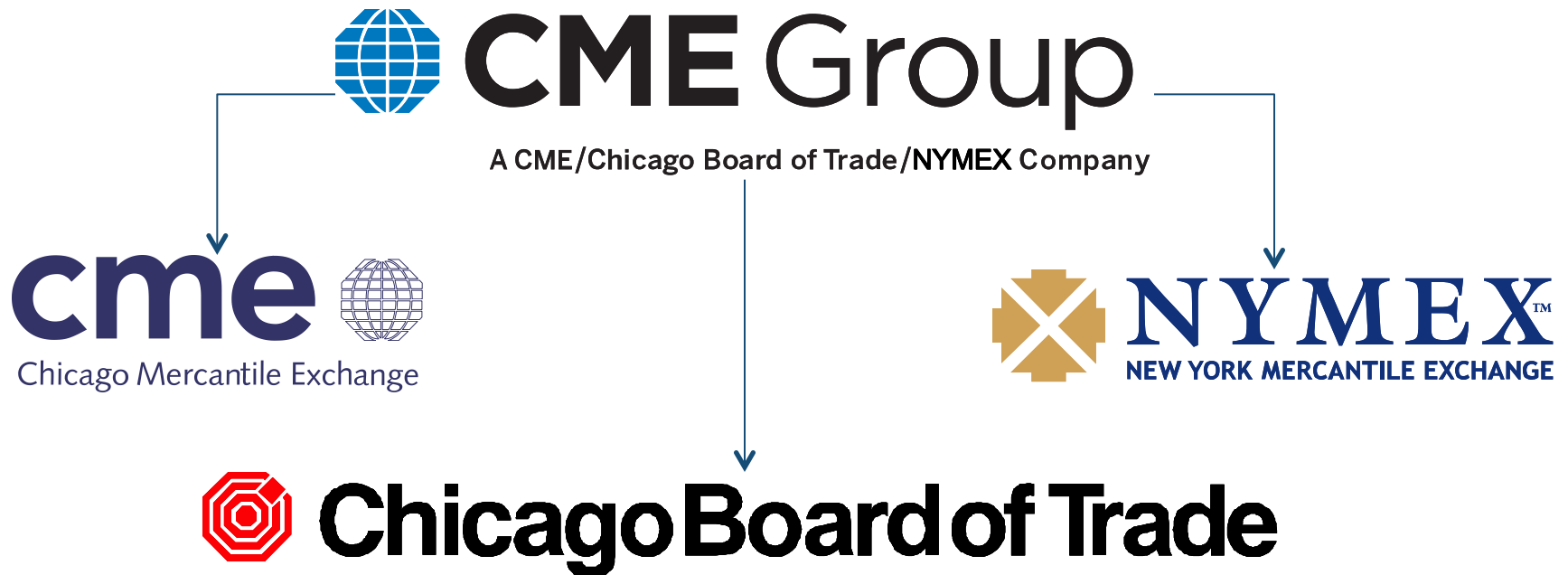


Producer Price Risk Management Strategies

Rich Jelinek

December 7, 2010

Three Legacies ... One Future



CME Group Merger

▪ Chicago Mercantile Exchange & Chicago Board of Trade Merger

- New Company Name – CME Group
- Agreement approved and completed on July 13, 2007
- Common Clearing was in place since January 2004
- Two Platforms: Electronic (Globex in Jan08) and Open Auction (pit in May08)
- 23 Hour Trading Day (Globex) for some commodities
- Grain & Oilseed Hours 6:00pm – 7:15am and 9:30 – 1:15pm (side-by-side)

▪ CME Group & New York Mercantile Exchange Merger

- Agreement approved and completed on August 22, 2008
- NYMEX products have traded on Globex since June 2006

Economic Functions of CME Group

1. Price Discovery

- Transparent Price Information
- Cash contracts based on futures or options contracts
- Two-way price impact
 - Futures & options market contracts impact cash market contracts
 - Cash market contracts impact futures markets

2. Price Risk Management

- Use CME Group products and services to protect cash market positions and anticipated positions

Importance of Price Risk Management

Price Risk is Always Present

Problem

- The only thing certain about the future is uncertainty!

Solution

- Use CME Group products and services to help manage the uncertainty!

CME Group Product Complexes

- **Commodity**
- **Interest Rates**
- **Foreign Exchange**
- **Equities**
- **Alternative Investments**
- **Energy**
- **Metals**

What are Your Risk Exposures?

Commodity Prices
Energy Costs
Financial Portfolio
Currency Fluctuations

Agricultural Commodity Product Complex

Grains and Oilseeds:

- Corn Futures and Options
- Mini-sized Corn Futures
- Ethanol Futures, Options and Swaps
- Oat Futures and Options
- Rough Rice Futures and Options
- Soybean Futures and Options
- Mini-sized Soybean Futures
- Soybean Meal Futures and Options
- Soybean Oil Futures and Options
- South American Soybean Futures
- Wheat Futures and Options
- Mini-sized Wheat Futures

Livestock:

- Feeder Cattle Futures and Options
- Live Cattle Futures and Options
- Lean Hogs Futures and Options
- Frozen Pork Bellies Futures and Options

Dairy Products:

- Butter Futures and Options
- Butter Spot Call
- Cash-Settled Butter Futures
- Milk Class III Futures and Options
- Milk Class IV Futures and Options
- Nonfat Dry Milk Futures and Options
- Dry Whey Futures

Price Volatilities

(Yearly Averages)

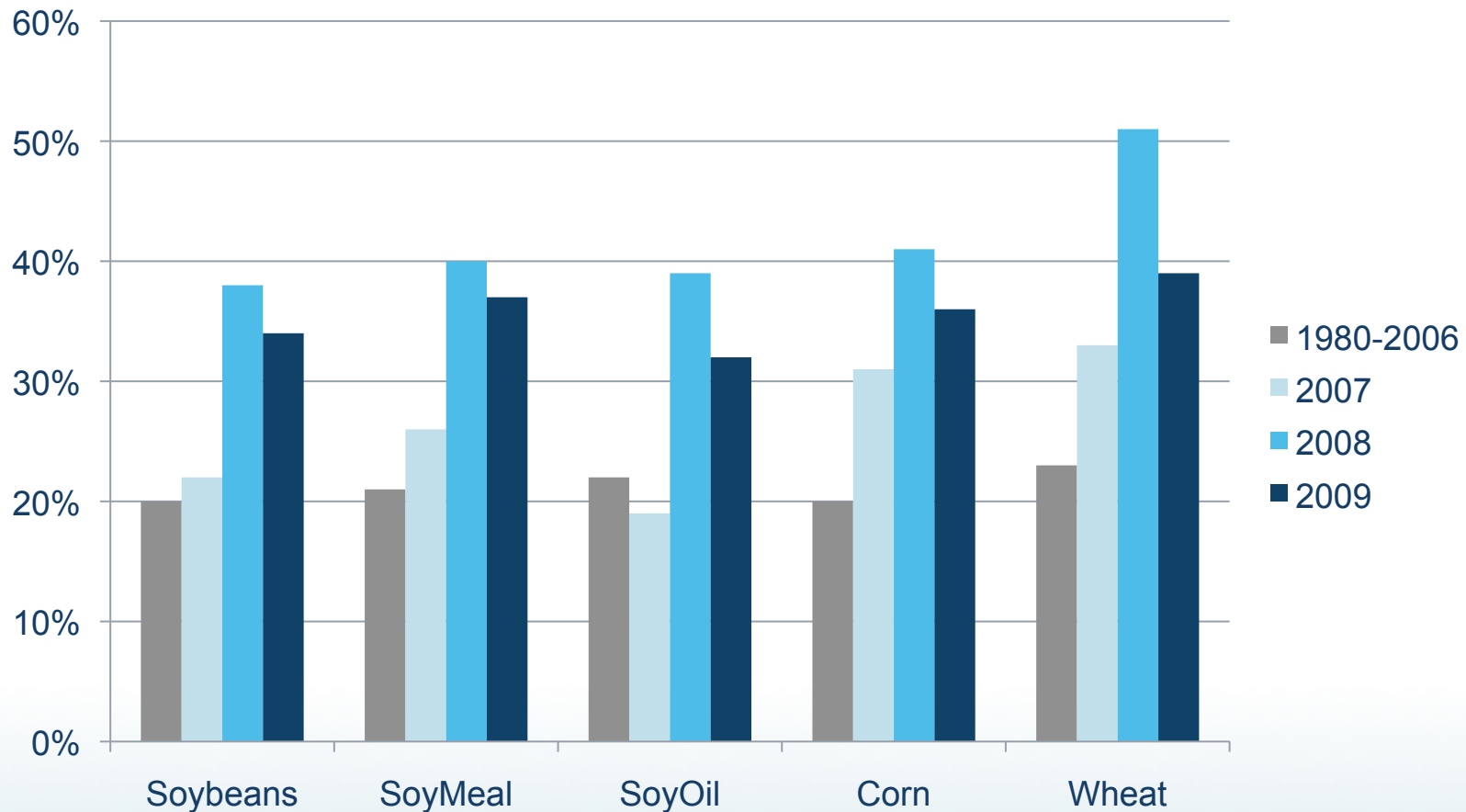
Commodity	1980 – 2010* (Grains)			2008	2009	2010*
	Hi	Lo	Average			
Soybeans	60.0%	5.2%	20.5%	38.4%	33.7%	17.7%
Soybean Meal	83.5%	6.3%	22.2%	40.4%	42.2%	24.4%
Soybean Oil	67.5%	6.6%	21.9%	39.4%	29.3%	17.2%
Corn	63.9%	5.6%	20.3%	41.3%	36.8%	29.1%
Wheat	73.4%	8.1%	23.5%	50.6%	37.9%	35.0%

Volatility is measurement of the change in price over a period of time. Historical Volatility is expressed as a percentage and is calculated by taking the standard deviation of the log-differences of the daily settlement prices of the underlying commodity over the course of the month. The result is multiplied by the square root of 252 (the number of trading days in a year). *As of November 2, 2010



Importance of Price Risk Management

Annual Price Volatility



Corn Futures Settlement Prices

January 2002 to October 2010



Excuses For Not Using Risk Management

- Prices can't move much higher/lower - **WRONG**
- Futures Industry is too complicated - **WRONG**
- Risk management is too expensive - **WRONG**
 - Performance Margins are too high
 - Option Premiums are too much
- I can't compete with the professional traders – **NOT APPLICABLE**
- None of my neighbors use risk management - **WRONG**
- I have a good handle on the market fundamentals – **WRONG**
- I don't believe in price protection – **BIG MISTAKE**

NOTE: THERE ARE NO VALID EXCUSES

Producer Strategies

Producer Alternatives

- **Short Futures**
- **Long Put**
- **Short Put & Long Call**
- **Cash Forward Contract**
- **Spot Sale**
- **Store & Hope**

Short Futures

Short (sell) Futures

- Establishes a selling price level
- Stronger basis will increase selling price at time of cash sale
- Weaker basis will lower selling price at time of cash sale

Equation:

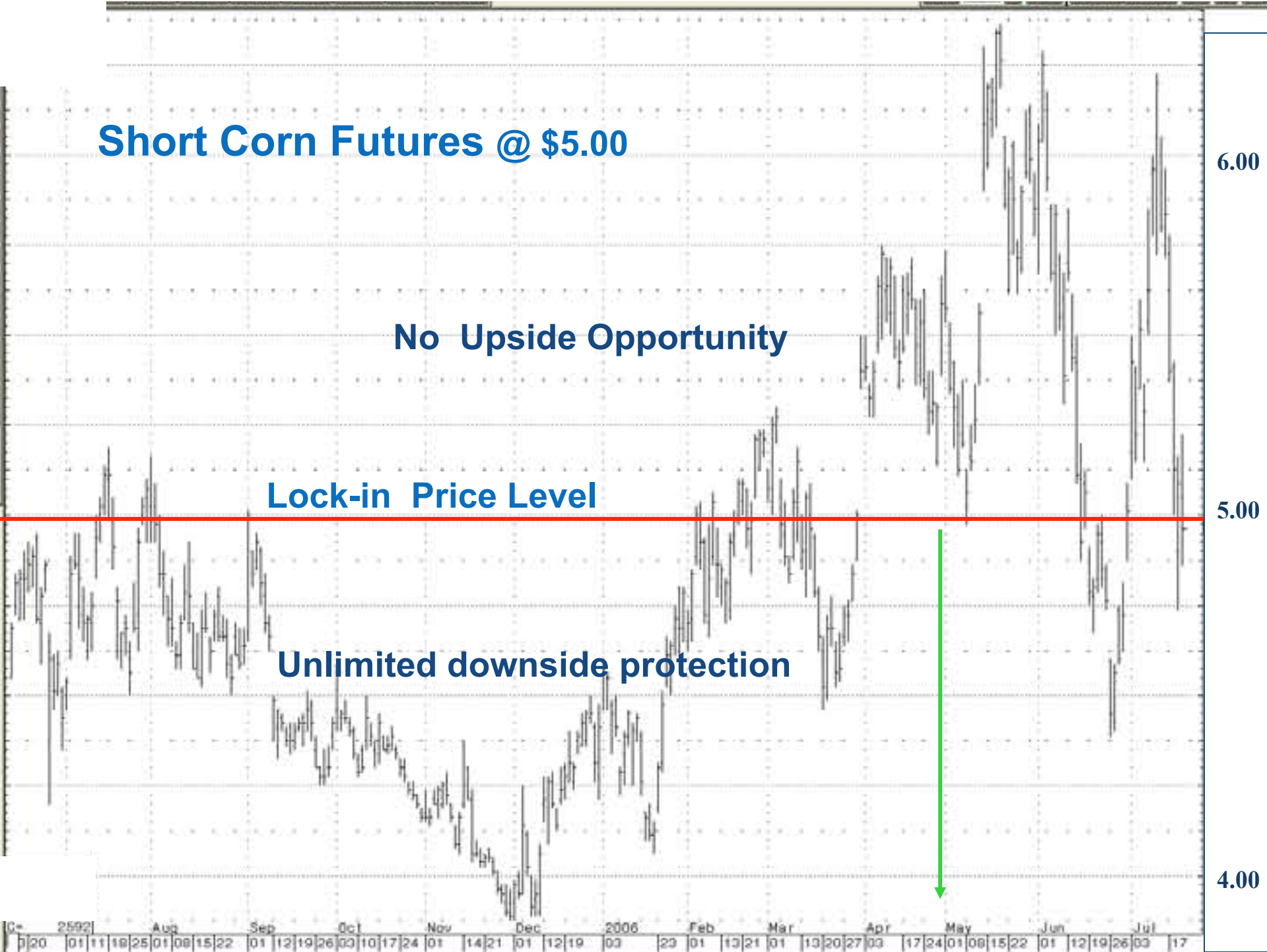
$$\text{Futures price} + \text{Basis} = \text{Selling Price}$$

Short Corn Futures @ \$5.00

No Upside Opportunity

Lock-in Price Level

Unlimited downside protection



Short Corn Futures

Example: Short Dec Futures @ \$5.00 (expected basis: - \$0.30)

<u>If Dec</u> <u>Corn</u>	<u>+</u>	<u>Basis</u>	<u>=</u>	<u>Cash</u> <u>Price</u>	<u>Futures</u> <u>-P/+L</u>	<u>=</u>	<u>Selling</u> <u>Price</u>
3.50	—	.30	=	3.20	+ 1.50P	=	4.70
5.00	—	.30	=	4.70	+ 0	=	4.70
6.50	—	.30	=	6.20	— 1.50P	=	4.70

1. Would a change in futures price ever affect this strategy?
2. What would affect the net selling price?
3. If you only hedged 50%, which of the three scenarios would work out best?
4. Based on the answer to #3, what would be the effective selling price?

Long Put

Long (buy) Put

- Establishes a “minimum” or floor selling price level
- Protected against lower price levels at time of cash sale
- Can benefit from higher price levels at time of cash sale
- Stronger basis will increase selling price at time of cash sale
- Weaker basis will lower selling price at time of cash sale

Equation:

Put Strike price + Basis - Premium = Minimum Selling Price

Corn Futures \$5.00

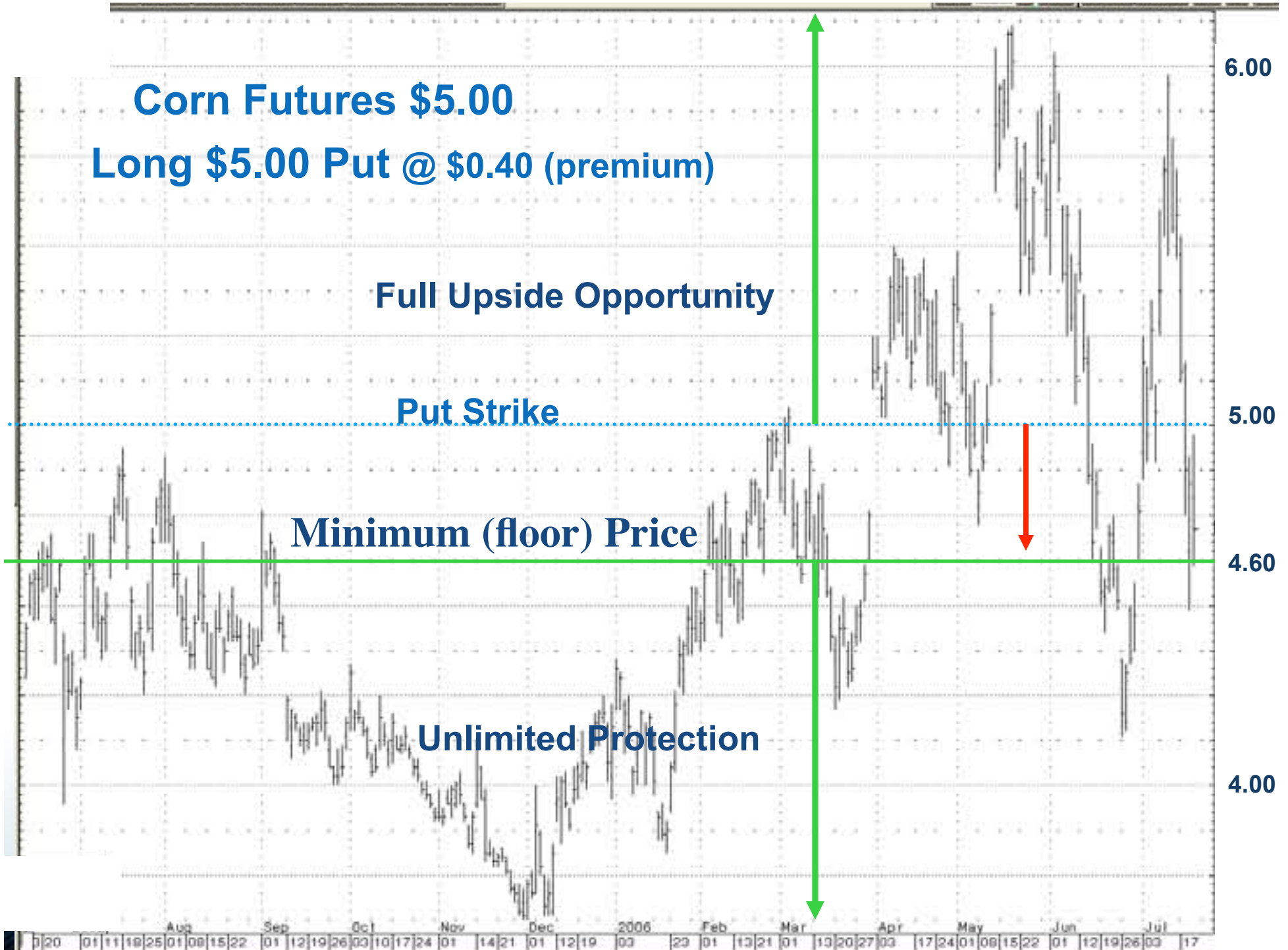
Long \$5.00 Put @ \$0.40 (premium)

Full Upside Opportunity

Put Strike

Minimum (floor) Price

Unlimited Protection



Long Put Option

Example: Long Dec 5.00 Put Option @ \$0.40 (expected basis: + \$0.30)

If Dec Corn	+ Basis	= Cash Price	Put -P/+L	= Selling Price
3.50	— .30	= 3.20	+ 1.10P	= 4.30
5.00	— .30	= 4.70	— .40L	= 4.30
6.50	— .30	= 6.20	— .40L	= 5.80

1. What would happen to the selling price if the futures moved lower than 3.50?
2. What would happen to the selling price if the futures moved higher than 6.50?
3. What factors could impact the selling price and how?
4. Are there other strategies to achieve similar benefits as the long put?
5. If this strategy is too expensive, how can you alter it?

Long Put & Short Call

Long Put & Short Call (Buy a Put and sell a Call)

- Establishes a selling price level range
- Usually select an out-of-the-money Call option
- Protection against falling prices but at a lower cost
- Limited opportunity for higher prices
- Stronger basis will increase selling price at time of cash sale
- Weaker basis will lower selling price at time of cash sale

Equation

Put strike price + call premium – put premium + basis = minimum selling price

Call strike price + call premium – put premium + basis = maximum selling price

Corn Futures @ \$5.00 Collar - Long Put and Short Call

Long \$5.00 Put @ \$0.40)

Short \$5.50 Call @ \$0.15)

Net Cost \$.25



Maximum Upside Opportunity

Put Strike

Minimum Price

Unlimited Protection

6.00

5.25

5.00

4.75

4.00

Aug 20 01 11 19 25 01 09 15 22 01 12 19 26 03 10 17 24 01 14 21 01 12 19 03 29 01 13 21 01 13 20 27 03 17 24 01 06 15 22 01 12 19 26 03 17

Long Put & Short Call

*Example: Long Dec 5.00 Put Option @ \$0.40 (expected basis: + \$0.30)
Short Dec 5.50 Call Option @ \$0.15*

If Dec Corn	+	Basis	=	Cash Price	Put -P/+L	Call -P/+L	=	Selling Price
3.50	—	.30	=	3.20	+ 1.10P	+ .15P	=	4.45
5.00	—	.30	=	4.70	— .40L	+ .15P	=	4.45
6.50	—	.30	=	6.20	— .40L	— .85L	=	4.95

1. What determines the selling price range and how can you alter the range?
2. What factors in this example could affect the selling price?
3. What is the best way to calculate an “expected basis” level?
4. Is the objective of all risk management strategies to make money in the futures industry?

Cash Forward Contract

Cash Forward Contract

- Establishes a flat price in advance of actual cash sale
- Price level and basis level are locked-in
- Price level is derived from futures price
- Can't benefit from weaker basis at time of actual cash sale
- Delivery is required; if not, penalties may apply

Equation

Locked-in Futures price and Forward Basis

Example

Corn Futures @ \$5.00/bushel and forward basis is @ \$0.50 under
Cash Forward Contract @ \$4.50/bushel

Change in futures level and/or basis level at delivery time will not affect the sale price



Basis Contract

Basis Contract

- Establishes (locks-in) a basis level in advance of actual cash sale
- Tied to a specific futures contract month
- Seller chooses time to “price out” the contract but must occur before the specific futures contract expires
- Can’t benefit from stronger basis at time of actual cash sale
- Subject to risk of lower price levels

Equation

- Specified futures contract price at time of “pricing” + “locked-in” basis

Example

Basis Contract: \$0.40 under December futures

Any change in the basis prior to expiration will not impact the purchase price



Spot (cash) sale

Cash (local supplier quote)

- Flat spot price quote at time of current physical delivery
- Derived from futures price and includes current local basis
- Subject to price and basis level risk at time of actual cash sale

Equation

Futures Price + Basis at delivery time = Spot Sale Price

Sell Side Strategies: A Comparative Analysis

(assume actual basis: +.30)

If Dec Corn	Short Futures	Long Put	(L) Put (S) Call	Cash Fwd	-.40 Basis Contract	Spot Sale
3.50	4.70	4.30	4.45	4.50	3.10	3.20
5.00	4.70	4.30	4.45	4.50	4.60	4.70
6.50	4.70	5.80	4.95	4.50	6.10	6.20

1. What strategy provides the best result when the market moves Higher? Lower? Remains the Same?
2. What adjustments to the results must a producer consider to compare strategies as “apples to apples”?
3. What are some of the key benefits of the futures/option strategies compared to the cash strategies?
4. What do most of these selling strategies in the futures, options and cash market have in common?
5. How can a producer benefit from higher prices after harvest?
6. Is there another market that could help customers manage price risk? If so, what is it?

Summary

Market Risk Summary

Risk

Accept it – it is always there

Don't fear it – it doesn't have to be a negative

Manage it – many tools to deal with it

Conquer it – consistent management should help put you on top

Speculation

If you don't manage risk, you are assuming risk

If you are assuming risk, you are speculating!!!



CME Group Benefits

- **Variety of Products**
 - Futures, Options & Cleared Swaps
 - Diversified Product Complexes
- **Flexible Uses**
 - Risk management Strategies
 - Speculative Strategies
 - Foundation for cash contracts
 - Initiate and adjust positions based on the desired risk exposure
- **Liquidity & Transparency**
 - Efficient & fair pricing
- **Regulation and financial integrity**
 - Internal and external monitoring
 - CME Clearing – Clearing process guarantees all CME Group transactions
- **Customer choice of trading platforms & clearing**
 - CME Globex – Electronic
 - Trading Floor – Open Outcry
 - CME Clearport – OTC Clearing interface



Disclaimer

Futures trading is not suitable for all investors, and involves the risk of loss. Futures are a leveraged investment, and because only a percentage of a contract's value is required to trade, it is possible to lose more than the amount of money deposited for a futures position. Therefore, traders should only use funds that they can afford to lose without affecting their lifestyles. And only a portion of those funds should be devoted to any one trade because they cannot expect to profit on every trade. All references to options refer to options on futures.

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