Agricultural Market Outlook for California in a Global Context

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Agricultural market drivers?

Supply was main factor until 2002 when ...

Demand factors changed the world.
Advances in . . .

* **production** create the **need** for global markets

* **storage** expand the amount of time before spoilage

* **transportation** expand the geographic size of a market
Globalization of markets affects the profitability of commodity production, which affects the composition of those markets.
* Gross profit margin averaged 2 to 3% over the 1975-2005 period, higher recently.

* 90% of U.S. farm operators households’ income comes from off-farm sources.
... is “moving up the Farming Food Chain”

... thus becoming more risky and needing more $/acre for higher value crops.
## The Farming Food Chain

<table>
<thead>
<tr>
<th>Development Stage</th>
<th>Crop Type</th>
<th>Investment Asset Fixity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th</td>
<td>High-value, perennial</td>
<td>Very high, highly fixed</td>
</tr>
<tr>
<td>3rd</td>
<td>High-value, annual</td>
<td>High, inflexible</td>
</tr>
<tr>
<td>2nd</td>
<td>Low-value, perennial</td>
<td>Moderate, flexible</td>
</tr>
<tr>
<td>1st</td>
<td>Low-value, annual</td>
<td>Low, very flexible</td>
</tr>
</tbody>
</table>
Prices of many commodities rose:
Crude oil went up 640% January 2002 to July 2008

Index: January 2002 = 100

Percent increase in prices since
Food Commodities Jan 2002 Jan 2006
Food Commodities 220 70
All commodities 405 80
Crude oil 640 97

1/ Food Commodities include grains, vegetable oils, meats, sugar, and other basic food commodities.
Crop price increases: real vs. nominal

Average of 4 crops (wheat, soybeans, corn & rice)

Index: January 2002 = 100

Real prices

Nominal prices
Other contributing factors

Strong:
- Policy changes (e.g., ethanol)
- Increasing foreign exchange reserves held by importers
- Role of hedge funds, index funds, & sovereign wealth funds: affect demand and/or volatility?

Weak:
- Higher energy prices
- Weaker U.S. dollar
- Adverse weather reduced crop production
Foreign Exchange Reserves

Emerging Asia: Foreign exchange reserves

$bn

Source: Oxford Economics / Haver Analytics
What do these changes in agricultural markets mean to U.S. vegetable producers?

1 - Income risks are increasing
2 - China is competitor now, customer later
How are producers responding?

• Expanding size of operations
• Diversifying crop portfolios
• Forward contracting output
The Trend in Economies of Scale

Florence medians, (weighted by harvested acres).

<table>
<thead>
<tr>
<th>Selected Crops</th>
<th>1987</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asparagus</td>
<td>160</td>
<td>240</td>
</tr>
<tr>
<td>Lettuce</td>
<td>949</td>
<td>1,815</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>400</td>
<td>820</td>
</tr>
<tr>
<td>Apples</td>
<td>83</td>
<td>146</td>
</tr>
<tr>
<td>Almonds</td>
<td>203</td>
<td>450</td>
</tr>
<tr>
<td>Oranges</td>
<td>450</td>
<td>1,113</td>
</tr>
</tbody>
</table>

Source: Census of Agriculture microdata
In conclusion …

• Vegetable crop markets are highly responsive to supply/demand shifts

• Commodity markets have seen huge expansions in demand over the last decade

• U.S. vegetable markets are expected to continue expanding with domestic demand, subject to Chinese trade competition (& S. America in long-run)