Risk Management from a Strategic Perspective

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Expect Greater Uncertainty Ahead

• Typical Responses
  – increase focus on managing revenue
  – build up finances
  – pay down debt; deleverage; sell assets
  – reduce time exposure to risk
  – try to time markets

• Benchmark: Do Nothing; Hope for the Best
Re-examine Risk Management

• Recognize Risk is Not Necessarily Bad
  – no one has problem with prices going up
  – when prices go down there is trouble
  – can’t have one without the other

• Ag Risk Understood Generally in Terms of
  – prices
  – yields
  – Revenues

• Risk Management Focused on Revenues
Risk and Uncertainty Are the Rule

• Risk and Uncertainty are Badly Misunderstood
• Tendency to Confuse Risk and Uncertainty
• Risk is Quantifiable; Uncertainty is Not
  – if we can measure we can try to manage
  – we can see it
  – if we can’t measure or see it, it is unknown
• Uncertainty: Regulations and Policies
Rice Prices, 1970 to 2010
Rice Yields, 1970 to 2010
Long-Term Commodity Cycle: Price Volatility Increasing

- 2000 to 2004 – Period of Relative Quiet
  - historic fluke; quiet before the storm
- 1970 to 2000 – Three Decades of High Volatility
- 2004 to Date – Prices Doubling or Tripling in Real Terms (Rice Quintuples)
- Prices Go Down, Too.
Orange Prices, 1970 to 2010

![Graph showing the price of oranges from 1970 to 2010. The price fluctuates over time, with a significant increase in 1990.](image-url)
Orange Yields, 1970 to 2010
Strawberry Prices, 1970 to 2010
Strawberry Yields, 1970 to 2010
Almond Prices, 1970 to 2010

Graph showing the price of almonds from 1970 to 2010, expressed in dollars per pound.
Almond Yields, 1970 to 2010
Reconsider Understanding of Risk

• Look Beyond Revenue Side
  – prices, yields, revenue require management

• What About Costs?
  – land, fertilizer, energy, water, seed, weather, pests, disease, regulations, technology, food safety, foreign currency
  – major sources of risk
  – all require management
Anhydrous Ammonia Prices, 1970 to 2012
CA No. 2 Diesel Prices, 1995 to 2012
Interest Rates, 1962 to 2012

10-Year Treasury Constant Maturity Rate (DGS10)
Source: Board of Governors of the Federal Reserve System

Shaded areas indicate US recessions.
2012 research.stlouisfed.org

Source: Federal Reserve Bank of St. Louis
## Regulatory Compliance Costs for Oranges, 2008

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Education/Training for Regulatory Compliance</td>
<td>$7.40</td>
<td>$23.79</td>
</tr>
<tr>
<td>Air Quality Requirements</td>
<td>$208.22</td>
<td>$218.01</td>
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<tr>
<td>Water Quality Compliance</td>
<td>$0.28</td>
<td>$0.30</td>
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<tr>
<td>Department of Pesticide Regulation</td>
<td>$23.01</td>
<td>$24.17</td>
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<tr>
<td>Labor Requirements (Workman’s Comp)</td>
<td>$95.60</td>
<td>$32.51</td>
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<tr>
<td>Capital Investment</td>
<td>$21.69</td>
<td>$100.00</td>
</tr>
<tr>
<td>Risk Management</td>
<td>$0</td>
<td>$6.73</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$356.20</strong></td>
<td><strong>$401.51</strong></td>
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</table>

## Impact of Regulatory Risk on Margins

### Net Income after Taxes when Regulatory Compliance Costs are Included in the Cost of Production

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>$35,159</td>
<td>$58,957</td>
<td>$82,855</td>
<td>$130,608</td>
<td>$174,317</td>
<td>$96,379</td>
</tr>
</tbody>
</table>

### Net Income after Taxes when Regulatory Compliance Costs are Excluded from the Cost of Production

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<th>Average</th>
</tr>
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<tbody>
<tr>
<td>Mean</td>
<td>$112,784</td>
<td>$133,211</td>
<td>$154,697</td>
<td>$199,226</td>
<td>$239,942</td>
<td>$167,972</td>
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</tbody>
</table>

Regulatory Risks and Economic Losses

Reconsider Our Treatment of Risk

- Mistake to Focus Mainly on Prices
  - ignores effect of financing and capital costs
- Must Focus on Revenues and Costs -- Margins
- Margin Risk Management is Key Strategic Competence
Hope is Not an Option

- Risk Management is a Strategic Function
  - part of competitive advantage
    - or lack thereof
  - major component of management responsibility
    - just like operations, harvest, distribution, sales
    - operations and finance intersect in margins
    - integral part of strategic activities
  - contributes to success or failure of company
  - needs daily attention, high level of expertise, and good information
Two (Related) Types of Ag Risk

- Operations and Financing
  - price, cost, and yield
  - debt (including interest expense)

- They Can be Related
  - debt incurred to cover thin or negative margins

- Address Margin Risk Perspective
  - revenue is volatile; a function of price and yield
  - costs are volatile
  - margin risk results
Managing Margin Risk

• Operational and Financial Risks Intersect in Margins
  – low prices, high costs, low yield
  – margins indicative of risks in other areas
  – manage margins and address broader risk issues

• Important Strategic Function
  – success or failure can depend on margin management strategy
Managing the Margin: a Central Strategic Function of Agribusiness Management

- Revenues, Input Costs, and Yields Volatile
- Margin Volatility Even Greater (2x to 4x More)
- Result: Farms Have to Manage Margins Better
  - stabilize profit margins at some acceptable range
- Result: Farms Become More Cost Sensitive
  - more input needed to meet additional demand
  - reluctant to let costs eat into margins
- Result: Farms Have to Become More Efficient
  - demand same from suppliers
- Otherwise, Credit Becomes Harder to Acquire
Managing Revenue Risk Alone is Ineffective

Focus on Stabilizing Revenue

- Revenue
- Costs

Time

$
Managing Cost Risk Alone is Ineffective
Managing Margin Risk: Two Goals

• Smooth Out Volatility
  – revenues
  – costs

• Maintain Revenues in Excess of Costs
  – margin will squeeze; that’s OK
  – avoid going negative

• Do These Simultaneously
  – that’s the trick
Managing Margins: Yields Different Results

Focus on Stabilizing Margins

- Revenue
- Costs

Time

$
Strategic Implications for Industry

• Specifically:
  - manage to stabilize margins
    • focus on managing costs as well as revenue
    • no perfect hedge; basis risk remains
  - use crop insurance when needed
  - take advantage of historically low lending rates
    • lock in rates or refinance
  - optimize leverage
    • pay down debt if overleveraged
    • don’t overextend financial situation
Strategic Implications for Industry

• More Broadly:
  – prepare to adapt and change
  – in other words, research, develop, innovate

• There Will be Failure; Risk Taking Required
  – small scale failure (no catastrophes)
  – fail quickly, learn, move on
  – risk management more important than ever

• Innovation creates value
  – share benefits with customers
  – share risks with customers, too
Benefits of Sound Margin Risk Management

• Improve Financial Position
  – build up financial reserves
• Provides for Moderate Growth
  – costs of capital should increase in future
• Strengthens Cost Controls
• Improves Operational Efficiencies
• Requires Focus on Strategic Investments
• Makes Your Lender Happy
Contact Information

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