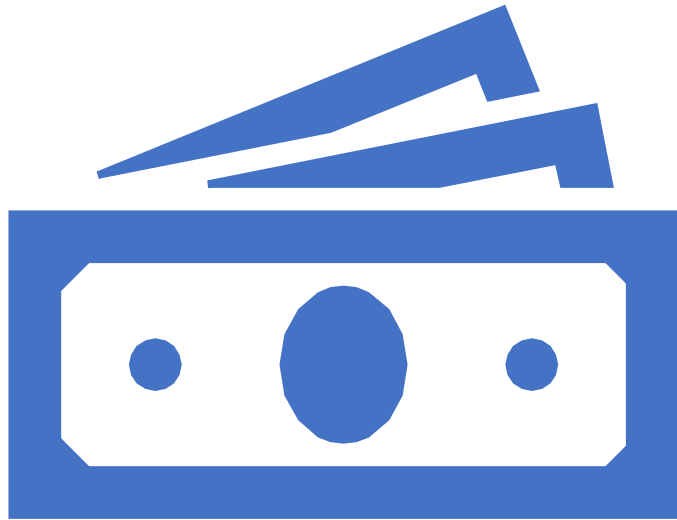


Understanding your Income Statement/Financial Ratios

Josh Tjosaas-Northland Community and Technical College

Moorhead Site



Importance of Financial Analysis

“The manager’s ability to analyze the financial situation of the farm or ranch operation contributes to the ability of that operation to succeed. For this reason, accurate financial statements are an integral part of farm and ranch management. They are a tool the manager can use to help monitor the financial progress of the business and to compare current performance with past performances.” -Farm and Ranch Business Management-John Deere Company

2004 Financial Analysis Executive Summary
Income Statement

Crop sales	22,828	
Crop inventory change	-9,954	
Gross crop income		12,872
Livestock sales	227,180	
Livestock inventory change	18,015	
Gross livestock income		245,175
Government payments		13,341
Other cash farm income		9,144
Change in accounts receivable		4,050
Gain or loss on hedging accts		-
Change in other assets		-
Gain or loss on breeding lvst		95
Gross farm income		284,476
Cash operating expense	159,993	
Change in prepaid exp and supplies	-4,812	
Change in growing crops	-	
Change in accounts payable	-1,722	
Depreciation	8,464	
Total operating expense		181,923
Interest paid	21,075	
Change in accrued interest	-241	
Total interest expense		20,834
Total expenses		182,757
Net farm income from operations		101,720
Gain or loss on capital sales		-500
Net farm income		101,220

Other Measures

Total crop acres		290
Dairy Cows		53
Farrow-Fin Litters		56
Fin Yearling sold or transferred out		37
Change in earned net worth	81,115	24 %
Change in market value net worth	82,509	25 %

Financial Standards Measures

	Beg	End
Liquidity		
Current ratio	1.28	1.98
Working capital	22,212	59,514
Working capital to gross revenues	7.8 %	20.9 %
Solvency (market)	Beg	End
Debt to asset ratio	51 %	42 %
Debt to equity ratio	1.05	0.73
Profitability	Cost	Market
Net farm income	101,220	122,814
Rate of return on assets	20.6 %	18.4 %
Rate of return on equity	29.4 %	28.4 %
Operating profit margin	44.6 %	54.4 %
Repayment Capacity		
Term debt coverage ratio (farm only)		2.44
Replacement margin coverage ratio		2.44
Efficiency	Cost	Market
Asset turnover rate	46.0 %	33.7 %
Operating expense ratio		53.9 %
Depreciation expense ratio		3.0 %
Interest expense ratio		7.3 %
Net farm income ratio		35.8 %
Other		
Term debt coverage (farm+personal)		2.44
Term debt to EBITDA		1.16

Information Accuracy

Cash discrepancy	0
Liability discrepancy	0
Cash discrepancy to gross revenue	0 %

Parts of the Income Statement-Income Side

- Crop Sales
- +Crop Inventory Change (Accrual)
- = Gross Crop Income
- Livestock Sales
- +Livestock Inventory Change
- =Gross Livestock Income
- +Government Payments
- +Other Cash Farm Income
- +Change in Account Receivable

Income Statement

Crop sales	22,626	
Crop inventory change	-9,954	
Gross crop income		12,672
Livestock sales	227,160	
Livestock inventory change	18,015	
Gross livestock income		245,175
Government payments		13,341
Other cash farm income		9,144
Change in accounts receivable		4,050
Gain or loss on hedging accts		-
Change in other assets		-
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Parts of the Income Statement-Income Side

Income Statement

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Gross farm income		284,476

- +Gain or loss on hedging accounts
- +Change in other assets
- +Gain or loss on breeding livestock
- =Gross Farm Income

Parts of the Income Statement-Expense Side

- Cash operating expense
- +Change in prepaid exp and supplies
- +Change in growing crops
- +Change in accounts payable
- +Depreciation (Cost Value)
- =Total Operating Expense

Cash operating expense	159,993	
Change in prepaid exp and supplies	-4,812	
Change in growing crops	-	
Change in accounts payable	-1,722	
Depreciation	8,464	
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Change in accrued interest	-241	
Total interest expense		20,834
Total expenses		182,757

- Interest paid
- +Change in accrued interest
- =Total Interest expense
- Total Expenses=Total Operating Expenses+Total Interest Expense
- =Net Farm Income from Operations
- +Gain or loss on capital sales
- =Net farm income

Net farm income from operations	101,720
Gain or loss on capital sales	-500
Net farm income	101,220

Other Measures

- Total Crop Acres
- Livestock Numbers
- Change in Earned Net Worth-\$ and %
- Change in market Value Net Worth-\$ and %

Other Measures

Total crop acres		290
Dairy Cows		53
Farrow-Fin Litters		56
Fin Yearling sold or transferred out		37
Change in earned net worth	61,115	24 %
Change in market value net worth	82,509	25 %

Financial Standards Measures/Scorecard

- These 21 ratios are used to evaluate farm management. We will discuss how they are calculated, what function they have in evaluating your farm as well as the scorecard values for strong to vulnerable scores.
- These 21 ratios are split into 5 main categories
- 1. Liquidity-The ability of a business to pay bills in short term-<1 year
- 2. Solvency (Market)-The ability of all assets to cover all debts
- 3. Profitability (Cost)-They show how efficient a business is in generating a profit from the use of the land, labor, management, and capital resources.

Financial Standards Measures/Scorecard

- 4. Repayment Capacity (Accrual)-They show the ability of the farm to meet debt requirements as well as replace assets on a regular basis.
- 5. Financial Efficiency-They measure how effective the business is in generating revenue from the production and management decisions.

Liquidity Ratios

Current Ratio

- Current Assets divided by Current Liabilities
- It's the ability of the farm's current assets to meet short term liabilities.
- Strong=>2.0
- Vulnerable= <1.3

Financial Standards Measures

Liquidity	Beg	End
Current ratio	1.28	1.98
Working capital	22,212	59,514
Working capital to gross revenues	7.8 %	20.9 %

Strong

2.0

Vulnerable

1.3



Liquidity Ratios

Financial Standards Measures

Liquidity	Beg	End
Current ratio	1.28	1.98
Working capital	22,212	59,514
Working capital to gross revenues	7.8 %	20.9 %

Working Capital

- Current Assets-Current Liabilities
- Actual dollars available to meet short term debt needs.

Liquidity Ratios

Working Capital to Gross Revenue

- Working Capital divided by Gross Revenue expressed as %
- Shows working capital in a % of typical gross revenue compared to just a dollar amount in WC
- Strong=>30%
- Vulnerable=<10%

Financial Standards Measures

Liquidity	Beg	End
Current ratio	1.28	1.98
Working capital	22,212	59,514
Working capital to gross revenues	7.8 %	20.9 %



Solvency Ratios

Farm Debt/Asset Ratio

- Total farm liability divided by total farm assets.
- It measures what percentage of assets of the farm is owed to creditors.
- Strong=<30%
- Vulnerable=>60%

Solvency (market)	Beg	End
Debt to asset ratio	51 %	42 %
Debt to equity ratio	1.05	0.73



Solvency Ratios

Solvency (market)	Beg	End
Debt to asset ratio	51 %	42 %
Debt to equity ratio	1.05	0.73

70%

40%



Farm Equity/Asset Ratio

- Total farm equity divided by total farm assets.
- It measures the percent of total farm assets financed by owner's equity capital.
- Strong=>70%
- Vulnerable=<40%

Solvency Ratios

Farm Debt/Equity Ratio

- Total Farm Liabilities divided by total farm equity.
- It measure the relationship between debt financing and equity financing the farm.
- Strong= <0.43
- Vulnerable= $\Rightarrow 1.50$

Solvency (market)	Beg	End
Debt to asset ratio	51 %	42 %
Debt to equity ratio	1.05	0.73



Profitability Ratios (Cost)

Net Farm Income

- Total Revenue minus total expenses is net farm income from operations (NFIFO), while net farm income is NFIFO plus any gain or loss on sale of capital items such as land or machinery
- It is expressed in dollars.

Net farm income from operations	101,720
Gain or loss on capital sales	-500
Net farm income	101,220

Profitability	Cost	Market
Net farm income	101,220	122,614
Rate of return on assets	20.6 %	18.4 %
Rate of return on equity	29.4 %	28.4 %
Operating profit margin	44.6 %	54.4 %

Profitability Ratios (Cost)

Profitability	Cost	Market
Net farm income	101,220	122,614
Rate of return on assets	20.6 %	18.4 %
Rate of return on equity	29.4 %	28.4 %
Operating profit margin	44.6 %	54.4 %



Rate of Return on farm assets

- NFIFO plus interest minus the opportunity cost of unpaid operator and labor divided by average total assets
- Used to evaluate profitability on usage of assets
- Strong=>8%
- Vulnerable=<4%

Profitability Ratios (Cost)

Rate of return on farm equity

- NFIFO minus opportunity cost of unpaid operator and family living divided by average total farm equity
- Used to evaluate profitability of equity on farm
- Strong=>10%
- Vulnerable=<3%

Profitability	Cost	Market
Net farm income	101,220	122,614
Rate of return on assets	20.6 %	18.4 %
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Operating profit margin	44.6 %	54.4 %

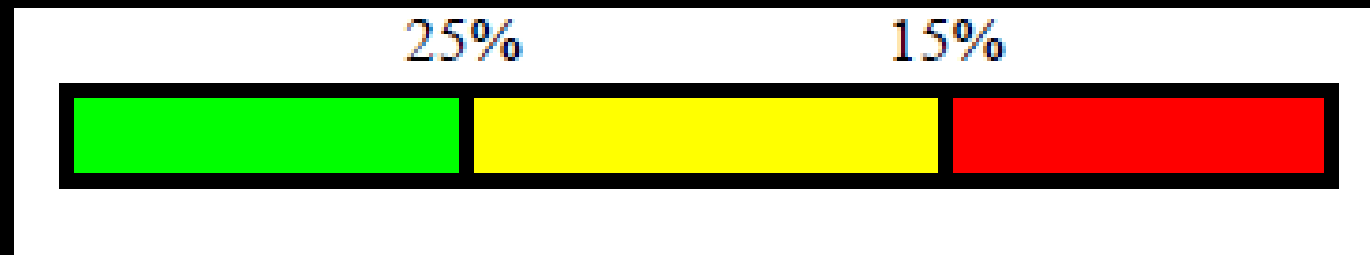


Profitability Ratios (Cost)

Operating Profit Margin

- NFIFO plus interest minus the opportunity cost of unpaid operator and family living divided by total revenue
- Measures profitability as percent of the total revenue generated.
- Strong=>25%
- Vulnerable=<15%

Profitability	Cost	Market
Net farm income	101,220	122,614
Rate of return on assets	20.6 %	18.4 %
Rate of return on equity	29.4 %	28.4 %
Operating profit margin	44.6 %	54.4 %



Profitability Ratios (Cost)

EBITA (Earnings before Interest, Taxes, Depreciation, and Amortization)

<i>Profitability Measures</i>		<i>Cost</i>	<i>Market</i>
(A) Net farm income from operations		101,720	123,114
Rate of return on assets	(E/F)	20.6 %	18.4 %
Rate of return on equity	(G/H)	29.4 %	28.4 %
Operating profit margin	(E/I)	44.6 %	54.4 %
Asset turnover rate	(I/F)	46.0 %	33.7 %
EBITDA		131,017	152,411

- NFIFO+Interest Expenses+Depreciation Expenses+Amortization Expenses
- Measure the profitability that examines the repayment capacity of the business.
- It is expressed in dollars.

Repayment Capacity

Capital Debt Repayment Capacity

- Measures the amount of funds generated from the Farm and non-farm sources that can be used to pay debt on time.
- Capital Debt Repayment Capacity = Net Income + Depreciation Expense + Non-Farm/Business Income – Family Living Expenses & Income Taxes + Interest Expense on Term Loans.
- It is expressed in dollars.

<i>Repayment Capacity</i>		
Net farm income from operations		101,720
Depreciation	(+)	8,464
Personal income	(+)	17,158
Family living expense	(-)	46,956
Income taxes accrued	(-)	21,057
Interest on term debt	(+)	11,978
(N) Capital debt repayment capacity	(=)	71,307
(O) Scheduled term debt payments		29,279
(P) Capital debt repayment margin	(N-O)	42,028
(Q) Cash replacement allowance		-
Replacement margin	(P-Q)	42,028
Term debt coverage ratio	(N/O)	2.44
Replacement coverage ratio	(N/O+Q)	2.44

Repayment Capacity

Repayment Capacity

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Term debt coverage ratio	(N/O)	2.44
Replacement coverage ratio	(N/O+Q)	2.44

Capital Debt Repayment Margin

- Measures the dollars that remain after all of the operating expenses, taxes, family living costs, and debt payments have been paid. This is the true cash amount that is left after paying all of the bills that a business/farm and the owner has. This left over amount of money is what is available to purchase new/additional assets.
- Capital Debt Repayment Margin = Capital Debt Repayment Capacity – Scheduled Principal & Interest on term loans and leases.
- It is expressed in dollars.

Repayment Capacity

Replacement Margin

- Measures the dollar value of income that remains following the payments for principal and interest on term loans and any purchased capital assets paid for in cash.
- Replacement Margin = Capital Debt Repayment Margin – Unfunded (Cash) Capital Replacement Allowance (10% of beginning machinery cost value + 15% of beginning titled vehicles value - beginning principal due on intermediate debt)
- It is expressed in dollars.

Repayment Capacity

Net farm income from operations		101,720
Depreciation	(+)	8,464
Personal income	(+)	17,158
Family living expense	(-)	46,956
Income taxes accrued	(-)	21,057
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Term debt coverage ratio	(N/O)	2.44
Replacement coverage ratio	(N/O+Q)	2.44



Term-Debt Coverage Ratio

- Measures whether or not a business or farm had the capability to pay all of its intermediate and long-term debts on time.
 - A 1.0 means you have \$1.00 available to pay every 1.00 of debt
- Term Debt Coverage Ratio = Capital Debt Repayment Capacity / Scheduled Principal and Interest Payments on Term Loans and Leases
- Strong=>1.75
 - Vulnerable=<1.25

Repayment Capacity

Replacement margin ratio

- Measures whether or not a business or farm had the capability to pay all of its term debts on time and purchase needed capital assets solely on income vs. the requirement of additional debt.
- Replacement Margin Coverage Ratio = Capital Debt Repayment Capacity / (Scheduled Principal & Interest on term loans and leases + and cash used to purchase replace capital assets or its replacement allowance)
- Strong=>1.5
- Vulnerable=<1.10

Repayment Capacity

Net farm income from operations		101,720
Depreciation	(+)	8,464
Personal income	(+)	17,158
Family living expense	(-)	46,956
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Term debt coverage ratio	(N/O)	2.44
Replacement coverage ratio	(N/O+Q)	2.44

1.50

1.10



Financial Efficiency

Efficiency	Cost	Market
Asset turnover rate	46.0 %	33.7 %
Operating expense ratio		53.9 %
Depreciation expense ratio		3.0 %
Interest expense ratio		7.3 %
Net farm income ratio		35.8 %



Asset-turnover rate (Market)

- Gross Revenue divided by average total assets.
- Measure the operational efficiency by indicating the level of revenue generated per dollar of assets owned by the business.
- Asset Turnover Rate = Value of Production / Average Assets
- Value of Production = Gross Cash Income + or – Inventory Change of Crops, Market Livestock, Breeding Livestock, & Other income items – Feeder Livestock Purchased – Purchased Feed
- Average Assets = (Beginning Total Asset Values + Ending Total Asset Values) / 2
- Strong=>45%
- Vulnerable=<30%

Financial Efficiency

Operating Expense ratio-with the next three ratios will add up to 100% of revenue

- Total operating expenses minus depreciation divided by total revenue.
- Measures the proportion of income that is being used to cover operating expenses not including the principal and interest of loans
- Operating-Expense Ratio = (Total operating expense not including interest – depreciation) / gross income
- Strong=<60%
- Vulnerable=>80%

Efficiency	Cost	Market
Asset turnover rate	46.0 %	33.7 %
Operating expense ratio		53.9 %
Depreciation expense ratio		3.0 %
Interest expense ratio		7.3 %
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Depreciation expense ratio

- Measures the amount of income that is required to maintain the capital being used by the business or farm.
- Depreciation-Expense Ratio = $\text{Depreciation} / \text{Gross Income}$
- Strong= $<5\%$
- Vulnerable= $>10\%$

Financial Efficiency

Interest Expense Ratio

- Measures the amount of gross income that is being spent to pay the interest on borrowed money.
- Interest-Expense Ratio = Interest Expense / Gross Income
- Strong=<5%
- Vulnerable=>10%

Efficiency	Cost	Market
Asset turnover rate	46.0 %	33.7 %
Operating expense ratio		53.9 %
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Interest expense ratio		7.3 %
Net farm income ratio		35.8 %



Net Farm Income Ratio

- Measures the percentage of income left following the payment of all expenses, with the exception of unpaid labor and management.
- Net Income ratio = Net Farm Income / gross income
- Strong=>20%
- Vulnerable=<10%

Information on Accuracy

- Cash Discrepancy-\$ (Needs to be less than \$5,000)
- Liability Discrepancy-\$ (Needs to be less than \$300)
- Net Worth Discrepancy- \$ (Needs to be less than 1% of gross income or \$5,000)
- Cash discrepancy to gross revenue-% (Needs to be less than 1% of gross income)