Impacts on Iowa of the Changing Structure of the Pork Industry

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Impacts on Iowa of the Changing Structure of the Pork Industry

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The December 1 USDA Hogs and Pigs report, released December 29, signaled a return to profitability in Iowa's hog industry, but also had rather serious implications for Iowa's hog industry over the long run. In one year alone, Iowa lost 18 percent of its breeding herd as some operations moved to strictly finishing, and many left the industry altogether. This meant that Iowa's total national market hog share dropped from 26.2 percent in 1993 to 24 percent in 1994. The decline has important economic implications as the value added in the pork industry is linked to many economic sectors of Iowa's rural economy, from crop production to packer employment.

<table>
<thead>
<tr>
<th>State</th>
<th>Breeding Herd</th>
<th>Market Hogs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Head 1,000</td>
<td>% Chg Dec-93</td>
</tr>
<tr>
<td>Iowa</td>
<td>1,400</td>
<td>-17.6</td>
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<tr>
<td>N. Carolina</td>
<td>780</td>
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<tr>
<td>Illinois</td>
<td>620</td>
<td>-9.5</td>
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<tr>
<td>Minnesota</td>
<td>550</td>
<td>-6.7</td>
</tr>
<tr>
<td>Indiana</td>
<td>525</td>
<td>1.9</td>
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<tr>
<td>Nebraska</td>
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</tr>
<tr>
<td>Missouri</td>
<td>455</td>
<td>4.5</td>
</tr>
<tr>
<td>U.S.</td>
<td>6,956</td>
<td>-2.9</td>
</tr>
</tbody>
</table>

Breeding Herd

The U.S. breeding herd numbered 6.96 million head, down 2.9 percent from one year ago. The largest decrease came from the Iowa breeding herd with a decrease of 18 percent to 1.4 million head. However, the September 1, 1994 report showed Iowa with an (Continued, page 9)
Strength in world pork and poultry markets enhances domestic and export demand for U.S. feed grains/meals. CCC outlays for commodity programs also stabilize through 1998, then decrease with a stronger market situation. Net farm income stabilizes around current levels ($41-42 billion) through 1998, then increases.

In general, the baseline results exhibited tighter markets than were earlier expected with a somewhat positive outlook for Iowa's primary commodities of corn, soybeans, and pork. Tighter markets, however, imply added volatility in prices as buffer stocks remain relatively low over the projection period. Thus, both positive and negative deviations in crop production are expected to have an inordinate impact on market prices.

The projections demonstrate a continuation of recent trends toward greater market orientation and less government support. This has implications for farm bill analysis as the attractiveness of alternative policies depends on what is expected to result from a continuation of the status quo.

**CARD/FAPRI Analysis**

**Impacts on Iowa of the Changing Structure of the Pork Industry**

*Continued from page 1.*

Inventory level the same as December 1, 1993. The bulk of the 300,000 head decline occurred over the last quarter alone. That's a 3,296 head decrease per day, every day over the quarter.

The loss of breeding herd in Iowa was greater than the net loss in breeding herd for the United States, indicating that in states other than Iowa, the breeding herd actually rose. This translates into a decrease in Iowa's share of the breeding herd from 23.7 percent of the U.S. breeding herd a year ago to 20.1 percent this December 1.

**Market Hog Share**

U.S. market hogs showed a 3.8 percent increase from a year ago to reach 52.7 million head on hand December 1. Iowa's share of market hog production fell from 26.2 percent of the U.S. market herd a year ago to 24 percent this December 1.

The weight breakouts for the United States show most of the change from a year ago occurring in the over-120 lbs categories, while lesser increases occurred in the under-120 lbs categories. In Iowa, the under-120-lbs category showed losses in market hog numbers. The biggest change occurred in the under-60 lbs category, with a decrease of 12 percent to 4.4 million head.

The reduction in the under-60 lbs category in Iowa, with growth in the rest of the country, may indicate that, if the trend continues, Iowa may fall further in its
share of market hogs. The numbers indicate a combination of a move to feeding-only operations, and to a greater extent, producers exiting the industry.

From 1992 to 1993, finishing-only operations were the only type of operation in Iowa to show an increase in numbers and also showed the smallest percent decline in the latest liquidation phase. Some, but not all, of the change may be due to the change of operations to finishing feeder pigs in Iowa. Many feeder pigs are entering Iowa to be finished with relatively cheap corn and hog prices that are the highest in the country due to excess packer capacity. Though this is a better situation than if Iowa were losing the market hogs altogether, it would still impact Iowa in its loss of the value-added process of farrowing.

Value Added

The pork production industry has been a significant outlet for the feed grains raised in Iowa. Though much of the corn and supplement usage occurs in the finishing of the animal, farrowing requires greater skill and capital investment. This value-added loss is significant in that farrowing uses more highly skilled labor and pays a higher return than does finishing.

The movement in Iowa towards finishing feeder pigs would eliminate the need for gestation and farrowing facilities for some producers, which would have a large impact on local agribusiness firms currently supplying the inputs for that portion of the operation.

The production of feeder pigs accounts for upwards of 70 percent of a farrow-to-finish operation’s nonfeed variable costs and 60 percent of fixed costs. Although these numbers vary from operation to operation, they clearly show that the loss of the farrowing portion of pork production greatly impacts the inputs required, which in turn impacts the local community.

Market Hog Supplies and Price Dynamics

Supplies and prices in the first quarter are forecast to be 6 to 7 percent above the same period in 1994. The weight breakdowns suggest that the month of January will be the peak of supplies for the quarter. Supplies will tighten towards the end of the quarter. Prices are forecast to average $37 to $39 for the quarter, approaching the break-even price for the average producer.

Supplies in the second quarter will depend on the fourth quarter’s farrowings which were down 1 percent from one year ago. Despite these numbers, pork supplies are expected to increase slightly from a year ago due to increased pigs per litter and heavier slaughter weights. The bullish December 1 report may encourage producers to hold back gilts, decreasing slaughter supplies in the first quarter, and increasing supplies of market hogs in the fourth quarter.

Second quarter prices are expected to average $42 to $44 for the quarter, with stronger prices occurring towards the end of the quarter. Prices in the third and fourth quarters depend on farrowings in the first and second quarters of 1995. Current intentions show a 2 percent decline from a year ago for the first quarter and a 6 percent decline from a year ago for the second quarter. Third quarter prices could average in the mid-$40s. Fourth quarter prices are anticipated to be well above the previous year’s quarterly average of $30. If producers follow through with stated farrowing intentions in the first quarter of this year, prices could average above $40 in the fourth quarter.

Again, the holding back of gilts due to the bullish report may trigger more farrowing, thus pressing prices below $40. This could trigger another period of unprofitable hog prices. Each time this occurs it will drive the high cost producers out. Larger producers are cost competitive producers with a great deal of capital investment in their operations and they cannot enter and exit production easily. These periods of price depression serve to accelerate the structural changes occurring.

Changing Structure

The December report showed continued structural change in the industry as the number of operations in the United States fell by 16,430 farms from one year ago, a 7.3 percent drop to 208,780 operations. In Iowa, the number of operations fell as well, but at a rate above the national decline, falling 12.2 percent, or by 4,000 operations, to 29,000. The decline in operations was not constant across size, however.

The average inventory increased from 257 to 286 in the United States and from 455 to 490 in Iowa. This shows that the average size of the Iowa farm is greater than that of the average United States farm. The average inventory of all farms does not tell the whole story, however. The inventory ranges that are used to define farm size include all hogs, not just sows.

Annual marketings are approximately double the inventory number.
The bulk of Iowa's operations are between 100 and 499 head of hogs. This is also the group that showed the largest decline in numbers over the past year, dropping from 15,000 to 12,300 farms. The 1-99 group lost 1,000 farms and the 500-999 group declined by 500 farms. The two largest groups each increased by 100 farms.

The structural changes in operation size continued throughout the last year. The percent of U.S. operations with over-1000 head total inventory increased from 5.4 percent of operations in December of 1993 to 6.1 percent of operations in 1994.

Iowa has a greater share of its producers in the 1000 head-and-over total inventory category and they showed gains in share of operations, moving from 10.6 percent of operations a year ago to 12.8 percent. In particular, the producers with total inventories from 100 to 499 head, the most numerous category of producers in Iowa, declined by 18 percent.

The share of inventory for the over-1000 head category shows the effects of increasing operation size. This category has seen its share of inventory in Iowa grow from 33.8 percent in 1989 to 47 percent in 1994. While Iowa saw its percent of inventory in the over-1000 head inventory operations grow, it still lags behind the United States, which saw the share of inventory in those operations grow from 39.3 to 55 percent over the same period. As mentioned, Iowa's share of operations in the over-1000 head category is above the national rate, but the percent of inventory is below the national rate. That is because the average inventory of farms with over 1000 inventory in Iowa is 1804 head total inventory, the lowest in the Midwest, which averages 2416 head on these operations. The national average is 2572.

Iowa is at greater risk than some regions because it has a larger number of hogs produced in operations which are slow to adopt new technologies and improve management practices.

Figure 11. Share of Inventory by Operation Size for the United States, in 1989

Figure 12. Share of Inventory by Operation Size for the United States, in 1994

The numbers suggest that the many large-scale operations that are signaling the restructuring of the industry are expanding outside Iowa. North Carolina, the site of many “mega-producers,” has an average of 5624 head for over-1000 head inventory operations.

Research suggests that the larger operations adopt technologies more rapidly. They are more likely to keep cost-of-production records, gain a lean premium, and use price-risk management tools and scales to sort hogs and weigh feed. The producers who adopt these and other technologies do so in order to improve efficiency and to receive a competitive price. Those who are unable or unwilling to change their technologies and production practices may find themselves as the higher-cost producers and at greater price risk. Iowa is at greater risk than some regions because it has a larger number of hogs produced in operations which are slow to adopt new technologies and improve management practices.

producer would then have to travel further to bring hogs to market, increasing his cost per animal. The impact would go beyond the farm level as the closing of packing facilities would result in a loss of jobs associated with those operations which would impact the local communities and supporting businesses such as transportation of animals and products.

**Changes Elsewhere**

The short-term effect of changes in the last quarter was an improvement in price, while long-term changes are harder to determine. History offers little information on the future as it will show little resemblance to the industry that is emerging. The consolidation of hog production into smaller and smaller numbers of operations will continue at least in the short run eventually reaching a stabilized level in the long run.

While Iowa producers sharply decreased their breeding herd, other states around the United States continued to grow. North Carolina, the second largest pork producing state, increased its breeding herd 25 percent from the December 1993 report. It added 10,000 breeding animals since September while Iowa dropped 300,000. Indiana, Missouri, Ohio, and Georgia were other top ten states reporting increases in the breeding herd over the last year. Other states reporting large year-to-year increases in the breeding herd include: Oklahoma +50,000, Colorado +35,000, Utah +9,000, Mississippi +8,000, and Texas and Tennessee, both up +5,000. Much of the growth in these states occurred in large production units in coordinated systems. The traditional Hog Belt states continue to lose market share.

The new large-scale production operations are the symbol of the structural change occurring in the pork industry. Those operations seem to be bypassing Iowa to set up operations in other Corn Belt states and outside the region. It is important to know what factors separate Iowa from other pork producing states. That may help determine whether the current situation is a short-term setback, or if Iowa is truly at risk of losing its share of the U.S. pork industry.

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**Packer Capacity**

In the fourth quarter of 1994, packers expanded operations to handle the high volume of hogs coming to slaughter. These short-term adjustments included longer shifts and Saturday and Sunday slaughter. With the large volume, packers had few worries about having adequate supplies to run at capacity. Short-run peaks in packer supplies can be met with expanded shifts, as long as supplies continue to be plentiful. Under expanded shifts, fixed costs will remain essentially unchanged. However, the 18 percent decline in Iowa's breeding herd will decrease the supply of locally produced hogs, pushing the percentage of in-shipments above the 20 percent rate that has occurred in the last few years. This will force the packers to bid more aggressively for supplies. The tighter profit margins may block reinvestment in the facilities. Packers may choose to close a facility if the long-term prospect is for smaller supplies of locally produced hogs.

If a number of packing facilities in the state were to close, it is likely to result in a decrease in the price of Iowa hogs relative to the rest of the country as the excess slaughter capacity would disappear. The

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**Figure 13. Share of Inventory by Operation Size for Iowa, in 1989**

- 1000+: 33.8%
- <500: 36.6%
- 500 to 999: 29.6%

**Figure 14. Share of Inventory by Operation Size for Iowa, in 1994**

- 1000+: 47.0%
- <500: 24.5%
- 500 to 999: 28.5%