

# Intrinsic and time value

## INTRINSIC AND TIME VALUE

The premium splits into two parts: intrinsic value - what the option is worth if exercised now, the gap between the underlying and the strike when that gap is favourable - and time value, everything else, which is what the remaining time and the underlying's volatility are worth. A 50 call with the underlying at 53 has 3 of intrinsic value; if its premium is 5, the other 2 is time value. The split governs how the premium behaves.

An option's premium is not one number but two summed: what it would be worth exercised right now, and what its remaining possibility is worth. Separating them is the key to why options move as they do.

## Intrinsic value

Intrinsic value is what the option is worth if exercised immediately: for a call, the underlying minus the strike when the underlying is higher (a 50 call with the underlying at 53 is worth 3 exercised); for a put, the strike minus the underlying when the underlying is lower. It cannot be negative - if exercising would lose money, the holder simply does not, and intrinsic value is zero. Intrinsic value tracks the underlying directly: it is the part of the option that behaves like the share position it references.

## Time value

Time value is the rest of the premium - the amount above intrinsic value that buyers pay for the possibility the option becomes more valuable before expiry. If the 50 call at 53 has a premium of 5, then 3 is intrinsic and the remaining 2 is time value: payment for the chance the underlying rises further before the option expires. Time value is largest when that chance is greatest - plenty of time left, high volatility - and it is the part of the premium that has no equivalent in a share, the part that makes options their own instrument.

## Why the split governs behaviour

The two parts move differently: intrinsic value tracks the underlying one-for-one; time value responds to time passing and volatility changing, on its own logic. Time value decays: it erodes toward zero as expiry approaches (lesson 5), a force that works against every option buyer and for every seller - the option's built-in clock. At expiry, only intrinsic remains: time value is zero at expiry, so an option is worth exactly its intrinsic value at the end - the resolution lesson 7 examines.

Every later options concept refers to this split: time decay is the erosion of time value, volatility's effect is mostly on time value, and moneyness (lesson 8) is a statement about how much of the premium is intrinsic. Splitting the premium into its two parts is the analytical move that makes options legible - and it is why an option and a share, though one references the other, behave nothing alike.

## Check your understanding

**1. A 50 call trades at a premium of 5 with the underlying at 53. What are its intrinsic and time values?**

- a. Intrinsic 5, time 0
- b. Intrinsic 3 (53 minus 50), time value 2 (premium 5 minus intrinsic 3) - the two parts the premium splits into
- c. Intrinsic 2, time 3

Answer: b. Intrinsic is what it is worth exercised now; time value is the rest - payment for the remaining possibility. The split governs how the premium behaves.

**2. What remains of an option's premium at expiry?**

- a. The time value
- b. Only intrinsic value: time value decays to zero, so an option is worth exactly its intrinsic value at expiry - the part that tracks the underlying
- c. The full premium

Answer: b. Time value is payment for remaining possibility, and at expiry there is none. Only intrinsic value - the exercised-now worth - survives to the end.