of the rise recorded in selected share indices. Also, the option element adds the possibility of a high return. Such instruments can contain elements from various markets: the share, commodities, and foreign exchange markets, the money-market and the credit market, or they may be alternative investments.

**Return:** the return is expressed as a proportion of the return recorded for the underlying assets. The potential return depends on the elements of the structured product. For a commodity investment, e.g., the decisive thing is how the prices of the relative commodities move, and so on. For further specification we refer to the offer documentation for individual structured products.

**Risk:** structured products are principal-protected by Jyske Bank, which means that Jyske Bank guarantees redemption at close to 100% at a certain time in the future.

It should be noted that the investor runs the risk of losing the principal amount, if Jyske Bank should go bankrupt.

If the investor sells before maturity of the structured product, there is no guarantee that the selling price cannot be lower than the minimum redemption price.

For further specification we refer to the offer documentation for individual products.

An investor who buys a structured product denominated in a currency other than his base currency accepts a foreign exchange risk.

**Disadvantages:** typically there is no liquid secondary market for a structured product between its issue and maturity.

**Requirement:** to buy a structured product, the investor must have the full purchase price at his disposal in an account.

## 2. Structured products with guaranteed minimum redemption price

**Facts:** these are instruments structured to give the investor a certain exposure to one or several markets; the issuer guarantees a minimum redemption price at a certain time in the future.

An example of a structured product is a bond whose return depends on developments in selected equity indices. The instrument typically has a bond element and an option element. The bond element contributes safety, while the option element entitles the holder to a return corresponding to a proportion of the rise recorded in selected share indices. The option element adds the possibility of a high return. Such instruments can contain elements from various markets: the equity, commodity and foreign exchange markets, the money-market and the credit market, or they may be alternative investments.

**Return:** the return is expressed as a proportion of the return recorded for the underlying assets. The potential return depends on the elements of the structured product. For structured products involving commodity investment, e.g., the decisive thing is how the prices of the relative commodities move, and so on. For further specification we refer to the offer documentation for individual products.

**Risk:** the instrument is redeemed at a guaranteed minimum price, which means that the investor is guaranteed a certain price at redemption at a certain time in the future.

It should be noted that the investor runs the risk of losing the principal amount, if the issuer should go bankrupt.

If the investor sells before maturity of the structured product, the selling price may be lower than the minimum redemption price.

For further specification we refer to the offer documentation for individual products.

An investor who buys a structured product denominated in a currency other than his base currency accepts a foreign exchange risk.

**Disadvantages:** typically there is no liquid secondary market for a structured product between its issue and maturity.

**Requirement:** to buy a structured product, the investor must have the full purchase price at his disposal in an account.

## FUTURES

### 3. Futures traded in the market

**Facts:** a futures contract is an exchange-traded agreement entered between two parties, a buyer and a seller. A third party, typically the exchange itself eliminates counterparty risk by acting as the counterparty of both parties.

A futures contract is a binding agreement whereby the parties commit to buying or selling a certain asset at an agreed price at a certain time in the future.

The buyer of a futures contract undertakes to buy/take receipt of the given asset at the futures price - the price agreed at the time when the contract was entered.

The seller of a futures contract undertakes to sell/deliver a given asset at the futures price - the price agreed at the time when the contract was entered.

The asset to be sold or bought is termed the underlying asset or the underlying instrument. This asset or instrument can be anything, from foreign exchange to a commodity or a share or share index.

The date in the future on which delivery must take place is termed the expiry date.

The price at which the futures contract is to be settled is termed the futures price.

The period from the time when the contract was entered to its expiry is the term of the futures contract.

Futures contracts are mainly available for commodities, interest rates, shares, bonds, foreign exchange, and various indices.

**Return:** the return on a futures contract reflects the return generated by the underlying asset.

**Risk:** the risk attached to a futures contract chiefly reflects the risk of buying or selling the underlying asset. For futures contracts whose specifications describe that there may be physical delivery of the underlying asset, it should be noted that the futures position should be closed in good time before expiry, because there is otherwise a risk that the futures contract must be settled by delivery of the physical underlying asset. This involves the risk that the relation between the futures position and the price of the underlying asset has changed.

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An investor who buys a futures contract denominated in a currency other than his base currency accepts a foreign exchange risk.

**Disadvantages:** you cannot always be certain of finding a futures contract which perfectly matches the risk of the underlying asset which you wish to hedge. In that case, you run the risk that the price development in the futures contract does not fully correspond with the price development of the underlying asset. Investors should note that futures transactions, unlike forward contracts, tie up liquidity and require the provision of margin security.

**Requirement:** to be able to complete futures contracts, the investor must be able to provide additional margin, if necessary. In addition, he must be able to meet the exchange's demands on a daily basis for additional liquidity to cover unrealized loss on his futures contracts.

## 4. Futures traded with Jyske Bank as the counterparty

**Facts:** a futures contract is an exchange-traded agreement entered between two parties, a buyer and a seller. Jyske Bank acts as the counterparty of all these futures transactions.

A futures contract is a binding agreement whereby the parties commit to buying or selling a certain asset at an agreed price at a certain time in the future.

The buyer of a futures contract undertakes to buy/take receipt of a given asset at the futures price - the price agreed at the time when the contract was entered.

The seller of a futures contract undertakes to sell/deliver a given asset at the futures price - the price agreed at the time when the contract was entered.

The asset sold or bought is termed the underlying asset or the underlying instrument. The asset or instrument can be anything from foreign exchange to commodities to a share or share index.

The date in the future on which delivery must take place between the two parties is termed the expiry date.

The price at which the futures contract is to be settled is termed the futures price.

The period from the time when the contract was entered to its expiry is the term of the futures contract.

Futures contracts are mainly available for commodities, interest rates, shares, bonds, foreign exchange, and various indices.

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**Return:** the return on a futures contract reflects the return generated by the underlying asset.

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Since Jyske Bank is the counterparty of all futures transactions, the investor runs a risk, should Jyske Bank be unable to meet its obligations under the futures contract.

An investor who buys a futures contract denominated in a currency other than his base currency accepts a foreign exchange risk.

**Disadvantages:** you cannot always be certain of finding a futures contract which perfectly matches the risk of the underlying asset which you wish to hedge. In that case, you run the risk that the price development in the futures contract does not fully correspond with the price development of the underlying asset.

**Requirement:** Jyske Bank must grant the client a line for trading futures contracts with the Bank. This requires a credit rating of the client.

## REPOS AND REVERSE REPOS

### Repos and reverse repos involving bonds

**Facts:** repo: you can obtain a money-market loan for a certain term by selling bonds spot to the bank, undertaking at the same time to buy back the bonds for delivery at the end of the term at a price agreed at the time when the contract was entered. In this structure, the difference between the two prices corresponds to the difference between the coupon rate of the bonds in question and the agreed short-term money-market offered rate (the borrowing rate).

Reverse repo: you can make a money-market placement for a certain term by buying bonds spot from the bank, at the same time selling the bonds back to the bank for delivery at the end of the term at a price agreed at the time when the contract was entered.

The difference between the two prices corresponds to the difference between the coupon rate of the bonds in question and the agreed short-term money-market bid rate (the deposit rate).

The advantage of repos/reverse repos over traditional money-market transactions is mainly that the lender's counterparty risk is much lower. The lender has received bonds from the borrower as 'security' for the loan. If the borrower does not fulfill his obligation to repay the loan (by buying back the bonds) the lender solely bears the risk that the value of the bonds may have fallen since the agreement was entered. This risk will be much smaller than the risk represented by the full principal as is otherwise usual for money-market transactions.

**Return:** interest on the money-market leg is paid in the form of the difference between the market prices of the bonds at the beginning and the end of the contract term.

**Risk:** there is only a risk if the counterparty is unable to repay the loan and the market value of the bonds is lower at maturity than when the agreement was entered.

**Disadvantages:** some of the characteristics of bonds such as coupon rate and early redemption may pose a problem in connection with repos and reverse repos. The investor may face challenges with regard to accounting, tax payment and risk management if he uses repos and reverse repos.

**Requirement:** the two counterparties must enter into a bilateral basic agreement before they enter into repo/reverse repo transactions. Only such bonds can be the object of repos/reverse repos as are generally accepted for repo transactions.

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## CERTIFICATES

**Facts:** a certificate is an exchange-traded instrument whose return depends on the performance of the underlying asset. The return on a certificate is often amplified by leveraging (long certificates). Certificates are also available whose positive return depends on a fall in the price of the underlying asset (short certificates). In addition, there are certificates with more exotic characteristics whose return depends on the value of options on the underlying asset.

Investors are urged to read the offer documentation of individual certificates closely.

Certificates have individual parameters which the investor should be aware of.

Leverage: this indicates the leveraging of the initial investment. The return on a long certificate leveraged by, e.g., four will be four times the return on the underlying asset. If the value of the underlying assets increases by 10%, the return on the certificate will, other things being equal, be about 40%, whereas it will be -40%, if the value of the asset falls by 10%.

Financing level: this is closely related to the leverage ratio. If, for instance, the underlying asset is a share at DKK 100, and the financing level for certificates is DKK 75, the issuer of the certificate will have financed 75% of the price of the underlying asset, while the buyer of the certificate will finance 25%. It follows that, since the buyer of the certificate makes an investment of only DKK 25, while the return is based on DKK 100, his return will be multiplied by  $100/25 = 4$  (the leverage ratio).

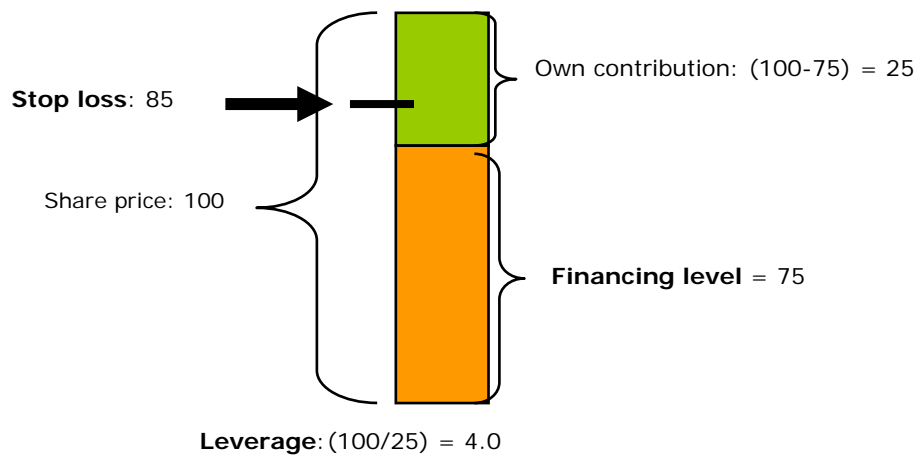
The financing level is not static, but changes daily, and financing costs accrue daily.

Stop loss: stop loss is the price at which the certificate is closed down and the remaining investment amount paid to the holder of the certificate. In the above-mentioned case, stop loss might be at 85, and the position would be closed when the price reached/went below 85. In the example above where DKK 75 is borrowed, the remaining DKK 10 would be paid to the holder of the certificate. Please note that the holder cannot be certain of receiving DKK 10. The net proceeds depend on the price at which the issuer of the certificates can sell the underlying asset.

Like the financing level, stop loss is not static, but may be changed at regular intervals. The value by which stop loss is changed corresponds to the funding cost accrued for the preceding period.

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**Return:** the return on certificates depends on a number of factors. First of all, the type of certificate is crucial for the return profile. Below are examples of the characteristics of various types: long certificates and call warrant certificates generate a return when the price of the underlying asset rises, whereas short certificates and put warrant certificates generate a return when the price of the underlying asset falls; bonus certificates generate a return when the price of the underlying asset has risen, and the asset has not been trading at or below a specified price for a specified period.

Moreover, leveraging is of great importance to the return. The higher the leverage of the certificate, the higher the change in its market value, if the price of the underlying asset changes. Other things being equal, the price of a long certificate with a leverage of four will rise by about 12% if the price of the underlying asset rises by 3%.

For call warrant certificates and put warrant certificates the leverage ratio does not have the same effect as for long and short certificates. For call warrant certificates and put warrant certificates the crucial element is the strike price of the underlying option and the expiry date of the option - and hence of the certificate. If the price of the underlying asset is lower than the strike price at expiry, a call warrant certificate will be worthless, and the certificate lapses. If the price at expiry is above the strike price, the holder of the certificate will receive the difference between the strike price and the price of the underlying asset. For put warrant certificates the same return profile applies, except that the asset price must be lower than the strike price for the certificate to have any value at expiry.

For bonus certificates it is difficult to describe the return profile in general terms.

**Risk:** because many certificates are leveraged, investment in certificates involves a higher risk than does investment in the underlying

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asset direct. If the price of the underlying asset hits stop loss, the position will be closed automatically, and the investor will receive back what remains of the investment amount. In the event that the position cannot be closed at the stop loss price - because the volume of trading in the underlying asset is thin - the investor may at worst lose all of the amount invested.

Investors must pay particular attention to the fact that special rules may apply in the relevant country, so investors are urged to read the offer documentation of the individual certificate.

If the price of the underlying asset is traded in a currency other than the investor's base currency, the investor accepts a currency risk as if he had invested direct in the underlying asset.

The investor runs a counterparty risk on the issuer of the certificate.

**Disadvantages:** investors should note that the spread between the buy and sell prices of certain certificates may be much wider than the difference between the bid and offer prices of the underlying asset.

It should be noted that the liquidity of individual certificates may differ widely. Also, that the prices of individual certificates may not be quoted every day; quotation depends on the certificate being traded.

If stop loss is reached, the position will be closed automatically. This means that even if the underlying asset should later perform as desired, the certificate holder will not benefit unless he has invested in a new certificate.

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## FORWARD CONTRACTS

**Facts:** a forward contract is an obligation to buy or sell an asset at an agreed price on a certain future date. A forward contract may stipulate physical delivery or settlement by payment of the difference between the contract price and the price of the asset.

A forward contract is an excellent protection against price changes.

**Return:** a forward contract does not generate a return as such. But it may indirectly generate a return, for instance due to a difference in yields on the involved assets or opportunity cost as a result of price changes in the market.

**Risk:** if you hedge a position by means of a forward contract, you run a risk in the form of opportunity cost, if the hedged position performs better after the forward contract has been entered.

The investor who enters a forward contract as a separate investment runs the same risk as if he had bought or sold the underlying asset.

By entering a forward contract you accept a counterparty risk: the counterparty may default on his obligations. This risk is quantified as the risk of the market moving unfavorably in relation to the contract price.

If a forward contract is to be settled in a foreign currency at the difference between the contract price and the price of the underlying asset, the investor runs a foreign exchange risk on the settlement amount.

**Disadvantages:** the investor runs the risk of not being able to match his underlying asset completely, where a forward contract is used as a hedge.

Forward contracts are typically bilateral agreements made over the counter (OTC), and in case of cancellation they must typically be settled between the original counterparties. Like other OTC transactions, forward contracts are not quoted officially.

The investor may face challenges with regard to accounting, tax payment and portfolio management if he uses forward contracts.

**Requirement:** Jyske Bank must grant the investor a line for trading forward contracts with the Bank. This requires a credit rating of the investor.

## Types of forward contracts

### Forward Exchange Contracts

The price of a forward exchange contract is the spot price of the currency combination plus the forward premium or discount, which expresses the interest-rate difference between the two currencies for the given period. The premium is added to or the discount deducted from the spot price, depending on whether the investor has sold or bought the higher-interest currency forward.

Forward contracts may be Non Deliverable Forwards (NDF) which means that they are settled by payment. Such contracts cannot be changed to physical delivery. NDF are typically used for forward contracts involving a currency which is either not negotiable or is subject to restrictions.

### Forward contracts involving securities

The price of a forward contract involving securities is the market price of the security plus the forward premium or discount, which expresses the difference between the borrowing rate and the income from the security over the given period. The income will typically consist of coupon interest and capital gain on prepayment, if any, in the case of forward contracts based on bonds, or dividend payment in the case of forward contracts based on shares.

Forward contracts involving securities for which cash settlement has been agreed cannot be changed to physical delivery.

### Forward commodity contracts

The price of a forward commodity contract is the spot price of the asset plus the forward premium or discount which expresses the costs of holding the commodity, typically consisting of a funding rate, warehousing costs and insurance premiums.

Forward commodity contracts are typically settled by physical delivery, which may involve challenges in the form of deteriorating liquidity and adverse price development as the expiry of the forward contract draws near.

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## OPTIONS

**Facts:** an option is a contract between two parties - a buyer and a seller - which gives the buyer the right, but not the obligation, to buy or sell a specific quantity of a specific asset at an agreed price called the strike price, at a certain time in the future. Listed share options are called warrants. There are two option types, European- and American-style options.

The European-style option confers the right to sell or buy only on the expiry date of the option, whereas an American-style option can be exercised any time until expiry. This makes the American-style option the more flexible, but also the more expensive, and it is more difficult to price an American-style than a similar European-style option. European-style options are the more common, and those are described in the following.

Options which confer the right to buy an asset are termed call options, calls or caps. Options which confer the right to sell an asset are termed put options, puts or floors.

Since an option has characteristics reminiscent of an insurance, the price paid for an option is called the premium. In return for the right to buy or sell, the buyer of the option pays a premium to the seller. Our clients can buy both call and put options. The buyer of the option decides whether to use his right to buy or sell or not.

Options are OTC instruments and as such are not standardized in any way with regard to expiry, amount, etc. Options typically have foreign currency, shares, interest rates or commodities as the underlying asset. A unique aspect of options is that they are quoted in the market by volatility, an expression of how volatile the price of the underlying asset is. Volatility is taken into account when the premium is fixed.

Settlement may be in the form of cash settlement. If an option contract is cash settled, it means that on expiry the difference between the price of the asset and the strike price is paid in cash.

**Return:** the buyer of an option may obtain a return if the asset price is over or below the strike price at expiry less the premium paid up front. If an option is used to manage risk, the return will appear as compensation for a loss on the underlying asset.

For the seller (writer) of an option, a return may occur in the form of the premium received up front. The return may disappear in full or in part, if the asset value is above or below the strike price on expiry.

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**Risk:** options have an asymmetrical risk profile. If the price on the expiry date is over or below the strike price, the buyer will not wish to exercise the option, and it lapses. In that case, the investor has lost the premium he paid. The buyer's maximum loss is thus limited to the premium paid up front.

Our clients can sell both call and put options. For the seller (writer), the risk is unlimited. The seller receives the premium when the option contract is entered, but takes an unlimited exposure, since the asset price may move by any amount to the detriment of the seller.

**Disadvantages:** although options are typical OTC instruments, the secondary market for options is very liquid, but this being an OTC instrument, there is no uniform price in the market.

**Requirement:** the client must be awarded trading limits and sign the relevant documents. Also, the client must be able to meet the Bank's demand for additional margin to cover an unrealized loss, if any, on put options.

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## SWAPS

**Facts:** a swap is an agreement to exchange a future flow of payments. Basically there are two general types of swap: interest-rate swap and currency swap. In the former the contractors exchange future payments in the same currency; in the latter they exchange payments in different currencies.

### Types of Swaps

#### Interest-rate swaps

**Facts:** an interest-rate swap is used for a synthetic exchange of a floating interest rate for a fixed rate or from a floating rate to another variable (basis swap in a single currency).

Interest-rate swaps are good and efficient for managing debt or assets. By means of an interest-rate swap a client with a floating-rate loan can switch synthetically (without signing new loan agreements etc.) into a fixed-rate loan. If interest rates subsequently rise, the client can choose at some time to close his swap and receive the present value of the interest-rate rise, whereupon he is back with his original floating rate funding. Interest rate swaps are often used as a cost-efficient and quick way to refinance debt.

**Return:** there is no return as such, because swaps are entered at market values close to 100. There may be a very big positive or negative return if the instrument is used speculatively.

**Risk:** with regard to market risk, the risk inherent in interest rate swaps is in principle identical with a corresponding switch of the client's underlying debt or assets (from fixed rate to floating rate or vice versa). The client should therefore be able to stand the consequences of adverse interest-rate and market risk movements which such a refunding might have, even if interest rate movements are extreme.

Unlike a situation when the underlying loans are refinanced, the client must bear in mind that this is a derivative position, and that it may affect his situation with regard to creditworthiness and taxation - it is necessary to keep those aspects in mind when considering whether an interest-rate swap is the proper instrument.

**Disadvantages:** interest-rate swaps being OTC instruments, there is no uniform price in the market.

**Requirement:** the client must be awarded trading limits and sign the relevant documents. Also, the client must be able to meet the

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Bank's demand for additional margin to cover an unrealized loss, if any, on interest-rate swaps.

## Currency swaps

**Facts:** a currency swap is used, e.g., to switch funding currency from DKK to EUR for a longish period or in the management of cash flows in various currencies of international corporations. Currency swaps involve payment of physical installments of principal: typically in the case of initial repayments of principal in both of the currencies involved, regular interest payments in the two currencies (at fixed or floating rate or a combination of the two) and a final exchange for each of the two currencies.

This is one way to hedge currency risk on cash flow in currencies other than your own base currency. The instrument is also very suitable for cash-flow management across many currencies. And currency swaps are very suitable for so-called Liability Swaps or Asset Swap structures.

Currency swaps are a good and efficient way to obtain 'funding' in a currency which the client does not normally use (for instance to obtain AUD funding by swapping the client's base currency).

**Return:** there is no return as such, because swaps are entered at market values close to 100. There may be a very big positive or negative return if the instrument is used speculatively.

**Risk:** the client must know in detail all his cash flows in various currencies to be able to assess the risks involved in using currency swaps.

**Disadvantages:** currency swaps being OTC instruments, there is no uniform price in the market.

**Requirement:** the client must be awarded trading limits and sign the relevant documents. Also, the client must be able to meet the Bank's demand for additional margin to cover an unrealized loss, if any, on currency swaps.

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## HEDGE FUNDS

**Facts:** a hedge fund acts in some way like a mutual fund, which has specialized in making idle and added value work through hedging strategies. Unlike funds which have fairly strict investment rules, hedge funds have practically unlimited investment possibilities.

The main differences between hedge funds and mutual funds are:

- Hedge funds may take up loans
- Hedge funds may trade short: sell an asset they do not hold
- Hedge funds may invest in financial instruments

This means that a hedge fund can earn money in a falling market, can use leveraged investment and is not tied down to absolute principal amounts. Every hedge fund has a defined investment strategy called 'style' and is typically measured against a benchmark which is characteristic of that particular style.

Hedge funds typically have a cost structure which involves both a fixed administration fee and a variable performance-dependent fee called 'performance fee'.

Typically, the net asset value is calculated daily, so that the investor knows the risk he is exposed to.

Hedge funds also exist as 'funds of funds' which are hedge funds that invest in other hedge funds as part of their portfolio investment within one style or across various styles.

**Return:** thanks to the leverage possibility, hedge funds can generate relatively high returns. Because hedge funds may take up both long and short positions, hedge funds can generate returns whether markets are rising or falling. Their returns can be fully or partially market neutral.

**Risk:** however, because of the possibility of leverage, hedge funds can generate relatively big negative returns. Some styles are very volatile and hence extra risky.

An investor who invests in a hedge fund denominated in a currency other than the investor's base currency accepts a currency risk.

**Disadvantages:** hedge fund units may not be liquid all the time, so even if investors can at all times learn the value of and risk involved in their investments, it may prove difficult to sell units, which is typically limited to specific periods, and orders may take a long time to fill.

**Requirement:** to buy hedge fund units, you must have the full purchase price at your disposal in an account.

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## MORTGAGE DEEDS

**Facts:** traditional Danish mortgage deeds are negotiable bonds which are mainly issued in connection with the sale of real estate. Mortgage deeds can also be issued as security for a loan or credit facility. The repayment profile of mortgage deeds typically mirrors that of annuity loans. The price of a mortgage deed depends on the property type, the debtor, the circumstances of the case, and the market price estimated on the basis of the general interest-rate level and interest-rate expectations.

This is a flexible instrument enabling loans between private individuals. Mortgage deeds can be sold to a third party.

**Return:** there may be a return in the form of interest income and possibly a capital gain or loss at redemption. Early redemption may also result in a capital gain.

**Risk:** if the mortgager is unable to pay under the mortgage deed, the amount paid for the mortgage deed may be lost. The investor, who buys a portfolio of mortgage deeds (diversification), will be less dependent on a single mortgager's ability to pay.

If you buy a mortgage deed denominated in a currency other than your base currency, you take on a foreign exchange risk.

**Disadvantages:** the secondary market for mortgage deeds may be illiquid.

**Requirement:** to buy a mortgage deed, you must have the full purchase price at your disposal in an account.

### Guaranteed mortgage deeds

**Facts:** guaranteed mortgage deeds are guaranteed by an insurance company or a bank or savings bank. The wording of guarantees may vary, but generally the guarantor undertakes to pay to the creditor the regular payments of interest and installments in case of default, and in return is subrogated to the creditor's claim under the mortgage deed.

The details concerning return, disadvantages and requirements are the same as for ordinary mortgage deeds, but the creditor runs a smaller risk thanks to the guarantee.

## FORWARD RATE AGREEMENT

**Facts:** a Forward Rate Agreement (FRA) is an over-the-counter (OTC) instrument which is used to hedge interest-rate risk; it acts as an OTC futures contract for short-term interest rates.

An FRA is used to lock in a future borrowing or lending rate: it fixes the interest rate for an agreed future period. A typical contract could be for 3 months in three months' time (a so-called 3-6 FRA).

The agreed principal is synthetic, and there is no obligation on Jyske Bank or the client who is the counterparty of the contract to borrow or lend funds at the agreed interest rate.

An FRA is "cash settled" at expiry. This means that the difference between the FRA rate and the stipulated official rate quoted on the expiry date (LIBOR/CIBOR) is settled on the value date.

**Return:** the buyer (usually a borrower) of an FRA insures against a rise in interest rates, while the seller insures against a fall in interest rates.

If at expiry the stipulated official money-market rate (LIBOR/CIBOR) is higher than the rate of the FRA contract, the buyer receives the interest difference from the seller.

If at expiry the stipulated official money-market rate is lower than the rate of the FRA contract, the seller receives the interest difference from the buyer.

**Risk:** the buyer of an FRA stands to lose if expectations of higher interest rates do not come true. If an FRA was bought to hedge an existing interest rate risk, a loss would be offset by a gain on the underlying exposure.

The seller of an FRA stands to lose if expectations of lower interest rates do not come true. If an FRA was sold to hedge an existing interest rate risk, the loss will be offset by a gain on the underlying exposure.

Where a client uses an FRA in a currency other than his base currency, he runs an FX risk, unless he has taken up funding/made investment denominated in the same currency.

**Disadvantages:** the FRA market is not very liquid, and this makes it more expensive for clients to trade small amounts, typically amounts of less than DKK 5 million.

If an FRA is to be adapted to a client's underlying asset, which often does not coincide with the standard periods of three or six months, this will add to the client's costs. It is possible to choose a standard

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FRA to hedge an underlying risk, but the client should be aware of this basic risk.

**Requirement:** to make FRA transactions, the client must be able to put up margin. Also, the client must be able to meet the Bank's demand for additional margin to cover an unrealized loss, if any, on his FRAs.