

The U.S. Pork Industry Structure: A 1997 Snapshot

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Summary and Implications

The U.S. pork production sector is consolidating at an accelerating rate. In 1997, 145 firms marketing 50,000 hogs or more a year marketed 37% of U.S. hogs. This rate is up from 17% in 1994 and 7% in 1988. Most of this gain came at the expense of farms marketing fewer than 1,000 hogs a year. This segment of the industry, which has exited during previous times of poor returns, now represents only 5% of U.S. production. Liquidation of the breeding herd may be slower to occur in the future, as less significant, inefficient enterprises will be displaced. The growth plans of producers and their reported stay-in price suggest that consolidation will continue into the future.

Introduction

The pork production sector is undergoing a significant, perhaps unprecedented change in its size and ownership structure. Furthermore, the marketing linkages of pork producers with meat packers are changing dramatically. These changes can have profound effects on industry performance and the appropriate strategies for virtually all the players in or associated with the pork industry, such as feed companies, breeding stock and animal health suppliers, producers, processors, pork merchandisers, etc.

Materials and Methods

A survey of over 8,300 U.S. pork producers provides a quantitative snapshot of their economic structure in 1997, and probably changes in the size, ownership structure, and long-term contractual marketing linkages of pork production enterprises. The mailing list of *Pork* magazine was used to identify producers and categorize them by annual marketings. Two separate but nearly identical surveys were used to collect information from producers in February–May 1998. Approximately 145 operations marketing 50,000 or more hogs a year were contacted by telephone. If they confirmed that they marketed over 50,000 hogs annually, they were faxed a survey and returned it by fax. All 18 operations marketing 500,000 hogs a year or more participated in the study, as did 88 of the 127 operations marketing between 50,000 and 499,999 head annually. A random sample of operations marketing between 1,000 and 50,000 hogs annually by size category was mailed a survey and asked to complete it and return it in a self-addressed, stamped envelope. Approximately 25% of the mail surveys were returned. Employees and contract growers were excluded from the analysis to eliminate duplication.

Results and Discussion

Consolidation of the pork industry is continuing; however, the changes are occurring primarily in the largest and smallest groups of producers. The largest operations are gaining the greatest market share and the very smallest are showing the greatest loss. In 1997, 145 firms marketing 50,000 hogs or more a year marketed approximately 33.1 million head (37% of U.S. production) of hogs in 1997 (Table 1). This figure compares with 16 million head from 66 firms in that size class in 1994, the last such study completed (1). This is a dramatic increase in only 3 years. Another 51.7 million hogs (56%) were marketed by an estimated 23,400 operations selling 1,000–49,999 head a year. The remaining 5% of the U.S. hogs were marketed by approximately 80,000 farms selling fewer than 1,000 hogs annually.

Table 1. Estimated number of operations and share of U.S. slaughter 1997, by size category.

Annual Marketings 1000 Head	Number of Operations	Market Share (%)
<1	80,000	5.4
1–2	11,708	12.1
2–3	4,996	9.7
3–5	3,438	9.9
5–10	1,978	9.9
10–50	1,318	16.2
50–500	127	13.1
500+	18	23.8

Total production by medium and large producers in 1994 was 96.3 million head, 6.5 million more than in 1997 (Table 2). Collectively, operations marketing fewer than 50,000 head produced 26.5 million fewer hogs in 1997 than they did in 1994, a 33% decline. Combining USDA figures and our survey results, we estimate that farms marketing fewer than 1,000 hogs produced 11.7 million fewer hogs in 1997 than in 1994, a 70% decline. This decline in production was partially offset by increases in the two largest size classes. The 50–500,000 class more than doubled in the number of operations and increased production 79%. The 500,000+ class doubled in number of operations from 9 to 18 and more than doubled production, a 144% increase in 3 years.

Table 2. Number of operations and marketings by size, 1994 and 1997.

Size class	1994	1997	1994	1997	Change
1,000 hd	Firms	Firms	Marketings	Marketings	Million hd
1-2	15,201	11,708	19.9	10.0	-9.9
2-3	6,192	4,996	13.7	7.9	-4.6
3-5	3,806	3,438	13.5	9.1	-4.4
5-10	2,209	1,978	14.5	9.3	-5.2
10-50	1,062	1,318	16.8	15.6	-1.2
50-500	57	127	7.8	14.0	+6.2
500+	9	18	9.8	24.0	+14.2
Total	28,536	23,583	96.3	89.8	-6.5

The trend to fewer and larger operations has accelerated in recent years (Table 3). Over the last 10 years the share of hogs produced by very large firms marketing 50,000 head or more has increased from 7% in 1988 to 37% in 1997. This gain has offset a decline in production from operations marketing fewer than 1,000 head; their share dropped from 32 to 5% over the same period. Since 1994, the 10-50,000 head group has gained market share at the expense of the 1-2,000 head category. The 2,000 to 9,999 head classes have maintained a relatively stable share of the industry over the last decade. The decline in the fewer than 1,000 head category is consistent with an earlier study that found that 90% of Iowa farmers who quit raising hogs between 1992-1997 sold fewer than 1,000 head a year (2).

Table 3. U.S. hogs produced by size of operation, 1988-1997 (%).

1,000 Head	1988	1991	1994	1997
<1	32	23	17	5
1-2	19	20	17	12
2-3	11	13	12	10
3-5	10	12	12	10
5-10	9	10	12	10
10-50	12	13	13	16
50+	7	9	17	37

The structural shift to larger operations is expected to continue. In the survey, producers were asked how many hogs they planned to produce in 1998 and 2000. All size categories indicated that they planned to grow in the coming years, with a total growth of 15% in 1998 and 36% by the end of the year 2000 (Table 4). Although the small size categories (under 5,000 head) planned 6-14% growth between 1997 and 1998, they did not plan additional growth in 1999 and 2000. In contrast, the larger size categories (over 5,000 head) indicated plans for 15-20% growth in 1998, with growth continuing into 1999 and 2000. If the plans are carried through, hog production in the year 2000 would be 122 million head. The obvious problem is that these growth plans will result in larger pork supplies and lower prices. Note that this survey was completed after hog prices dropped into the mid-\$30s for a short period of time and cyclical expansion of sow herds and market hog supplies had been forecast.

Table 4. Planned growth by size group compared with 1997 (%).

Size class	1998	2000
1,000 hd		
1-2	12	10
2-3	6	6
3-5	14	15
5-10	15	25
10-50	20	39
50+	16	64
Total	15	36

Producers were asked to identify their minimum "stay-in" price, defined as the hog price they would need to stay in business for the next 3-5 years if the central Iowa corn price was \$2.50 per bushel. Their responses probably reflect their variable cost of production and their perceived opportunity cost for resources used in pork production. It was interesting to see that a larger share of smaller producers would be willing to stay in hog production if hog prices were in the \$34-36 range compared with larger producers (Table 5). A very high 89% of the production in the 500,000+-size category, however, would remain with prices up to \$42 compared with only 66% for the smaller operations. Of the medium-sized producers, 36% indicated that they cannot or will not continue producing if prices are in the \$46-48 range, comparable to the average prices of the last decade (\$47.29 in Iowa and southern Minnesota). On average, each size category planned to increase production, but not all producers will continue in the hog business.

Table 5. Hog prices needed to sustain the hog production business until the year 2002 (%).

Size class	Marketings by Size Group and Hog Price						Quit
	\$34-36	\$37-39	\$40-42	\$43-45	\$46-48	\$48+	
1,000 hd							
1-2	16.6	25.4	24.1	19.3	8.5	5.0	1.1
2-3	13.0	24.3	30.8	22.8	4.8	4.3	0.0
3-5	12.7	25.8	28.9	15.4	14.3	1.6	1.4
5-10	10.2	27.4	34.3	19.3	6.1	1.9	0.8
10-50	9.6	23.5	29.0	25.0	9.5	1.4	1.9
50-500	6.0	15.0	40.0	35.0	5.0	0.0	0.0
500+	9.0	42.0	38.0	9.0	2.0	0.0	0.0

Central Iowa corn price at \$2.50 per bushel.

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