Hedgeable Returns for Pork Producers

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Summary and Implications

Pork producers were only able to hedge a price with futures that is greater than the expected breakeven price approximately 60% of the days during the 6 months prior to slaughter during 1999–2000. However, some months offer hedges greater than breakeven more than 80% of the time. Since 1995 the hog market has become much more volatile and hedging opportunities less certain. Therefore, the need for a good risk management plan is more apparent.

Producers can use the results of this study to evaluate hedging opportunities. The information provides an estimate of the percentage of time that futures prices are expected to offer greater returns than the current quote. For example, if futures prices currently offer a return of breakeven of +$6, there is little likelihood that prices will improve in most months.

In some years, such as in 1998 and 1999, producers may need to focus on protecting a reasonable loss, rather than pursuing a profit. Although using futures markets does not guarantee a profit, they can, if used properly, offer an opportunity to lock in acceptable returns and reduce much of the price risk that producers face.

Introduction

In recent years, the hog market has redefined the parameters of risk and the need for risk management. Prior to the fourth quarter of 1998, a month of prices at $28 in 1994 was considered disastrous. Prior to 1998, low prices still covered feed bills and most of the direct cost of production. Prior to 1998, operations would generally cash flow without attention to marketing and price risk management. That thinking has changed for both producers and their lenders as they turn more attention to managing price risk. This analysis is designed to show whether it was possible to implement a futures hedging program that could hedge hogs at a breakeven or higher price. The results help producers evaluate market opportunities and better understand hedging programs to reduce price risk.

Materials and Methods

A hypothetical producer was modeled and was assumed to market hogs every month on or near the 15th. The Iowa State University Estimated Livestock Returns (ELR) for farrow to finish enterprises was used as a proxy for cost of production. The previous 5-year average basis was then subtracted from the cost on the ELR series. The resulting value was the futures price needed to hedge a breakeven price for that group of hogs. The price that was obtained was then compared with the futures closes on each day for the 6 months prior to slaughter. The cost, basis, prices, and returns were all adjusted to live hog values

Results and Discussion

Table 1 shows the percentage of trading days during the 6 months prior to slaughter that a breakeven or better price could be hedged. These results show that throughout the 11-year test period, the summer months (June, July, and August) offered excellent hedging opportunities. These months typically have a strong basis and are the most profitable in the cash market as well. Conversely, early winter and spring usually have a weak basis and are often

Table 1. Percentage of trading days during 6–month feeding period that breakeven or better could be hedged for hogs, 1990–2000 (%).

	Month Sold											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1990	95	95	86	100	100	100	100	100	87	100	100	100
1991	100	100	100	100	100	100	100	99	47	87	100	95
1992	9	77	19	5	59	96	100	100	100	81	39	66
1993	0	0	17	23	60	100	99	100	100	87	61	86
1994	71	96	89	90	99	98	100	98	80	48	13	6
1995	0	0	0	0	24	68	91	94	59	47	0	76
1996	17	46	9	9	27	52	58	44	32	48	44	90
1997	100	100	100	96	100	100	100	100	100	100	53	53
1998	28	0	1	0	0	30	31	27	0	0	0	0
1999	0	0	0	0	4	17	78	74	55	38	1	0
2000	9	48	64	93	100	100	100	100				
Avg.	**39**	**51**	**44**	**47**	**61**	**78**	**87**	**85**	**66**	**64**	**41**	**57**

unprofitable without futures. Some years provided excellent opportunities for hedging at a breakeven price (1990, 1991, 1994, and 1997), whereas 1998, in particular, offered very few chances to hedge at a breakeven price.

Table 2 shows the percentage of days during the previous six months where a breakeven price +/- $X/cwt could be hedged. For example, a breakeven price minus $6/cwt could be hedged 79% of the days in January. Reading down the column shows that, as the percentage of time a return is achieved declines, the level of return increases. Producers selling in January could hedge $10/cwt over breakeven 3% of the time, but $12/cwt was not possible. The average column shows the percentage of time over the 11-year period that each return level could be hedged. Producers could hedge at a breakeven level 60% of the days over the entire test period. However, there was only a 22% chance to hedge at breakeven plus $6. During the months of June, July, and August, there are excellent opportunities to hedge as high as $8–10 above the breakeven cost.

Table 2. Percentage of trading days during 6–month feeding period that breakeven +$X/cwt could be hedged for hogs, 1990–2000 (%).

BE +	Month Sold												
$/cwt.	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Avg.
($6)	79	87	89	84	96	99	99	99	94	92	83	81	**90**
($4)	67	80	77	66	89	96	98	95	90	87	71	78	**83**
($2)	58	69	59	55	77	91	95	93	83	79	57	66	**74**
$0	39	51	44	47	61	78	87	85	66	64	41	57	**60**
$2	27	33	30	36	49	60	74	65	43	38	33	33	**43**
$4	20	25	19	22	40	52	59	53	27	26	15	18	**31**
$6	13	20	7	13	28	44	48	42	12	16	12	12	**22**
$8	8	8	2	7	23	31	39	31	5	9	10	10	**15**
$10	3	2	1	5	18	21	28	21	1	3	7	7	**10**
$12	0	0	0	1	15	15	16	10	0	1	3	3	**5**