

costs from harvest until contract delivery are included in the price. For example, regardless of whether July futures are traded during January or the following June, the storage and interest costs from harvest until July are included in the futures price.

Futures price levels for different contract delivery months differ due to storage and interest costs. The December futures price is usually the lowest of the futures contract months because delivery in December is close to harvest and only a small storage and interest cost is incurred. The July futures price is usually much higher because storage and interest costs from harvest until the following July are incurred.

Factors affecting basis

The difference between local cash price and futures price is due to transportation costs, storage costs, supply and demand conditions, etc.

Basis is affected by storage and interest costs. At harvest the cash price is below the futures prices because of these costs. As the marketing year progresses, cash price increases relative to futures price. This occurs because the cash price must rise to cover additional storage and interest. However, the futures price does not rise because these costs are already included in the futures price--costs to a specific future delivery month (i.e. July Futures). As the marketing year progresses and cash price approaches each futures contract delivery month, the Chicago cash price and the futures price converge.

The local cash price and Chicago cash price differ by transportation costs. The transportation cost differential is due to the added cost of shipping grain from Iowa. For example, the cost of shipping corn from Iowa to the gulf is usually greater than the cost of shipping it from Chicago.

Basis is also affected by local supply and demand conditions. Heavy farmer selling will tend to lower cash price but will have little effect on futures price. So basis will widen. Conversely, light selling will tend to strengthen cash price but will have little effect on futures price. So basis will narrow.

Geographic variations

Basis patterns vary from one geographic area to another. Cash prices in northwest Iowa tend to be lower than in southeast Iowa because of the additional transportation costs of shipping grain to processors or export markets. Basis patterns also vary due to the type of grain, local supply and demand conditions, and time of year.

Localizing basis

The relevant basis for a farmer is the basis at his/her local elevator. The tables represent an average basis for each price reporting district but can be used to approximate a basis for your elevator. To do this, periodically compare your local cash price with the mid-point of your price reporting district's cash prices as reported in the *Des Moines Register* and other media. After you have established an approximate relationship between the two prices, you can adjust the information in the tables. For example, if your price is normally 5 cents under the midpoint, you can add 5 cents to the basis figures in the table.

Using basis in hedging

The two critical times when basis information is important for hedgers are in deciding whether to place a hedge and when to lift a hedge.

Placing hedges

Basis is important when considering whether to place a hedge because it is used to convert the futures price to a local cash equivalent price. The following basis tables can be used to estimate the net local hedge price.

The producer considering hedging needs to determine the period when the grain will be marketed. Once the marketing period has been selected the appropriate futures contract delivery month is chosen. The expected basis during that period is subtracted from the current futures price to obtain the estimated net price from hedging (not including transaction fee or interest on margin money).

For example, if you are considering placing a hedge using July futures and if you anticipate lifting the hedge in June, you can estimate the net hedge price

by subtracting the expected June basis from the current July futures price.

Lifting hedges

If it is time to lift the hedge and the basis is narrower than expected, the hedge returns will be larger than expected. With a storage hedge, the producer may lift the hedge earlier than anticipated if the basis is unusually narrow.

However, if it is time to lift the hedge and the basis is wider than normal, the producer may delay lifting the hedge until the basis approaches more normal levels. Of course, there are other factors to consider in making this decision.

For more information on hedging see:

- **Grain Price Hedging Basics, File A2-60;**
- **Using Hedging in a Marketing Program, File A2-61;**
- **Hedging vs. Forward Cash Contracting, File A2-62.**

Analyzing forward contracts

Knowledge of basis patterns can be used in deciding between either a hedge or a forward contract with an elevator. If the basis the contracting firm is using to compute the contract price is significantly larger than the actual expected basis, a producer should consider hedging rather than forward cash contracting. The contract basis can be computed by subtracting the contract price from the futures price. However, if a typical basis is used to compute the contract price it may be advisable to forward contract rather than hedge in the futures market.

Grain basis vs. livestock basis

Many agricultural producers who understand livestock basis patterns try to transfer that knowledge to grain basis. However, there are some differences.

Grain is a storable commodity and the same grain can be used to satisfy several delivery months. So grain futures prices tend to be tied to one another. Livestock is not storable so livestock futures prices tend to move independently.

Because grain is a storable commodity, the grain basis is tied closely to grain storage costs and interest costs. Livestock are not storable so there are no storage costs built into the basis.

An inverse basis in grain futures (cash above futures) is an unusual phenomenon and indicates there is something amiss in the grain industry (lack of transportation, for example). An inverse basis in grains will usually last only for a short period. However, an inverse basis in livestock futures is not unusual for distant contracts and can exist for extended periods of time. Only during the contract delivery period do we expect livestock futures to be above cash price.