Commodity Challenge

Section I: Introduction to Futures and Options Markets

Chapter 8: Basis

Learning objectives

- The relationship between cash and futures prices
- Basis patterns
- Basis in different regions
- Speculators trade price, hedgers trade basis

Key terms

Basis: The price difference between the cash price at a specific location and the price of a specific futures contract.

Convergence: The process by which the difference between the price of a futures contract and the price of the underlying cash commodity becomes smaller or narrows. Due to convergence, basis for grains should be close to 0 (equal cash and futures prices) in the delivery month, at the delivery point.

Long vs. Short the Basis: If I own the cash commodity, I am long the basis. If I sell the cash commodity, I am short the basis.

Understanding Basis

Basis links the specific (a local cash price) to the worldwide (futures prices). Many factors influence futures prices because grains are traded in a world market. Cash prices can also be affected by world events, but local issues are especially important. Examples include:

- **Transportation costs and availability:** Local shortages of railcars or trucks can affect basis.

- **Local supply and demand:** New processing facilities or ethanol plants can strengthen local basis.
- **Availability of local storage:** A bumper crop can weaken basis when storage is limited.

Cash and futures prices are difficult to predict, but basis shows a more stable seasonal pattern because cash and futures prices must converge in the delivery month.

Basis math

```
cash price - futures price = basis
$4.60 - $4.95 = -$0.35 (35 under)
```

or:

```
cash price = futures price + basis
$4.60 = $4.95 + -$0.35
```

Hedgers typically quote cash prices as a basis relative to futures. Basis language includes:

- **Strengthening/Narrowing:** Basis becomes less negative or more positive.
- **Weakening/Widening:** Basis becomes more negative or less positive.

Examples of Basis Changes

Basis has strengthened or narrowed by 3¢ per bushel.

Week	Cash Price	December Corn Futures Price	Basis
#1	$4.60	$4.95	-35¢
#2	$4.52	$4.92	-32¢

Basis has weakened or widened by 6¢ per bushel.

Week	Cash Price	December Corn Futures Price	Basis
#1	$4.60	$4.95	-35¢
#2	$4.69	$5.10	-41¢

Convergence

In the delivery month, at the delivery point, basis should be close to zero. At local points, basis reflects freight costs plus local supply and demand conditions.

Good hedgers know their basis and track it over time. Seasonal patterns are especially important.

General statements about basis

- Basis patterns are broadly similar year to year. Basis is weakest at harvest (September-November for corn and soybean, June-July for winter wheats, August-September for spring wheat). Corn and soybean basis is generally stronger in late spring and summer.
- Corn and soybean basis patterns are more regular than wheat.
- The supply and demand for grain storage can move basis.
- Transportation availability and costs also affect basis.
- Basis is more erratic in inverted markets.
- Forecasting basis is a key hedging skill.

Exercise #8

Use a note book to track basis daily or weekly in Commodity Challenge.