Managing Financial Risk in Agriculture

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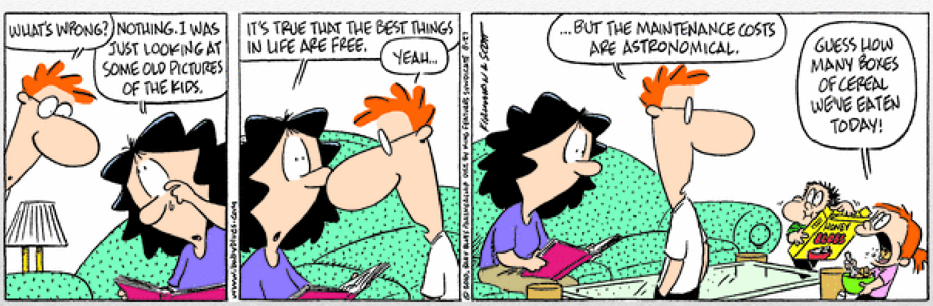
There is no such thing as "free" money



What is financial risk?

- Comparison to playing soccer
- In terms of balance sheet
  - Most risks are on the asset side
  - Financial risk is on the liability side
- Arise from the composition and terms of the various financial claims on the firm

Risks are interrelated

- Financial, production, and marketing risks are interrelated
  - Example: Ability to repay term debt is dependent on grain prices and yields.
- Need to consider all risks when developing strategies

Balance Sheet v Income Stmt

- Balance Sheet
  - a point in time measurement
  - “snap-shot” view
- Income Statement
  - measurement over time
  - “movie camera” view

Balance Sheet

- def - is a systematic listing of all that the business owns (assets) and all that it owes (liabilities) at a specific moment in time
- Assets - classified according to their liquidity
  - Current - cash and near-cash items whose values will likely be realized in cash or used up during the normal course of business
  - Noncurrent - assets that yield services to a business over several years.
- Liabilities - also classified as current and noncurrent

Using a Balance Sheet

- What do you own?
  - Assets
- What do you owe?
  - Liabilities
- What's the difference
  - Net Worth

Format of balance sheet

Assets	Liabilities
Current assets < 1 yr to cash	Current liabilities
Non-current assets > 1 yr to cash	Non-current liabilities
	Owners equity

What a balance sheet shows

- Liquidity
  - describes the ability to meet obligations as they come due in the short run.
    - Current Ratio_______________________________
    - Working Capital ____________________________

What a balance sheet shows

- Solvency
  - refers to the difference between your assets and liabilities
    - Debt/Asset ratio____________________________
    - Equity/Asset ratio__________________________
    - Debt/Equity ratio___________________________

Financial Analysis

- Recommended ratios of the FFS committee
  - Liquidity
    - Current ratio
    - Working Capital
  - Solvency
    - Debt/Asset ratio
    - Equity/Asset ratio
    - Debt/Equity ratio

Ratios (cont)

- Profitability
  - Rate of return of farm assets
  - Rate of return of farm equity
  - Operating profit margin ratio
  - Net farm income
- Financial Efficiency
  - Asset turnover ratio
  - Operating expense ratio
  - Depreciation/Amortization expense ratio
  - Interest expense ratio
  - Net farm income from operations ratio

Current Ratio

- Computation: CA/CL
  - Interpretation: this ratio indicates the extent to which current farm assets if liquidated, would cover current farm liabilities.
- Limitations:
  - static concept
  - ignores lines of credit
  - "current" means one year
  - affected by value of assets
  - ratio can vary throughout the year

Working Capital

- Computation: CA - CL
- Interpretation: is a theoretical measure of the amount of funds available to purchase inputs and inventory items after the sale of current farm assets and payment of current farm liabilities
- Limitations:
  - absolute measure
  - varies by type of business
  - static or stock concept
  - other points as noted for current ratio

Debt/Asset Ratio

- Computation: Total farm liabilities ÷ Total farm assets
- Interpretation:measures financial position; it expresses the risk exposure of the business; can be calculated using either cost or market value of assets.
- Limitations:
  - value is influenced by the value placed on farm assets.
  - reasonable value vary by farm.

Rate of Return on Farm Assets (ROA)

- Computation: (NFIFO + interest expense - unpaid labor) ÷ Ave total farm assets
- Interpretation: an overall index of profitability.
- Limitations:
  - withdrawals for family living are often used as a proxy for unpaid labor.
  - low compared to non-farm investments
  - valuation of assets affects value
  - non-farm income and assets can affect ratio
  - business structure can affect ratio

Rate of Return on Farm Equity

- Computation: (NFIFO - unpaid labor)
  ÷ farm equity
- Interpretation: this ratio measures the rate of return on equity capital employed in the farm business.
- Limitations:
  - similar to ROA
  - a high ratio is normally good but could indicate under-capitalization or highly leveraged farm business.

Operational Ratios

- Interest expense ratio
  - Interest expense ÷ Value of farm production
    - VFP – is the gross revenue that is actually generated on the farm
- Limitations:
  - ratios are very sensitive to the accuracy and reliability of the info used

Suggested guidelines for ratios

Liquidity

Current Ratio		2.0		1.0	
Working Capital		???		???	

Solvency

Debt/Asset Ratio		30%		60%	
Equity/Asset Ratio		70%		40%	
Debt/Equity Ratio		43%		150%	

Interest Expense Ratio		10%		20%	

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Special note about ROA and ROE

Rate of Return on Assets		5%		1%	
Rate of Return on Equity		10%		5%	

- Normally, ROE > ROA
- If reversed there is a problem
  - Return on debt is less that its cost

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What is optimal level of debt and leverage

- Depends on
  - Profitability
  - Risk
  - Repayment capacity
  - Farmer's tolerance for risk

Using balance sheet information

- If the problem is LIQUIDITY then possible solutions are:
  - refinance current debt
  - slow expansion
  - reduce operating debt
  - liquidate assets
  - cut costs
  - improve profitability
- If the problem is Solvency then possible solutions are:
  - retain more net income
  - reduce debt
  - sell assets
  - improve profitability

Financial Responses to Risk

- Managing financial leverage
- Adjust pace of investment
- Hold credit reserves
- Use leasing programs
- Use multiple lenders
- Use formal insurance

Management tools and strategies

- Good records
- Budgets
- Smart loans
- Reserves
- Renting and leasing
- Off-farm employment