12.9 The Perfect Hedge
Speculators: not really interested in delivery of asset (corn/oil,...)
instead, want to make money on fluctuations in prices; will close out position before T.

Hedgers: actually want to buy or sell asset (corn/oil,...) and are looking for price certainty. Are willing to take "losing" positions. will go long even if $F > \mathbb{E}[S(T)]$.
(ex: baker needs corn for muffins in 6 mos.)

or will go short, even if $F < \mathbb{E}[S(T)]$.
(ex: corn supplier needs funds in 6 mos. for equipment payment)

Speculators: will not go long if $F > \mathbb{E}[S(T)]$, not go short if $F < \mathbb{E}[S(T)]$. 
Currency hedge.
Suppose I will need €5000 in December.

Present exchange rate: $1\,\text{€} = 1.11\,\$\text{US}. \quad (2016-02-19).

Futures market: at present, for delivery of $1\,\text{€}$ in Dec.,
rate is $1\,\text{€} = 1.12\,\$\text{US}.$

Can hedge against € increasing
by purchasing now at 1.11 $\$\text{US}$; & storing until needed.

Can hedge, by purchasing futures now, for delivery in Dec.

Not all currencies have futures:
however there is a strong correlation between currencies.
Hedging:

I will need 5000 bu. of corn, but can't store it.

To figure price for corn bread, need to know how much the corn will cost.

Could arrange a forward contract, but easier to arrange a futures contract, at \( F_0 = \$6.20 \) /bu

or: \( (5000)(\$6.20) = \$31,000 \).

Now know with certainty, amount to be paid for corn.
Perfect hedge:
An "ideal" financial position, in which an investor eliminates uncertainty.

Usually, not possible to construct "perfect hedge."

ex/ small quantities of corn: or non-integer multiples of (5000) bu.

ex/ may not find futures contract for our delivery date.

ex/ delivery might not be in right location.

ex/ commodity might not be on a futures market.

Basis risk: what remains of position, still "random", after hedging.