

FINANCE MODULE
Problem Set #2
Answer Key

The case farm was developed using five-year average data for KFMA crop/beef cow farms. Primary enterprises include a beef cow herd, corn, wheat, and soybeans.

Problem #1

Using the financial ratios below, compare the operating profit margin and asset turnover ratio for the Case Farm to the financial ratios for the top quartile and the financial targets contained on the farm finance score card.

The operating profit margin for the Case Farm is 0.1683 which is below the benchmark of 0.3127 and is in the yellow region on the farm finance scorecard.

The asset turnover ratio for the Case Farm is 0.2906 which is below the benchmark of 0.3466 and is in the yellow region on the farm finance scorecard.

Problem #2

Using the ratios below, indicate whether the Case Farm is covering unpaid family and operator labor and whether the Case Farm is covering the opportunity cost on net worth or equity.

The adjusted total expense ratio and the economic total expense ratio can be used to determine whether a farm is covering unpaid family and operator labor; and unpaid family and operator labor and the opportunity cost of net worth, respectively. The adjusted total expense ratio for the Case Farm is 0.8822, which is below 1. Thus, the Case Farm is covering unpaid family and operator labor. The economic total expense ratio for the Case Farm is 1.0886, which is above 1, indicating that the Case Farm is not covering the opportunity cost on net worth.

Problem #3

Use the attached income data below to compute the return on assets and return on equity for each income and debt to asset ratio scenario. You should have six sets of ratios.

For the answers to this problem see the spreadsheet “hw#2 answer key”.

Liquidity							
					<u>Beginning</u>	<u>Ending</u>	
	Current Ratio				2.32	2.45	
	Working Capital				\$168,953	\$200,101	
	Working Capital as a Percentage of Gross Revenue				34.98%	41.43%	
Solvency							
	Debt/Asset Ratio				0.25	0.25	
					<u>Farm</u>	<u>Benchmark</u>	
Profitability							
	Operating Profit Margin Ratio				0.1683	0.3127	
	Rate of Return on Farm Assets				0.0489	0.1084	
	Rate of Return on Farm Equity				0.0457	0.1244	
Financial Efficiency							
	Asset Turnover Ratio				0.2906	0.3466	
	Net Farm Income Ratio				0.2516	0.3580	
	Operating Expense Ratio				0.6182	0.5294	
	Depreciation Expense Ratio				0.0797	0.0751	
	Interest Expense Ratio				0.0505	0.0375	
	Total Expense Ratio				0.7484	0.6420	
	Adjusted Total Expense Ratio				0.8822	0.7250	
	Economic Total Expense Ratio				1.0886	0.9020	
Repayment Capacity							
	Income Available for Capital Replacement and Term Debt Repayment				\$82,251		

					#1	#2	#3	#4	#5	#6
Income Statement Items										
	Value of Farm Production				500,000	500,000	500,000	500,000	500,000	500,000
	Net Farm Income				50,000	100,000	150,000	50,000	100,000	150,000
	Interest Expense				21,000	21,000	21,000	45,000	45,000	45,000
Cash Flow Statement Items										
	Unpaid Family and Operator Labor				52,500	52,500	52,500	52,500	52,500	52,500
Balance Sheet Items										
	Average Total Assets				1,325,000	1,325,000	1,325,000	1,325,000	1,325,000	1,325,000
	Average Net Worth				975,000	975,000	975,000	575,000	575,000	575,000
	Average Debt				350,000	350,000	350,000	750,000	750,000	750,000