Food Prices, Biofuels, Farm Profitability and Consumers

• Robert Young
• Chief Economist
• Texas Ag Forum
• June 9, 2006
FAO’s View On Main Drivers

• Weather related production shortfalls
• Stock levels
• Increased fuel costs
• Changing structure of demand
• Biofuels markets
• Operations of financial markets
Australian Wheat Production

Crop Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (Million Metric Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990/1991</td>
<td>14</td>
</tr>
<tr>
<td>1995/1996</td>
<td>20</td>
</tr>
<tr>
<td>2000/2001</td>
<td>25</td>
</tr>
<tr>
<td>2005/2006</td>
<td>30</td>
</tr>
</tbody>
</table>
OPEC revenue has gone from an average of $70 bil per quarter 2000-2003 to an average of $490 bil in the year 2007. This sixfolding of revenue has meant an increase of $5,0250 bil, which fills coffers for purchases of arms and whatever else.

"Revenue" is calculated as the IEA "supply delivered" times the crude oil price (US RAC).
Days of Use Provided By World Wheat Stocks

Days of Use

81/82 85/86 89/90 93/94 97/98 01/02 05/06
Annual US Fuel Prices 1994-2008

Crude ($/barrel) vs. Diesel/Gas (cents/gal)

- Crude ($/barrel)
- Diesel (cents/gal)
- Gasoline (cents/gal)

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Chinese Meat Consumption

Beef  Pork  Broilers

Million Metric Tons

China: Soybean Meal Domestic Use

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Corn Used For Ethanol

<table>
<thead>
<tr>
<th>Year Period</th>
<th>Million Bushels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997/1998</td>
<td>500</td>
</tr>
<tr>
<td>2000/2001</td>
<td>750</td>
</tr>
<tr>
<td>2003/2004</td>
<td>1000</td>
</tr>
<tr>
<td>2006/2007</td>
<td>2500</td>
</tr>
</tbody>
</table>
Rice Futures Prices
Nearby Soybean Futures vs. Large Spec Net Futures & Options Position

Large Specs were 113,970 contracts net long as of Jun 3

Week Ended

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Relative Weights For Home Vs. Away From Home Food CPI

At Home: 56%
Away: 44%
### Share Of CPI for Food At Home

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat, Poult &amp; Fish</td>
<td>22%</td>
</tr>
<tr>
<td>Eggs</td>
<td>2%</td>
</tr>
<tr>
<td>Dairy</td>
<td>12%</td>
</tr>
<tr>
<td>Fats &amp; Oils</td>
<td>3%</td>
</tr>
<tr>
<td>Fruit &amp; Veg</td>
<td>15%</td>
</tr>
<tr>
<td>Sugar</td>
<td>4%</td>
</tr>
<tr>
<td>Cereal &amp; Bakery</td>
<td>13%</td>
</tr>
<tr>
<td>Non-Alc Bev</td>
<td>12%</td>
</tr>
<tr>
<td>Other</td>
<td>18%</td>
</tr>
</tbody>
</table>
Year-over-Year % Change in CPI for Food

Month

Jan 90  Jan 92  Jan 94  Jan 96  Jan 98  Jan 00  Jan 02  Jan 04  Jan 06  Jan 08

% Change Year over Year

0% 1% 2% 3% 4% 5% 6% 7% 8%
The Food Dollar

- Farm
- Labor
- Other
- Energy & Trans
- Corporate

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## Shares Of Food Cost Increases

<table>
<thead>
<tr>
<th>Category</th>
<th>Share</th>
<th>March '08 Over March '07</th>
<th>% Cont to Incr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm</td>
<td>19%</td>
<td>11%</td>
<td>29%</td>
</tr>
<tr>
<td>Labor</td>
<td>38%</td>
<td>4%</td>
<td>19%</td>
</tr>
<tr>
<td>Other</td>
<td>22%</td>
<td>3%</td>
<td>8%</td>
</tr>
<tr>
<td>Energy &amp; Trans</td>
<td>16%</td>
<td>20%</td>
<td>45%</td>
</tr>
<tr>
<td>Corporate</td>
<td>5%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Estimated Share Of Food Price Increase

- Farm Gate: 29%
- Labor: 19%
- Energy: 44%
- Other: 8%
The Good Of Ethanol

• Francisco Blanch – Merrill Lynch – ethanol driving a 15% reduction in gasoline prices
• Dermot Hayes & Xiaodong Du – Iowa State University – ethanol lowers gas prices $0.29 to $0.40 per gallon
• At 140 billion gallons of gasoline consumed per year at a 35¢ you get $50 billion in lower gas costs…
Livestock Implications

• Huge losses in hog and broiler production and in cattle feeding
  - Plenty painful all the way to the farm level
• Liquidation is fast-approaching for hogs and poultry, ongoing for years in the beef industry
• Inventories will adjust to higher input prices
  - Adjustment takes time and will continue to be painful for individual producers
BROILER EGGS SET
Weekly

Livestock Marketing Information Center
Data Source: USDA/NASS

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MARCH 1 HOG BREEDING HERD
U.S. Inventory (Prior to 1988 Estimated)
CATTLE ON FEED JANUARY 1, 2008
(1000 Head)

Other States  17.7
U.S. Total  14317

Livestock Marketing Information Center
Data Source: USDA/NASS
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C-N-03
02/01/08
What can be done to address current low-profit situation?

• Liquidation is a must for pork
  - Estimates are 10% of sow herd must go to get farrow-to-finish back in the black

• Exports can help considerably
  - Pork exports up for 16 straight years
  - Beef exports should get big boost from Korea

• Government
  - Requests for USDA to make 50+ million pound pork buy
AVERAGE RETURNS TO CATTLE FEEDERS

Feeding 725 Lb. Steers, S. Plains, Monthly

$ Per Head

COW-CALF RETURNS
AND CATTLE INVENTORY
U.S., Annual

$ Per Cow

Mil. Head

Come-Calf
Returns

Cattle
Inventory
Jan 1
Total Agriculture Production Expenses 1952-2008

2003 to 2008 - $85 Billion Increase

Prod Exp Nominal
Prod Exp Real (2000=100)
## Corn Production Costs

<table>
<thead>
<tr>
<th>Year</th>
<th>2001</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Costs</td>
<td>160.59</td>
<td>229.61</td>
<td>240.15</td>
<td>247.64</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>47.72</td>
<td>93.96</td>
<td>99.95</td>
<td>102.34</td>
</tr>
<tr>
<td>Total Costs</td>
<td>343.90</td>
<td>442.34</td>
<td>459.35</td>
<td>473.37</td>
</tr>
<tr>
<td>Per Bushel</td>
<td>$2.38</td>
<td>$2.92</td>
<td>$2.99</td>
<td>$3.04</td>
</tr>
</tbody>
</table>
US Nominal and Real Corn Prices 1930-2008
(2000=100)
Retail and Farm Level Milk Prices

$0.00 $0.50 $1.00 $1.50 $2.00 $2.50 $3.00 $3.50 $4.00 $4.50

'00 '01 '02 '03 '04 '05 '06 '07 '08

Retail and Farm Level Milk Prices

Retail  Farm  Margin

$'s per Gallon  $'s per Gallon - Margin

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What’s A Bushel Of Corn Worth?

• A bushel of corn at 15% moisture content contains 400,316 btu’s
• A barrel of oil has 5,780,000 btu’s
• A gallon of gasoline has 133,333 btu’s
Work Through The Numbers

- If a barrel of oil is worth $40, then on a btu equivalent basis:
  - Gasoline ought to be $0.92/gallon
  - Corn ought to be $2.77 per bushel
- In 2004, WTI averaged $41.50
  - Average price of gallon of gas in New York Harbor was $1.20 per gallon (Avg retail was $1.94)
  - Average farm price of bushel of corn was $2.47
Work Through The Numbers

• If a barrel of oil is worth $100, then:
  - Gasoline ought to be $2.31 per gallon
  - Corn ought to be $6.92 per bushel

• So far this year we’ve averaged $104 per barrel
  - Gasoline New York Harbor have averaged $2.58 per gallon (Retail - $3.41)
  - Corn Farm Price Jan-Apr average $4.58