Futures Contracts in Finance, Speculation & The Use of Leverage

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Introduction

Futures Contracts

- ➔ A futures contract is a standardised contract which is an agreement to buy or sell a particular good (commodity, currency, or another instrument) at a predetermined price at a specified time in the future (the maturity date).

- ➔ Futures contracts can be settled either with the underlying asset delivery or can be cash settled depending on the type of contract.

Speculation & Hedging With Futures

What is hedging?

- ➔ Hedging is the buying or selling of futures contract as protection against the risk of loss due to changing prices in the cash market.

- ➔ It works by holding an investment that moves in the opposite direction of your core investment, thereby mitigating losses or limiting gains due to the change in prices.

Long Hedge

- A long hedge is when we buy futures contracts.
- It is often used by companies when an asset or commodity is expected to be bought in the future, thereby protecting themselves from the risk of an increase in prices.
- Alternatively it can be used by a speculator who anticipates that the price of the contract will increase.

Long Hedge - Example

Let's take an example of TATA Steel to understand Long hedges better:

- ➔ TATA Steel needs 1000 tonnes of iron next month which is currently priced at say Rs. 1000 per tonne.
- ➔ To hedge against a price increase of raw materials in the future, they buy 100 contracts of futures of iron (each for 10 tonne of iron), each for Rs. 10200(3 month contracts).
- ➔ Say next month the price of iron in spot increases by Rs 70 and in futures increases by 600 per contract.

Long Hedge - Example

Time	Price of Iron (in Rs)	TATA Steel's Inventory cost (in Rs)	Price of Futures Contract (in Rs)	Price of 100 contracts (in Rs)
Now	1000	1000000	10200	1020000
1 Month later	1070	1070000	10800	1080000
Net gain or loss	-70	-70000	+600	+60000

The hedge is not perfect. But the long hedge gives Rs.60000 to offset the increase in the cost of iron(Rs. 70000). This method also allow speculators who believe that prices of iron will go up, to buy/long future contracts of iron without having to deal with physical inventory and with greater leverage.

Short Hedge

- A short hedge is when we sell futures contracts.
- It is often used by companies when an asset or commodity is expected to be sold in the future, thereby protecting themselves from the risk of a decrease in prices.
- Alternatively it can be used by a speculator who anticipates that the price of the contract will decrease.

Short Hedge - Example

Let's continue our example of TATA Steel to understand Short hedges better:

- From the iron bought the company will produce 2000 tonnes of steel for sale in next month which is currency priced at Rs.800 per tonne.
- To hedge against a price decrease of steel in the future, they sell 200 contracts of futures of steel (each for 10 tonne of steel), each for Rs. 80150 (3 month contracts).
- Say next month the price of steel in spot decreases by Rs 60 and in futures, decreases by 550 per contract.

Short Hedge - Example

Time	Price of steel (in Rs)	TATA Steel's Inventory value (in Rs)	Price of Futures Contract (in Rs)	Price of 200 contracts (in Rs)
Now	800	1600000	8150	1630000
1 Month later	740	1480000	7600	1520000
Net gain or loss	-60	-120000	+550	110000

The hedge is not perfect. But the short hedge gives us Rs.110000 to offset the fall in the price of steel(Rs 120000). This method also allows speculators who believe that prices of steel will go down, to sell/short future contracts of steel without having to deal with physical inventory and with greater leverage.

Basis Curve

➔ The basis is the difference between the spot price of a commodity and a futures contract.

Basis (B) = Future Price (F) – Spot Price (S)

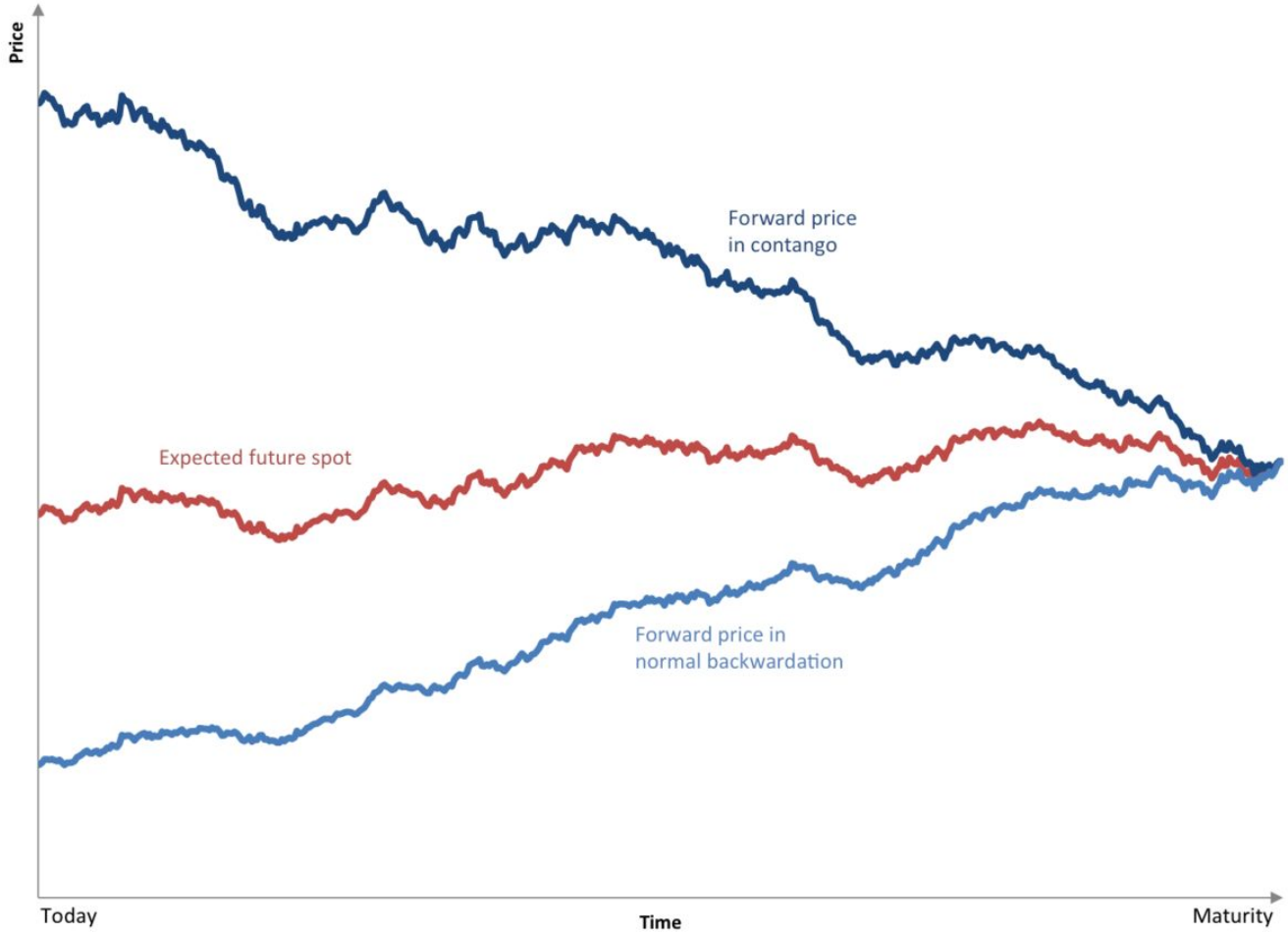
Contango

- ➔ It’s a market condition when the futures contracts are trading at a premium to the spot price.
- ➔ This is usually the case with commodities as storage and upkeep costs get added to the futures contract making them trade at a premium to the spot price.

Backwardation

- ➔ It is the market condition in which the futures contracts are trading at a discount i.e. lower than the spot price of the underlying asset.

- ➔ This is less common than contango and is usually with assets where it is more beneficial to hold the underlying assets i.e. something giving dividends or markets affected by seasonal changes.


Price
Forward price
in contango
Expected future spot
Forward price in
normal backwardation
Today
Time
Maturity

Leverage

- ➔ Unlike buying equity, you don't need to pay in full to buy futures. You only have to only pay a percentage of the total contract value to buy or sell in futures. This percentage is called margin and varies between different stock futures.
- ➔ And your Leverage = (Contract value / Margin) or (100/Margin%)
- ➔ Leverage allows you to have a bigger exposure in the market with less capital.
- ➔ The higher the leverage, the higher is the risk and therefore, the higher is the chance of making money.

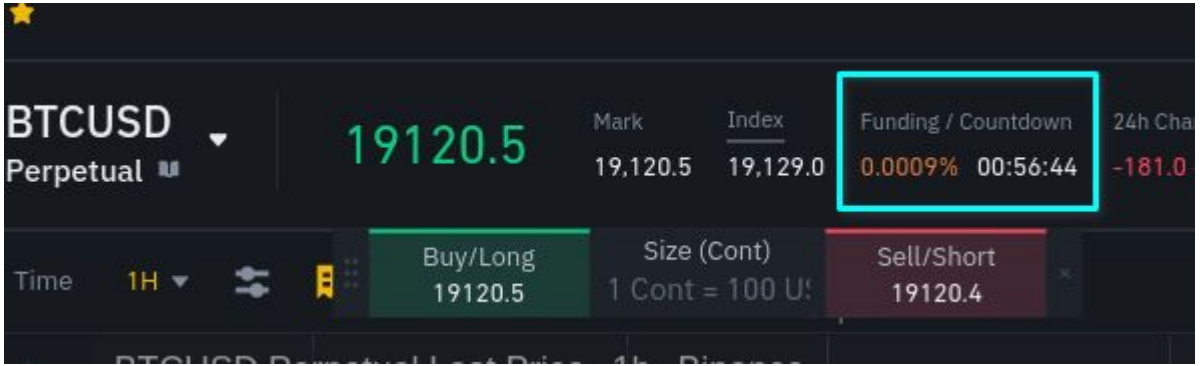
The Perpetual Futures

What are perpetual futures?

- ➔ These are an innovative financial product active only in the 24x7 running cryptocurrency markets.
- ➔ Came into existence in 2016 when the crypto-derivatives exchange Bitmex took them live on their platform.
- ➔ The contracts have no maturity date as the name suggests and do not expire.
- ➔ These are mostly cash settled (some exchanges settle in the underlying cryptocurrency as well).

What are perpetual futures?

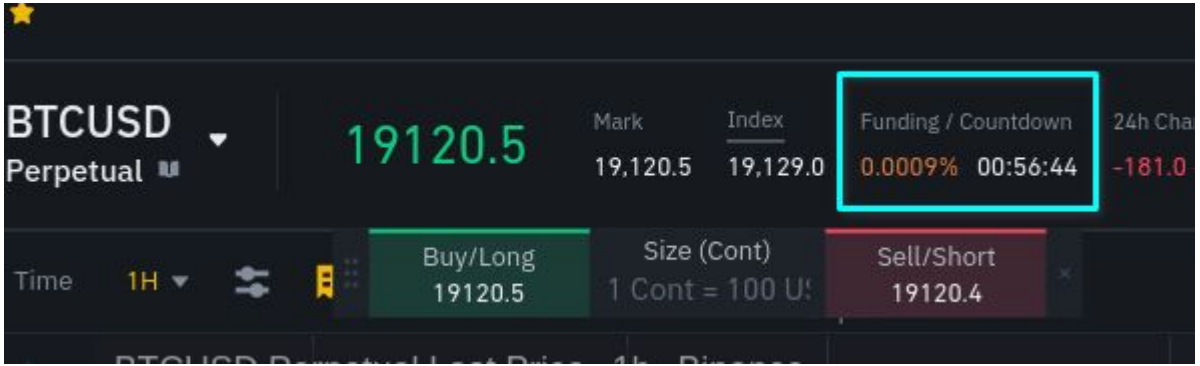
➔ Since these have no expiry, to keep the contract price close to the price of the underlying asset they have something called a “funding rate” which keeps getting charged after some hours as long as the position is open.



**Binance funding rate for BTCUSD pair on 2nd October 2022.*

What are perpetual futures?

➔ This funding rate varies over time and can be both +ve (longs pay shorts) or -ve (shorts pay longs).



**Binance funding rate for BTCUSD pair on 2nd October 2022.*

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Thank You