Improving Your Farm Financial Management Skills for 2016

Presented By:
Ed Farris, Agriculture and Natural Resources Educator
Summer Long, CED- 4-H, Youth Development Educator

Objectives

• Develop a deeper understanding of the balance sheet and how it can be used in farm business analyses
• Understand the basics of accurately measuring financial performance (profitability)
• Discuss measures of financial performance and compare measures to benchmarks
• Share information about financial tools

Crop prices plummeted from 2012’s peak

Crop prices fell faster than costs adjust downward:
Negative Margins

Crop prices fell faster than costs adjust upward:
Positive Margins

Source: USDA WASDE Report, FAPRI Forecasts for 2016-2018

Crop prices rise faster than costs adjust upward:
Positive Margins

Crop prices fall faster than costs adjust downward:
Negative Margins

Improving Your Farm Management Skills
Think about cost per bushel of output

✔ Marketing Strategies
✔ Financial
✔ Input Usage & Purchasing
✔ Process Control

Financial Strategies

1. Preserve Working Capital
   Working capital = current assets – current liabilities
2. Reduce capital expenditures
3. If working capital is already low, rebuild it
4. Restructure debt with longer loan terms
5. Lock-in long-term interest rates
6. Reduce family living expenses
7. Work closely with lender

Harvest Year

U.S. National Average Cash Corn Prices
By Marketing Year

Crop Prices Plummeted From 2012’s Peak

Crop prices fell faster than costs adjust downward:
Negative Margins

Crop prices fell faster than costs adjust upward:
Positive Margins

Source: USDA WASDE Report, FAPRI Forecasts for 2016-2018
What About Improving Marketing Skills?

Are there opportunities to improve? What are they?

1. Know local basis & spot basis opportunities
2. Pay attention to quality
   - Avoid discounts, seek premiums
3. If you have good facilities, take advantage of them

Will Better Marketing Solve The Problem?

- Better marketing will not change the marketing year average price level
  - Still have to deal with $4 corn & $9 soybeans
- No evidence that advisors can “beat the market” over a period of years
  - But better marketing basics can provide a boost…and we need to pick up every nickel & dime

White County Farms

- **Farm Size and Organization**
  - 3000 crop acres
    - 750 acres owned
    - 2250 acres cash rented
  - Enterprises
    - Corn, 1500 acres
    - Soybeans, 1500 acres
  - Average Yields (2005 to 2014)
    - Corn = 172.2
    - Soybeans = 51.7

- **Average Contribution Margins (2005 to 2014)**
  - Corn = $373 per acre
  - Soybeans = $349 per acre

- **Average Earnings (2005 to 2014)**
  - Corn = $52 per acre
  - Soybeans = $41 per acre

Basic Financial Statements

- **Balance Sheet**
- **Income Statement (Earnings Statement)**
- **Sources and Uses of Funds Statement** (Statement of Cash Flows)
- **Statement of Owner’s Equity**

- We will focus on the first two statements in this workshop.
Balance Sheet

systematic organization of everything owned (assets) and owed (liabilities) by a business or an individual at a given point in time

The resulting difference is net worth or owner’s equity

\[ \text{Assets} - \text{Liabilities} = \text{Net Worth or Owner's Equity} \]

Valuation Issues

- Cost vs. Market Value
  - Cost Approach
    - Initial cost plus improvements less depreciation
  - Market Value Approach
    - Estimate asset values using current prices for similar assets

Valuation Issues

- Advantages to Cost Approach
  - More accurate measure of actual performance of invested capital
  - Critical to the examination of changes in equity
- Advantages to Market Value Approach
  - Easy to derive
  - More comparable across farms
  - Includes opportunity cost

Beginning of Year

<table>
<thead>
<tr>
<th>BALANCE SHEET</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>$2,058,268</td>
<td>$550,387</td>
</tr>
<tr>
<td>Noncurrent</td>
<td>$7,641,437</td>
<td>$752,264</td>
</tr>
<tr>
<td>Total</td>
<td>$9,709,705</td>
<td>$1,302,651</td>
</tr>
<tr>
<td>Equity</td>
<td>$8,397,114</td>
<td>$8,935,595</td>
</tr>
</tbody>
</table>

End of Year

<table>
<thead>
<tr>
<th>BALANCE SHEET</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>$2,128,793</td>
<td>$549,007</td>
</tr>
<tr>
<td>Noncurrent</td>
<td>$8,080,360</td>
<td>$724,552</td>
</tr>
<tr>
<td>Total</td>
<td>$10,209,153</td>
<td>$1,273,559</td>
</tr>
<tr>
<td>Equity</td>
<td>$9,935,595</td>
<td>$8,935,595</td>
</tr>
</tbody>
</table>

Precise classification of assets and liabilities is important!
Identifying the reason for the change in equity is also important!

Two Equally Important but Different Questions

1. What is my cash flow situation?
2. What is the profitability of the operation?

Businesses with lots of cash are not necessarily profitable and profitable businesses may not have strong cash flow in some periods. We’re going to focus on profitability.

Measuring Net Income – Accrual Versus Cash

Accrual financial reporting: recognize income on the income statement in the period it is earned and expenses in the period in which they are incurred.

versus

Cash accounting: account for cash receipts when received and cash expenditures when paid.
Types of Accrual Adjustments

- Current Assets Excluding Cash
  - Fertilizer and supplies
  - Crops held for sale and feed
  - Market livestock
- Accrued Interest

Accrual Adjustment – Crop Income

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Crop Sales</td>
<td>$2,054,400</td>
</tr>
<tr>
<td>Minus Beginning Inventory Value</td>
<td>$804,075</td>
</tr>
<tr>
<td>Plus Ending Inventory Value</td>
<td>$719,499</td>
</tr>
<tr>
<td>Equals Accrual Adjusted Income</td>
<td>$1,969,824</td>
</tr>
</tbody>
</table>

Accrual Adjustment – Interest Expense

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Interest Expense</td>
<td>$79,649</td>
</tr>
<tr>
<td>Minus Beginning Inventory Value</td>
<td>$22,734</td>
</tr>
<tr>
<td>Plus Ending Inventory Value</td>
<td>$22,068</td>
</tr>
<tr>
<td>Equals Accrual Adjusted Expense</td>
<td>$78,983</td>
</tr>
</tbody>
</table>

Earnings Statement

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of Farm Production</td>
<td>2,052,324</td>
</tr>
<tr>
<td>Cash Farm Operating Expense</td>
<td>1,672,594</td>
</tr>
<tr>
<td>Accrual Expense Adjustments</td>
<td>2,186</td>
</tr>
<tr>
<td>Depreciation</td>
<td>134,784</td>
</tr>
<tr>
<td>Total Farm Operating Expense</td>
<td>1,888,347</td>
</tr>
<tr>
<td>Net Farm Earnings</td>
<td>163,778</td>
</tr>
</tbody>
</table>

Statement of Owner’s Equity

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner Equity, January 1</td>
<td>8,397,114</td>
</tr>
<tr>
<td>Change in Contributed Capital and Retained Earnings</td>
<td>42,731</td>
</tr>
<tr>
<td>Change in Valuation Equity</td>
<td>495,790</td>
</tr>
<tr>
<td>Owner Equity, December 31</td>
<td>8,935,605</td>
</tr>
</tbody>
</table>

Change in Contributed Capital and Retained Earnings

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Farm Income</td>
<td>163,778</td>
</tr>
<tr>
<td>Family Living Withdrawals</td>
<td>-96,662</td>
</tr>
<tr>
<td>Income and Self-Employment Taxes</td>
<td>-34,383</td>
</tr>
<tr>
<td>Additions of Capital</td>
<td>0</td>
</tr>
<tr>
<td>Distributions of Capital</td>
<td>0</td>
</tr>
<tr>
<td>Total Change in Contributed Capital and Retained Earnings</td>
<td>42,731</td>
</tr>
</tbody>
</table>
Purdue University Cooperative Extension Service is an equal access/equal opportunity institution.

### Change in Valuation Equity

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinery and Equipment</td>
<td>0</td>
</tr>
<tr>
<td>Buildings</td>
<td>0</td>
</tr>
<tr>
<td>Land</td>
<td>495,750</td>
</tr>
<tr>
<td>Total Change in Valuation Equity</td>
<td>495,750</td>
</tr>
</tbody>
</table>

### Key Points?

1. Make accrual adjustments to accurately measure profitability and financial position!
2. Identify the reason for the change in equity!

### Four Key Questions

- Are returns adequate?
- How liquid is the business?
- How is the business financed?
- How efficient is the business?

### Benchmarking

- Comparing our business to those that are the best to learn how they achieve success
- Financial benchmarks can come from
  - past performance
  - projected performance
  - performance of similar farms

### Sources of Benchmark Data

- Farm business associations are good sources of benchmarks
  - Illinois, Iowa, Kentucky, Minnesota, and others
- Know your data source
  - methods for summarization
  - period in which data was collected
  - calculations used for performance measures

### Worksheet 2: Financial Position and Performance Ratios

- Profitability
- Liquidity
- Solvency
- Financial Efficiency
Profitability

- Measures the extent to which a business generates a profit from the use of land, labor, management, and capital
- Measured by
  - Operating profit margin ratio (OPM)
  - Return on assets (ROA)
  - Return on equity (ROE)

Net Earnings (Net Farm Income)

- Net revenues available from normal operations after fixed and variable expenses have been deducted
- For accuracy, calculate on an accrual-adjusted basis
- For a sole proprietor farm operation, this income is available to compensate unpaid family labor, management, and equity capital

Operating Profit Margin

<table>
<thead>
<tr>
<th>Net farm income</th>
<th>$ 163,778</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest expense</td>
<td>+ 78,983</td>
</tr>
<tr>
<td>Family living expense</td>
<td>- 86,663</td>
</tr>
<tr>
<td>Net return</td>
<td>= 156,098</td>
</tr>
<tr>
<td>VFP</td>
<td>÷ 2,052,324</td>
</tr>
<tr>
<td>Operating profit margin</td>
<td>7.6 %</td>
</tr>
</tbody>
</table>

Return on Assets

<table>
<thead>
<tr>
<th>Net farm income</th>
<th>$ 163,778</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest expense</td>
<td>+ 78,983</td>
</tr>
<tr>
<td>Family living</td>
<td>- 86,663</td>
</tr>
<tr>
<td>Net return</td>
<td>= 156,098</td>
</tr>
<tr>
<td>Total assets</td>
<td>÷ 9,954,429</td>
</tr>
<tr>
<td>Return to assets</td>
<td>1.6 %</td>
</tr>
</tbody>
</table>

Return on Equity

| Net farm income | $ 163,778 |
| Family living | - 86,663 |
| Equity return | = 77,115 |
| Total equity | ÷ 8,666,354 |
| Return to equity | 0.9 % |

Profitability Scores

<table>
<thead>
<tr>
<th>Measure</th>
<th>Benchmark</th>
<th>White County Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Our Grade</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>7.0%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>8.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Operating Profit Margin</td>
<td>20.0%</td>
<td>7.6%</td>
</tr>
</tbody>
</table>
Liquidity and Solvency Scores

<table>
<thead>
<tr>
<th>Measure</th>
<th>Benchmark</th>
<th>White County Farms</th>
<th>Our Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Ratio</td>
<td>2.0</td>
<td>3.9</td>
<td></td>
</tr>
<tr>
<td>Working Capital / Gross Revenue Ratio</td>
<td>35.0%</td>
<td>77.0%</td>
<td></td>
</tr>
<tr>
<td>Debt-to-Asset Ratio</td>
<td>40.0%</td>
<td>12.5%</td>
<td></td>
</tr>
<tr>
<td>Debt-to-Equity Ratio</td>
<td>65.0%</td>
<td>14.2%</td>
<td></td>
</tr>
</tbody>
</table>

Let’s Take a Look at Machinery Purchases & Family Living Expenses

What are the biggest cost issues facing crop agriculture this year?

2015 Estimated Indiana Corn Production Costs

Cash Rent, West Central Indiana

The Cash Rent Dilemma
Making Long-Run Decisions

Farmers decision to rent farmland is complicated by

- Downturn in expected net returns for corn and soybeans
- Landowner’s reluctance to reduce cash rents

Questions that Need to be Addressed

1. If you expect to lose money in 2016 on a tract of rented land, should you continue to rent the tract?
2. How much of a premium can you pay to retain control of a tract until net return prospects improve?
3. How does paying a premium affect your farm’s liquidity?

The Rent Decision

- Should a farmer “fold”
  - Risk permanently losing control of the land
- Renegotiate rental rate
  - Negotiations can be very difficult
- How can you make a choice?
- Consider taking an “Options Approach”

Long-Term Cash Rent Decision Tool

- Inputs for the spreadsheet tool
  1. 2016 Budgets for Corn & Soybeans
  2. Prices and Yields for Next Five Years
  3. Working Capital at Beginning of the Year

- Outputs from the spreadsheet tool
  - Rent Analysis
    1. Market Cash Rent
    2. Breakeven Cash Rent
    3. Premium of Market over Breakeven Cash Rent
  - Working Capital Analysis

Long-Run Inputs
Input the local market rate for cash rent

Analysis compares breakeven cash rent to market rate & impact on working capital

The Bottom Line
You can’t accurately predict the future so you must position for the challenges & opportunities

More Resources
• More information & sample lease forms available on Purdue Center for Commercial Ag’s website: 
  – ag.purdue.edu/commercialag
  – Click on “Farmland” & Look for “Rental Arrangements”
  – FarmRiskResources...farmriskresources.com

Thanks to Jim Mintert and Michael Langemeier from the Purdue Center of Commercial Ag for their assistance with our presentation!