

Derivatives 2: Taking advantages of opportunities and controlling risks

- **OTC** stands for “over the counter” and is the term used for financial market transactions that are not processed through an exchange. They can, therefore, be agreed upon individually between the trading parties.
- **Forwards** are the off-market traded counterparts to futures. Two contractual partners agree to buy or sell an asset at a specific price and at a specific time in the future, and to do so OTC.
- A **swap** is a deal involving a financial exchange between two partners. The best-known forms are interest rate swaps and currency swaps.
- **“Counterparty risk”** is the term used to describe the risk of default by a partner with a contractual obligation. In OTC trading, counterparty risk must be given special consideration.
- **Netting** is understood in the derivatives business as the settlement of positions in swap deals and futures contracts on futures exchanges that cancel each other out. Regular netting can reduce risk positions.

Derivatives enable the hedging of risk or the implementation of investment ideas in a variety of ways. In Derivatives 1 we have already illustrated some basic examples for standardised derivatives and their regulated purchase or sale through an exchange, with the help of a clearing house. This document covers other derivatives that can provide additional investment opportunities through an experienced fund manager. These particularly include those that are not standardised and not traded on an exchange. They offer professional portfolio managers individually structured possibilities. At the same time, the specific risks associated with them should be systematically controlled and restricted. Having an understanding of how an experienced fund manager uses these instruments also helps fund investors to better comprehend their investment products. The following terms are explained: OTC, forwards, swaps, counterparty risk, and netting.

For professional investors, standardised derivatives may no longer be sufficient to implement their alternative investment strategies, for example. Derivatives with conditions that the contractual partners (counterparties) have agreed on individually can present additional opportunities. What is the basic difference with standardised derivatives, such as options or futures? They cannot be traded on an exchange. This is because the pricing system on exchanges requires that similar, standardised products are offered.

OTC: The “over the counter” business

By no means are all financial transactions processed through an exchange. Foreign-exchange trading, for example, traditionally takes place “over the counter.” The exchange trading of several products, such as ETFs and certificates, makes up only a fraction of total trading compared with over the counter trading. Forwards and swaps are not traded through an exchange either, but over the counter instead (OTC).

Figure 1: Characteristics of exchange and OTC trading

Exchange trading	OTC (Over the Counter trading)
<ul style="list-style-type: none"> ■ Fixed, universal set of rules ■ Central counterparty (CCP); no individual counterparty risk ■ High liquidity, even in difficult market phases ■ Opportunities for comparison through reference markets ■ Oversight by impartial trading supervision ■ Inspection of order book possible / transparency ■ Review of irregularities possible ■ Limit orders possible 	<ul style="list-style-type: none"> ■ Customised products ■ No exchange/broker fees ■ “Silent” trading without an impact on pricing ■ Longer trading times, partly even on weekends ■ Limit orders only possible in some cases ■ Counterparty risk ■ Inspection of order book not possible / less transparency ■ To some extent, lower liquidity than in exchange trading

Source: Invesco. Schematic representation for illustration purposes only.



Basic knowledge

OTC

OTC stands for “over the counter” and describes financial transactions that are not processed through an exchange. OTC deals can be done in any manner: There are no fixed times and the prices are freely negotiated. The transactions take place beyond the responsibility of an exchange, but they are subject to the applicable regulatory provisions for securities trading. One reason for OTC trading is that exchanges only deal with standardised products at the relevant prices on each trading day. In contrast, OTC trading allows the purchase and sale of products that are individually customised in terms of the conditions. However, exchange-listed securities can be traded over the counter as well, for cost reasons or because the transaction should not be made public. The OTC business is actually more important than exchange trading for some products traded in the financial market - for certificates and ETFs, for example.

OTC trading was heavily criticised for its transparency deficiencies and supervision problems during the financial crisis. In 2009, the G-20 countries therefore resolved to make OTC derivatives trading more transparent and secure. In particular, it was agreed that certain types of standardised OTC derivatives would also be processed through central counterparties (CCPs) and that OTC derivatives transactions must be registered.

Forwards: OTC futures contracts

Forwards are among the products that are not traded through exchanges, meaning they are traded OTC. They even distinguish themselves precisely because they can only be bought or sold over the counter, unlike exchange-traded futures. Furthermore, while futures - on the DAX, for example - can be purchased by anyone, forward agreements are concluded mostly between institutional investors or banks.

Figure 2: Futures and forwards - what is the difference?



Basic knowledge

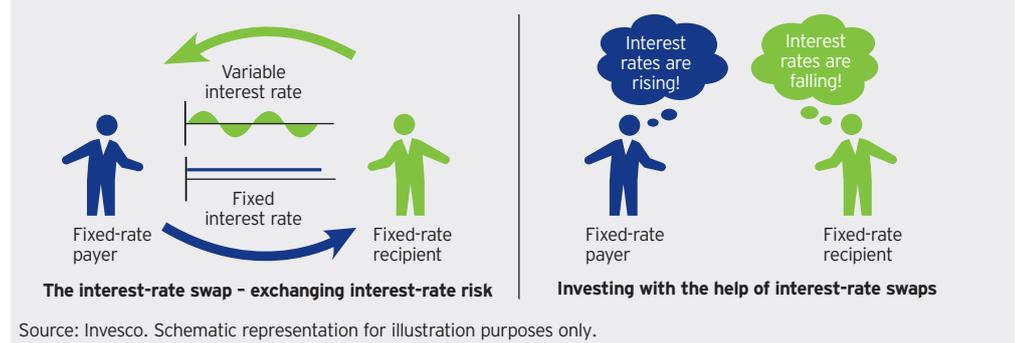
Forwards

Forwards are - unlike futures - individually structured contracts that are not traded on an exchange. Just like with a futures contract, a forward involves two contractual partners agreeing to buy or sell an asset at a specific price and at a specific time in the future. However, the agreement takes place over the counter. The asset's type and price, the delivery quantity and the maturity date are not standardised, so they can be specified individually. Therefore, the biggest advantage, compared with a futures contract, is the flexibility. However, forwards are more difficult to trade because of the variable ways to structure them. There is also the counterparty risk: The collateral must be agreed upon individually and the contractual partners, not the clearing house, bear the risk. Forwards are often used to hedge currency risks.

Swaps: Exchange transactions with a potential win-win effect

In addition to forwards, swaps are also exclusively traded over the counter. By using swaps, professional investors, such as fund managers, can exploit the comparative advantages in various markets. This means a relative advantage which one contractual partner has over the other in a particular area of financial markets is used for mutual benefit and customised for a fee. Another advantage of swaps is that risks - just like with other derivatives - can be traded individually and separately from the related underlying asset.

Figure 3: Interest-rate swaps - for risk hedging or as an investment option





Swaps

A swap is a deal involving a financial exchange between two partners. The most well-known forms are interest-rate swaps and currency swaps. In an interest-rate swap, the contractual partners exchange interest obligations for a set amount of time. For example, this could be a swap of variable- for fixed-interest payments, or different variable interest payments swapped for each other - in the same currency. In currency swaps, the obligations to be exchanged are denominated in different currencies. While the capital is not exchanged between the contractual partners in an interest-rate swap, currency swaps involve an exchange of capital at the current exchange rate on the day that the contractual period begins. After the swap contract expires, the capital is exchanged back at the same rate. Swaps serve to hedge risk, but they can also be used to implement investment ideas. In contrast to futures and most options, swaps do not involve exchange-traded, standardised products.

Many actively managed funds use swaps to reduce risk or to pursue investment ideas. However, swaps play a special role in the ETF market. Replicating an index is difficult in some cases, perhaps because of the many individual stocks included in the index or their lack of liquidity. For this reason, swap-based ETFs were developed. They partly or generally buy securities other than the ones included in the reference index. Through a swap contract, an agreement is then sealed with a bank to exchange this portfolio's performance with the index to be replicated. Proponents point out that swap-based ETFs, in practice, often replicate the index more exactly and frequently have low costs. On the other hand, critics refer to their construction as difficult for investors to understand, and to the counterparty risk that arises from a possible default of the swap partner.

Counterparty risk: Major risk with OTC deals

What exactly constitutes a counterparty risk? "Counterparty risk" is the term used to describe the risk of default by a partner with a contractual obligation. In all OTC trading, counterparty risk must be given special consideration.

Figure 4: Counterparty risk - contractual partner defaults



Counterparty risk

Counterparty risk is described as the risk that a contractual partner defaults within the framework of a contractual obligation between at least two parties and does so before fulfilling his agreed duties. As a result, the other contractual partner may suffer losses. The counterparty risk consists of the replacement risk and the performance risk. Replacement risk involves the danger that the counterparty defaults during the term of a transaction while the market value is rising, and a higher financial cost would result from replacement in the current market conditions. The performance risk arises from the danger that a contractual partner does not fulfil his duties after one's own duties have already been fulfilled. Therefore, it involves a "total default" of the agreed return service. In portfolio management, counterparty risk plays a significant role, primarily in transactions with forwards and swaps.

For investors, it is therefore important to check whether a counterparty risk is also involved with an investment. This can impair a fund's performance and also have a negative effect on the unit value as a result. With swap-based ETFs, there is always a counterparty risk, but there is some debate about how big or significant this is.

Derivatives, and hence counterparty risks, are of greater significance for absolute return funds, in particular. Indeed, CCPs hedge against counterparty default risks through a range of protective mechanisms, such as so-called margin deposits. In spite of this, it cannot be ruled out that losses will ensue.

Netting: Balancing claims and obligations

Another term that repeatedly appears in the context of derivatives is netting. Netting can also make a vital contribution to keeping the risks of a potential default by a counterparty as minor as possible. If netting is used regularly, for example, the risk can be limited considerably at the relevant time since no major liabilities of a partner "add up."

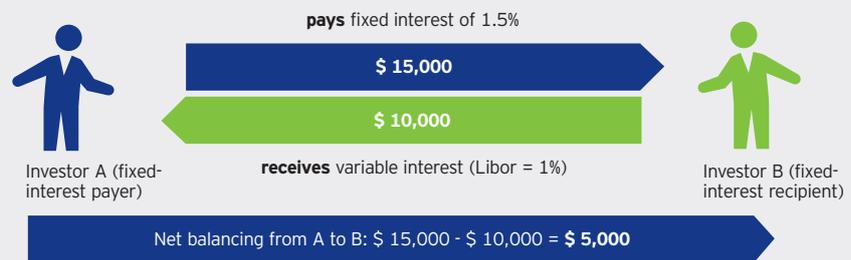
Figure 5: How does netting work in interest-rate swaps?

Example:

Investor A (fixed-interest payer / payer swap) pays a fixed interest rate - e.g. 1.5%.
Investor B (fixed-interest recipient / receiver swap) pays a variable interest rate - e.g. Libor.
The nominal value amounts to US\$ 1 million. Settlement takes place every 12 months.

After 12 months, Libor is 1%. This results in the following net balance:
Investor A must pay fixed interest amounting to: $0.015 \times \text{US\$ } 1 \text{ million} = \text{US\$ } 15,000$
The variable interest to be paid by Investor B is: $0.01 \times \text{US\$ } 1 \text{ million} = \text{US\$ } 10,000$

In the course of net balancing, A should therefore pay B exactly US\$ 5,000.



Source: Invesco. Schematic representation for illustration purposes only.



Basic knowledge

Netting

Netting generally means the settlement of claims and obligations between two or more contractual partners. One of the goals is to reduce the number and volume of payment flows, or to minimise the administrative cost. In the derivatives business, netting means the settlement of positions in swap deals and futures contracts on futures exchanges that cancel each other out. With interest-rate swaps, the full interest payments are not exchanged, but instead only the net difference between the mutual obligations is offset at scheduled settlement times. Apart from reducing administrative costs, netting can also be specifically used to limit counterparty risk and hence the danger of losses from defaults. If a contractual partner defaults, the loss risk involves only the positions that are still open after the last netting adjustment, not all the obligations that could accrue over the entire term of the contract.

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