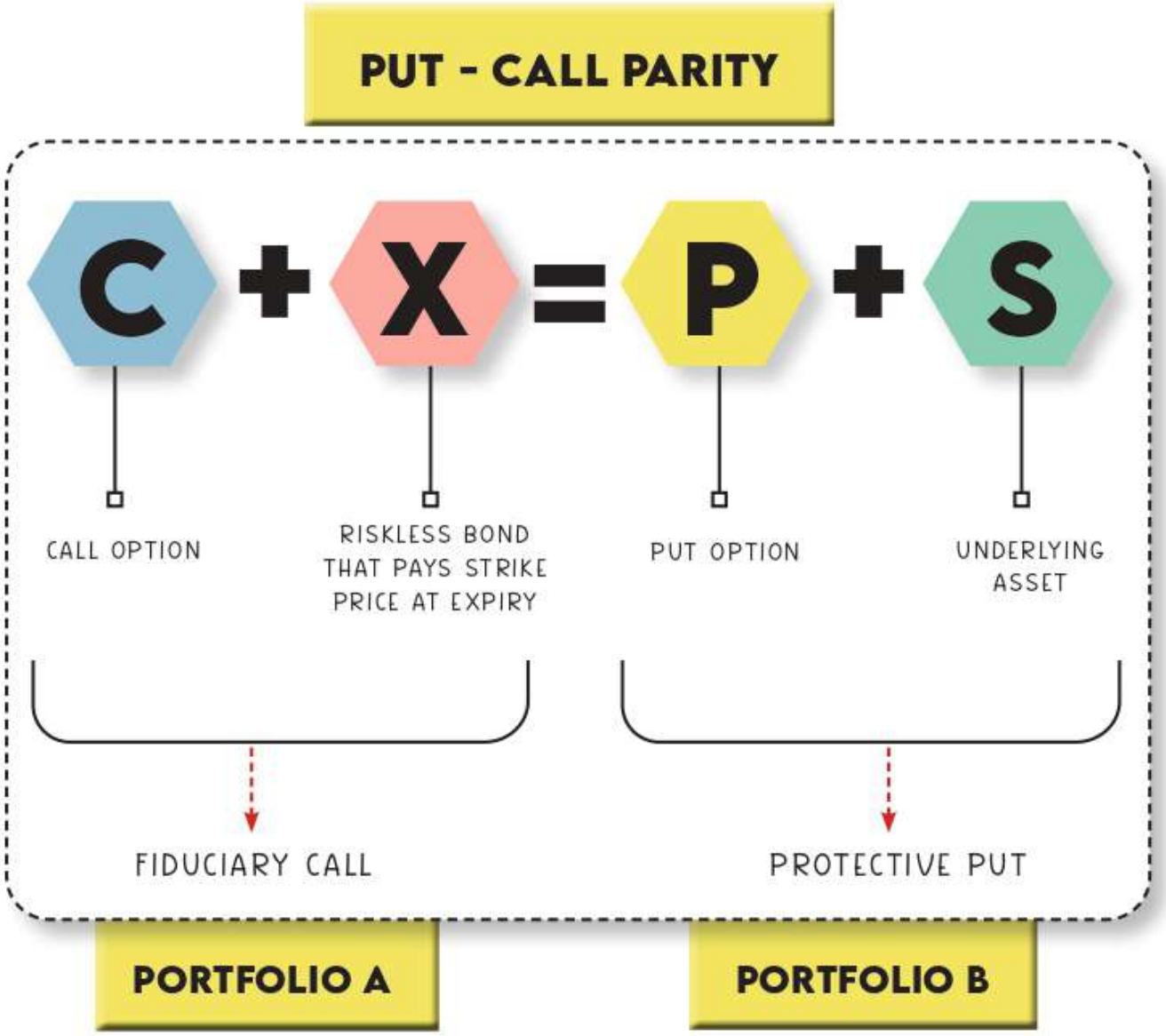
7.2 WHAT DOES THE PUT CALL PARITY RELATIONSHIP SAY?

Explainer Video

Put Call Parity relationship says that a call option at a Strike Price + a Riskless Bond i.e., government bonds, that pays the same amount as the Strike Price of the option at expiry = a put option at the same Strike Price + Spot Price of underlying asset.



For instance,

Call Option at strike price ₹2200 is bought at a premium of ₹50.
Riskless Bond that pays ₹2200 strike price at expiry (say in 30 days) is bought today at ₹2170.
Put Option at strike price ₹2200 is bought at a premium of ₹220.
Underlying asset or stock's CMP = ₹2000.

Now, setting up a Put Call parity relationship between these we have,

PUT - CALL PARITY

Call Option + Riskless Bond = Put Option + Underlying Stock

₹50 + ₹2170 = ₹220 + ₹2000

₹2220 = ₹2220

So, we can see that both sides of the equation are matching. We can say that the put-call parity is being maintained. If the relation does not hold true, we can say that the market is inefficient and will give us an arbitrage opportunity.

The arbitrage traders can take positions in a manner that would give them a profit assuming that the Put-Call Parity is to restore itself. Such opportunities are difficult to spot and trade for retail traders.

For instance, let's say in the above equation the put option premium is found to be ₹400.

Put Option premium = ~~₹220~~ ₹400

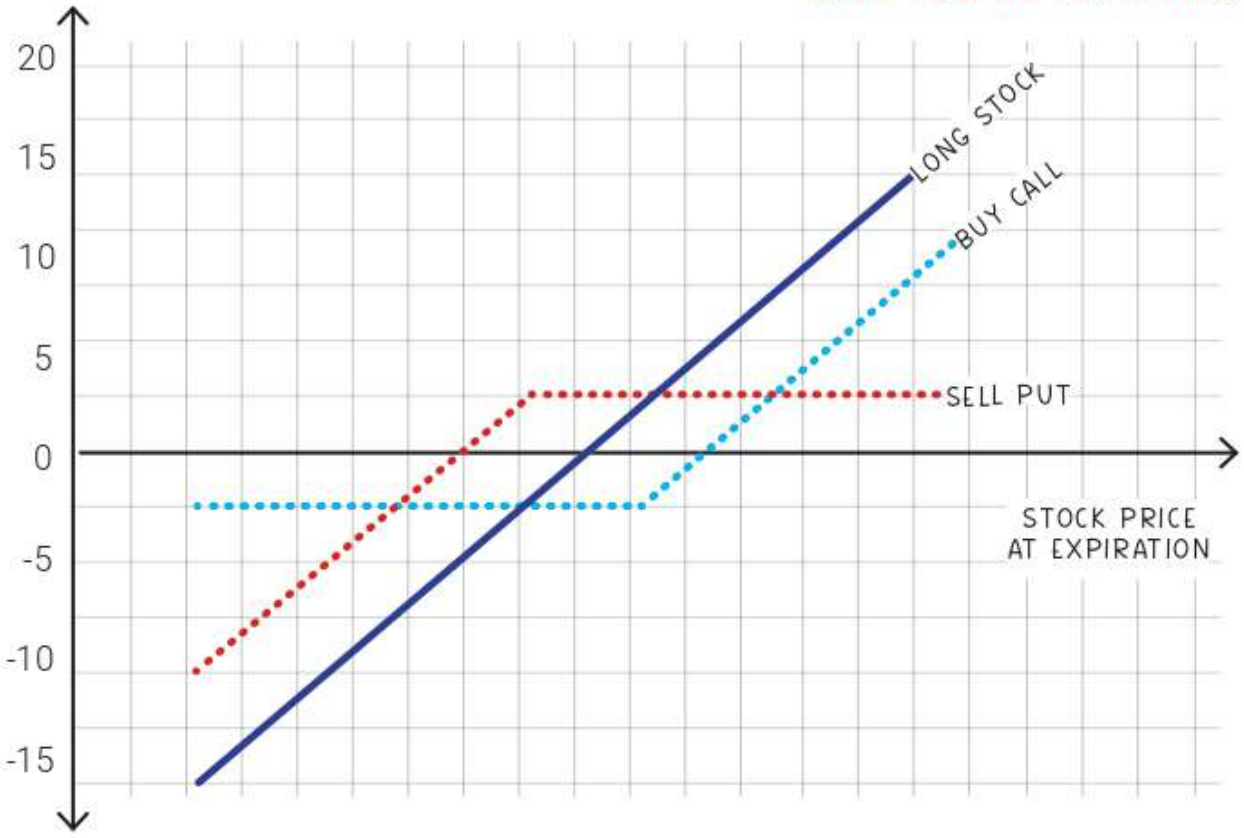
By the relationship of put-call parity, we can see that the put option is trading expensive. This is a case of market inefficiency and causes arbitrage opportunities for arbitrageurs or professional traders.

Call Option + Riskless Bond = Put Option + Underlying Stock

₹50 + ₹2170 = ₹400 + ₹2000

₹2220 = ₹2400

A TRADER MAY THEN FORM STRATEGIES TO HAVE PROFITS FROM THIS.



Note: The difference of some decimal points is not what we are talking about. We are talking about a substantial difference in the equation.

For instance, in this case, by taking a short position on the put option or long position on the call option, the trader can look to profit. The Put Call parity will restore itself by either the Put option going down in value or the premium on the call option increasing.

This Put call parity relationship is not used generally to create our trading strategies. This is because changes in the spot price of the underlying asset and risk management requirements make it very difficult to profit from these. But it lays the foundation for us to better understand all the options pricing principles that would come further.