Hedging With a Put Option

Curriculum Guide

I. Goals and Objectives

A. Understand the application and use of put options in price risk management.
B. Discuss the basic fundamentals of hedging future prices with put options.
C. Review the advantages and disadvantages of put options.

II. Description/Highlights

A. Put options provide producers a flexible forward pricing tool. It allows a price floor with no margin deposits and the potential to benefit from higher prices for the cost of a premium.

B. With price fluctuations increasing, put options provide financial protection in managing price risk.

C. The put as a forward price hedge improves leverage in obtaining credit, assists in production planning, and is helpful in increasing income.

D. Put options are like an insurance policy. Once the premium is paid, the buyer has no further obligation.

E. The option buyer may allow the option to expire, make an offsetting transaction, or exercise to take a position in the underlying futures contract at the strike price selected.

F. Put options are for a specific underlying futures contract month. It has an expiration date and a selected exercise or strike price.

G. All futures and options contracts traded are cleared through a commodity clearing corporation which guarantees the performance of each contract.

H. Each put option has a buyer and seller.

I. Options contract terms are set by the appropriate commodity exchange.

1. Type of option (put or call)
2. Underlying contract month
3. Expiration date
4. Exercise or strike price

J. When buying put options, you select delivery month and strike price.

K. Option premiums are determined by market forces. However, the time before expiration, volatility of underlying futures and strike price to market price relationship mainly affect value of premium.

L. Example of a producer buying a December cotton put option to protect against a price decrease.

1. December futures settlement price = 74.98 cents per pound.
2. At-the-money strike price is 75.00 cents.

Strike	75.00
Premium	-3.00
Basis[1]	-7.00
Net Price[2]	65.00

[1] Estimated basis (transaction subject to basis risk until cash price is fixed).
[2] Brokerage fee omitted.

3. The downside price move is protected with the opportunity to benefit from higher price. December puts expire in November. Each option contract is for 50,000 pounds. Thus, premium cost for one contract at 3.00 cents per pound is $1,500.

M. Close out lesson with detail of advantages and disadvantages of put options.

Advantages and Disadvantages of Put Options

Advantages	Disadvantages
1. Reduces risk of price decrease	1. Premium payment required
2. No margin deposit required	2. Net price subject to basis variability
3. Assists in obtaining credit	3. Involves brokerage fee
4. Established price helps in production decisions	4. Fixed contract quantity
5. Buyers are available	
6. Established procedures for settling disputes	

III. Potential Speakers

A. Commodity broker
B. Market advisor
C. Merchants
D. Extension economists

IV. Review Questions

A. What is a put?

Answer: A put option is a contract that gives the buyer the right, but not the obligation, to take a short (sell) futures position at a specified price for a specified period of time on or before an expiration date.

B. What is a strike or exercise price?

Answer: The specific price at which the put option buyer may take a short position on the underlying futures contract.

C. The put option may be handled by what three alternatives?

Answer: It can be completed by expiration, exercise or transferred to another purchaser by an offsetting transaction.

V. For More Details

Introduction to Options on Cotton Futures. New York Cotton Exchange, Four World Trade Center, New York, NY 10048. Phone: 212-938-2702.

Agricultural Options for the Beginner. Chicago Board of Trade, Publication Department, 141 W. Jackson Blvd., Suite 2210, Chicago, IL 60604-2994. Phone: 312-435-3558.

Craig Fincham, James Mintert, Mark Waller, and William Tierney. Introduction to Options, RM 2-2.0, Risk Management Education Curriculum Guide. Texas Agricultural Extension Service.

The Basics of a Put

- **Put options** provide producers a flexible forward pricing tool that protects against a price decline.
- For the cost of a premium, a put option requires no margin deposits.
- Buyers of put options can benefit from higher prices.
- Put options are like an insurance policy. The buyer has no further obligation after the premium is paid.
- Options are for a specific underlying futures contract delivery month. It has an expiration date and a selected strike price.

The Basics of a Put (continued)

- The option buyer may allow the option to expire, make an offsetting transaction, or exercise it at the strike price selected.

- Commodity Clearing Corporation guarantees performance of each contract.

- Each option has a buyer and seller.

- Option premiums determined by market forces. The main forces are:

  - time before expiration
  - volatility of underlying futures price
  - the strike price to market price relationship

CASE EXAMPLE: Price Decline

A producer expects to harvest 1,000 bales of cotton in October.

In May: December futures price is 76.00 cents per pound. The harvest-time basis is usually 6 cents. The total cost of producing cotton is estimated at 65.00 cents. Thus, the producer decides to establish a floor price for all 1,000 bales by buying a 76.00 put for 3 cents premium. If the market price increases, the producer can still benefit from a higher cash price and let the options expire.

		cents/pound
May:	December Futures	76.00
	Expected Basis	- 6.00
	Put Premium	- 3.00
	Estimated Net Price	67.00

		cents/pound
October:	December Futures	66.00
	Actual Basis	- 6.00
	Cash Price	60.00
	Gross Value of the Put (76.00-66.00)	+10.00
	Realized Price	70.00
	Put Premium Price	- 3.00
	Net Price[1]	67.00

[1] Less brokerage fee.

Since the market declined and the basis was 6 cents, the net price received is the same as the price floor estimated in May.

CASE EXAMPLE: Price Increase

		cents/pound
May:	December Futures	76.00
	Expected Basis	- 6.00
	Put Premium	- 3.00
	Estimated Net	67.00

		cents/pound
October:	December Futures	86.00
	Actual Basis	- 6.00
	Cash Price	80.00
	Gross Value of Put	+ 0.00
	Realized Price	80.00
	Put Premium Cost	- 3.00
	Net Price[1]	77.00

[1] Less brokerage fee.

A big advantage of a put is that it provides a "price floor" but allows the benefit of a higher price. The expected 1,000 bales can be hedged and there are no margins required in buying puts.

! Advantages and Disadvantages of Put Options

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6. Procedures for settling contract disputes	