Basis, Contango, and Backwardation

Lecture 5 covers the concepts of basis, contango, and backwardation. This handout helps disentangle the relationship between an increase or decrease in the basis when the market is in contango versus backwardation.

Definitions

Basis: The difference between the spot price and the futures price at a given time, \( t \).

\[
Basis_t = Spot_t - Futures_t
\]

or equivalently,

\[
b_t = S_t - F_t
\]

Contango: Name given to market conditions in which the futures price is greater than the spot price. You will often hear people talk about carry in the market; this refers to the amount by which the futures price is greater than the spot price. This comes from the opportunity to engage in a “cash and carry” trade if the futures is sufficiently above the spot.

\[
Contango \equiv F_t > S_t
\]

Backwardation: The opposite of Contango. The name given to market conditions in which the futures price is less than the spot price.

\[
Backwardation \equiv F_t < S_t
\]

The following pages contain a variety of examples of how the spot and futures price paths might look when the basis increases in contango versus backwardation. Notice that you need some care when using the language basis increase/decrease because in contango, an increase in the basis means that the negative basis will get closer to zero (smaller in absolute value). However, when the market is in backwardation, an increase in the basis means that the positive basis will get further away from zero (become larger in absolute value).
(1) Basis increase in contango market

(2) Basis increase in backwardation market