

Finance Nonsense

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June 26, 2022

1 Forward and Futures Contracts

I have a commodity, that I wish to sell eventually. Someone else knows they'll eventually want to buy the commodity. In order to ensure I get what the commodity is worth at the present moment in time when the future transaction takes place, we enter into a formal contract promising to purchase the commodity at that price. This is a **forward contract**. If the price of the commodity drops, then I'll have made a profit on it when the time comes to make the trade. If the price of the commodity rises, then I'll be eventually selling under the market price, and thus the other party will have profited.

There is thus a bet being made when entering into a forward contract. The seller of the commodity is betting that the price will either stay the same or fall. They have the **long position**. The buyer of the commodity is betting that the price will either stay the same or rise. They have the **short position**.

The future buyer of the commodity, i.e. the person in the short position, holds a contract in the place of the commodity, and this contract has a value equal to the difference between the current price and the agreed upon original price. If the price goes up, then the value of this piece of paper becomes positive, and if the price goes down, then the value becomes negative.

The current price is referred to by these people as the **spot price**. A receipt for a simple exchange of money for commodity is called a **spot contract**. The agreed upon price on a forward contract is known as the **delivery price**. The value at a given moment of a forward contract is thus the spot price minus the delivery price. Example. A US corporation agrees to pay 1 million British pounds to a bank in 6 months at an exchange rate of 1.5532 US dollars per British pound. The delivery price is thus 1,553,200 USD. The commodity here is the British pounds, so that 1 British pound is worth 1.5532 USD. If the exchange rate at the end of the 6 month period becomes 1.6, then the spot price at the moment of expiration is 1,600,000, and thus the value of the forward contract is $1,600,000 - 1,553,200 = 46,800$ USD.

Conclusion: you buy a forward contract in the short position, hoping that the price goes up. (You are the **holder** of the contract.) The contract sits in your portfolio and changes value until the moment of actual transaction, at which point it produces relative profit or relative loss. If plans don't go how you expect and you anticipate the price falling, you don't want to be holding onto that contract at the moment of transaction. You might try to trick someone else into buying it off of you.

In addition to the spot price (the price of a sane transaction in the immediate moment) and the delivery price (the price of a forward contract sold at some point in time), there is also the **forward price**, which is the delivery price for the same delivery price if it were negotiated today, i.e. the delivery price that would make the contract, if created and handed over today, exactly zero. Forward prices are the delivery prices on the day that you buy the thing, so they are what you see listings of.

Forward contracts are an example of something called a derivative. A **derivative** is a financial instrument whose value depends on (or is derived from) the value of more basic assets. Note that these 'more basic' assets don't have to be commodities. They could also be securities, for example. Derivatives are in fact sometimes called **secondary securities**.

2 Options

In the case of forward contracts, the buyer of the contract is obligated to buy the asset at the time of **maturity**. They may arrange this, or they may enter into a less binding agreement. The buyer might

instead negotiate that they have the *right* to buy the underlying asset at the time of maturity at the fixed price, but don't actually have to if the price drops. This kind of agreement is called a **call option**. On the other hand, the future seller of the asset might arrange a less binding contract in which they aren't actually required to sell it if the price rises. This kind of agreement is called a **put option**.

These are less binding substitutes for forward/futures contracts, and contracts of this sort can only be one or the other. An **option** can't simultaneously be a call option and a pull option. It has to be one or the other.

In either case, the price of the asset is fixed. This fixed price is known as the **exercise price** or the **strike price**. The date is also fixed, and this is known as the **expiration date** or the **maturity date**. There is a further distinction in contracts of this sort. Options can be **American** or **European**. An option (call or put) is American if it can be exercised (i.e. cashed in on) at any time during its life (up to and including its expiration date). In contrast, an option is European if it can be exercised only at the expiration date of the option.