Structure, Management, and Performance Characteristics of Specialized Dairy Farm Businesses in the United States. By Sara D. Short. Resource Economics Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Handbook Number 720.

Abstract

The U.S. dairy industry faces a changing government policy environment in the year 2000. Milk producers are struggling, and will continue to struggle, to adjust to markets that are more dependent on the forces of supply and demand. Data from the 1993-95 Farm Costs and Returns Surveys and the 1996 Agricultural Resource Management Study show that dairy farm businesses in general did a fairly good job of meeting short-term debt, generating returns, and meeting long-term debt from 1993 to 1996. The analysis indicates that farm management strategies will play an important role in determining the overall profitability of a dairy farm business as Government supports decline. However, the 1996 data suggest that changes in management techniques are adopted slowly.

Keywords: Dairy farm businesses, structure, management, performance, characteristics.

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Summary

With a changing policy environment requiring more adjustment to forces of supply and demand, dairy managers can improve the business decisions they make by knowing the financial strengths and weaknesses of their businesses. Measures of productivity, liquidity, financial efficiency, solvency, and profitability are examined here for U.S. farm production regions and various sizes of dairy farms. These measurements can help dairy farmers isolate their businesses' strengths and weaknesses.

In 1993, average milk production per farm in the Pacific, Southeast, and Southern Plains regions was at least three times as great as in the other three regions. However, in terms of total acres operated, specialized dairy farms in the Pacific region were much smaller than in the other five regions, primarily because these operations purchased most, if not all, of the inputs used. Management skills in the Pacific region were focused on milk production. Feed and labor efficiency among milk producers in the Pacific, Southeast, and Southern Plains regions improved significantly with increased size of the operation. Greater feed and labor efficiency by larger producers may be due to herd composition, better genetics, ration composition, more intensive feed management, newer, more modern facilities, and a better climate.

All six regions posted a current ratio value greater than 1 in 1993, indicating that, on average, all dairy businesses were meeting short-term demands for cash from existing liquid assets—an important factor when obtaining credit from lending institutions. The same held true for 1996.

The efficiency and flexibility of dairy businesses in meeting interest payments showed no change during the 1993-96 period. The interest to gross cash income ratio was the same in each year. In each year, dairy businesses committed similar shares of gross cash farm income to interest payments.

The income generated per dollar of assets used in production increased significantly between 1993 and 1994. Commercial milk-fat use reached a record in 1994 as economic growth continued, and retail prices of dairy products remained relatively favorable.

By 1996, the burden placed on net farm income to retire outstanding debt had increased significantly from 1993. Reflecting 1995's reduced corn and soybean crops, higher concentrate prices for feed squeezed returns for dairy businesses in 1996.

On average, solvency ratios for dairy farm businesses changed little during 1993-96. However, these results mask the fact that, on a regional basis, the use of debt capital was a crucial factor affecting the expansion of dairy businesses.

Profitability ratios for U.S. dairy businesses, in general, did not change significantly during 1993-96. Significant differences were posted in the Pacific region for the period 1993-95, indicative of the farm size expansion that was taking place.

The common size income statement shows the trends for expenses, net cash farm income, and net farm income for an average dairy business. The Upper Midwest was the least profitable region in 1993. The floods of 1993 were to blame for rapidly rising input costs. However, in 1996, poor weather conditions affected all regions but the Upper Midwest.

Dairy businesses in the Pacific, Southeast, and Southern Plains regions are larger in terms of herd size, and they have higher variable costs, but they generate larger net farm incomes. These businesses are more efficient and productive in terms of feed fed, milk produced, labor employed, and capital invested than farms in the Corn Belt, Northeast, and Upper Midwest regions.

The income statement shows a steady upward movement in net farm income generated by an average dairy business in the United States between 1993 and 1996. The balance sheet indicates that although total liabilities increased, a steady upward movement in total assets owned by a dairy business led to improved business net worth.

Use of risk management strategies is correlated with the income received from farming. On average, dairy producers who used management strategies had higher net incomes resulting from larger volumes of production and management of the risk associated with farming.

Dairy businesses that generated high net farm income were significantly larger than businesses with low net farm income. Milk cow inventory on operations with high net farm income was more than twice that of operations with low net farm income. More than 90 percent of high net farm income businesses were classified as being in a favorable financial position, compared with 20 percent of low net farm income businesses. Output per cow on high net farm income farms averaged 17,210 pounds, versus 14,984 on low net farm income farms. Greater feed efficiency by high net farm income producers resulted from both more output per cow and less feed fed per cow.

Regression analysis indicated that size (in terms of cow numbers) had the greatest individual effect on net farm income, accounting for 90 percent of the variation in net farm income. Size, output per cow, and debt-to-asset ratio together accounted for 95 percent of total variance effects on net farm income. Labor efficiency had the greatest effect on economic profit per hundredweight (cwt) of milk sold and on economic profit per cow, accounting for 39 and 16 percent of the variance effects. Labor efficiency, specialization in milk production, the keeping of farm and cost of production records, feed efficiency, output per cow, and the value of land, equipment, and buildings accounted for over 95 percent of the total variance effects on economic profit per cwt of milk sold and on economic profit per cow. This implies that big does not necessarily mean successful.