(Lecture notes for the Week 2 Second Session, Wednesday, 2/19/14)

Introductory Pricing/Marketing Workshop for Grains, On-Line

Review

Breakeven Basis

First four pricing tools

Continue with

With three more pricing tools

New

Begin Commodity Options

Breakeven Basis, when do you lift a Hedge?

Break-Even Basis Line helps us answer two questions.

1) **Should we hedge?**

    a. **Basis needs to be weaker than the B-E Basis Line to consider hedging.**

2) **When to get out of/lift the hedge?**

    a. **When basis strengthens to B-E Basis, consider lifting hedge.**

3) **When a hedge would no longer pay, consider lifting yours.**

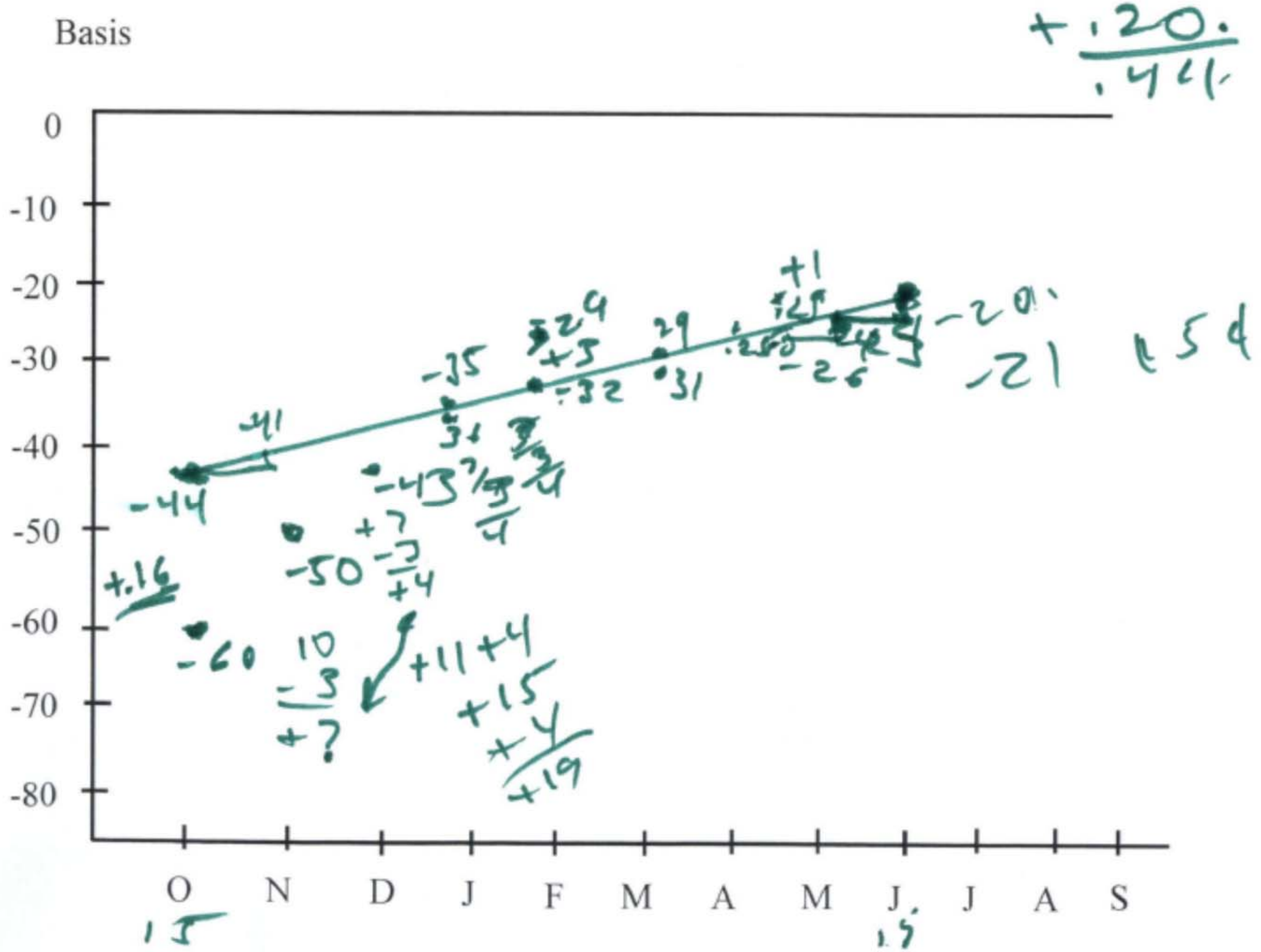
Breakeven Basis Chart

Plot a break-even basis line and then the monthly basis as you go through time:

B.E.
-60
-20
+40
-24
+16
+3
+19

Expected normal basis on June 15:	**-20¢**
Harvest October 15:	**Lift hedge by June 15**
Storage cost:	**3¢ per month** x 8 = .24.

+.20.
.44.



Breakeven Basis Table

Calculate the monthly break-even basis next to monthly basis listed below:

Expected normal basis on June 15:	**-20¢**
Harvest October 15:	**Lift hedge by June 15**
Storage cost:	**3¢ per month**

	Basis	B.E.	
October 15	-60	-44	+16
November 15	-50	-.41	
December 15	-43	-.38	
January 15	-36	-35	+3 +16 = 19
February 15	-29	-.32	+3 +16 = 17
March 15	-31	-.29	
April 15	-25	-.26	+1 +16
May 15	-24	-.23	
June 15	-21	-.20	-1 +16 = 15

4.00
-.20
-.20
4.09

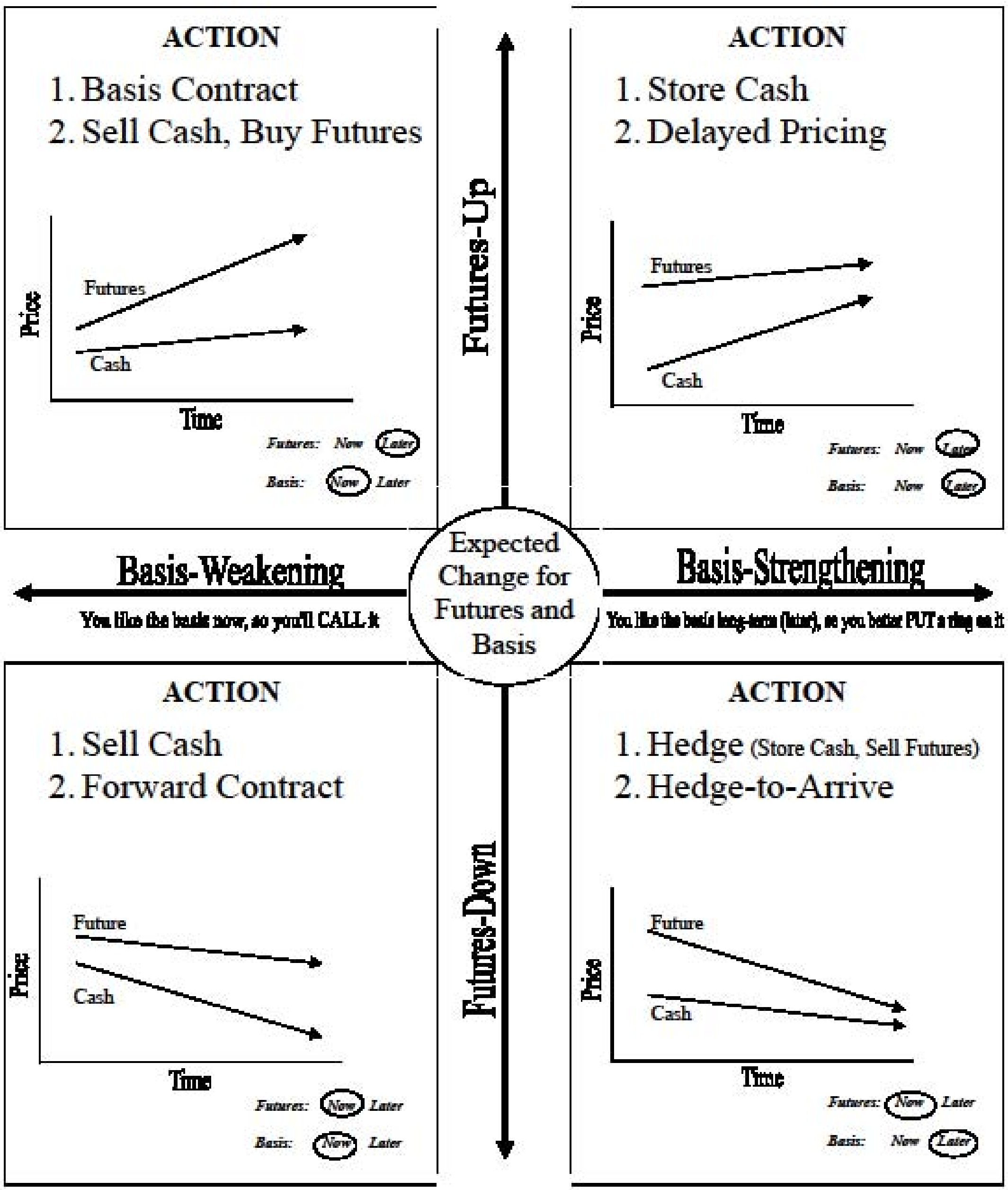
3) When a hedge would no longer pay, consider lifting yours.

3) When a hedge would no longer pay, consider lifting yours.

Prior Page Feb 15

	Basis	-.29	
Ex	Basis	-.20	June 15
		+.09	gain
		-.12	Storage
		-.03	So lift hedge

Pricing Decision Chart for Cash Product Sellers



CBOT CORN **Mason, MI**

Mon	Price	Chg	Delivery	Basis	Cash	
Mar 14	445'2s	4'6	FEB 2014	-0.40	4.05	
Mar 14	445'2s	4'6	MAR 2014	-0.38	4.07	
Jul 14	455'0s	4'0	JUN 2014	-0.30	4.25	
Dec 14	459'6s	3'4	O/N 2014	-0.50	4.10	

STORE (OR WAIT TO FORWARD CONTRACT)

Cash Price 4.05
(Store)

	Prices Up	Prices Down
Cash Price	5.00 (Sell)	3.00 (Sell)
Less: Storage Costs	-.08 20	-.08
Equals Net Price Received	4.92	2.92

DELAYED PRICING

Cash Price 4.05
(Deliver)

	Prices Up	Prices Down
Cash Price	5.00	3.00
Less: D. P. Charges 4mo 5¢	-.20	-.20
Equals Net Price Received	4.80	2.80

CASH SALES

Cash Price	4.05 (Sell)	
	Prices Up	**Prices Down**
Cash Price (For Comparison)	5.00	3.00
Cash Sales Above Equals Net Price Received	4.05	4.05

FORWARD CONTRACT

Cash Price (For Comparison)	4.05	
	on farm	off farm
Forward Contract Price	4.25	
Less: Storage Costs	-.08	-.24
Equals Net Price Received	4.17	4.01

	Prices Up	Prices Down
Cash Price (For Comparison)	5.00 -.08	3.00 -.08
Forward Contract Price	4.25	4.25
Less: Storage Costs	-.08	-.08
Equals Net Price Received	4.17	4.17

HEDGE (Hedge-to-Arrive)

July (Futures Month)	4.55 (Sell)	4.05
Expected Basis	-.25	
Storage Costs	-.08	4.55
Brokerage Costs	-.01	-3.20
Net Expected Price	4.21 +5 -5	F.C. 4.17 +1.35 C-F

	Prices Up	Prices Down
July (Futures Month)	5.30 (Buy)	3.20 (Buy)
Actual Basis	-.30	-.20
Cash Price	5.00	3.00
Plus Net Returns from Futures Sell and Buy	-.75	+1.35
Less: Storage Cost	-.08	-.08
Brokerage Cost	-.01	-.01
Equal Net Returns	-.84 -84	+1.26
Equals Net Price Received	~~4.16~~ 4.16	4.26

<u>HEDGE</u> (Hedge-to-Arrive)

July (Futures Month)	4.55 (Sell)	4.05
Expected Basis	-.25	
Storage Costs	-.08	
Brokerage Costs	-.01	
Net Expected Price	4.21	F.C. 4.17

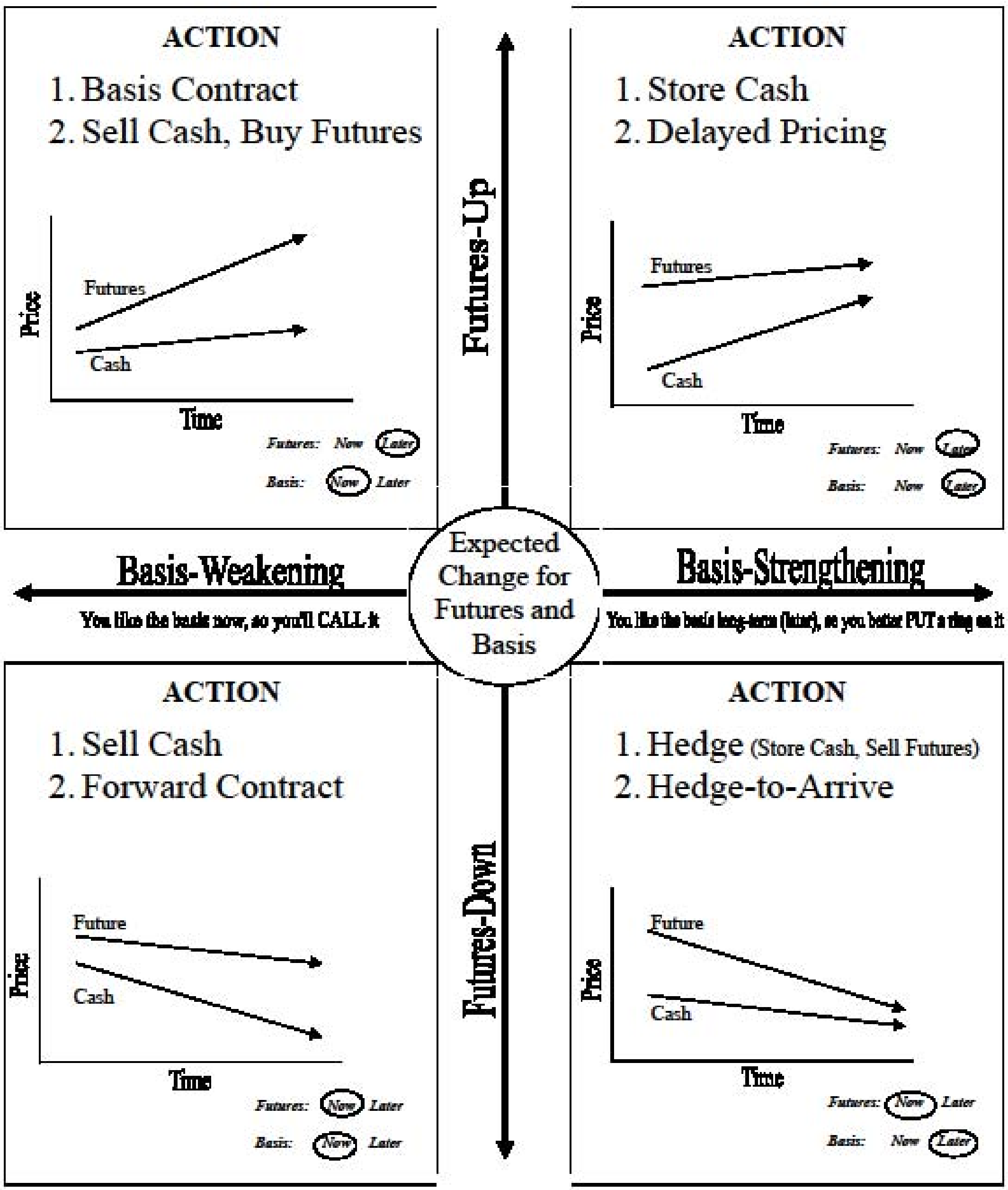
	Prices Up	**Prices Down**
(Futures Month)	(Buy)	(Buy)
Actual Basis		
Cash Price		
Plus Net Returns from Futures Sell and Buy		
Less:		
Storage Cost		
Brokerage Cost		
Equal Net Returns		
Equals Net Price Received		

HEDGE (Hedge-to-Arrive)

____________ (Futures Month)	____________ (Sell)
Expected Basis	____________
Storage Costs	____________
Brokerage Costs	____________
Net Expected Price	____________

	Prices Up	**Prices Down**
____________ (Futures Month)	____________ (Buy)	____________ (Buy)
Actual Basis	____________	____________
Cash Price	____________	____________
Plus Net Returns from Futures Sell and Buy	____________	____________
Less:		
Storage Cost	____________	____________
Brokerage Cost	____________	____________
Equal Net Returns	____________	____________
Equals Net Price Received	____________	____________

Pricing Decision Chart for Cash Product Sellers



Basis Contracts

A. Definition: Contract to price a product at a fixed discount (or premium) to a given futures contract. Timing of the pricing is determined by the producer as with Delayed Pricing.

B. Types

1. Delivery to elevator at specified times in the future, either later in the same crop year or at harvest or later in the new crop year
2. Immediate delivery to the elevator which takes title to the product and pays the producer some proportion (like 80 percent) of the current cash value of the product

New Crop Basis

old crop. Basis

C. Advantages

1. Allows producer to take advantage of a favorable basis when the level of price may not be attractive
2. Easier to understand than futures contracts
3. Deal with people you know
4. For "Type 2" basis contracts, cash is available for a portion of the current value of the contract

D. Disadvantages

1. Producer is exchanging a speculative position in the cash market for one in the futures market
2. Difficult to forecast futures prices
3. Not available in some locations
4. For "Type 2" basis contracts, elevator retains a portion of the value of the contract for which no interest is paid; an alternative is to sell the entire amount for cash and buy the equivalent in futures contracts
5. For "Type 2" basis contracts, producers may be liable for margin calls

BASIS CONTRACT

July (Futures Month)	4.55 (Price)
Less: Cash Price	4.05 (Deliver Cash)
Basis Contract	-.50

make decision by July

	Prices Up	Prices Down
July (Futures Month)	5.30 (Price)	3.20 (Price)
Less: Basis Contract	-.50	-.50
Equals Net Price Received	4.80	2.70
	5.00 -.08 = 4.92 18 stored	2.92 if stored

BASIS CONTRACT

______________ (Futures Month)	______________ (Price)	
Less: Cash Price	______________ (Deliver Cash)	
Basis Contract	______________	
	Prices Up	**Prices Down**
______________ (Futures Month)	______________ (Price)	______________ (Price)
Less: Basis Contract	______________	______________
Equals Net Price Received	______________	______________

SELL CASH and BUY FUTURES

A. Definition: For a seller, buying an equivalent amount of futures at the time the cash product is sold. For a buyer, selling an equivalent amount of futures at the time the cash product is purchased.

B. Advantages

1. Allows producer to take advantage of a favorable basis when the level of price may not be attractive
2. Provides flexibility in timing sales and purchases related to such considerations as availability of storage space, transferring income from one tax year to the next, need for cash, etc.; unfavorable prices can be avoided when the cash transaction must be made

C. Disadvantages

1. Same as for hedging with futures except that the risk is in the level of price rather than in basis
2. Difficult to forecast futures prices
3. Higher margin requirements than for hedging
4. Lenders may be unwilling to finance margins
5. Profits or losses are treated by IRS as capital gains or losses and not normal income or business expenses as is the case with gains or losses from hedgers (an advantage for profits)

SELL CASH and BUY FUTURES

July
(Futures Month)

4.55
(Buy)

Cash Price 4.05
(Sell)

Actual Basis -.50

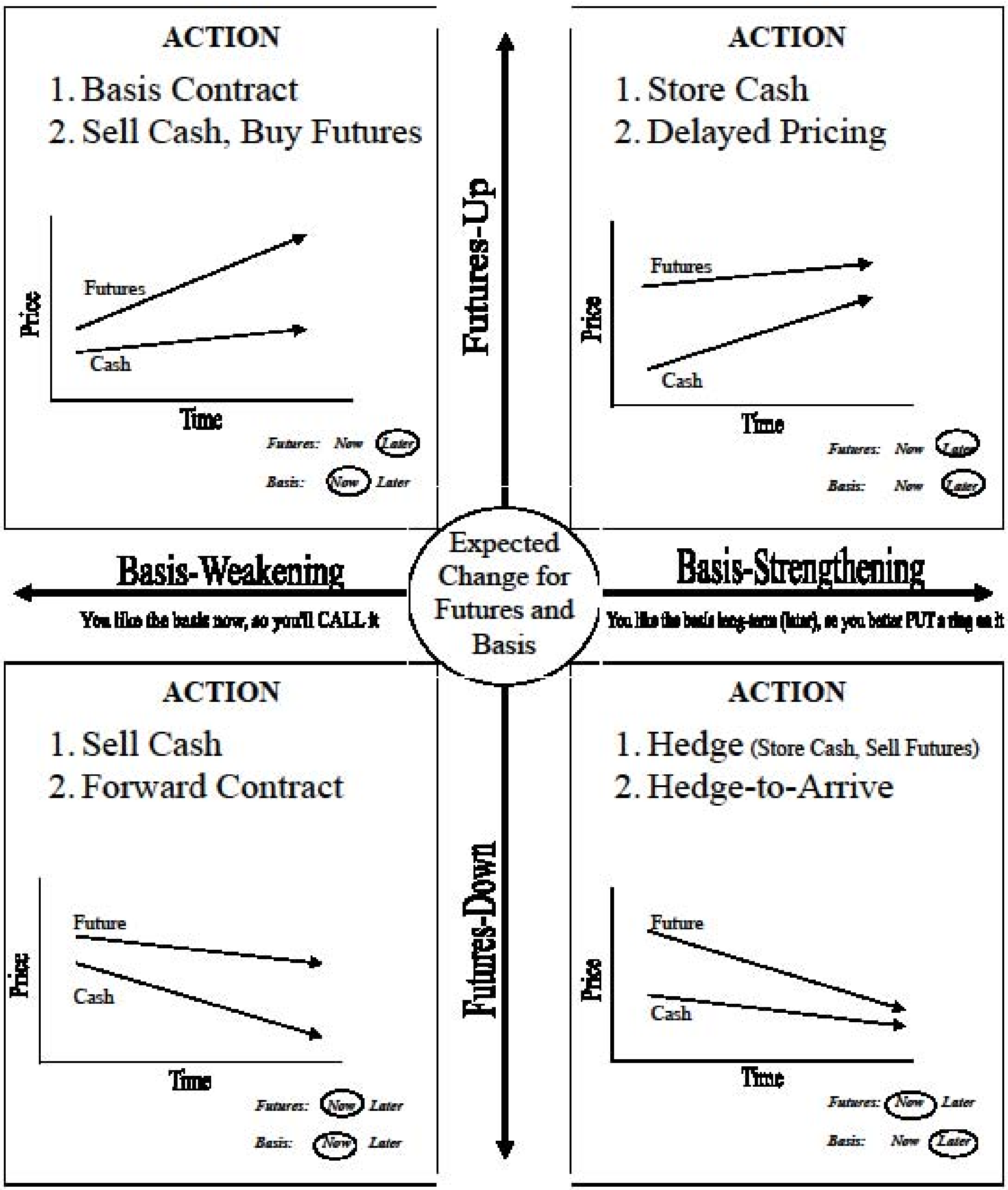
	Prices Up	Prices Down
July (Futures Month)	5.30 (Sell)	3.20 (Sell)
Cash Price	4.05	4.05
Plus Net Returns from Futures Buy and Sell	+.75	-1.35
Less: Brokerage Cost	-.01	-.01
Equals Net Price Received	4.79	2.69
Actual Basis	+.30	-.20

SELL CASH and BUY FUTURES

________________	________________
(Futures Month)	(Buy)
Cash Price	________________
	(Sell)
Actual Basis	________________

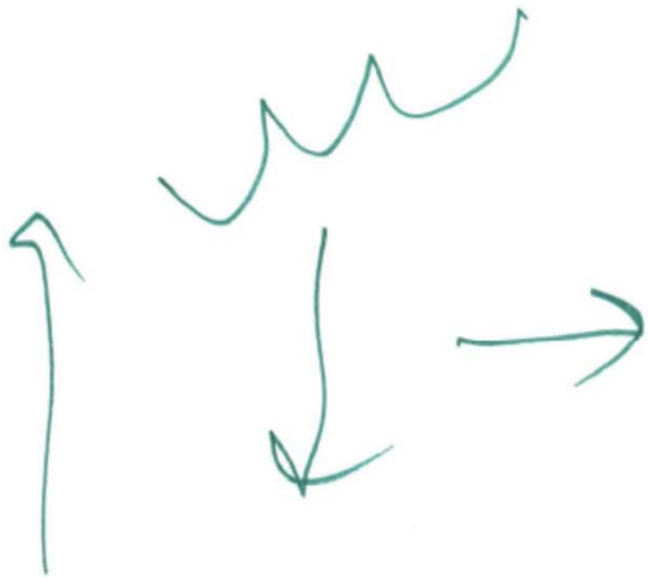
	Prices Up	**Prices Down**
________________	________________	________________
(Futures Month)	(Sell)	(Sell)
Cash Price	________________	________________
Plus Net Returns from Futures Buy and Sell	________________	________________
Less: Brokerage Cost	________________	________________
Equals Net Price Received	________________	________________
Actual Basis	________________	________________

Pricing Decision Chart for Cash Product Sellers



Problem, the basis is predictable, prices are generally not

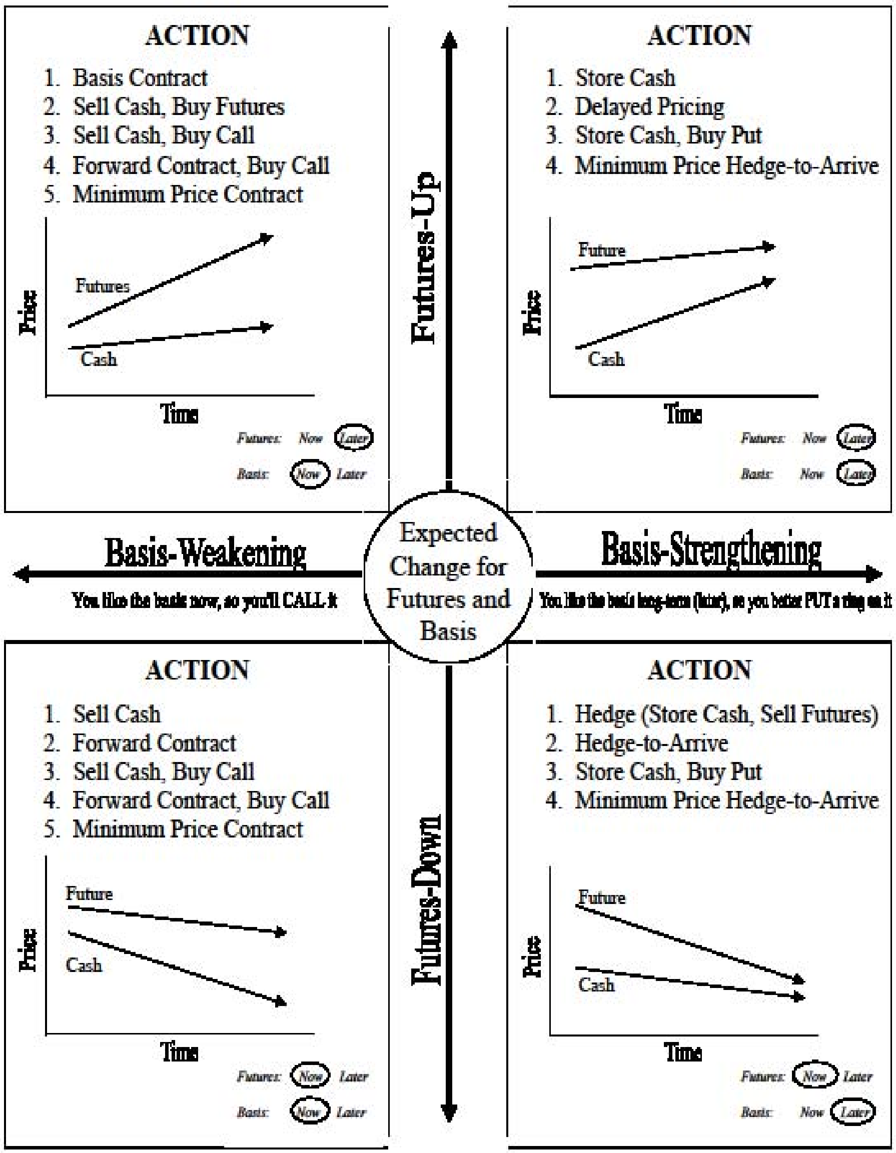
Problem, the basis is predictable, prices are generally not



options

I have inserted to sheets that I wrote ~~wrote~~ on Next. So you need to insert at proper spot

Pricing Decision Chart for Cash Product Sellers



INTRINSIC VALUE

never negative

"POSITIVE" DIFFERENCE BETWEEN STRIKE PRICE AND UNDERLYING COMMODITY PRICE

right to sell

Put

$\boxed{4.70}$ -.10=0
4.60. S. P.
4.50 + .10
4.40 I.V.
.20

4.80 +.30
4.70 +.10
4.60.
4.50 = 0

FOR A PUT – STRIKE PRICE **EXCEEDS** FUTURES PRICE

FOR A CALL – STRIKE PRICE **BELOW** FUTURES PRICE

right to Buy

OPTIONS THAT ARE SAID TO BE:

Put
o
Call

"IN-THE-MONEY"

HAVE INTRINSIC VALUE

4.70
4.604.60
. 4.50

At the Money = nearest to the money

"OUT-OF-THE-MONEY"

HAVE NO INTRINSIC VALUE

Options Detail

– mid June

ELEC. CORN (Jul 2014) [10 Minute Delay]

Refresh

Last	Change	%Chg	Open	High	Low	Previous	Volume	Exchange	Trade Time
464'6s	4'6	1.03	459'2	465'4	458'6	460'0	51237	CBOT	02/19/14 13:30

Symbol: @CN14 Go Symbol Search | Symbol Lookup Strike Range: Near-the-Money Chart | Options | Futures Chain

Mar 2014 | May 2014 | Jul 2014 | Sep 2014 | Dec 2014 | Mar 2015 | May 2015 | Jul 2015 | Dec 2015 | Jul 2016 Jul 2014

Jul 2014 Options

4.64 1/8 4.65

Days Until Expiration: 121

Calls

Symbol	Price	Chg	Open	High	Low	Volume	Open Int	Strike
@CN14C4100	59'5s	4'2	---	---	---	0	0	**4100**
@CN14C4200	51'5s	4'1	---	---	---	1	268	**4200**
@CN14C4300	44'1s	3'7	41'0	44'3	41'0	6	1294	**4300**
@CN14C4400	37'2s	3'3	35'0	37'5	35'0	23	5567	**4400**
@CN14C4500	31'2s	3'1	28'6	31'4	28'1	107	16363	**4500**
@CN14C4600	26'0s	2'7	22'7	26'2	22'7	67	5745	**4600**
@CN14C4700	21'3s	2'4	18'7	21'5	18'6	22	5712	**4700**
@CN14C4800	17'4s	2'2	15'0	17'5	15'0	768	7323	**4800**
@CN14C4900	14'2s	2'0	12'1	14'3	12'1	77	5610	**4900**
@CN14C5000	11'4s	1'5	10'0	11'5	9'7	55	14240	**5000**
@CN14C5100	9'2s	1'3	8'2	9'3	8'2	7	2708	**5100**

Puts

Strike	Symbol	Price	Chg	Open	High	Low	Volume	Open Int
4100	@CN14P4100	5'0s	-0'4	5'3	5'3	5'1	43	3213
4200	@CN14P4200	7'0s	-0'5	7'4	7'4	7'1	43	4739
4300	@CN14P4300	9'4s	-0'7	10'6	10'6	9'5	270	4512
4400	@CN14P4400	12'5s	-1'2	13'5	14'2	12'6	751	5543
4500	@CN14P4500	16'4s	-1'5	18'0	18'4	16'6	514	9233
4600	@CN14P4600	21'2s	-1'7	22'4	23'4	21'3	222	1890
4700	@CN14P4700	26'5s	-2'2	---	---	---	15	2220
4800	@CN14P4800	32'6s	-2'4	---	---	---	0	1260
4900	@CN14P4900	39'3s	-2'6	---	---	---	4	437
5000	@CN14P5000	46'5s	-3'1	---	---	---	0	1887
5100	@CN14P5100	54'3s	-3'3	55'6	55'6	54'7	2	482

In the money At the money

Quotes generated on: Wed, Feb 19, 2014 4:32 PM CST

Print

INSURANCE

Substitution of a small but

certain loss (insurance premium)

for the possibility of a large

uncertain loss.

COMMODITY OPTIONS MARKET

Market in which producers may purchase the "opportunity" but not the "obligation" to sell or buy a ~~commodity~~ Futures at a certain price.

TWO MARKETS

- "INSURING" SELLING PRICE
- "INSURING" BUYING PRICE

Want right to sell corn for $3.00/bu.

Purchase right in options market by <u>paying premium</u>

If price when ready to sell is above $3.00
- sell for higher price

If price is below $3.00
- "collect on policy"

<u>CALL OPTION</u>

A contract that gives the holder the right to <u>buy</u> at a specified price

"To call from them"

PUT OPTION

A contract that gives the holder

the right to sell at a specified price

"To put it on them"

OPTION BUYER
(HOLDER)

THE PERSON WHO OBTAINS THE

RIGHTS CONVEYED BY THE OPTION

OPTION SELLER (GRANTOR OR WRITER)

THE PERSON WHO SELLS THE OPTION AND GRANTS THE RIGHTS CONTAINED IN IT

EXERCISE
OR
STRIKE PRICE

THE SPECIFIED PRICE AT WHICH THE OPTION PURCHASER MAY BUY OR SELL THE COMMODITY

THE UNDERLYING COMMODITY IS A <u>FUTURES CONTRACT</u>, NOT THE PHYSICAL COMMODITY

EXPIRATION DATE

THE DATE UPON WHICH THE RIGHTS OF THE OPTION PURCHASER EXPIRE

OPTION PREMIUM

THE MARKET VALUE
OF THE OPTION.

IN EFFECT, THE PRICE OF
THE "INSURANCE"

FACTORS AFFECTING PREMIUMS

- DIFFERENCE BETWEEN THE STRIKE PRICE OF THE OPTION AND THE PRICE OF THE UNDERLYING COMMODITY

- LENGTH OF TIME TO EXPIRATION

INTRINSIC VALUE

"POSITIVE" DIFFERENCE BETWEEN STRIKE PRICE AND UNDERLYING COMMODITY PRICE

FOR A PUT – STRIKE PRICE EXCEEDS FUTURES PRICE

FOR A CALL – STRIKE PRICE BELOW FUTURES PRICE

OPTIONS THAT ARE SAID TO BE:

"IN-THE-MONEY"

HAVE INTRINSIC VALUE

"OUT-OF-THE-MONEY"

HAVE NO INTRINSIC VALUE

TIME VALUE

PORTION OF OPTION PREMIUM RESULTING FROM LENGTH OF TIME TO EXPIRATION

- USUALLY TIME VALUE DECREASES WITH LENGTH OF TIME UNTIL EXPIRATION

OFFSET AN OPTION

TO SELL AN EXISTING OPTION CONTRACT IN ORDER TO LIQUIDATE THE OPTION POSITION

MONEY FLOWS

Holding a soybean $7.00 put purchase(

for a $0.15 premium

OFFSET

Current futures price is $6.50

Sell option at a $0.60 premium

RESULT

40

Offset premium received	$0.60
– Original premium paid	–0.15
Net returns	$0.45

EXERCISE AN OPTION

TO CONVERT AN OPTION CONTRACT TO

A POSITION IN THE FUTURES MARKET

MONEY FLOWS

Holding a soybean $7.00 put purchased for a $0.15 premium

EXERCISE

Current futures price is $6.50

Receive a short (sell) futures market position at $7.00

Buy futures at $6.50

RESULT

Futures gain	$0.50
− Original premium paid	−0.15
Net Returns	$0.35