KY

252

Staff Papers

DEPARTMENT OF
AGRICULTURAL ECONOMICS

University of Kentucky • College of Agriculture
Lexington 40546

AAEA paper presented at its annual meetings,
Knoxville, TN, July 29-Aug 3, 1988

Staff Paper 252 July 1988

SWINE PRICES IN A CHANGING ENVIRONMENT

A. Lee Meyer

SWINE PRICES IN A CHANGING ENVIRONMENT

A. Lee Meyer
Associate Extension Professor

This is a particularly interesting time to be predicting prices. This hog production cycle has followed a somewhat normal pattern (compared to cycles of the recent past). Though the expansion reaction to profits was slower than normal, it finally did arrive. The June Hogs and Pigs report indicated that the inventory was up 8%. Pork production for the first six months has been almost 8% higher than last year.

This has been almost the only normal factor in the current situation. Feed costs have jumped, and then fallen back. The pork industry is doing its best at promotion with check-off funds. The beef industry cannot decide if it should expand. And of course, there are structural changes at the production and meat packing levels.

Producers were acting in economically rational (and predictable patterns) when the "drought of 1988" struck and feed costs (and availability in some locations) rose. The bottom line

---

Paper presented at the Extension Outlook Session, annual meeting of the American Agricultural Economics Association, Knoxville, Tennessee, July 31-Aug 2, 1988.

for 1989 production levels may be decision-makers' expectations.

CURRENT SITUATION

Given the above discussion of the changing environment as background, I will move into a more traditional analysis. Table 1 shows the data from the June USDA Hogs and Pigs report.

TABLE 1. SWINE INVENTORY (10 States)

June 1 Inventory	1986	1987	1988	% Change from: 1986	1987
All Hogs and Pigs	38025	40880	44040	+16	+08
Kept for Breeding	4870	5325	5625	+16	+06
Market	33155	35555	38415	+16	+08
By Weight Groups:					
Under 60 pounds	13845	15385	16385	+18	+06
60-119 pounds	8315	8750	9510	+14	+09
120-179 pounds	6190	6435	7010	+13	+09
180 pounds and up	4805	4985	5510	+15	+11
Sows Farrowing:					
Dec.* - Feb.	1863	1916	2103	+13	+10
March - May	2171	2352	2552	+18	+09
June - Aug.	2074	2257	2393**	+15	+06
Sept. - Nov.	2115	2259	2401**	+14	+06

* December previous year.
** Intentions

Source: Hogs and Pigs Report, Ag. Statistics Board, USDA, June 30, 1988.

The inventory figures present the status of the industry this past spring. Back then, the industry was in rapid expansion. Since then hog prices have declined, feed costs have escalated and as a result profits have dropped. It seems apparent that the expansion of hog production will be cut short. However, that conventional wisdom may be self-defeating. If it is believed, production will continue at its current high level and prices will decline.

Pork production will continue at higher levels as the hogs in the various weight categories are taken to market. Slaughter levels during June were up 13% from the June, 1987 level. Apparently, producers were hurrying hogs to market since inventory levels in the higher weight groups were only up 10%. However, a part of this higher slaughter level is composed on higher sow slaughter. Sow slaughter was up 16% (4.6 % of total hog slaughter).

In spite of the high level of profitability, this expansion began slowly. (Unexpectedly slowly for some forecasters!) Many reasons were cited for the cautious attitudes of producers. For example, reduced availability of capital and a more concentrated industry structure are suggested in the May **Livestock Situation and Outlook.** During the second quarter, the rate of expansion increased. Inventory levels reported for March 1 were up 6 percent compared to the 8 percent increase as of June 1. Of even more significance was the revision in producers' farrowing plans. Farrowing **intentions** for the 1988, March - May quarter were 2 percent over the 1987 level. Actual farrowings for that quarter were up 9 percent. Similarly, first intentions for the June - July quarter were up 2 percent. In the June report, second intentions for the same period were at 6%. Given the current situation, it is unlikely that 6% more sows will actually be farrowed. However, the upward revisions are a good indicator of producers attitudes at the time of the report.

THE DEMAND SIDE

On the demand side, the environment is also changing. Four years ago Wayne Purcell described a demand situation for pork as stable in terms of structural changes (a position supported by Chavas' research). In this environment, pork prices were influenced by beef-pork and poultry-pork price ratios.

Factors intended to influence this situation are the check-off funded promotion campaigns of the cattle and hog industries ("Real Food for Real People" and "the Other White Meat"). Evidence cited by both groups asserts program effectiveness. However, both programs have been initiated during favorable periods when livestock prices were climbing. As a result, it appears difficult to separate the impacts of the programs from changing slaughter levels. Recent months probably set up the first real test of these programs.

Perhaps the most important factor on the demand side is the overall meat situation. Year-to-date (to mid-July) meat production totals indicate that beef supplies are up fractionally (even though slaughter is down about 2 percent) and pork supplies are up about 10 percent. First quarter poultry production was up about 10%. However, poultry production is slowing and poultry will add less to the total meat supply during the second half of the year. Per capita meat supplies were up about 4% during the first half and are likely to be up about 3 percent for the year.

For 1989, poultry supplies are likely to be near the 1988 level. The industry is already slowing production. Higher feed costs are likely to accelerate this trend. However, if past history is a guide, the chicken and turkey industries are likely to boost production another 2% in spite of an apparent drop in profitability.

Given the stage of the cattle cycle, it is almost impossible that beef supplies will increase next year. The most likely situation is for a drop in beef supplies in the 3 to 6 percent range.

As consumer incomes are likely to continue at modest growth rates, they are unlikely to have much influence. Other factors which could be important, but about which not much is understood, is the HRI demand for pork and use of pork in processing. As pork prices decline relative to poultry, processors are likely to increase proportions of pork in some products.

PRODUCTION FORECASTS

The bottom line for most hog producers is likely to be a "wait and see" position. The Missouri Extension swine survey shows slow construction of swine facilities and moderate remodeling (between "slow" and "active"). Producers are unlikely to abandon these plans immediately. In fact, some of the factors which delayed the beginning of this expansion in production may keep it going.

Perhaps the best insight into the current situation comes from a comparison with the 1982 - 84 situation. Hog production was very profitable in 1982. Producers responded by increasing production. Pork production increased by 14% in the last half of 1983 over 1982. In addition to the profitability-production response similarity, 1983 was also a drought year. Profits in the second half of 1983 were hurt by both higher feed costs and lower hog prices.

Table 2. shows production and price data for 1983 into 1988. The drop in profitability resulted in declining production about two quarters later. A large number of sows were sent to market. For the first half of 1984, declining farrowing levels led the way to lower inventory levels. For example, during the December '83 to March '84 quarter, farrowings dropped 9%. The March '84 inventory level was 5% lower than the 1983 level. It wasn't until 1985 that inventory levels stabilized.

The production response from the current situation is likely to be similar. Pork production is unlikely to decline until early 1989. Farrowings during the second quarter were up 9%. Even moderate liquidation will push production up 10 to 12 percent from last year. Fourth quarter pork production, coming off the summer pig crop, should be up 6 to 10 percent.

TABLE 2. QUARTERLY HOG PRODUCTION AND PRICE LEVELS

quarter		Barrow & Gilt Slaughter (1,000 hd)	Percent of Prev. Quarter	Sow Slaughter (1,000 hd)	Sow Sltr. as % of B & G	Market Hog Prices (7 mkt avg)
1983	I	19141	94%	852	4.45%	$55.00
	II	20267	105%	1053	5.20%	$46.74
	III	19648	113%	1450	7.38%	$46.90
	IV	22808	116%	1291	5.66%	$42.18
1984	I	20548	107%	1024	4.98%	$47.68
	II	19885	98%	989	4.97%	$48.91
	III	18072	92%	1184	6.55%	$51.21
	IV	21310	93%	1197	5.62%	$47.65
1985	I	19728	96%	928	4.70%	$47.32
	II	20166	101%	947	4.70%	$43.09
	III	19262	107%	1075	5.58%	$43.62
	IV	20423	96%	1065	5.21%	$45.05
1986	I	19272	98%	920	4.77%	$43.30
	II	19224	95%	896	4.66%	$46.92
	III	17365	90%	999	5.75%	$60.00
	IV	19223	94%	927	4.82%	$54.52
1987	I	19008	99%	762	4.01%	$48.28
	II	17877	93%	846	4.73%	$56.18
	III	18201	105%	1009	5.54%	$59.37
	IV	21776	113%	888	4.08%	$43.51
1988	I	20293	107%	854	4.21%	$44.74
	II	19952	112%	918	4.60%	$46.33

Farrowing intentions for the last half of 1988 are up 6%. Past history suggests that this figure will be revised downward. Actual farrowings for the June to August quarter are likely to be up 3 to 5 percent while September to November farrowings are likely to be up 1 to 4 percent. Farrowings at these levels will keep pork production up slightly into the second quarter of 1989.

TABLE 3. PRODUCTION AND PRICE FORECASTS

quarter		Slaughter (% change)	Market Hog Prices (7 Market Avg.)
1988	III	up 10-12%	$44 - $47
	IV	up 6-10%	$41 - $45
1989	I	-2 to +2%	$40 - $45
	II	-5 to +1%	$42 - $48
	III	-7 to -2%	$43 - $50
	IV	-8 to -2%	$40 - $46

PRICE FORECASTS

Large amounts of pork will be sent to market into the middle of next year. That will obviously put downward pressure on prices. However stronger demand (especially in 1989) will be an offsetting factor. The result is likely to be a pattern of prices averaging in middle $40's for the next year. Specific quarterly forecasts are shown in Table 3.