A future's price is its underlying, plus carry

> **COST-OF-CARRY PRICING**
>
> The relationship arbitrage enforces between a future and its underlying: the futures price is the spot price plus the cost of holding the underlying to the date - financing, storage where physical, minus any income like dividends. The gap between future and spot is the basis; its content is carry arithmetic, not forecast - the deep-end lesson of the commodities track, true for every underlying and stated here on day one.

Why does the future trade away from its underlying at all? The commodities track answered for barrels; this lesson generalises the answer - because it is the same answer everywhere, and the same misreading stalks it everywhere.

The machine, generalised

Lesson 3's arbitrageurs can hold the underlying and sell the future against it. Their cost of doing so - borrowing money to hold spot, storing it if it is barrels, collecting its dividends if it is an index basket - sets the gap they will enforce. So an index future trades above its index by roughly financing-minus-dividends; a crude future above spot by roughly storage-plus-financing; a currency future by the rate differential the FX track taught as forward points. Different carry inputs, one machine - and the gap, the basis, converges to zero at expiry, because at the date the promise and the thing are the same.

What the basis is and is not

It is arithmetic: today's carry inputs, enforced by people paid to enforce them - readable, and read properly in module 8.It is not a forecast: the future above spot does not mean 'the market expects a rise' - the commodities deep end fought this battle in full, and every word transfers.It is per underlying: which carry inputs apply is the underlying's business - one more reason this track routes fundamentals back to the underlying tracks, and keeps only the machine.

The day-one takeaways

Three. The future is not mispriced when it differs from spot - the difference is the carry, working. The convergence at expiry is the one price move every future makes on schedule - module 8 prices what it means for positions. And the misreading has one antidote taught twice now: a gap that arbitrage sets is rent, not expectation - the trader who reads the basis as opinion has been pre-refuted by two tracks of this platform.

Check your understanding

1. An index future trades above its index. What is the gap?

a. The market's expected index gain

b. Carry arithmetic: financing the basket minus its dividends, enforced by index arbitrage - rent, not forecast

c. A liquidity premium

Answer: b. The commodities deep end, generalised: arbitrageurs who can hold the underlying set the gap at their cost of doing so. The basis is their machine's output.

2. What is the one price move every future makes on schedule?

a. The expiry-day rally

b. Convergence: the basis goes to zero at expiry, because on the date the promise and the underlying are the same thing

c. The roll-date gap

Answer: b. Whatever the market does, the gap dies on the calendar. Module 8 prices what that scheduled move means for held positions - the one certainty in the asset class.