

*Econ 337 Agricultural Marketing, Spring 2018*

In Class Activity 5, April 12, 2018

1. Carrying charges are the futures price differences between different delivery months (e.g. December and July corn). When we talk about a “large carry” we are talking about positive carrying charges, where the deferred futures are trading at a premium to the nearby contracts. There are several ways to measure a large carry. Let’s start with a classic measure; percent of full carry. It is possible to calculate a full carrying charge in the futures market, using the following formula:

$$\text{Full carry} = [(\text{price} * \text{interest rate}/12) + (\text{monthly storage rate})] * \# \text{ of months}$$

- a. Calculate the full carrying charge in the corn market from the July to the September contract. Let’s use a July price of \$3.70 per bushel, 5.75% interest, and a 5 cent per month commercial storage rate.
- b. If the July corn price is \$3.70 per bushel and the September corn price is \$3.785 per bushel, what is the current carrying charge?
- c. What percent of the full carry is the July/September spread trading at?
- d. Futures price spreads rarely get wider than 90% of full carry for two reasons. What might be these two reasons?

2. The classic measure of full carry is interesting but complicated. A simpler and more relevant approach for grain producers may be to look at the carry relative to their interest costs on grain held in storage. With this approach, ignore commercial storage costs—they are not relevant to a farmer with on-farm storage. With this approach, you can estimate interest costs using an interest rate of 1% over the prime rate and the cash price (not nearby futures) of corn at harvest.
  - a. What is the December/July corn spread in mid-October (harvest) if the December price is \$3.49 per bushel and the July price is \$3.79 per bushel?
  - b. Calculate the full carrying charge (like part a above) in the corn market from the December to the July contract. Use 5.75% interest, and a 5 cent per month commercial storage rate.
  - c. What percent of the full carry is the December/July corn spread trading at?
  - d. If you consider anything over 50% of full carry a “large” carry, is the December/July corn spread providing a large carry?
  - e. If the prime rate is 4.75% and the cash price for corn at harvest is \$3.00 per bushel what is the carry relative to interest costs on grain held in storage?

f. What percent of the carry relative to interest costs on grain held in storage is the December/July corn spread trading at?

g. If you consider anything over 140% of interest costs to be a “large” carry, is the December/July corn spread providing a large carry?