



Stoplight Ratio Analysis



Farm Finances at a Glance

- **Where is the problem?**

- **Liquidity?**

- Too much short-term debt

- **Solvency?**

- Too much debt

- **Profitability?**

- Lack of farm earnings

- **Repayment capacity?**

- Payments too high

- **Efficiency?**

- Cost control

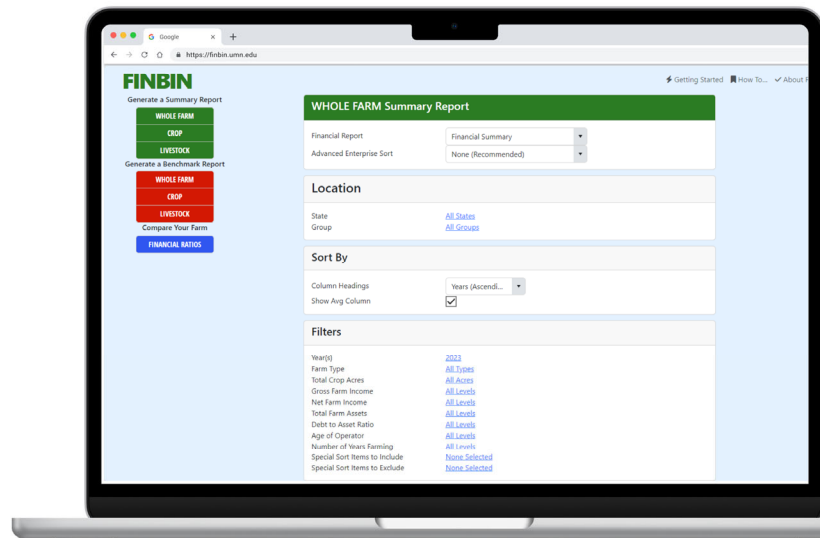


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FINBIN is the largest and most accessible source of farm financial and production benchmark information in the country. It places detailed reports right at your fingertips.

- Nearly 3,500 farms annually across several states
- Numerous whole-farm and crop/livestock enterprise reports available
- Accrual-adjusted financial statements using economic depreciation methods
- Multiple, thorough data integrity and quality checks
- Free, open access for querying



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Farm Financial Standards Measures

LIQUIDITY	Current Ratio	SOLVENCY	Debt-to-Asset Ratio
	Working Capital as % of Gross Revenue		Equity-to-Asset Ratio*
	Working Capital as % of Operating Expense*		Debt-to-Equity Ratio*
PROFITABILITY	ROR on Assets	REPAYMENT CAPACITY	Debt Coverage Ratio
	ROR on Equity		Replacement Coverage Ratio
	Operating Profit Margin Ratio		Term Debt & Finance Lease Coverage Ratio*
	Asset Turnover Ratio		
FINANCIAL EFFICIENCY	Operating Expense Ratio	Interest Expense Ratio	
	Income from Operations Ratio	Depreciation & Amortization Expense Ratio	



Farm Financial Scorecard

z.umn.edu/Scorecard

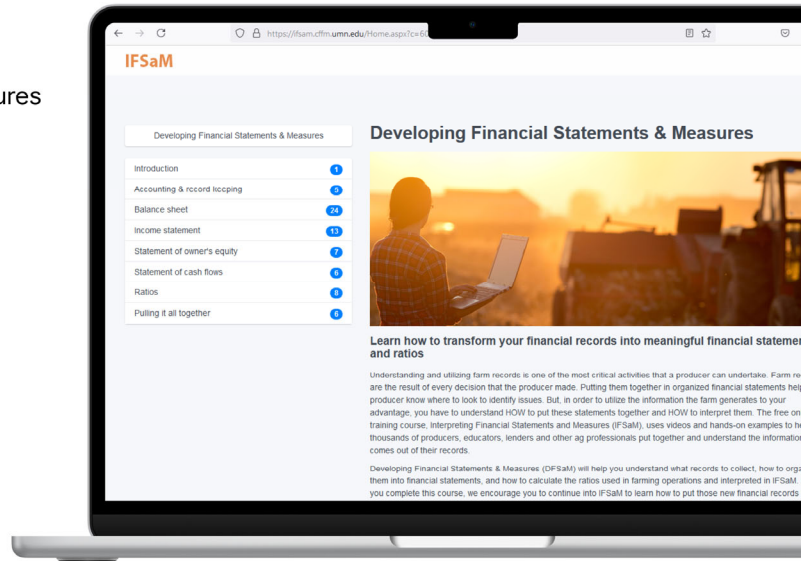


IFSaM

Interpreting Financial Statements and Measures

DYFSaM

Developing Your Financial Statements and Measures



IFSaM/DYFSaM is a product of the Center for Farm Financial Management

Learn more at ifsam.cffm.umn.edu

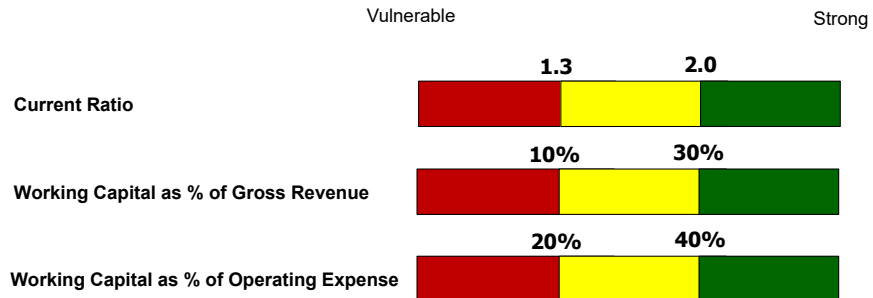
Liquidity

Can the business pay its short-term obligations?



Farm Finance Scorecard

Liquidity



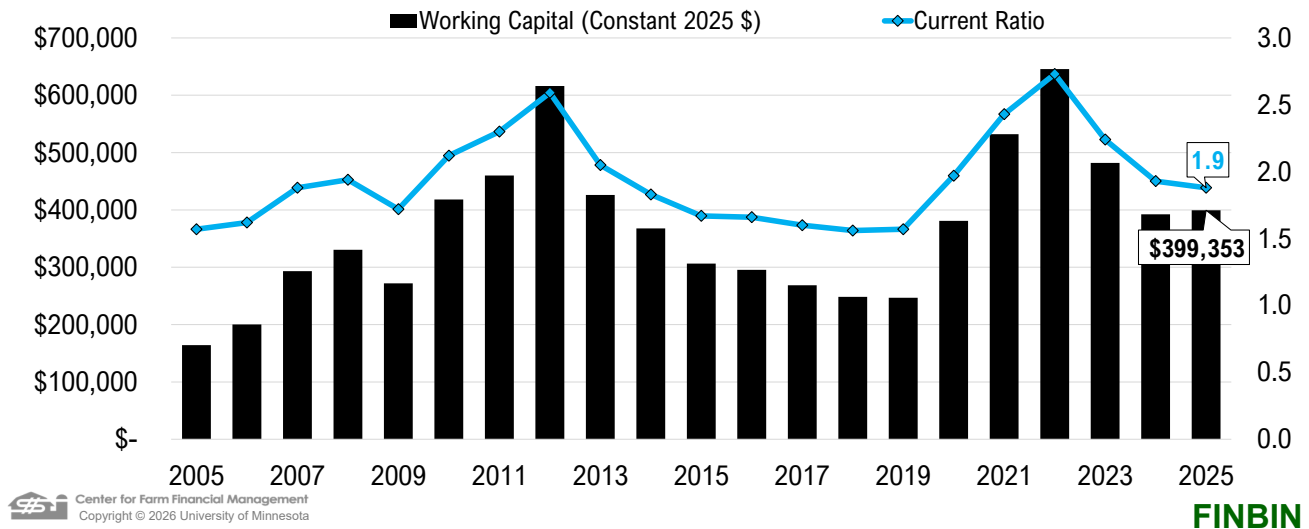
Measures of Liquidity

- Current ratio
- Working capital



Working Capital and Current Ratio

Data: Minnesota, All Farms



Traditional Measures of Liquidity

- Current ratio
- Working capital



Over-rated!!!

Over-rated!!!



Who Has More Liquidity?

	Farm A	Farm B
Current Assets	\$75,000	\$200,000
Current Debt	25,000	100,000
Current Ratio	3:1	2:1
Working Capital	\$50,000	\$100,000



Who Has More Liquidity?

	Farm A	Farm B
Current Assets	\$75,000	\$200,000
Current Debt	25,000	100,000
Current Ratio	3:1	2:1
Working Capital	\$50,000	\$100,000
Gross Income	200,000	1,000,000
Working Cap/Gross	25 %	10 %

Measures of Liquidity

- Current ratio
- Working capital
- Working capital to gross revenue



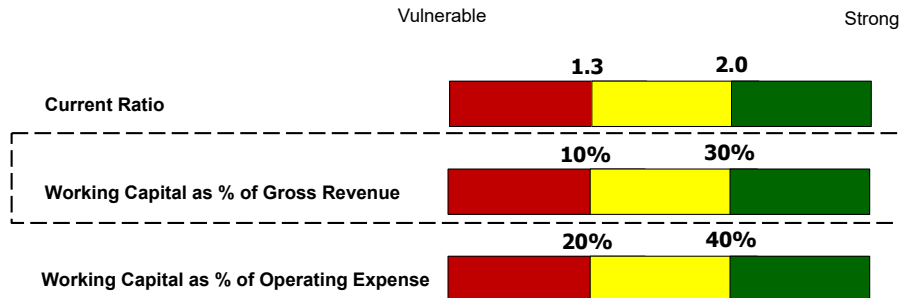
How do you grow working capital?

- **Make money.**
Business profits drive liquidity
- **Don't spend all of it.**
Major drains on liquidity:
 - High family living costs
 - Purchasing long-term assets with cash
- **Refinance / Restructure Debt**



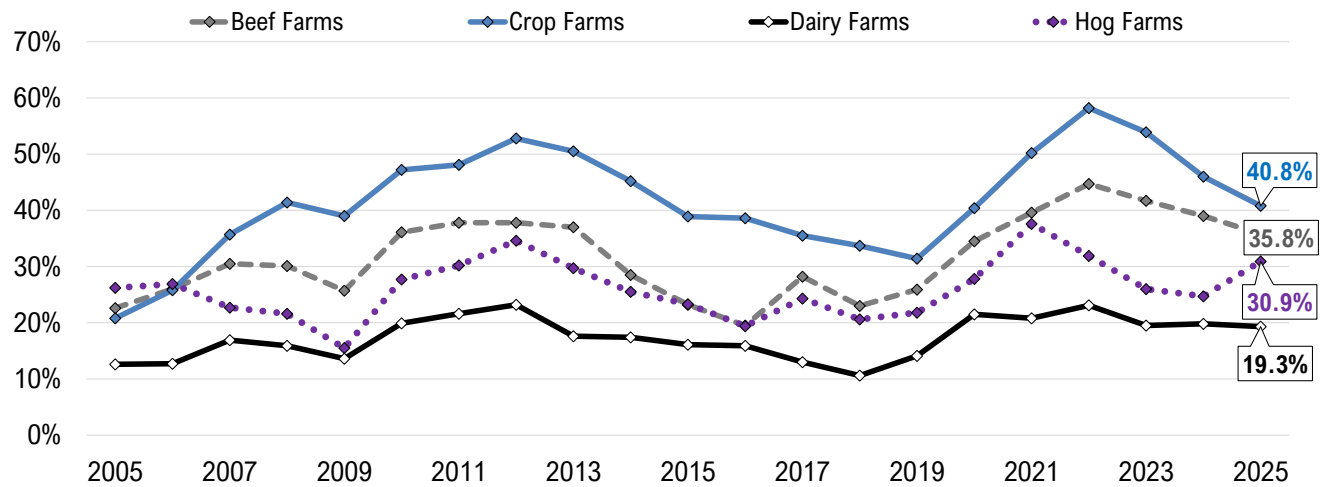
Farm Finance Scorecard

Liquidity



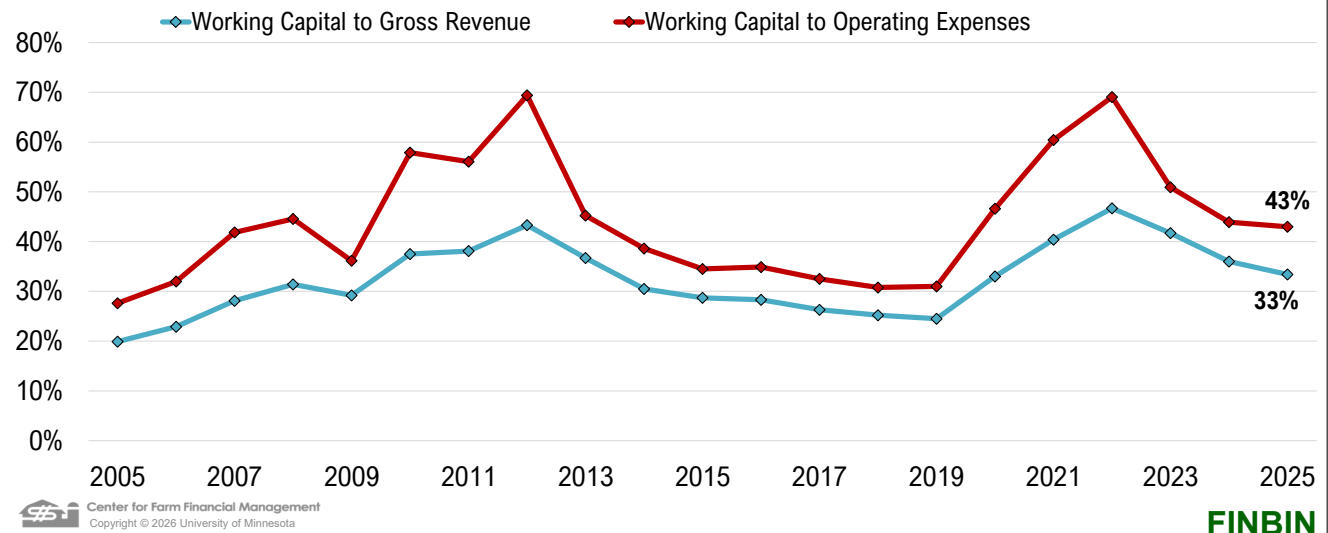
Working Capital as % of Gross Revenue by Farm Type

Data: Minnesota. Sorted by Farm Type



Working Capital Ratios

Data: Minnesota Averages, All Farms



Maintaining & Improving Liquidity Position

- **Decrease purchases of capital items. Sell underutilized assets.**
 - Machinery
 - Buildings
 - Land
- **Don't finance capital purchases with operating credit**
 - Mismatch of assets/liabilities
- **Re-amortize, refinance debt.**
- **Decrease family living expenses**

Balance Sheet Structure Opportunities

- **High current assets to current debt**
 - Very liquid operation – ability to take advantage of opportunities
- **High intermediate assets to intermediate debt**
 - Prepared for capital replacement – choose between leasing, fixing, or purchasing equipment
- **High long-term assets to long-term debt**
 - Expansion capacity for growth
 - Ability to refinance, if needed

Balance Sheet Structure Problems

- **High current debt to current assets**
 - Liquidity problems – strapped for cash
- **High intermediate debt to intermediate assets**
 - Capital replacement problems – can't replace equipment when needed
- **High long-term debt to long-term assets**
 - Limited expansion capacity – can't grow



Solvency

Is the business
financially sound?



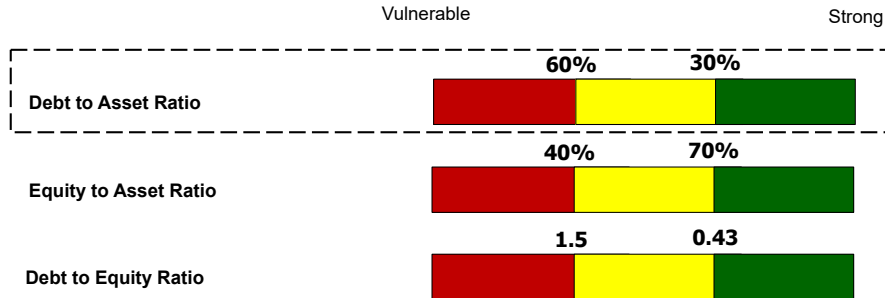
Measures of Solvency

- **Debt to Asset Ratio**
- **Equity to Asset Ratio**
- **Debt to Equity Ratio**



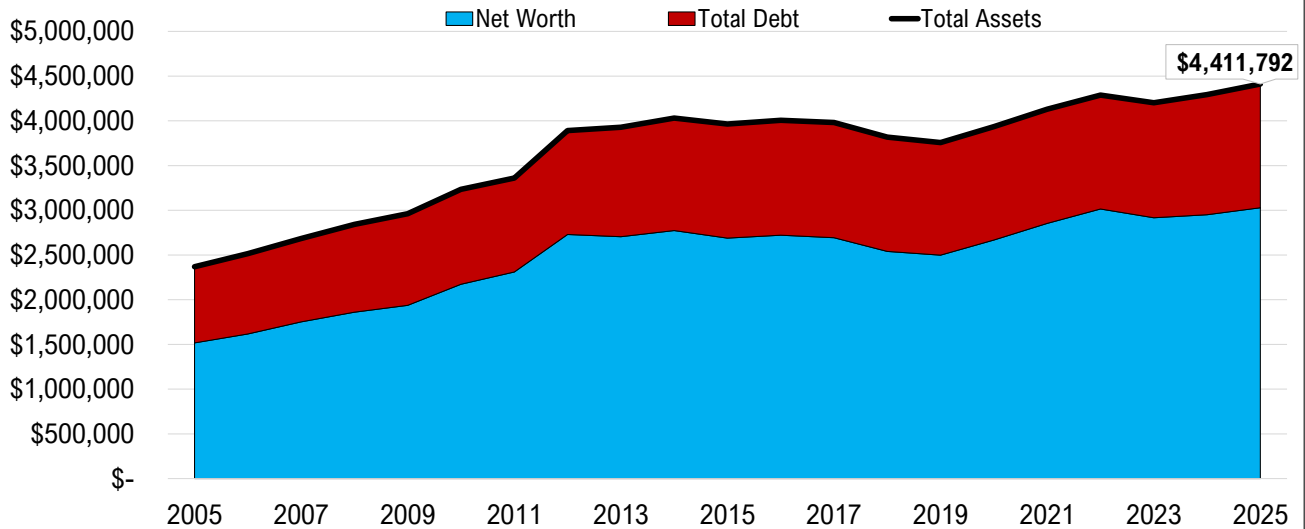
Farm Finance Scorecard

Solvency



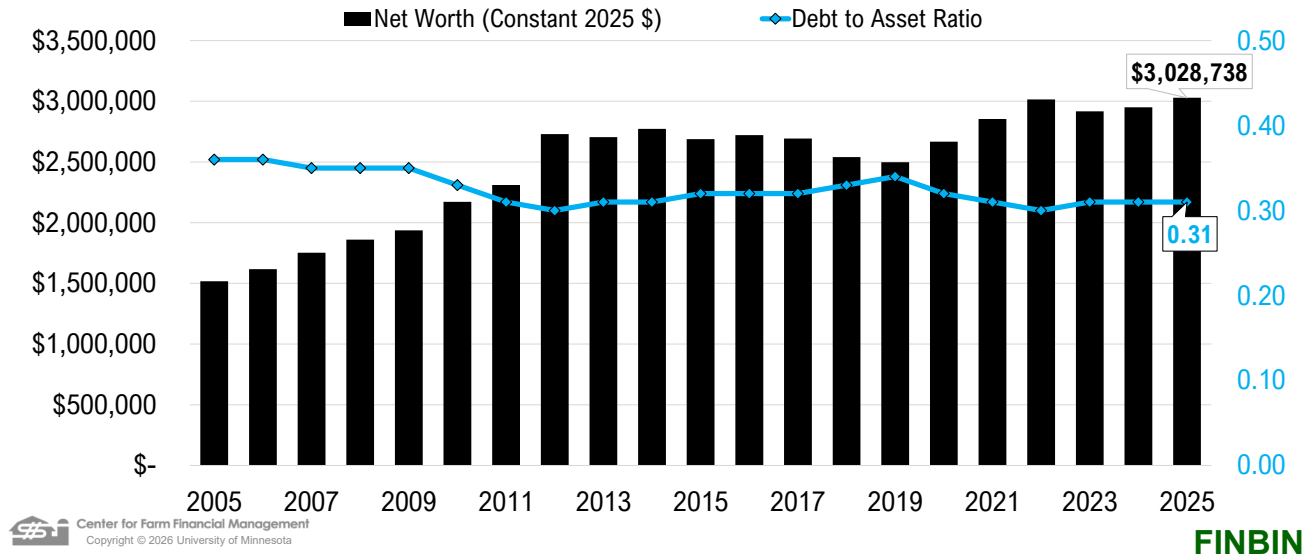
Farm Balance Sheet (Constant \$)

Data: Minnesota Average, All Farms, Assets Valued at Estimated Market Values, **Excludes** Deferred Liabilities



Net Worth & Debt-to-Asset Ratio

Data: Minnesota, All Farms, Assets Valued at Estimated Market Values, **Excludes** Deferred Liabilities



Quiz Time

What is the current average debt to asset ratio for US farmers, as provided by USDA Economic Research Service?

- A. 13%
- B. 26%
- C. 43%
- D. 55%
- E. 88%

Source: *Farm Sector Income and Finances*, ERS/USDA, Feb. 2026



Maintaining & Improving SOLVENCY Position

- **Invest in productive, profitable farm assets**
Avoid purchases solely for tax purposes
- **Sell unneeded assets and use funds to reduce debt**
Avoid buying “toys”
- **Consider which is better: Leasing, buying, or using custom services**



Profitability

The ability of the business to produce earnings



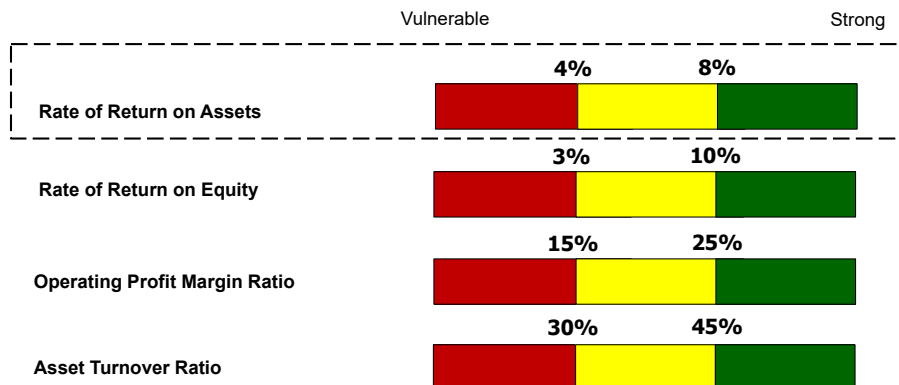
Profitability Measures

- Net farm income (accrual)
- Rate of return on assets (ROA)
- Rate of return on equity (ROE)
- Operating profit margin
- Asset turnover ratio



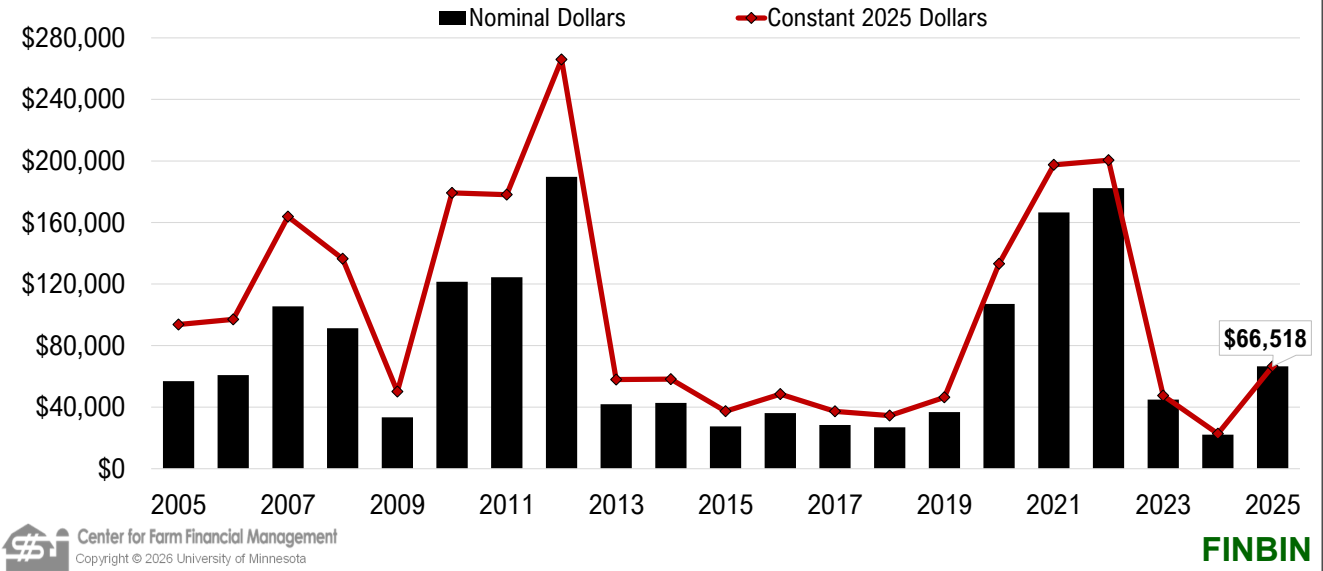
Farm Finance Scorecard

PROFITABILITY



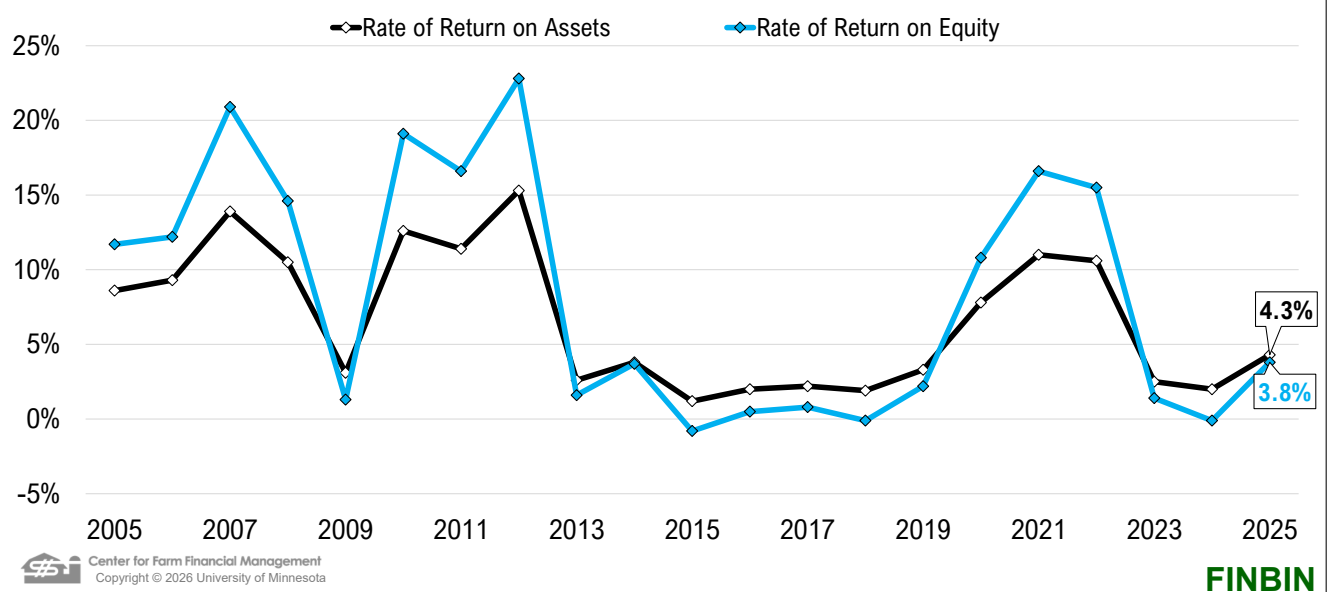
Median Net Farm Income

Data: Minnesota. All Farms



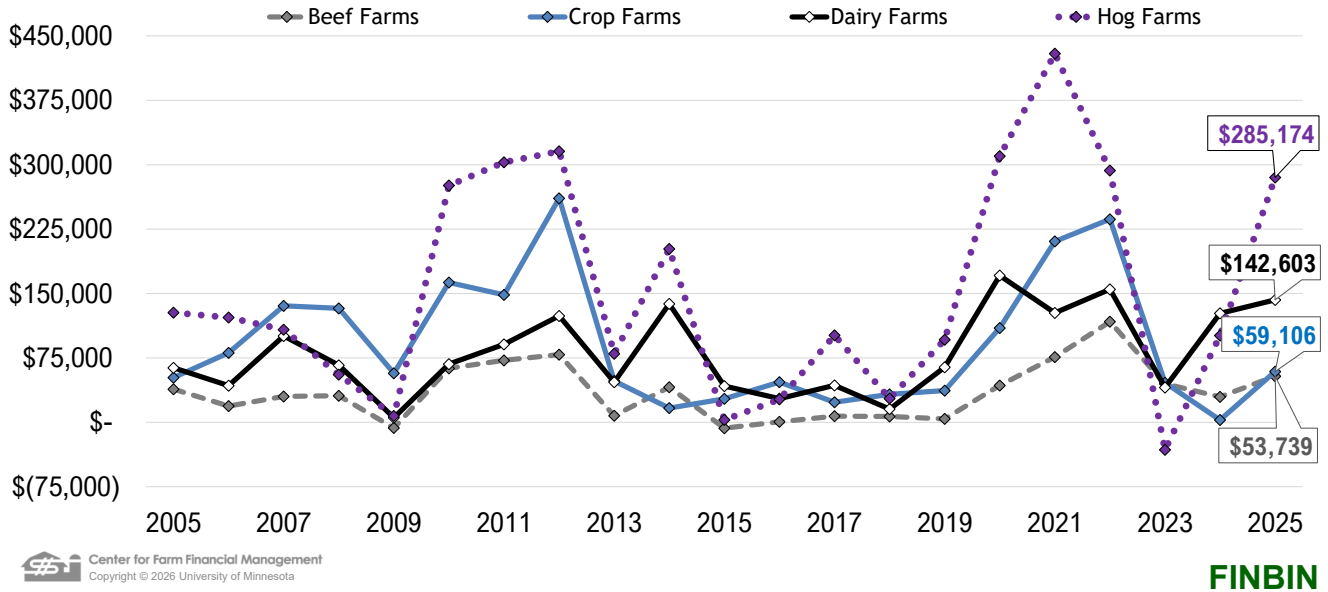
Rates of Return On Assets and Equity

Data: Minnesota, All Farms, Assets Valued at an Adjusted Cost Basis



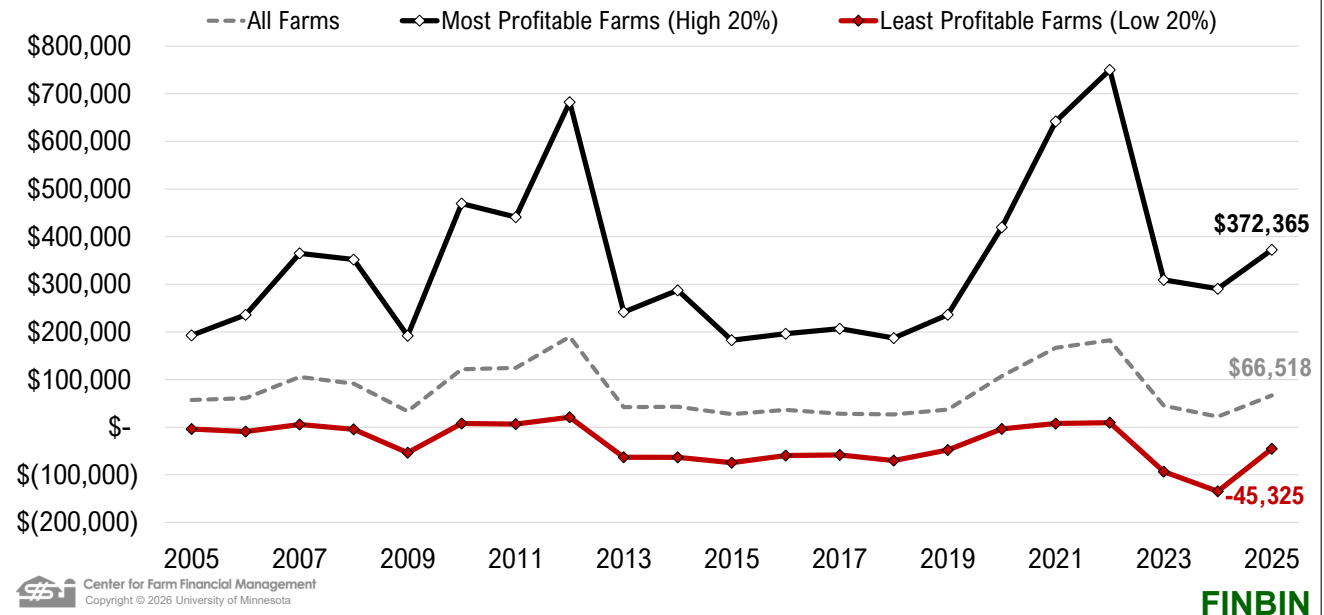
Median Net Income by Farm Type

Data: Minnesota, Sorted by Farm Type



Median Net Farm Income by Profit Group

Data: Minnesota, Sorted by Profitability Group

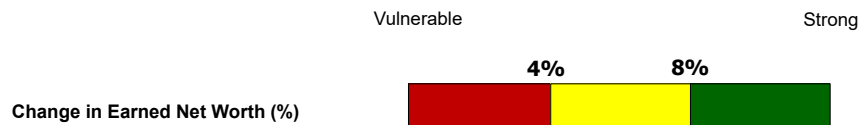


Measures of Profitability - Alternate

- **Change in Earned Net Worth %**
- **Net farm income**
- **Rate of return on assets (ROA)**
- **Rate of return on equity (ROE)**
- **Operating profit margin**
- **Asset turnover ratio**

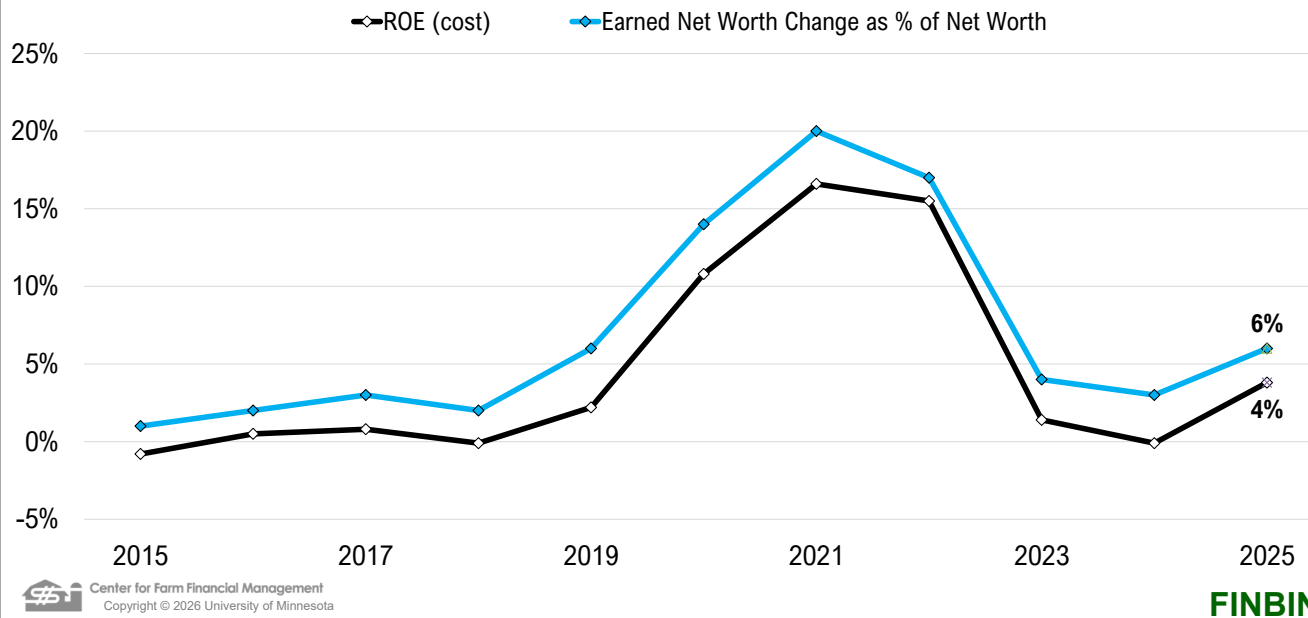
Farm Finance Scorecard

Alternate PROFITABILITY Ratio



ROE and Earned Net Worth Change %

Data: Minnesota, All Farm Types and Sizes



Maintaining & Improving Profitability Position

- **Consider alternative enterprises and income sources**
 - Avoid purchases solely for tax purposes
- **Weigh asset management decisions**
 - Lease
 - Own
 - Custom Hire
- **Focus on profit margins – manage costs and price risks**
 - Business management versus tax management



Repayment Capacity

Ability of the business to generate enough income to repay its debt and replace assets.



Repayment Capacity Measures

- **Debt coverage ratio**
- **Term debt and finance lease coverage ratio**
- **Replacement margin coverage ratio**



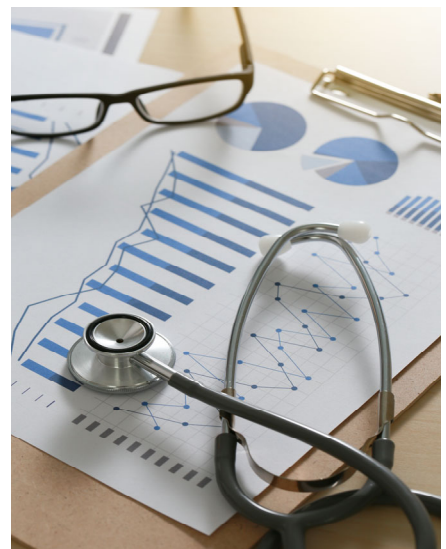
Debt Coverage Calculations

- **(Total) Debt Coverage** – measures the ability of the borrower to cover **ALL** current interest expenses and scheduled term debt payments
- **Term Debt Coverage** – measures the ability of the borrower to cover scheduled **TERM** debt payments



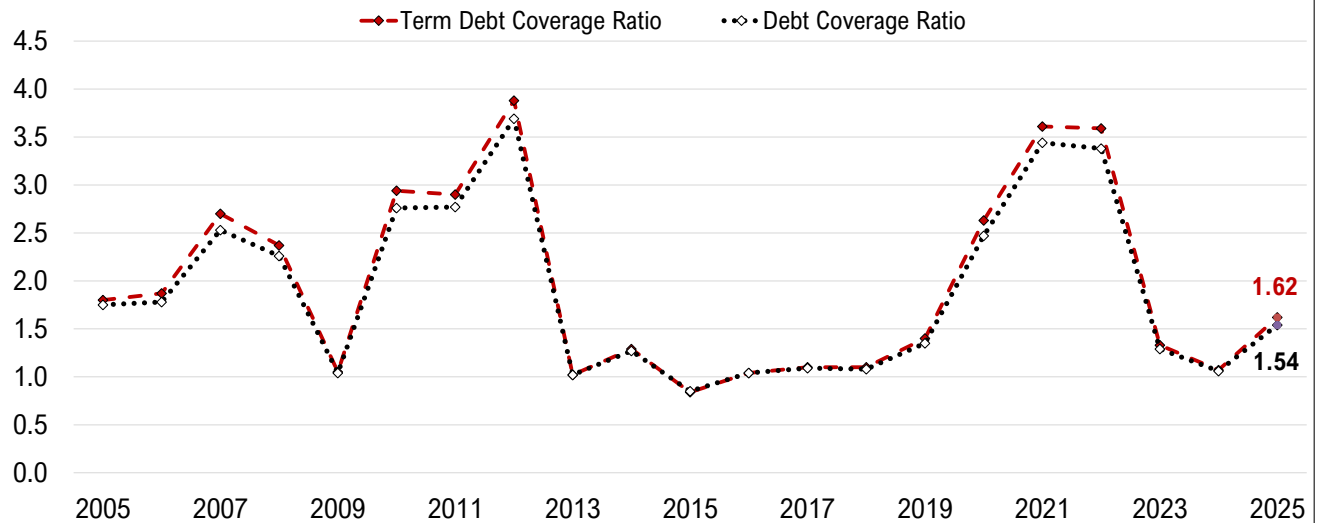
Debt Coverage Ratio

$$\begin{array}{r} \text{Net farm income (accrual)} \\ + \text{ Depreciation} \\ + \text{ Nonfarm income} \\ - \text{ Family living expense} \\ - \text{ Income taxes} \\ + \text{ Interest paid on all debt} \\ \hline = \text{ Available for debt payments} \\ \div \text{ Scheduled debt payments} \end{array}$$



Debt Coverage Ratios

Data: Minnesota Averages, All Farms



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Maintaining & Improving Repayment Capacity Position

- **Restructure or re-amortize loans**
 - Sell unneeded assets to reduce debt
 - Don't add new debt – reduce capital purchases
- **Maximize profits – generate more income**
 - Consider off-farm income
- **Reduce family living needs from the farm**



Financial Efficiency

Cost control – where is
the money going?



Financial Efficiency Measures

- **Operating expense ratio**
- **Depreciation ratio**
- **Interest expense ratio**
- **Net farm income ratio**



Financial Efficiency Ratios

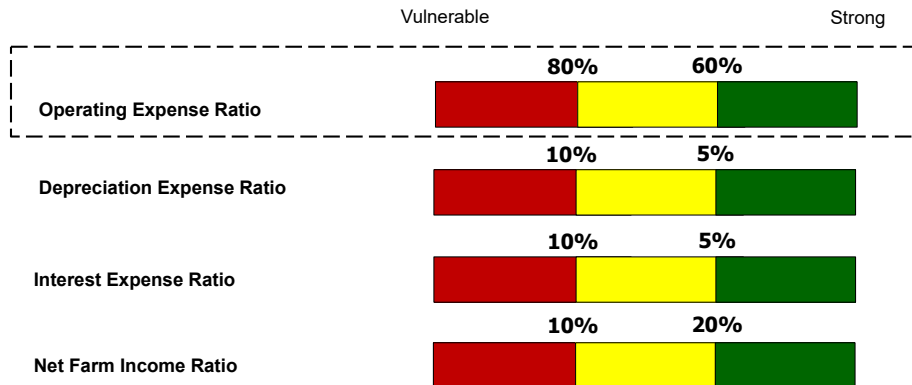
Operating Expense Ratio

- + Depreciation Expense Ratio
 - + Interest Expense Ratio
 - + Net Farm Income Ratio
- = 100 % of Gross Revenue



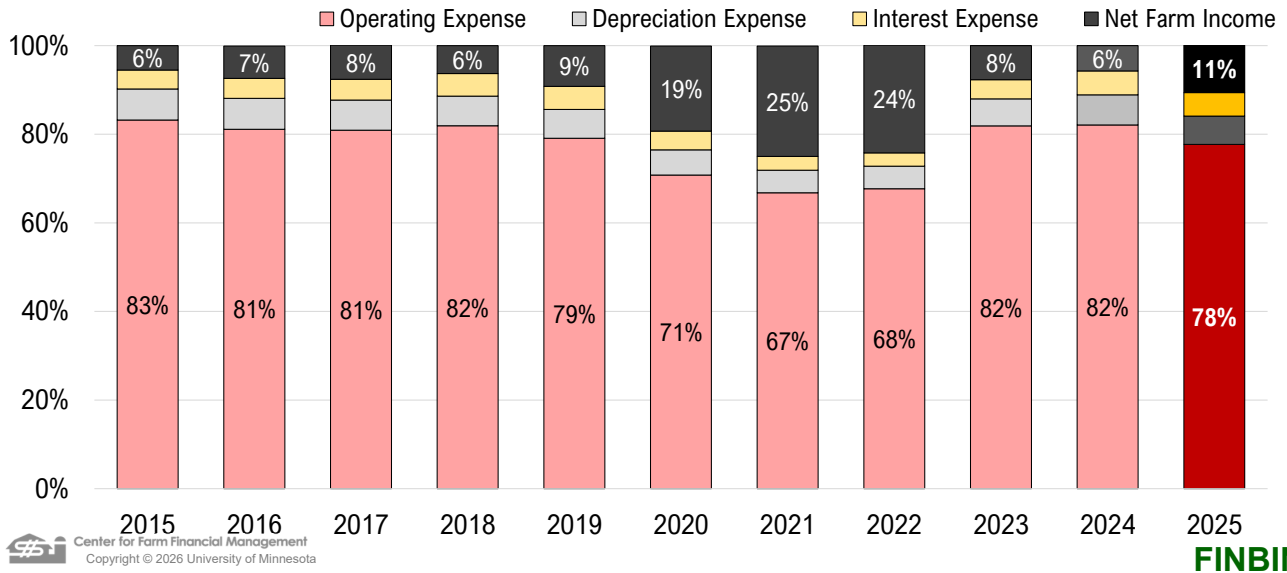
Farm Finance Scorecard

Financial Efficiency



Financial Efficiency Ratios

Data: Minnesota Average, All Farms



Maintaining & Improving Efficiency Position

- Maximize operational efficiency – maximize profits
 - Scrutinize costs
 - Lock-in revenue
 - Fully employ assets
- Manage debt, payments, and interest rates



Collateral Analysis

Will the collateral proceeds satisfy loan obligations?



Other metrics

- **Loan to value**



Nate and Sam's Fearless Scorecard

	Vulnerable		Strong
	> 75%	65% - 75	< 65%
Loan to value			

