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## **FINANCIAL PERFORMANCE MEASURES FOR KANSAS BEEF COW FARMS**

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### **Summary**

Financial performance measures assist managers in making strategic plans and tracking progress in relationship to a farm's goals. Kansas Farm Management Association data were used to compute average financial performance measures by herd size for beef cow farms. Farms with over 200 cows derived a larger percent of their income from beef cow production, tended to be larger in terms of gross farm income and total assets, were more profitable, and had lower debt ratios. Differences in financial performance among beef cow farms suggest that comparisons should be made only with herds that are similar in size.

(Key Words: Profitability, Liquidity, Solvency, Financial Efficiency, Cows.)

### **Introduction**

Financial performance measures can be used to assess the profitability, liquidity, solvency, and financial efficiency of a business. These measures provide information about the financial position and health of a business. Financial performance measures typically are used as warning signals and to track progress towards specific goals.

The objective of this study was to provide benchmark performance measures by size of herd for beef cow farms in Kansas. This information can be used by beef cow producers and farm financial analysts for comparative purposes.

### **Experimental Procedures**

Kansas Farm Management Association data from 1985 to 1994 were used in this study. Recommendations of the Farm Financial Standards Task Force were used to define profitability, liquidity, solvency, and financial efficiency measures. Specific definitions of each measure can be found in Cooperative Extension publication MF-2148, *Measuring Farm Financial Performance*, October 1995.

Profitability measures explain the efficiency with which a farm uses its resources to produce profits. Profitability measures used in this analysis included net farm income, return on assets, return on equity, and the profit margin ratio. Net farm income was calculated by subtracting cash operating expenses and depreciation from gross farm income. Return on assets represented the return to both debt and equity capital, and return on equity measured the residual return to equity capital. The profit margin ratio expressed profit as a percentage of gross farm income. Rate of return measures were adjusted for operator labor and management charges.

Liquidity measures were used as indicators of a farm's ability to meet financial obligations as they came due, without disrupting the normal operations. Liquidity measures used in this analysis included the current ratio (current assets divided by current liabilities) and working capital (current assets minus current liabilities).

A farm's ability to cover all debt obligations was examined using percent intermediate debt, percent long-term debt, the debt to asset ratio,

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and net worth. The debt to asset ratio is the most commonly used solvency measure. This ratio was calculated by dividing total debt by total assets.

Financial efficiency measures show the intensity with which a business uses its assets to generate revenue and the effectiveness of production, purchasing, pricing, and financing decisions. The asset turnover ratio, the operating expense ratio, the depreciation expense ratio, the interest expense ratio, and the net farm income ratio were used to analyze financial efficiency. The asset turnover ratio was calculated by dividing gross farm income by total assets. This measure shows how efficiently capital is being used in the business. The expense and net farm income ratios were calculated by dividing expense or net farm income by gross farm income.

## **Results and Discussion**

Table 1 presents average farm financial measures by size of herd. Most of the herds in Kansas and surrounding states are smaller than 100 cows. Thus, it was not surprising to find a significant number of farms with less than 100 cows in the Kansas Farm Management Association. The larger farms tended to derive more of their income from the beef cow enterprise. The farms with smaller herds tended to be smaller, and more diversified.

On average, the farms with larger beef cow herds had higher gross farm incomes, net farm incomes, rates of return, and profit margin ratios. Because so much difference in profitability occurs between farms with different herd sizes, it is important to take herd size into account when making financial performance comparisons.

Farms with larger herds tended to have more working capital, but lower debt ratios. For example, intermediate debt averaged only 11% for farms with more than 200 cows, but was 30% for farms with less than 50 cows. Intermediate assets and debt would include breeding livestock. Lower debt ratios make it easier to adjust to declining asset values. Though not presented here, over this 10-year period, beef cow operations tended to have lower debt to asset ratios than crop, swine, and dairy farms.

On average, about 63% to 65% of gross farm income was used to cover operating expenses. Another 18% to 21% was used for interest and depreciation expenses. The remaining 15% to 17% represented net farm income or profit.

To assess a farm's financial progress, financial performance measures should be computed and compared with the farm's goals and industry averages. If a farm's performance is below the industry average, corrective action may be needed.

**Table 1. Average Financial Measures by Herd Size for Kansas Beef Cow Farms, 1985-1994**

Measure	Number of Beef Cows			
	1-50 Head	51-100 Head	101-200 Head	Over 200 Head
Number of farms	380	263	176	57
Percent of Income from Beef Cow Herd	18%	30%	40%	51%
<u>Profitability measures</u>				
Gross farm income	\$130,245	\$149,928	\$208,571	\$310,472
Net farm income	\$25,355	\$28,961	\$38,007	\$60,583
Return on assets	3.78%	4.24%	4.90%	5.56%
Return on equity	0.19%	1.10%	2.45%	3.08%
Profit margin ratio	3.09%	8.04%	11.81%	14.66%
<u>Liquidity measures</u>				
Current ratio	1.65	1.61	1.52	1.83
Working capital	\$54,680	\$65,392	\$81,401	\$150,905
<u>Solvency measures</u>				
Percent intermediate debt	30%	23%	17%	11%
Percent long-term debt	36%	34%	31%	31%
Debt to asset ratio	37%	36%	34%	29%
Total assets	\$385,179	\$483,198	\$664,703	\$1,115,980
Net worth	\$254,878	\$326,824	\$447,757	\$832,639
<u>Financial efficiency measures</u>				
Asset turnover ratio	40%	35%	34%	33%
Operating expense ratio	63%	63%	64%	65%
Depreciation expense ratio	11%	11%	9%	8%
Interest expense ratio	10%	11%	10%	10%
Net farm margin ratio	15%	16%	17%	17%

Source: Kansas Farm Management Association.