Biofuels Role in Global Food and Energy Security

Seth Meyer (MeyerSe@missouri.edu)
Food and Agricultural Policy Research Institute (FAPRI)
at the University of Missouri–Columbia
www.fapri.missouri.edu

2009 Western Hemisphere Economic Officers’ Conference
U.S. Department of State, Saint Louis MO, January 16, 2009
U.S. Crop Farm Prices
1960 to 2018 prices

Source: History USDA, Forecast FAPRI November preliminary baseline
Factors from 2005/06 to 2007/08
Transient or Persistent?

- Declining stocks and stocks to use
- Lower production
- Increased petroleum / weak dollar
- Changes in trade restrictions
- Resilient world demand
- Higher crop input prices
- Biofuel feedstock demand
  - Maize in US, Veg Oil in the EU
World Grains Use

Source: USDA December PSD
Change in grain domestic use between 2005/06 and 2007/08
Change in grain domestic use between 2005/06 and 2007/08

-20
-10
0
10
20
30
40
50
60
70
80
90

million metric tons

US
India
China
EU
ROW
World
World FSI
World Feed

Domestic Use
Ethanol
Other Domestic Use
World Grain Stocks

Source: USDA December PSD
## World Crop Productivity and Consumption by decade

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grains</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yields</td>
<td>2.8</td>
<td>1.9</td>
<td>2.4</td>
<td>1.3</td>
</tr>
<tr>
<td>Area</td>
<td>0.5</td>
<td>0.9</td>
<td>-0.5</td>
<td>-0.2</td>
</tr>
<tr>
<td>Production</td>
<td>3.3</td>
<td>2.8</td>
<td>1.6</td>
<td>1.0</td>
</tr>
<tr>
<td>Consumption</td>
<td>3.3</td>
<td>2.6</td>
<td>1.7</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>Grains and Oilseeds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>1.6</td>
<td>1.3</td>
<td>-0.03</td>
<td>0.2</td>
</tr>
<tr>
<td>Production</td>
<td>4.0</td>
<td>3.0</td>
<td>2.0</td>
<td>1.4</td>
</tr>
<tr>
<td>Consumption</td>
<td>4.1</td>
<td>2.9</td>
<td>2.0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Source: USDA PSD
US grain exports and Corn for ethanol use

Source: History USDA, Forecast FAPRI November preliminary baseline
Real U.S. Crop Farm Prices
in year 2007 US dollars

Source: History USDA, Forecast FAPRI November preliminary baseline
World Oil and Biofuel Supply
millions of barrels per day

- OPEC
- Non-OPEC
- Biofuels
Change in World Oil and Biofuel Supply 2006 to 2008 millions of barrels per day

<table>
<thead>
<tr>
<th></th>
<th>Million barrels per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPEC</td>
<td>1.0</td>
</tr>
<tr>
<td>Non-OPEC</td>
<td></td>
</tr>
<tr>
<td>Non-OPEC Biofuel</td>
<td>0.2 (US) 0.35 (Brazil) 0.45 (Others)</td>
</tr>
</tbody>
</table>
Key US Biofuel Policies
Policies effecting fuels entering motorfuel supply

- Blender’s Credits
  - $0.45 per gallon ethanol, $1.00 biodiesel, $1.01 cellulosic
  - Paid for by taxpayers
- Import Tariff of $0.54 per gallon
  - Mandates, minimum quantities by feedstock types
  - Obligated party is blenders not motor-fuel consumers, motorfuel consumers ultimately pay
  - Establishes a system similar to cap and trade to meet minimum quantities.
- Implementation very uncertain, rules not yet released
Ethanol consumption by category

Source: FAPRI-MU projections, November 2008

*To meet air quality requirements and state mandates
For more information

- For more on the FAPRI global outlook, go to http://www.fapri.iastate.edu and click on “FAPRI 2008 World Agricultural Outlook Briefing Book Now Online”
- For more on the FAPRI US outlook, go to http://www.fapri.missouri.edu/ and click on the March 5 “FAPRI US Baseline Briefing Book”
- To contact me:
  - 1-573-884-7326
  - MeyerSe@missouri.edu