

FORWARD PRICING HOGS:
A HEDGING EXERCISE

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*Adapted from: Chicago Mercantile Exchange, Forward Pricing Workshops - C.M.E.
Live Hog Futures, 1980-81 Farm Forums.

SITUATION: It is late November. The corn and soybeans are harvested. The wheat is planted. Farmer Bob's attention now turns to the pending cold weather and his hog operation. He plans to breed 85 sows between December 1 and 10.

FINANCIAL CONDITION: 800 acres of corn, soybeans, and wheat.

On farm storage for 40,000 bushels of corn, beans and wheat.

A five-year old farrow-to-finish hog confinement building. Suitable for 80 sows farrowing and 900 hogs on feed.

Debt: 70 percent equity in land, equipment, and buildings. \$50,000 land payment due September 1 next year. 35 percent of variable costs for raising hogs are borrowed. Payable at end of production period.

COST OF PRODUCTION:	Variable Costs:		
	Per Unit of Input	Per CWT of Pork Produced	
	Corn	\$2.65/bu.	\$16.22
	Soybean Meal	\$18/CWT	14.79
	Others	----	7.17
	Total		38.18
	Fixed Costs:		
	Total	----	\$ 7.00
	Total Costs:	----	\$45.18

OBJECTIVE: MAXIMIZE PROFITS Subject to STAYING IN BUSINESS

STRATEGY: Farmer Bob will have four opportunities to forward price his hogs by selling a futures contract. Futures may be sold before breeding, at farrowing, at weaning, and at 120 pounds. In addition, there will be three opportunities to sell for cash at the end of the production period.

ASSUMPTIONS:

- Expected litter size: 7.5 pigs
- Sows bred not farrowed: 3
- Loss per litter: 0.4 pigs
- Hogs will be sold at 220 pounds
- Hogs will be ready for market 9½ months from date boar is turned in.
- Sows not bred: 2
- Expected price of corn and soybean meal is realized

DECEMBER 2

MARKET INDICATORS:

- a. Demand is good. Packers are making profits. Inventories of frozen pork are low to medium in size. Farm-to-retail spread is wide.
- b. Cattle on feed in seven major states is running one percent above year earlier levels. Poultry supplies are two percent above year-ago level.
- c. September 1 hog report for 10 largest states suggests that December-February slaughter will be three percent above previous year. September-December farrowing intentions were four percent above last year. December-February farrowing intentions were five percent higher.
- d. Today's cash price in Ohio Direct Hog Market for 200-240 lbs. barrows and gilts is: \$46.25 - \$47.50

FUTURE QUOTES:

DEC. \$48.00
 FEB. 46.25
 APR. 44.75
 JUNE 42.09
 JULY 42.01
 AUG. 40.75
 OCT. 41.00
 DEC. 40.75

DECISION:

Futures _____
 - Basis _____
 = Localized Price _____
 Variable Costs _____
 Total Costs _____

Should I forward contract? _____
 Yes - No

If yes, how many contracts? _____

MARCH 30

MARKET INDICATORS:

- a. A severe cold wave sets in on December 5 and continues for most of the winter. Only 73 sows have pigs. Average litter size is 6.9.
- b. Demand continues fair to good. Stocks of frozen pork are a little larger than previous year's stocks. Demand is showing some resistance to price.
- c. Cattle on feed continue to run one percent above last year. Poultry supplies are now four percent above last year's levels.
- d. March 1 inventory report from ten largest pork states is only two percent above previous year's inventory. Increase of four percent had been expected as of last December's report. Decline due to cold weather. March-May farrowings are expected to be four percent larger than the previous year. June-August farrowing intentions are expected to be six percent larger than preceding year.
- e. Today's cash price in the Ohio Direct Hog Market for 200-240 lbs. barrows and gilts is: \$48.30 - \$49.50

FUTURES QUOTES:

APR. \$48.75
 JUNE 48.02
 JULY 47.75
 AUG. 46.00
 OCT. 42.75
 DEC. 42.07
 FEB. 40.13
 APR. 38.73

DECISION:

Futures _____
 - Basis _____
 = Localized Price _____
 Variable Costs _____
 Total Costs _____

Should I forward contract?

Yes - No

If yes, how many contracts? _____

MAY 14

- MARKET INDICATORS:
- a. Pigs are weaned at 45 pounds.
 - b. Stocks of frozen pork are continuing to build. Farm-to-retail spread has narrowed over that of the previous December.
 - c. Cattle on feed is now running even with previous year's supplies. Poultry production is up four percent over the previous year.
 - d. No new inventory report. Sow slaughter is running at 3.5 percent of total slaughter, indicating that sows are being saved back.
 - e. Today's Ohio Direct Hog Market cash price for 200-240 lbs. barrows and gilts is: \$45.50 - \$47.00

FUTURES QUOTES:

JUNE	\$48.80
JULY	48.80
AUG.	47.20
OCT.	46.00
DEC.	41.50
FEB.	39.73
APR.	38.42

DECISION:

Futures _____

- Basis _____

= Localized Price _____

Variable Costs _____

Total Costs _____

Should I forward contract? _____
 Yes - No

If yes, how many contracts? _____

JULY 15

MARKET INDICATORS:

- a. Stocks of frozen pork are now 20 percent larger than preceeding year's stocks. Farm-to-retail spread is 70 percent of year previous' spread.
- b. Cattle on feed is running even with year's earlier level. Poultry supplies are up by five percent.
- c. June pork report for U.S. contains some surprises. March-May farrowings were up only three percent. Smaller than normal litter size; probably due to cold weather. Result is that hogs less than 60 pounds are up only two percent instead of the four percent expected after the March report. June-August farrowings are still expected to be up six percent. September-November farrowing is expected to exceed previous year's farrowing by seven percent.
- d. Hot weather during late May and early June slowed rate of growth of hogs. Forecast is for a hot summer. Expected finish date is now the first week in October.
- e. Today's cash price for Ohio Direct Hog Market, 200-240 lbs. barrows and gilts: \$44.00 - \$45.20

FUTURES QUOTES:

JULY	\$45.00
AUG.	44.85
OCT.	41.30
DEC.	39.85
FEB.	38.00
APR.	37.82
JUNE	36.90

DECISIONS:

Futures _____

- Basis _____

= Localized Price _____

Variable Costs _____

Total Costs _____

Should I forward contract? _____
Yes - No

If yes, how many contracts? _____

CASH SALE OPPORTUNITY II

OCTOBER 4

MARKET INDICATORS: Cash Market Price, Ohio Direct Market \$40.05

October Futures \$40.58

DECISION: Should I sell hogs? _____

Yes - No

If yes, how many contracts? _____

CASH SALE OPPORTUNITY III

OCTOBER 6

MARKET INDICATORS: Cash Market Price, Ohio Direct Market \$40.80

October Futures \$40.80

DECISION: SELL any remaining contracts. _____

SUMMARY OF TRANSACTIONS

IF YOU FORWARD PRICED, YOU RECEIVED:

Date of Cash Sale	Price Futures Contract Sold (per CWT)	—	Price Futures Contract Bought Back (per CWT)	+	Cash Price (per CWT)	=	_____
_____	_____	—	_____	+	_____	=	_____
_____	_____	—	_____	+	_____	=	_____
_____	_____	—	_____	+	_____	=	_____
_____	_____	—	_____	+	_____	=	_____

CASH SALES ONLY:

Date of Cash Sale	Cash Price (per CWT)
_____	_____
_____	_____
_____	_____
_____	_____

AVERAGE RETURN (per CWT):

(_____ + _____ + _____ + _____) / 4 = _____

PROFIT (LOSS):

Average Return (per CWT)	_____
Variable Costs (per CWT)	_____
Fixed Costs (per CWT)	_____
RETURN TO VARIABLE COSTS	_____
RETURN TO FIXED COSTS	_____