# 5.4 HOW DOES AN OPTIONS CONTRACT WORK?

Explainer Video

In every contract there are two parties involved, one is the buyer and the other is the seller. Both parties have different objectives and obligations in the agreement.

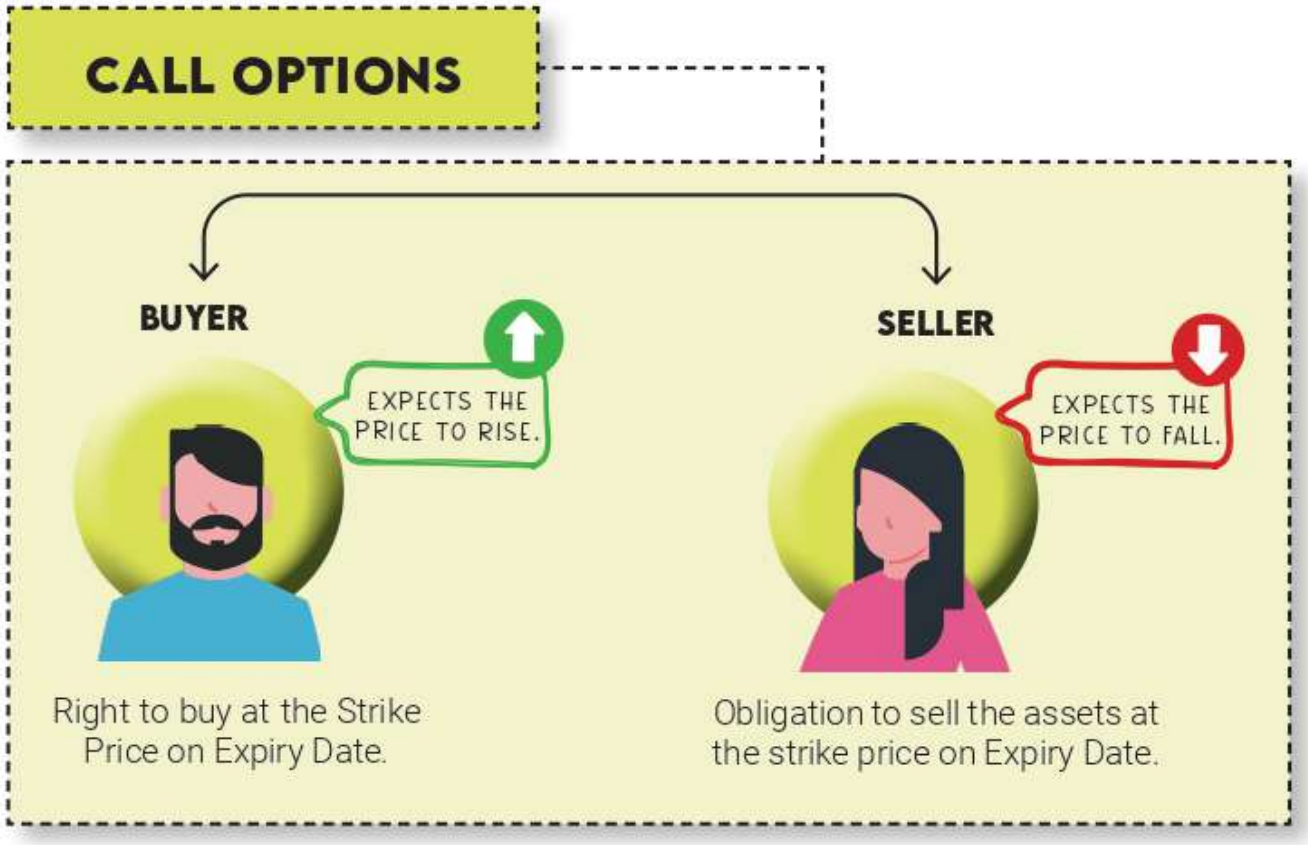
The **Buyer** of an options contract has the right but not the obligation to exercise the options at the expiry.

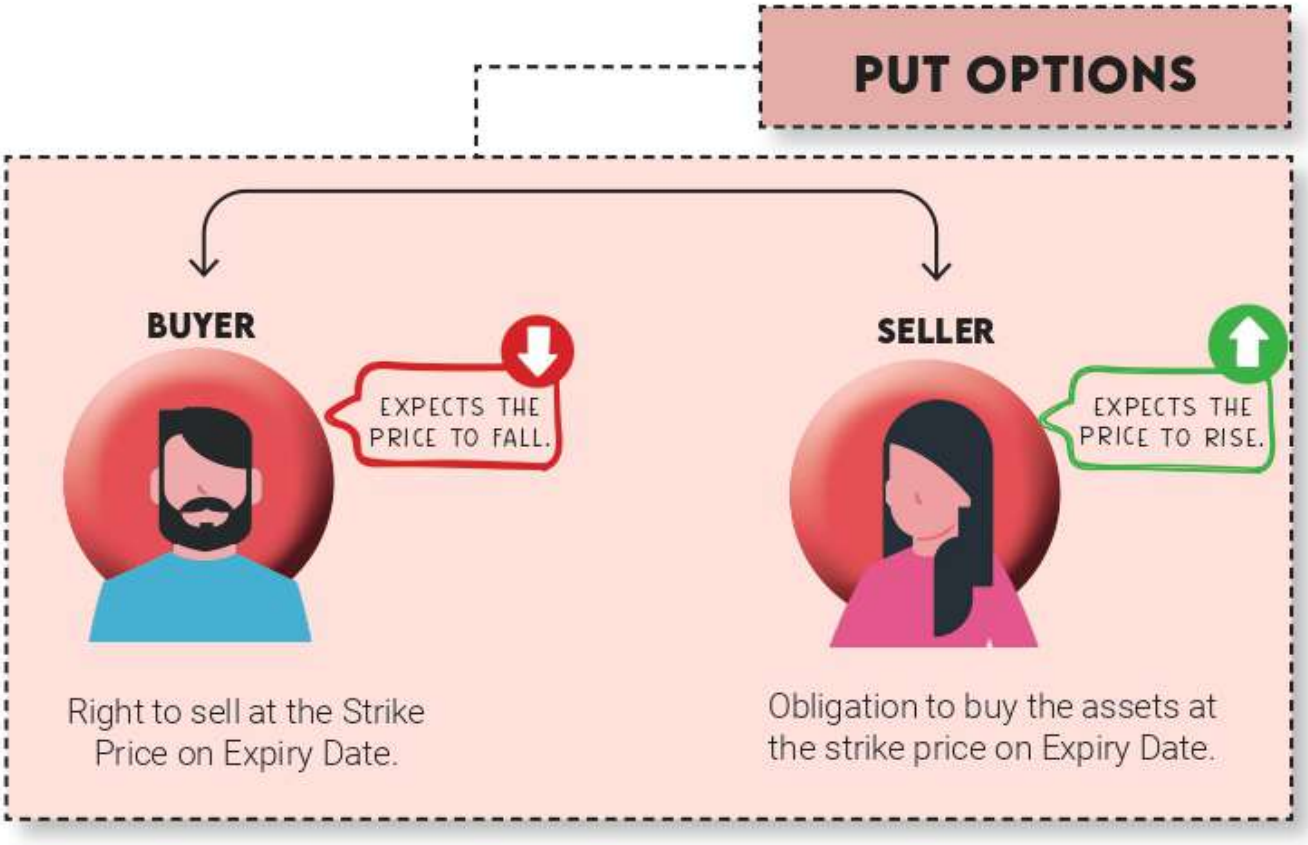
- ✓ RIGHT TO EXCERCISE
- ✗ OBLIGATION TO EXCERCISE

The **Seller** of an options contract, on the other hand, sells his option/ right and has an obligation to honor the commitments on expiry.

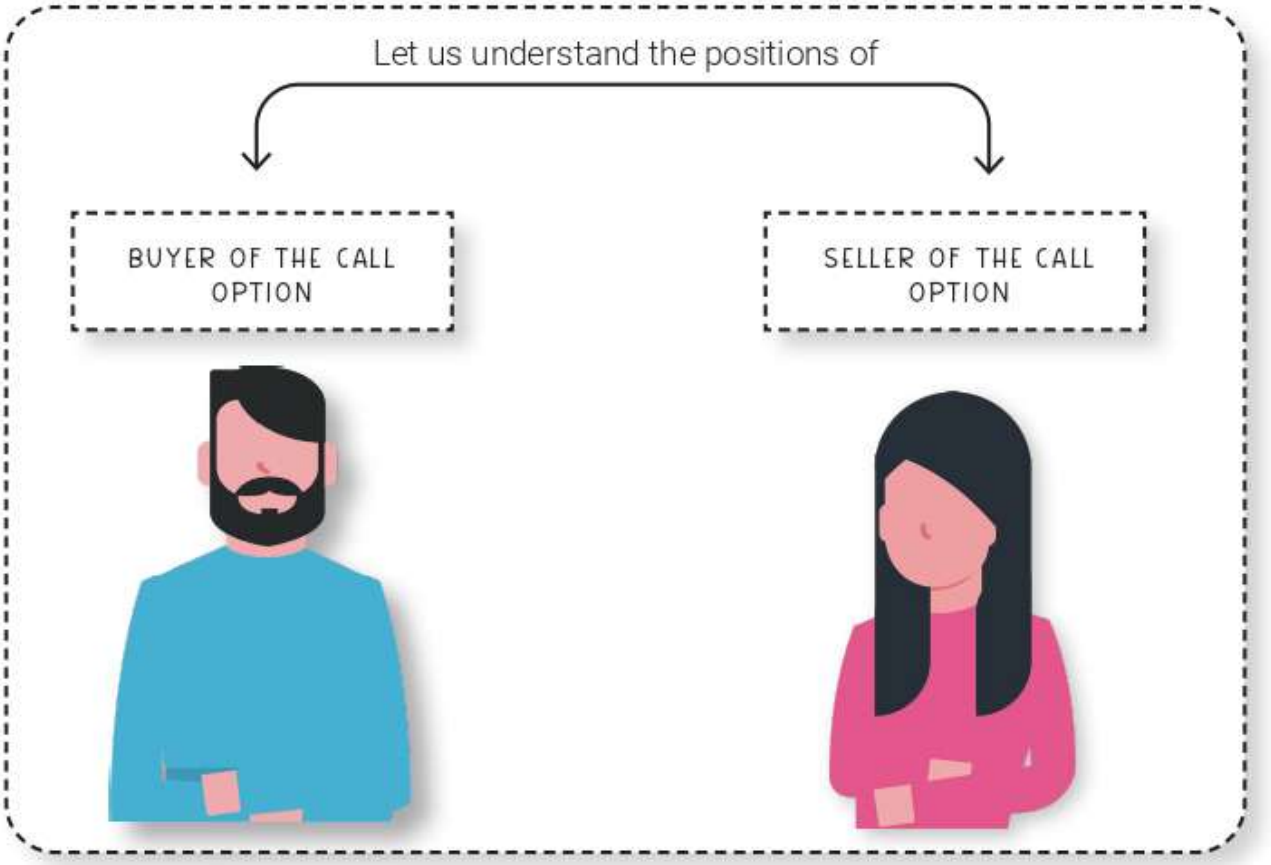
- ✓ SELLS HIS OPTION/RIGHT
- ✓ OBLIGATION TO HONOR THE CONTRACT

Let us take a scenario to understand this working relationship of buyer and seller in the Options Contract.

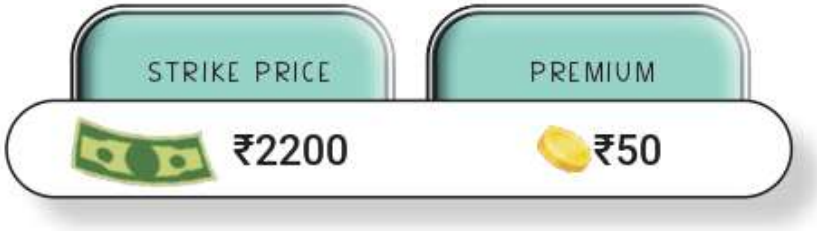


Let us Begin with Call Options.


***Let's say,*** the buyer of the Call Option has bought an option with the Strike Price of ₹2200 i.e. CE2200.
The premium paid is ₹50 per unit.




Let's take some hypothetical figures to calculate profits for the buyer.


SCENARIO 1
Market Price
on Expiry
₹2100
SCENARIO 2
Market Price
on Expiry
₹2500
SCENARIO 3
Market Price
on Expiry
₹3000

SCENARIO 1

**When the Closing Price on Expiry is ₹2100**

# BUYER'S PERSPECTIVE

We can see that the strike price is ₹2200 and the market price is ₹2100. In this case, the options buyer can buy the asset for cheaper in the market as compared to the option contract. In this case, where Market Price < Strike Price, the buyer will not exercise the call option and let it expire. In this case, Loss for Options Buyer = ₹50 (Premium amount that they had paid)


### UNLIMITED PROFITS ∞

The options buyer receives the difference between exercise price and strike price. This allows for unlimited profits potential as there is no cap on how high a stock price can rise.

### LIMITED LOSS ₹50

The maximum loss that an option buyer can incur is the amount of premium that they have paid.

# SELLER'S PERSPECTIVE

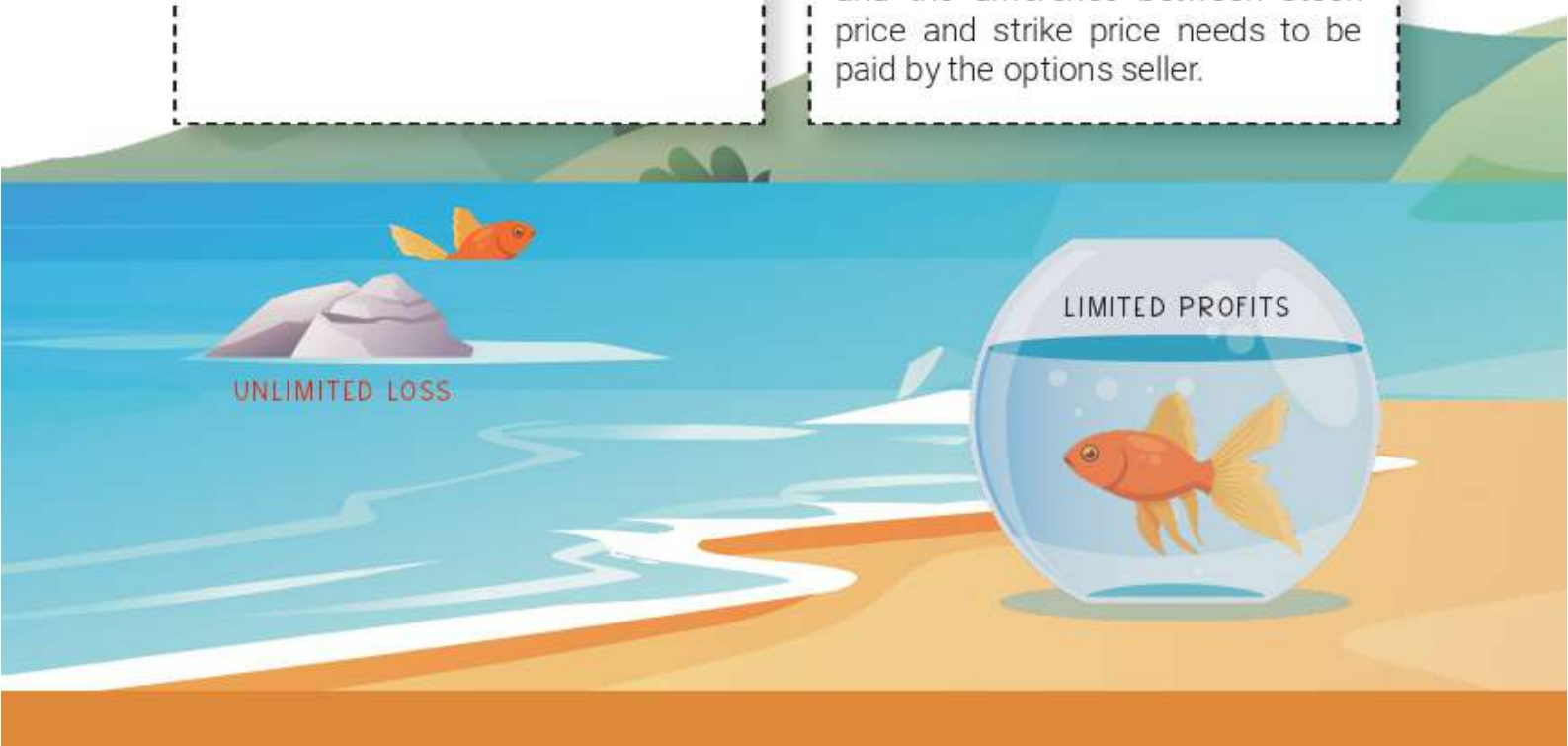
We saw that since the Market Price is less than the Strike Price and the options buyer will not exercise their rights and as a result, the Options seller will not have to pay anything to the buyer. The premium that they had received will be their profits. This happens till the time Market Price < Strike Price.


### MAXIMUM PROFITS ₹50

The maximum profit of the call seller will be equal to the premium amount.

### MAXIMUM LOSS ∞

The maximum loss that a call seller can incur is unlimited as the the asset price can rise to any amount and the difference between stock price and strike price needs to be paid by the options seller.




## BUYER'S PERSPECTIVE

The profit for the buyer would be calculated from the strike, therefore,

| Profit of the buyer | |
|---|---|
| Current Market Price | ₹2500 |
| - Strike Price | (₹2200) |
| Profit before premium | ₹300 |
| - Premium | (₹50) |
| Profit of the buyer | ₹250 |

Here, we can see that the Exercise price is higher than the Strike Price. So, the buyer will exercise their rights and receive a payoff of ₹300. However, the buyer had also paid a premium that needs to be deducted to calculate the overall profits as we saw earlier. So, the profit per unit for the buyer is ₹250. Profit per unit needs to be multiplied to the lot size to calculate the profits/losses on each lot.

## SELLER'S PERSPECTIVE

Profit of the Buyer ₹250 = Loss of the Seller ₹250

The seller is on the opposite end of the trade. So, in this case they will have to make the payoff of ₹300 to the buyer. However, they had also received ₹50 as premium. As a result, total losses for the seller = ₹300 - ₹50 =₹250. The profit of the Option buyer is compensated by the options seller.

SCENARIO 3

**When the Closing Price on Expiry is ₹3000**

## BUYER'S PERSPECTIVE

The payoff will be calculated in exact same manner as earlier. Payoff will be Exercise Price - Strike Price. Again, we will have to deduct the Premium payment by the buyer. So, the overall profit = ₹800 - ₹50 = ₹750

| Profit of the buyer | |
|---|---|
| Current Market Price | ₹3000 |
| - Strike Price | (₹2200) |
| Profit before premium | ₹800 |
| - Premium | (₹50) |
| Profit of the buyer | ₹750 |

## SELLER'S PERSPECTIVE

Profit of the Buyer ₹750 = Loss of the Seller ₹750

THE SELLER WILL PAY ₹800 TO THE BUYER.

OPTIONS BUYER

OPTIONS SELLER

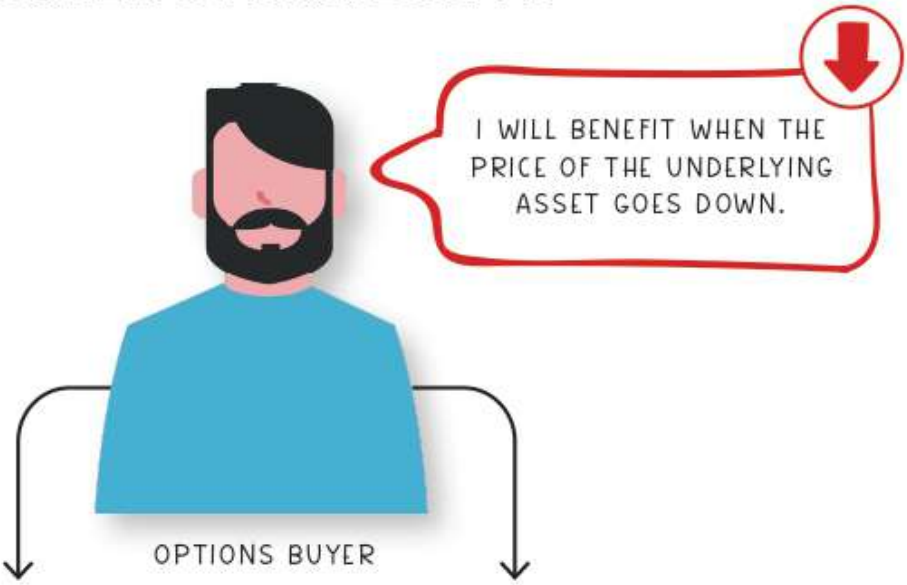
The seller is on the exact opposite side of the buyer. So, the seller will be liable for the payoff amount of ₹800. However, they had received ₹50 as premium. So, the total losses for the Options seller is ₹750 per unit.

This example goes on to show that the option buyer has unlimited profit potential. At the same time, the seller has unlimited loss potential. We can see that the price of the asset can increase to any amount.

CALL OPTIONS

PUT OPTIONS

## BUYER'S PERSPECTIVE




**MAXIMUM PROFITS** ∞

The buyer of a put option benefits when the price of an asset goes down. Since the price can go down to even zero, the buyer of put option has unlimited profit potential.

**MAXIMUM LOSS** ₹50

The maximum loss of the put buyer will be equal to the premium amount.

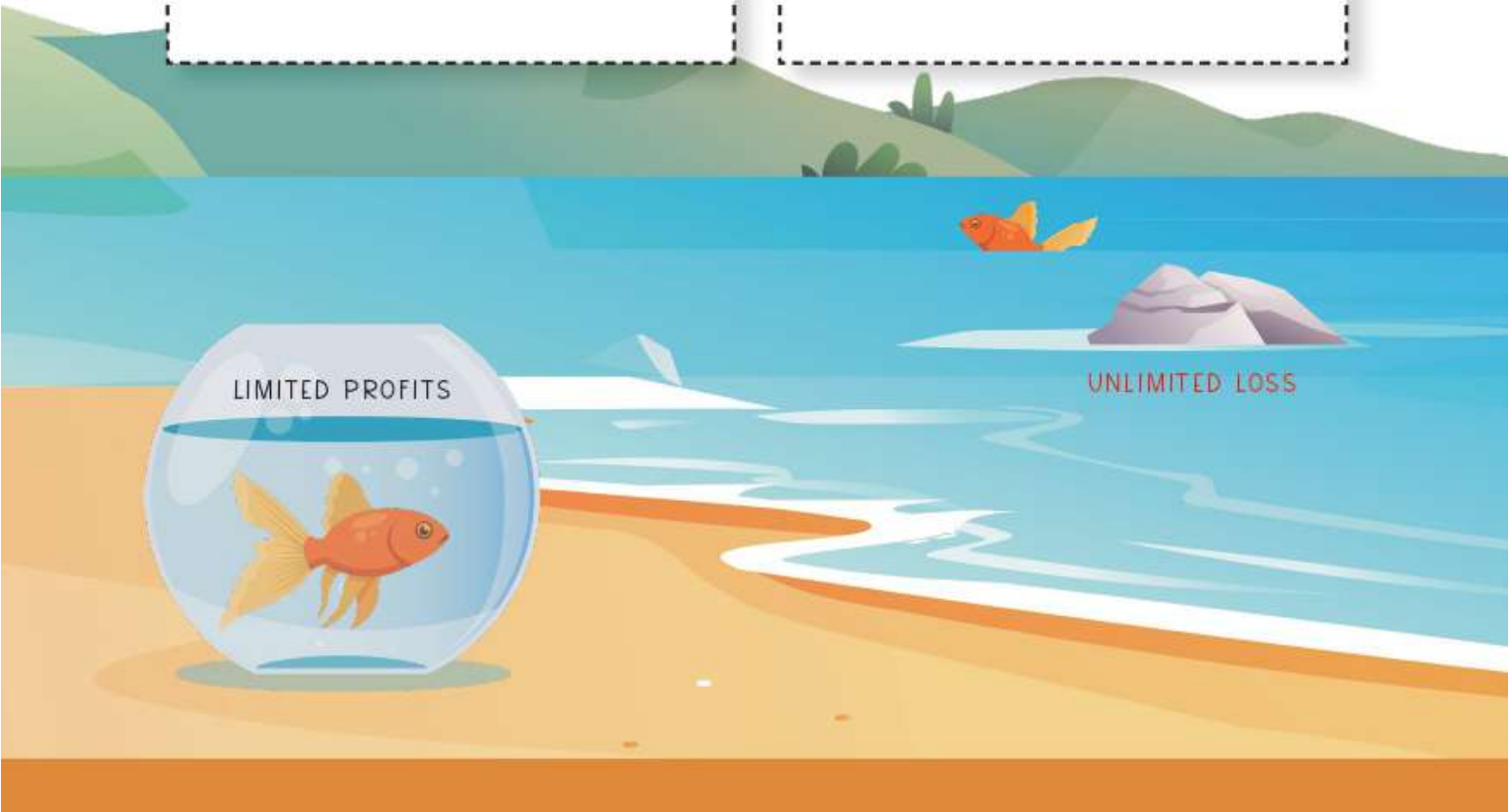
# SELLER'S PERSPECTIVE


**MAXIMUM PROFITS ₹50**

The maximum profit of the call seller will be equal to the premium amount.

**MAXIMUM LOSS ∞**

The seller of the put option can incur losses to any extent as the price can go down to even zero.



Let's understand Put Options with an example.

***Let's say,*** a Put Option buyer buys Put options at ₹2200 as strike price and pays ₹50 as premium. So, they buy 2200PE at premium of ₹50 per unit. Lets take 2 scenarios.


## BUYER'S PERSPECTIVE

We can see that the Exercise Price < Strike price for the put option. In this case, the buyer will receive a payoff of ₹100.

Here, the buyer had also paid a premium of ₹50. So, overall profits for them :

| Profit of the buyer | |
|---|---|
| Strike Price | ₹2200 |
| - Price at expiry | (₹2100) |
| Profit before premium | ₹100 |
| - Premium | (₹50) |
| Profit of the buyer | ₹50 |

## SELLER'S PERSPECTIVE

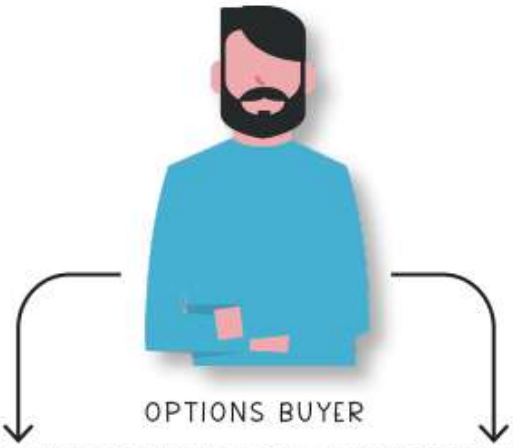
| Profit of the Buyer | = | Loss of the Seller |
|---|---|---|
| ₹50 | | ₹50 |

The seller is on the exact opposite end of the contract. So, in this case, the Options seller will make a payoff of ₹100 to the buyer. However, they also received ₹50 as premium. Total loss of the seller = ₹100 - ₹50 = ₹50. This is how profits and losses will be calculated for the buyer and seller when the Exercise price < Strike Price.

SCENARIO 2

**When the Closing Price on Expiry is ₹2500**

## BUYER'S PERSPECTIVE



OPTIONS BUYER

Here, we can see that the price on expiry is ₹2500 which is greater than the strike price. In this case, the put option will not be exercised as the Option buyer can sell the asset at a higher price in the market as against what the put option is allowing them to do. Since the put option will not be exercised, there will be no payoff involved. So, the buyer will not receive any payoff and the loss is the premium paid by them.

**TOTAL LOSS OF THE BUYER = ₹50**

## SELLER'S PERSPECTIVE

OPTIONS SELLER

Since there is no payoff involved, there will be no cash outflow.

**TOTAL PROFITS FOR THE OPTION SELLER = ₹50**

This is how Different types of put options behave at different price levels at expiry.

Essentially, based on the analysis and opinion on price movement, one may choose what position they want to take.



We can even use a combination of different types of options and different strike prices to create option strategies. We can buy and sell options at the same time to benefit from the same. We will learn about such option strategies and how to create your own strategy, going ahead. With this, we have understood how put options and call options work and what it means to sell each type of option and buy each type of options. Lets build on this understanding of options going further.