Preparing to Meet with Your Ag Lender

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Checklist for Loan Renewal

- Most recent tax return and balance sheet
- List of all loans, include terms and payments
- Yield history for each crop produced
- Marketing plan for each crop produced
- Crop insurance documentation
- Projections and budgets for the upcoming year
  - Net farm income
  - Repayment capacity
  - Working capital
  - Enterprise costs and returns

Checklist for Loan Renewal (continued)

- Narrative that includes:
  - Issues that you have recently encountered (e.g., personnel, machinery, storage, weather, etc.)
  - Future goals
  - Management structure and future changes
  - Management succession plan

Focus of this Workshop

- Financial Analysis
  - Accrual net farm income
  - Repayment capacity measures
  - Sources and uses of funds statement
- Financial Projections
  - Repayment capacity measures
  - Sources and uses of funds statement
  - Change in working capital

Case Farm (Big Creek Farms)

- We will use a case farm located in southwest Indiana to illustrate financial analysis concepts and to create financial projections.
- The case farm produces corn, soybeans, and wheat in rotation, and has a small beef cow herd.
- Liquidity and solvency are solid, however profitability and repayment capacity have been relatively weak since 2014.

Big Creek Farms

- Enterprises
  - Corn; 250 acres
  - Soybeans; 250 acres
  - Wheat and Double-Crop Soybeans; 250 acres
  - Hay; 40 acres
  - Pasture; 110 acres
  - Beef Cow Herd; 50 cows
- Owned and Rented Acres
  - Owned = 80 acres of cropland, 40 acres of hayland, and 110 acres of pasture
  - Rented = 670 acres of cropland

Big Creek Farms

- Cash Rent = $196 per acre
- Land Values
  - Beginning of 2019 = $6,084 per acre
  - End of 2019 = $6,617 per acre
- Crop Marketing
  - Store 50% of corn and soybeans past January 1

Financial Analysis

Measuring & Analyzing Farm Financial Analysis Spreadsheet (EC-712-W)

- This spreadsheet uses Schedule F information (net cash income or net cash profit) and beginning and ending balance sheets to compute accrual net farm income, and key financial ratios and repayment capacity measures.

Beginning of Year

BALANCE SHEET

Assets	
Current	$292,047
Noncurrent	$1,448,248
Liabilities	
Current	$31,912
Noncurrent	$275,173
Equity	$1,433,210

End of Year

BALANCE SHEET

Assets	
Current	$314,771
Noncurrent	$1,428,610
Liabilities	
Current	$33,240
Noncurrent	$248,908
Equity	$1,461,233

Precise classification of assets & liabilities is important!

Identifying reason(s) for equity change is also important!

Problems with Some Balance Sheets

1) Not completed the same time each year
   - ✓ Seasonal changes in inventories make it important to complete balance sheet at the same time each year
2) Do not include notes or comments
   - ✓ Difficult to figure out what prices were used to value inventories
   - ✓ Difficult to analyze change in land values
3) Use tax rather than economic depreciation
   - ✓ Using tax depreciation understates net farm income
   - ✓ Benchmarks use economic depreciation rather than tax depreciation

Statement of Owner's Equity

- Portrays changes in the capital balance of a business over a reporting period.
- Reconciles information in the income statement, balance sheet, and cash flow statement.

Statement of Owner's Equity

Owner Equity, January 1	**1,433,210**
Change in Contributed Capital and Retained Earnings	**-14,618**
Change in Valuation Equity	**42,640**
Owner Equity, December 31	**1,461,232**

Change in Contributed Capital and Retained Earnings

Net Farm Income	**46,659**
Family Living Withdrawals	**-50,000**
Income and Self-Employment Taxes	**-11,277**
Additions of Capital	**0**
Distributions of Capital	**0**
Total Change in Contributed Capital and Retained Earnings	**-14,618**

Change in Valuation Equity

Machinery and Equipment	**0**
Buildings	**0**
Land	**42,640**
Total Change in Valuation Equity	**42,640**

Schedule F

- Gross Income = $549,354
- Total Expenses = $492,973
- Net Farm Profit = $56,381

- How is Net Farm Profit from a Schedule F related to Net Farm Income?

Problems with Schedule F

1) Ignores accrual adjustments
   - Fertilizer and Supplies
   - Investment in Growing Crops
   - Crops Held for Sale and Feed
   - Market Livestock
   - Accrued Expenses

2) Tax depreciation is substantially different than economic depreciation

Measuring & Analyzing Farm Financial Analysis Spreadsheet

- Inputs:
  - Schedule F
  - Beginning and ending balance sheets
- Outputs:
  - Accrual net farm income
  - Financial position and performance ratios
  - Repayment capacity ratios and measures
- ***The next slide summarizes the adjustments to net cash profit needed to compute accrual net farm income for the case farm.***

Accrual Net Farm Income

Item	Source	Operation	Amount
Net Farm Profit	F		56,381
Change in Crop Inventories	BS (E-B)	+	-9,965
Change in Prepaid Expenses	BS (E-B)	+	91
Change in Accrued Interest	BS (B-E)	+	150
Accrual Net Farm Income		=	$46,657

Additional Information Needed to Compute Repayment Capacity

Item	Amount
Principal on Term Debt	26,265
Cash Used for Capital Replacement	71,619
Off-Farm Income	0
Income and Self-Employment Taxes	11,277
Family Living Expenses	50,000

Cash Used for Capital Replacement

- Computation:
  - University of FINBIN uses actual purchases of machinery and equipment
  - We are going to use depreciation multiplied by 115%
    - Reflects the fact that machinery and equipment will eventually need to be replaced
    - Includes a 15% increment to account for farm growth

Capital Debt Repayment Margin

Item	Big Creek Farms
Net Farm Income (1)	46,657
Off-Farm Income (2)	0
Depreciation (3)	62,278
Income and Social Security Taxes (4)	11,277
Owner Withdrawals (5)	50,000
Principal on Term Debt (6)	26,265
Capital Debt Repayment Margin {1+2+3-4-5-6}	$21,393

Capital Debt Repayment Margin and Replacement Margin

Item	Big Creek Farms
Capital Debt Repayment Margin (7)	$21,393
Cash Used for Capital Replacement (8)	71,619
Replacement Margin {7-8}	-$50,226

Repayment Capacity for Big Creek Farms

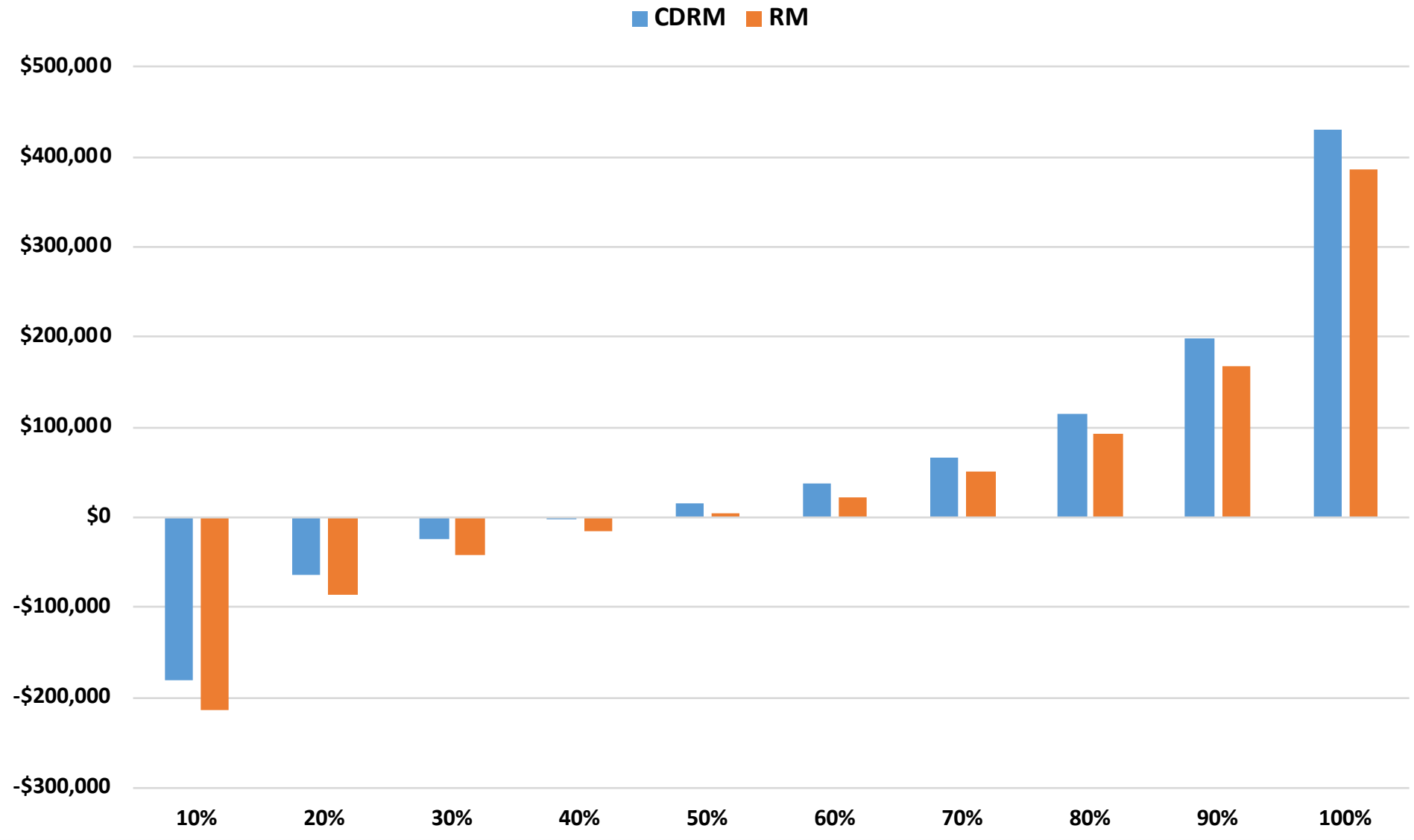
- What does the capital debt repayment margin and replacement margin tell us about the repayment capacity of Big Creek Farms?
  - Does Big Creek Farms have the capacity to repay debt?
  - Does Big Creek Farms have the capacity to replace machinery and buildings?
  - Does Big Creek Farms have the capacity to expand?

Median Repayment Capacity Measures

- **University of Minnesota, FINBIN**
  - **2009 to 2018 Averages**
    - Capital Debt Repayment Margin = $25,539
    - Replacement Margin = $13,089
      - **45% of the farms had a replacement margin below $0**
  - **2018; latest year available**
    - Capital Debt Repayment Margin = $9,288
    - Replacement Margin = -$6,397
      - **55% of the farms had a replacement margin below $0**

Capital Debt Repayment Margin (CDRM) and Replacement Margin (RM)

University of Minnesota, FINBIN, 2009 to 2018 Data



Sources and Uses of Funds Statement

- Summarizes the net cash provided by operating activities, investing activities, and financing activities.
- Reconciles information in the income statement, balance sheet, and cash flow statement.

Sources and Uses of Funds

Beginning Cash Balances (1)	**86,541**
Net Cash Provided by Operating Activities (2)	**57,385**
Net Cash Provided by Investing Activities (3)	**0**
Net Cash Provided by Financing Activities (4)	**-24,787**
Ending Cash Balances (5)	**119,139**
Unlocated Funds (1 + 2 + 3 + 4 - 5)	**0**

Net Cash Provided by Operating Activities

Cash Farm Receipts (1)	549,354
Net Non-Farm Income (2)	0
Cash Farm Expenses (3)	430,693
Owner Withdrawals (4)	50,000
Income & Self-Employment Taxes (5)	11,277
Net Cash (1 + 2 - 3 - 4 - 5)	57,385

Net Cash Provided by Investing Activities

Capital Asset Sales (1)	**0**
Capital Asset Purchases (2)	**0**
Net Cash (1 - 2)	**0**

Net Cash Provided by Financing Activities

Current Debt – Loans Received (1)	**1,478**
Term Debt – Loans Received (2)	**0**
Operating Debt Principal Payments (3)	**0**
Term Debt Principal Payments (4)	**26,265**
Net Cash (1 + 2 – 3 – 4)	**-24,787**

Pro-Forma Financial Statements

Pro-Forma Financial Statements

- Historical financial statements are often the starting point for developing a financial plan.
- Pro-forma financial statements can be used in conjunction with capital budgeting to examine the feasibility of expansion or the purchase of a major asset.

Pro-Forma Financial Statements

- To achieve goals, changes to the operation and/or farm growth are often necessary.
  - Review strengths, weaknesses, opportunities, and threats
  - Consider alternatives:
    - Change enterprises
    - Add value
    - Restructure debt
    - Increase farm size

Pro-Forma Financial Statements

- Sensitivity Analysis
  - Analyzing how changes in key assumptions affect income, cost, and profitability objectives.
  - Construct several financial plans using different values for production levels, key prices, and interest rates.

Pro-Forma Financial Statements

- Most Likely Scenario Planning Model
  - Examine impact of most likely scenario on financial statements.
  - Use sensitivity analysis to vary the assumptions made in the financial plan.
    - Revenue assumptions
    - Cost assumptions

Case Farm Scenarios

Base Case – Crop Prices and Yields

Rotation Corn = $3.60/bu.; 194 bu./acre

Rotation Soybeans = $8.80/bu.; 57 bu./acre

Wheat = $5.30/bu.; 71 bu./acre

DC Soybeans = $8.80/bu.; 40 bu./acre

Change in Fall Prices

25% and 75% percentiles (iFarm Price Distribution Tool)

Fall Price Scenarios

Financial Metric	25% Percentile (3.20; 8.10)	Base Case (3.60; 8.80)	75% Percentile (4.10; 9.50)
Net Farm Income	$8,895	$46,270	$86,495
Profit Margin Ratio	-2.9%	4.6%	11.4%
Working Cap. per Crop Acre (2019=$375)	$354	$398	$446
Capital Debt Repayment Margin	-$15,700	$17,138	$52,740

Sources and Uses of Funds

	25% Percentile	Base Case	75% Percentile
Beginning Cash Balances (1)	119,139	119,139	119,139
Net Cash Provided by Operating Activities (2)	12,540	29,890	49,180
Net Cash Provided by Investing Activities (3)	0	0	0
Net Cash Provided by Financing Activities (4)	-26,181	-26,181	-26,181
Ending Cash Balances (5)	105,498	122,848	142,138
Unlocated Funds (1 + 2 + 3 + 4 - 5)	0	0	0

Pro-Forma Spreadsheet

Summary of Results

- Using projected prices and trend yields, the capital debt repayment margin was positive (i.e., term debt and interest could be covered).
- Using projected prices, the replacement margin was negative.

Resources

Center for Commercial Agriculture

- Resources
  - Filter by Type: Tools
    - Measuring and Analyzing Farm Financial Performance
    - Pro forma Financial Statements
- Web Site:
  - https://ag.purdue.edu/commercialag/home/resources/?_type=tool

Financial Management Skills Assessment

List of Financial Management Skills

- Each operator should rank their ability with respect to each skill using a 1 to 5 scale with 1 being relatively weak and 5 being relatively strong with respect to that skill.
- Try to identify any gaps in skills, which are defined as the difference between skills that a farm needs and the skills of the current workforce.

Questions, Comments

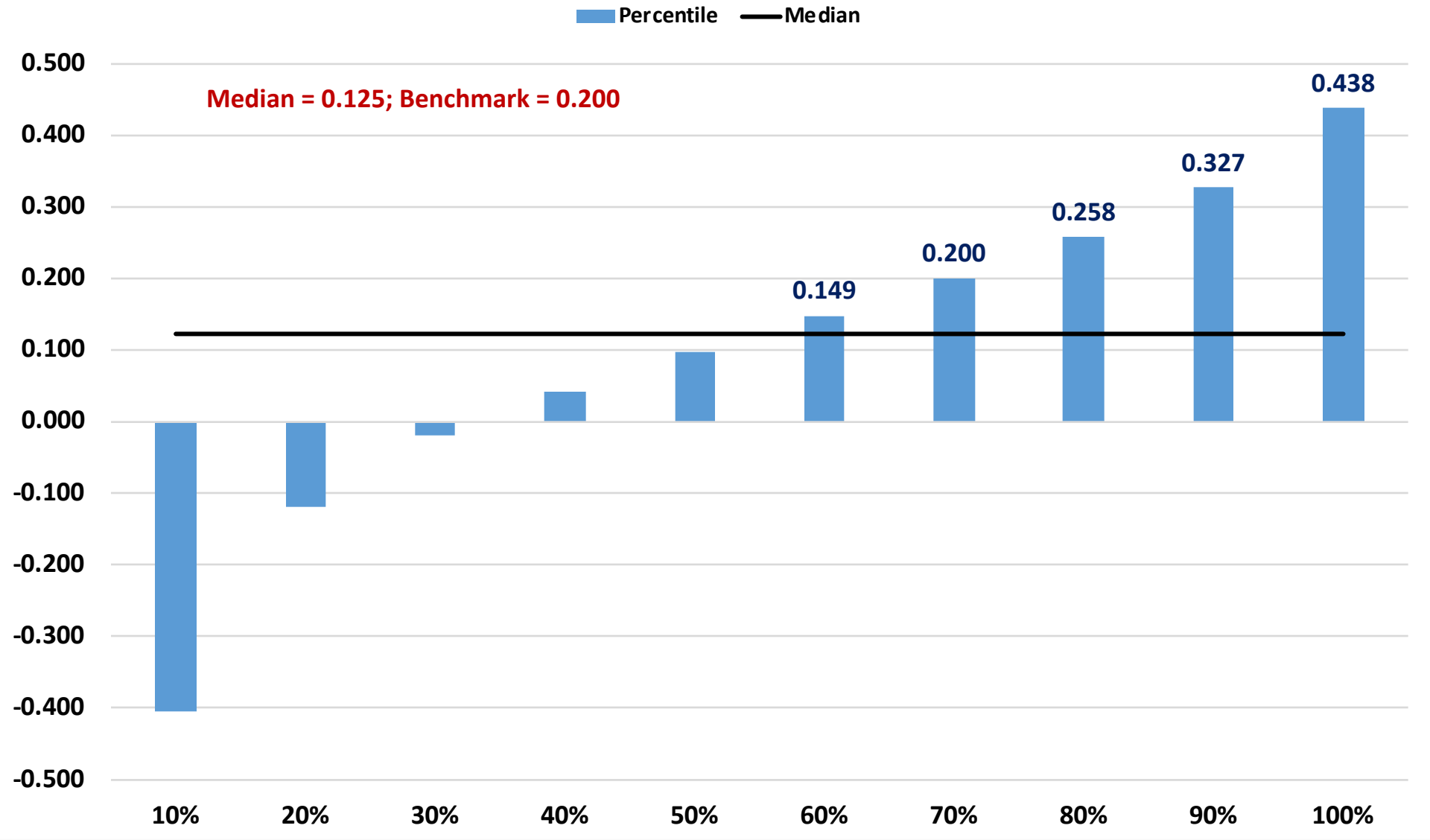
purdue.edu/commercialag

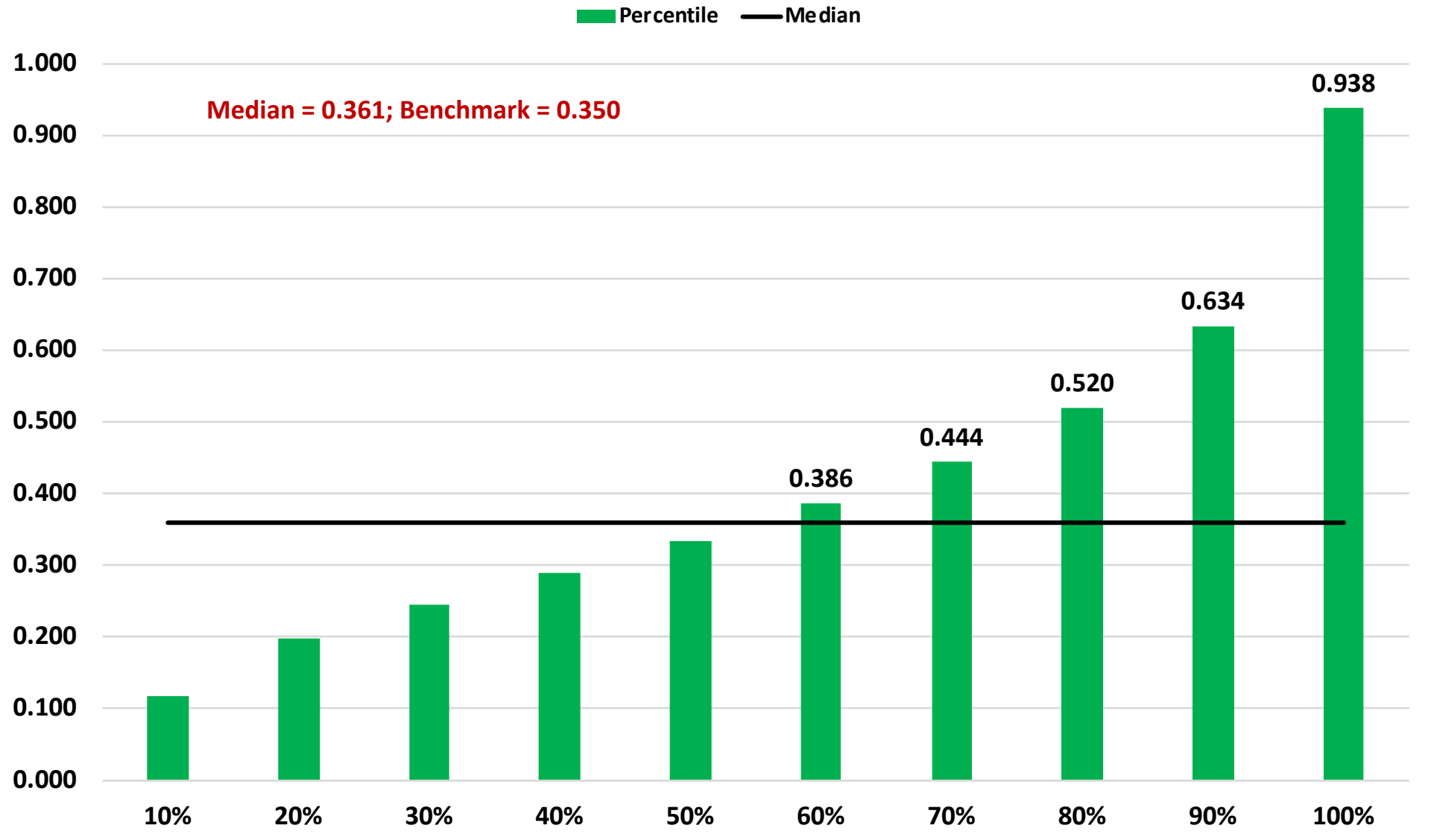
Key Financial Ratios

- Operating Profit Margin Ratio
  - Measures the extent to which a business generates a profit from the use of land, labor, management, and capital.
  - Computed by dividing net farm income plus interest expense minus unpaid family and operator labor by value of farm production.
- Asset Turnover Ratio
  - Measures the intensity with which a business uses its assets to generate value of farm production.
  - Computed by dividing value of farm production by average total assets.

Operating Profit Margin Ratio, Averages by Percentiles, 2009 to 2018

University of Minnesota, FINBIN



Asset Turnover Ratio, Averages by Percentiles, 2009 to 2018

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