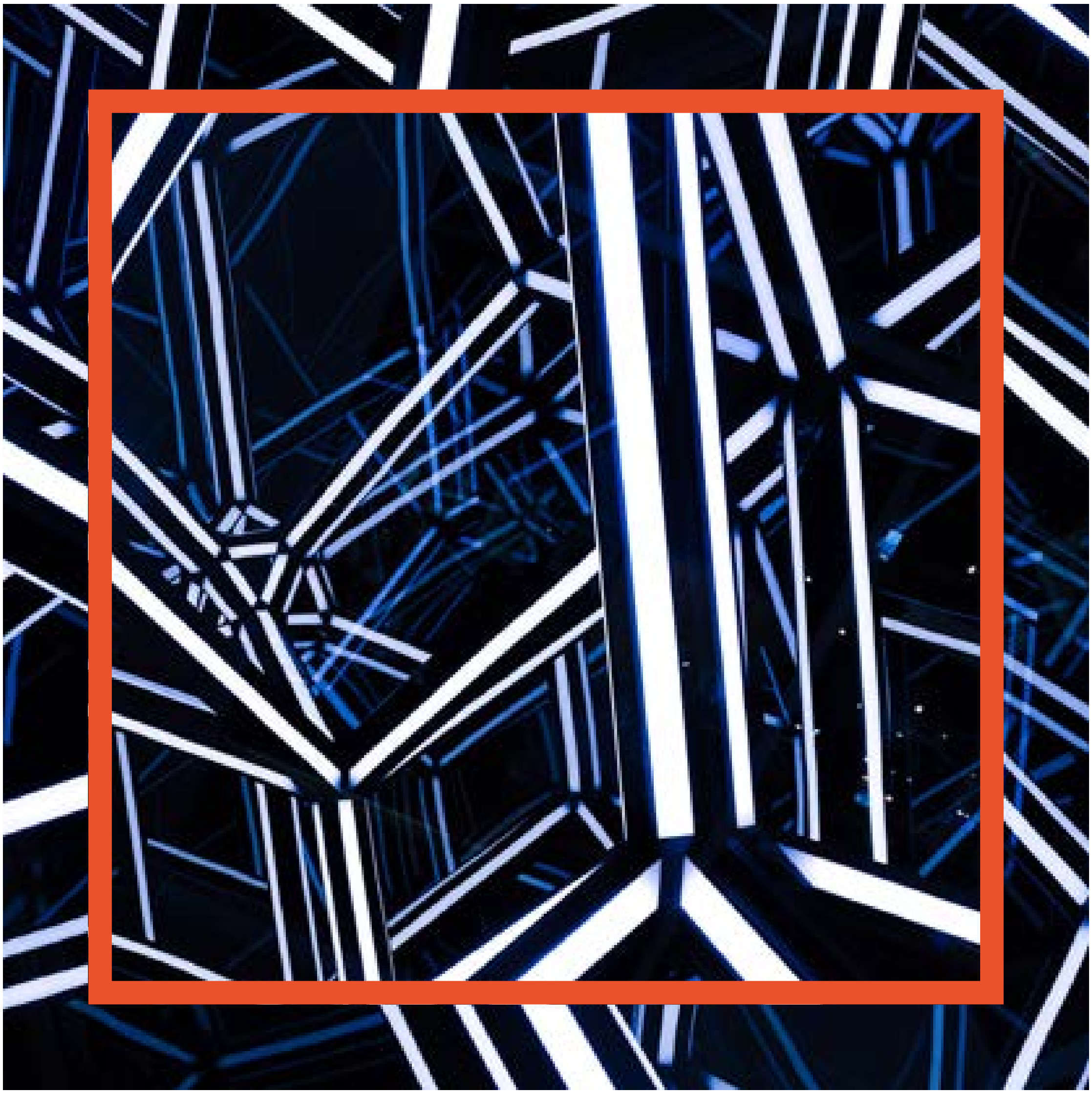
OPTIONS AND FUTURE

Hedging vs Speculation



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DERIVATIVES

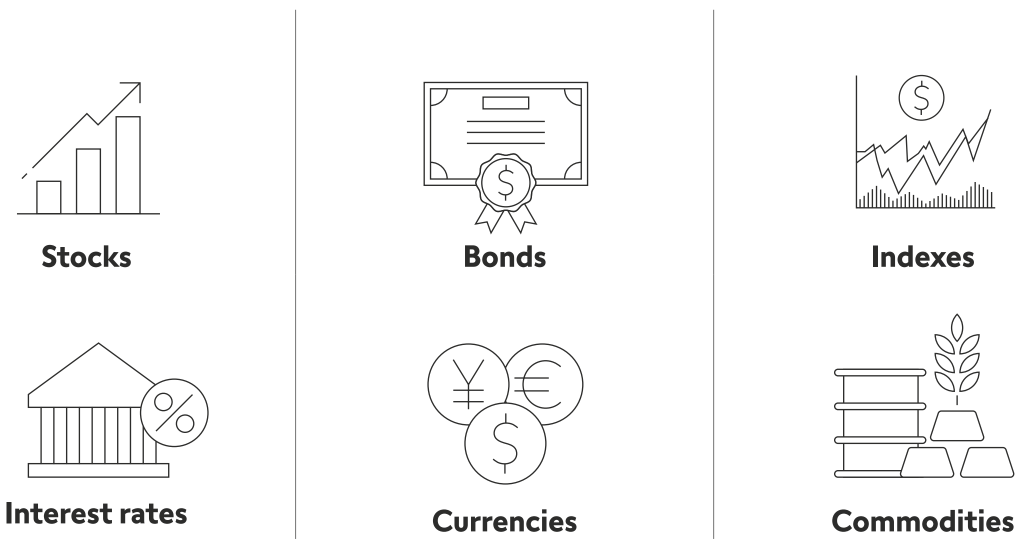
1. CONCEPT

What is a derivative instrument?

Derivatives are financial instruments whose pay-off is reliant on the future realization of a reference variable or a basket of references. Hence, their value depends on another asset or a basket of assets, called «underlying».

Depending on the strategy used, derivatives can serve as instruments to hedge a position, or speculate on the future variation of the underlying asset.

MOST COMMON UNDERLYING ASSETS



OPTIONS

1. CONCEPT

What is an option?

An option is a derivative instrument which gives the holder the right, but not the obligation, to buy or sell an underlying asset at a specified price throughout a limited period of time.

What are the different exercise style of options?

1. **American options**
   American options give owners the right to exercise the option at any time before the expiration date.

2. **European options**
   European options give owners the right to exercise the option only when the expiration date comes.

What are the different types of options?

Option	Call	A call option enables the owner **to BUY the underlying asset** over a specified period of time.
	Put	A put option enables the owner **to SELL the underlying asset** over a specified period of time.

Buyer's vs seller's perspective

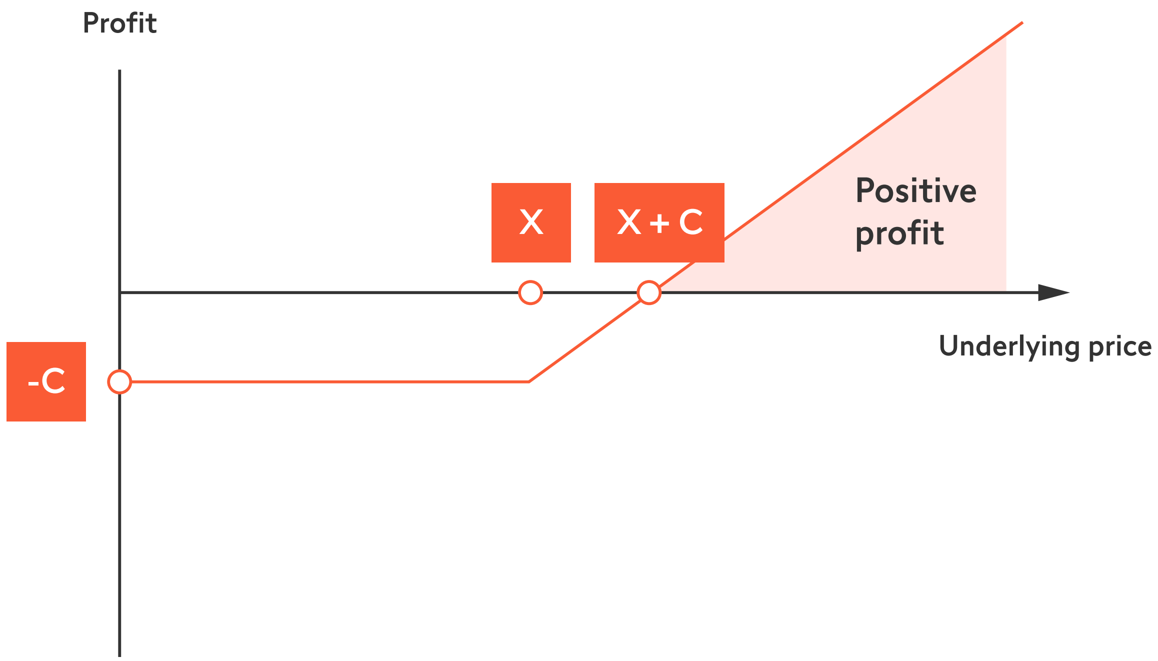
	OPTION BUYER	OPTION SELLER
OBLIGATION OR RIGHT	**Right** The buyer of the option has the right, but not the obligation, to buy (in case of a call) or sell (in case of a put) the underlying asset at the specified price over a defined period of time. If he wants to, the buyer can also decides not to exercise his option, which will then expire worthless.	**Obligation** The seller, however, has the obligation to sell (in case of a call) or buy (in case of a put) the underlying asset at the specified price when the buyer decides to exercise his option. Indeed, this is a legal obligation, which means that the seller cannot retract.
PRICE OR PROCEEDS	**Price** To be able to benefit from this right, the option buyer must pay the seller a specific amount of money called «premium».	**Proceeds** On his side, the seller receives the option's premium from the buyer as a credit.

2. KEY CHARACTERISTICS

THE UNDERLYING ASSET	**The price (S)** – As shown earlier, the underlying asset associated with option contracts may vary from stocks to bonds to indexes, among others.
EXERCISE PRICE	**The strike price (X)** – The exercise price, or strike price, corresponds to the price at which the underlying can be bought or sold when the option is exercised.
EXPIRATION DATE	**The maturity date (T)** – The expiration date, or maturity date, represents the last day on which the option can still be exercised. Over that date, the option is said to be expired.
OPTION PREMIUM	**The price of the option (C/P)** – The premium corresponds to the current market price of the option contract. In other words, this is the price investors have to pay to get the benefit associated with this contract.
OPTION TYPE	**Call vs Put** – Depending on the strategy, as well as the convictions regarding the future movements of the underlying asset, investors have the opportunity to buy or sell both call and put options.

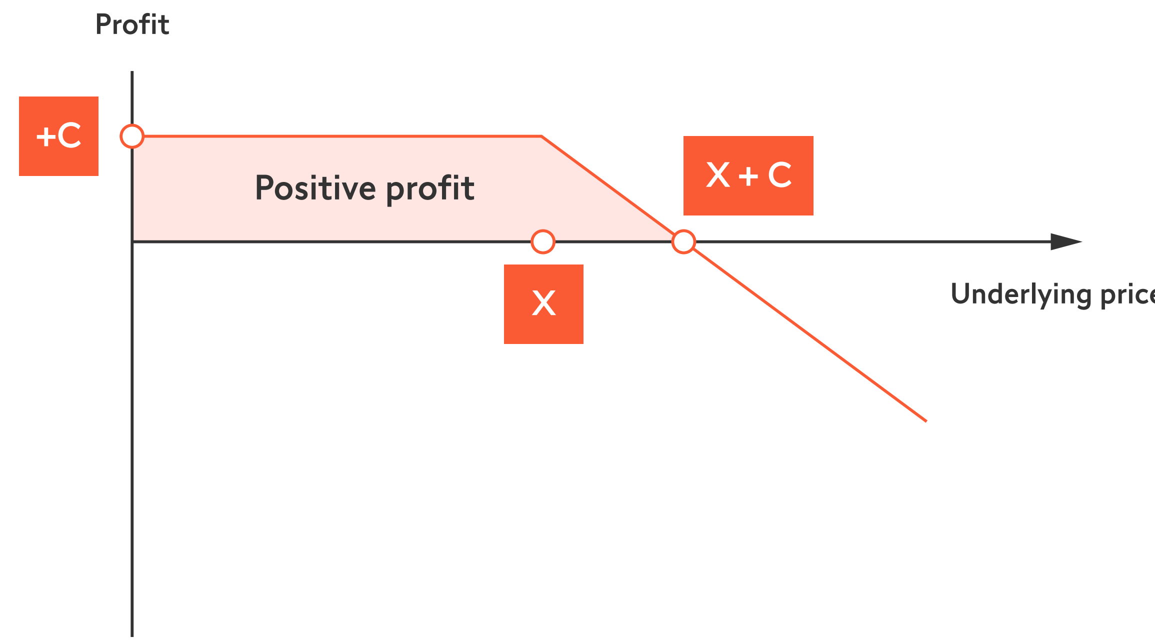
3. PROFIT DIAGRAMS

Position: (buy) long call



As can be seen, an investor with a **long call position** enters in the positive profit zone **whenever the price of the underlying security goes beyond the sum of the option's premium and the strike price** (S > X + C).

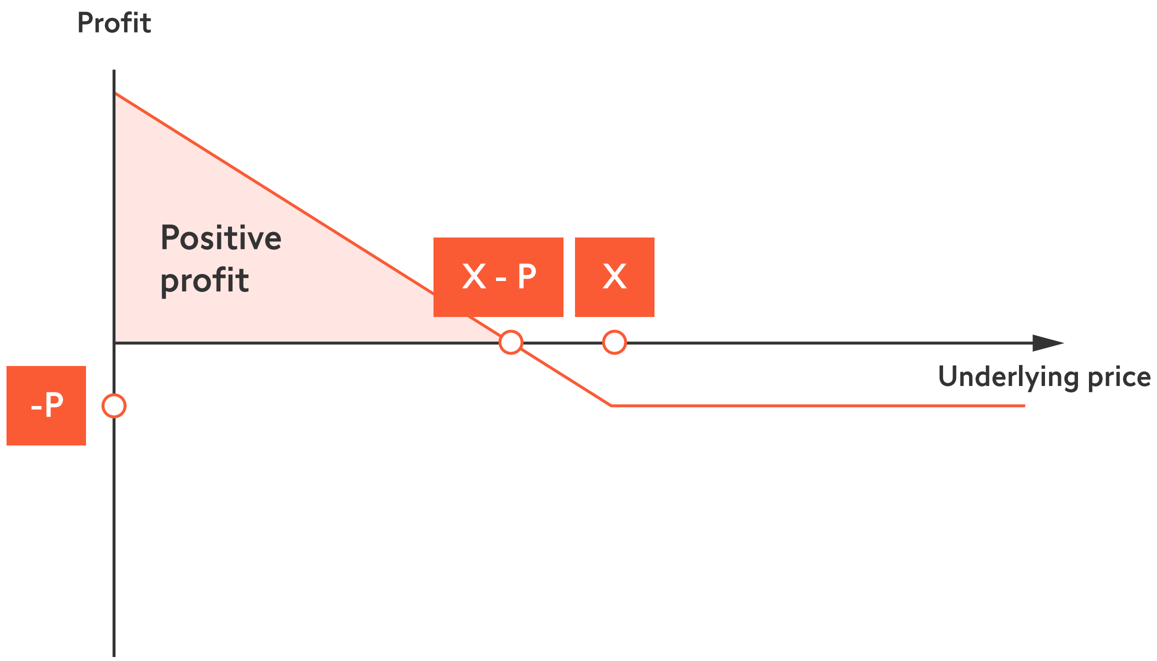
Position: (sell) short call



As can be seen, an investor with a **short call position** is in positive profit zone **if the price of the underlying security remains below the sum of the option's premium and the strike price** (S < X + C).

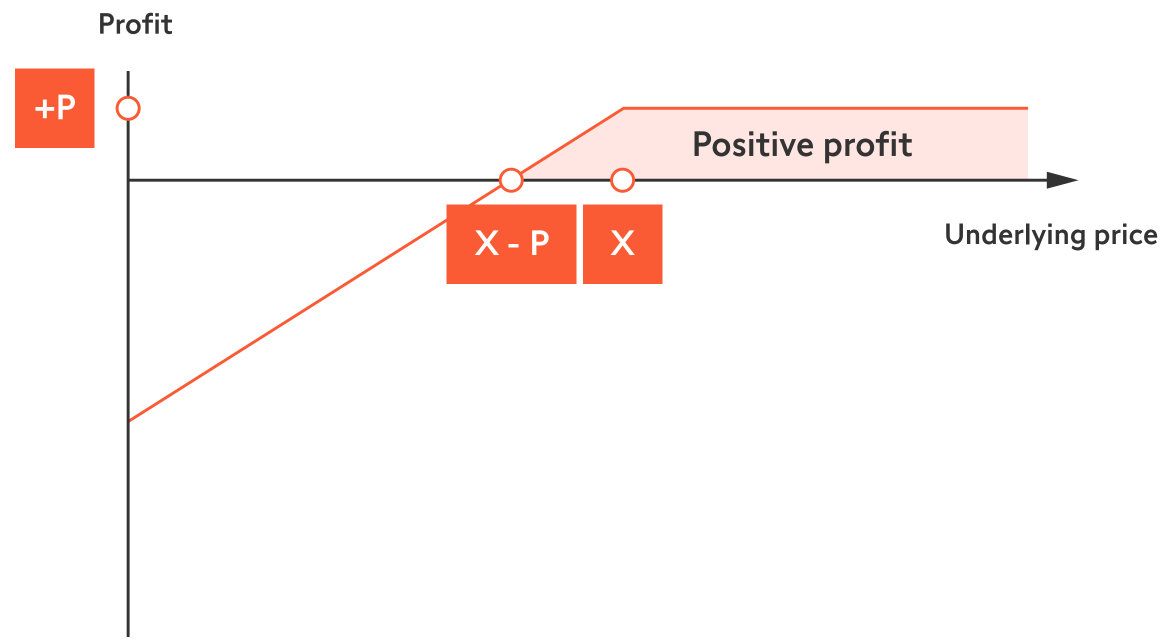
3. PROFIT DIAGRAMS

Position: (buy) long put



As can be seen, an investor with a **long put position** is in the positive profit zone **if the price of the underlying security remains below the strike price minus the option's premium** (S < X - P).

Position: (sell) short put



As can be seen, an investor with a **short put position** enters in the positive profit zone **whenever the price of the underlying security is above the strike price minus the option's premium** (S > X - P).

4. ADVANTAGES & DISADVANTAGES

Advantages

1. **Risk/Reward profile**
When used efficiently, options give traders the opportunity to earn substantial returns from relatively small variations in the price of the underlying asset.

2. **Leverage**
Options allow investors to take huge positions with low initial capital requirements.

3. **Hedging possibilities**
While sometimes used as speculation tools, options can also be part of hedging strategies. Investors can then reduce portfolio exposure to the risk of significant drop in prices, by taking a position in the option market which is inversely correlated to the targeted stock market position.

Disadvantages

1. **Ownership benefit**
By taking a position in the option market, investors do not enjoy any benefit associated with ownership (dividends, votes...).

2. **Expiration date**
Option's holders have limited time to benefit from the option's potential, before it can become entirely worthless.

3. **Liquidity**
For many individual stock options, trading volumes can be low, reducing the liquidity of such instruments.

FUTURES

1. CONCEPT

What is a futures contract?

A futures contract is a legal agreement between a buyer and a seller to buy or sell an underlying asset at a defined price at a specified date in the future.

Futures are standardized in terms of quality and quantity, allowing the trading on dedicated exchanges.

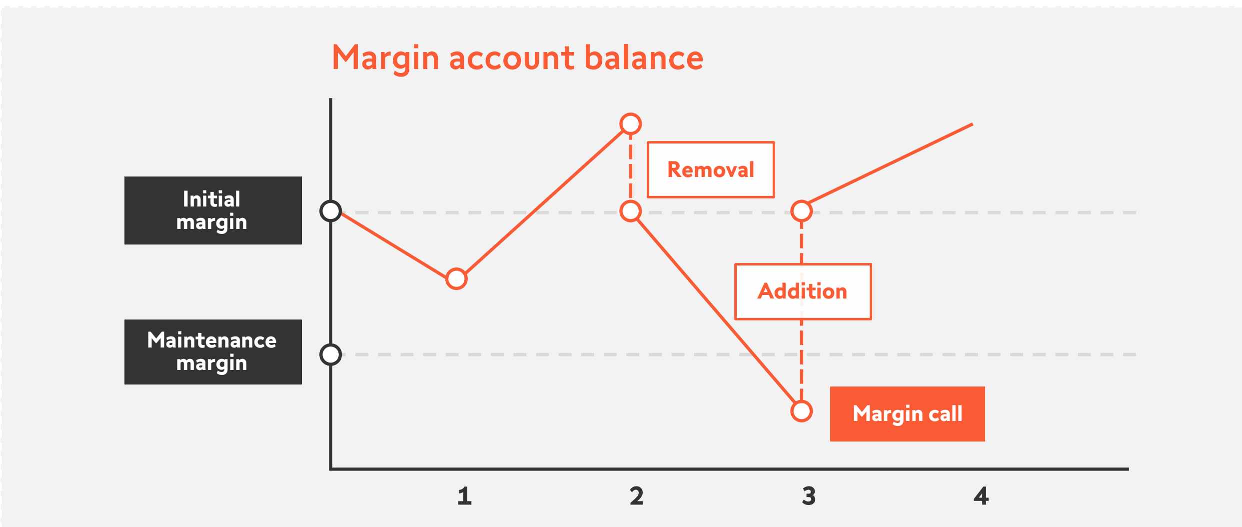
Buyer's vs seller's perspective

	FUTURES BUYER	FUTURES SELLER
OBLIGATION	**Obligation** The buyer of the futures contract has the obligation to buy the specified quantity of underlying asset at the defined date.	**Obligation** On his side, the seller of the futures contract has the obligation to sell the agreed quantity of underlying asset at the expiration date.
COST OR PROCEEDS	**Margin and daily cash settlement** A margin requirement to open positions is requested. In a daily settlement, your net profit or loss is automatically reflected in your margin account based on the settlement price at the end of every trading day.	

2. CHARACTERISTICS

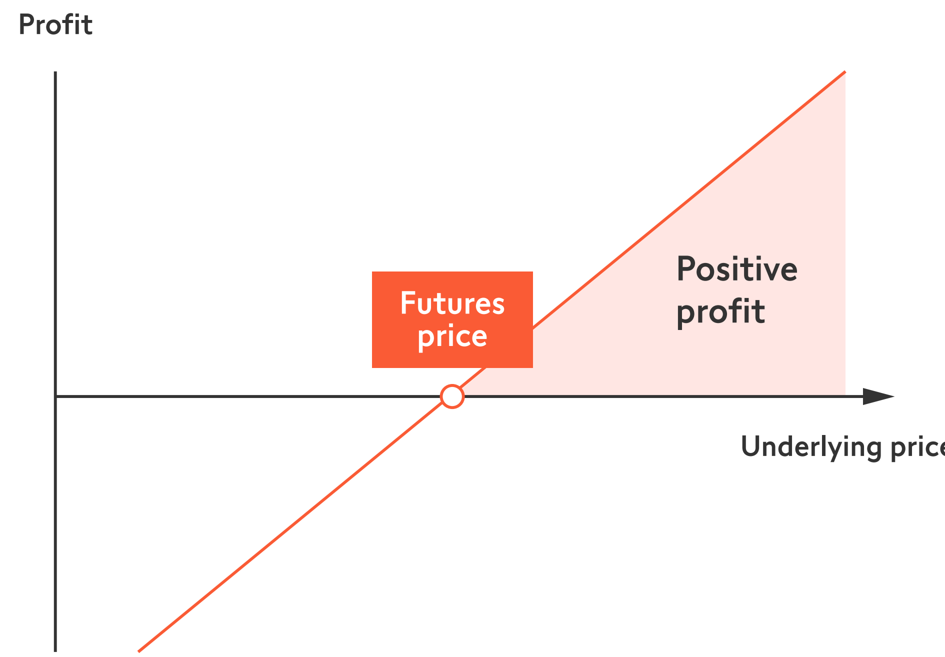
Futures contract

STANDARDIZED	EXCHANGE-TRADED	TRADED ON MARGIN
To facilitate trading on dedicated exchanges, futures contracts are standardized, in terms of quality (standard deliverable grade), quantity (size of contracts), and delivery options (physical delivery vs cash settlements, delivery location, etc).	**Futures contracts are traded on futures exchanges**, wherein different types of futures can be bought and sold daily. Futures exchanges play the role of clearer and settler, providing traders with more «safety» than the OTC market.	**Futures contracts are traded on margin**, which means that investors must first deposit a certain amount with a broker before being able to open a futures position. Margins usually represent a percentage of the total contract value (typically, 2%-10%).



3. PROFIT DIAGRAMS

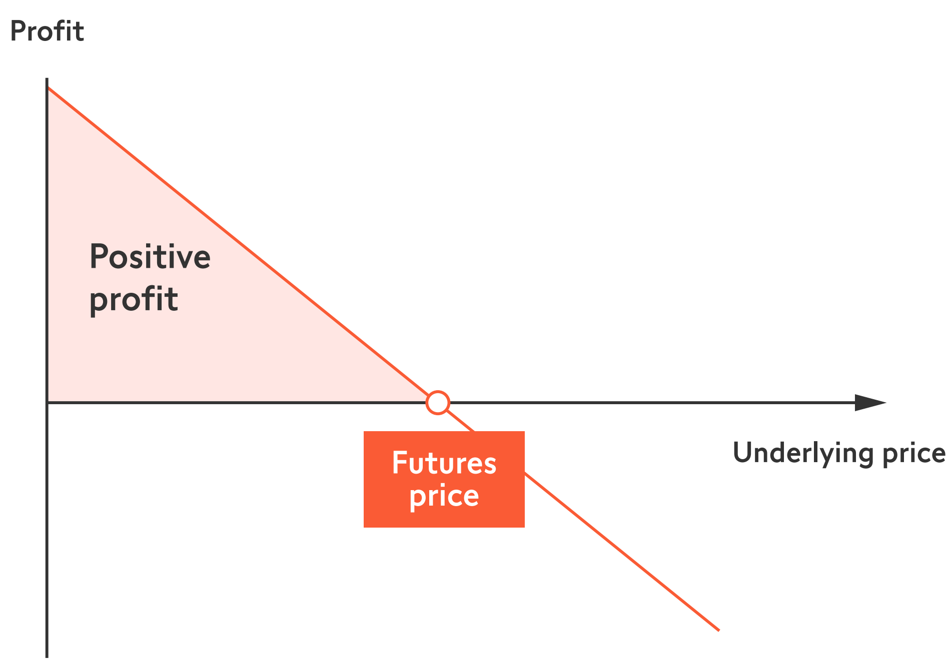
Position: (buy) long futures



As can be seen, an investor with a **long futures position** enters in the positive profit zone **whenever the price of the underlying security is above the agreed futures price**.

3. PROFIT DIAGRAMS

Position: (sell) short futures



As can be seen, an investor with a **short futures position** is in the positive profit zone **if the price of the underlying security remains below the agreed futures price**.

4. ADVANTAGES & DISADVANTAGES

Advantages

1. **Low margin**
Usually, futures contracts offer a relatively low-cost profile, since the commission charged for futures trading are small when compared to some other type of instruments.

2. **Liquidity**
Most futures markets provide investors with a comfortable level of liquidity, particularly when trading commodity / indexes futures.

3. **Hedging possibilities**
While often used as speculation tools, there are also very efficient hedging strategies to be built on futures contracts. Indeed, it is often the case with commodity futures, which serve as useful tools for reducing exposure to the risk of, for example, oil or corn price fluctuations.

Disadvantages

1. **Leverage risk**
Investors must be very careful when trading futures with high leverage, which can lead to very rapid changes in futures prices.

2. **Partial hedge**
Since futures contracts are standardized products with fixed terms, investors can often only hedge part of their portfolio.

3. **Lack of control over unexpected events**
Unexpected events such as natural disasters or geopolitical conflicts can cause significant disruptions in the future market.

OPTIONS VS FUTURES

1. KEY DIFFERENCES

	OPTION	FUTURES
OBLIGATION OR RIGHT	**Right** Options give the buyer the right, but not the obligation, to buy or sell the underlying asset.	**Obligation** On the contrary, the buyer / seller of a futures contract is legally forced to buy / sell the underlying asset.
STRIKE PRICE	**Written in the contract** The strike price is specified at time 0 and is written within the contract. It cannot be changed over the life of the option.	**Set by supply/demand** The delivery price depends on the supply and demand for the underlying asset, and therefore is not known in advance.
PRICE OR PROCEEDS	**Upfront** The buyer pays the seller an upfront payment called «premium».	**Margin requirement** Initial margin, mantenaince margin and daily cash settlement.
LOSS POTENTIAL	**Limited** The maximum loss is the price paid for the option if you are a buyer. If you are a seller, the risk is unlimited.	**Unlimited** There is no limit to the potential loss incurred.

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