Effects of a Variable Ethanol Subsidy or Higher Renewable Fuels Standard on US Agriculture

Henry Bryant
Research Assistant Professor
Agricultural & Food Policy Center
Texas A&M University
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Background
- Current US production capacities:
  - Ethanol: 5.6 billion gallons
  - Biodiesel: 0.864 billion gallons
- New capacity under construction:
  - Ethanol: 6.2 billion gallons
  - Biodiesel: 1.7 billion gallons
- Fossil energy situation highly uncertain

Ethanol Market
- Petroleum prices are the primary influence on demand
- We already produce much more ethanol than we need for blending reformulated gasoline
- Marginal use is for gasoline extension/replacement
- Per BTU, the US average ethanol wholesale ethanol prices are at a premium to US average premium unleaded gasoline prices

Biodiesel Market
- Less integrated than the ethanol market
- Spot prices available for few locations

<table>
<thead>
<tr>
<th>Location</th>
<th>B-100 Rack Price, 2007-03-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartersville, GA</td>
<td>2.780</td>
</tr>
<tr>
<td>Williamstown, NJ</td>
<td>3.200</td>
</tr>
<tr>
<td>Cape Girardeau, MO</td>
<td>2.960</td>
</tr>
<tr>
<td>Dallas, TX</td>
<td>2.976</td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>3.200</td>
</tr>
</tbody>
</table>

- US ave. biodiesel price tends to trade at a premium to ave. retail petrodiesel price

Policy Situation
- Current Renewable Fuel Standard (EPACT 2005) unlikely to bind
- Proposals for higher RFS (S.23/H.R.559; S.987)
- Current ethanol subsidy rapidly getting expensive, even as market incentives for ethanol production are high
- Proposal for variable ethanol subsidy (S.162)
  - Subsidy is zero if crude oil price > $45 / bbl.
### Four Policy Scenarios

- Current situation continues
- Higher RFS is set at average of S.23 and S.987 (and current subsidy remains)
- Variable ethanol subsidy replaces the fixed subsidy (and RFS is unchanged)
- Higher RFS and variable ethanol subsidy
Results

- We are likely to produce a lot more ethanol in coming years, and somewhat more biodiesel
- Biodiesel capacity glut likely
- Prices for crops are likely to continue to rise

Biofuels and Feed Tradeoffs

- Higher feed prices…
- Somewhat lower quantities of corn will be used for feeding…
- But, steadily increasing quantities of ethanol by-products available
- Bottom line: US feed industry likely to adapt, higher prices ultimately passed on to consumers

Biofuels and Food Tradeoffs

- United States
  - For US consumers, the sacrifices will likely be minimal
  - USDA: an average of only $0.19 of each consumer dollar spent on food goes to food inputs
    - Lower for cereal and bakery items
    - Higher for meats
  - NCGA: higher corn prices imply CPI-Food 6-8%, rather than 3%
  - Result: somewhat higher prices for consumers, especially for meats

Biofuels and Food Tradeoffs

- Foreign consumers
  - World population will continue to increase for decades
  - Forecasts of significantly lower exports reflect the lower ability-to-pay of foreign consumers
  - Fats and proteins especially likely to be more expensive, as feed costs increase
• WSJ, April 9, 2007:
  – Food price inflation increased significantly in 2006 for Chinese and Indian consumers
  – Chinese corn stocks estimated to be 2-3 months consumption

Thanks!

www.afpc.tamu.edu
h-bryant@tamu.edu