Data Base Issues: Energy

Robert Mcdougall
History

• Release 4: energy production targets
• GTAP-E: usage targets
• Release 5:
  – feasibility checking
  – bug fixes
• Release 6:
  – new volume data back end
  – bug fixes
Volume Data

• Initial implementation: 1995
• GTAP 5: update to 1997
• GTAP 6: update to 2001
Price Data

• Initial implementation: 1995 or earlier

• GTAP 5: index-adjusted from original to 1997

• GTAP 6: index-adjusted from original to 2001
Index Adjustment

- Update to GTAP reference year using IEA energy price indices.

- Money price indices for four commodities:
  - oil products
  - electricity
  - natural gas
  - coal

- For crude oil, we have a real price index — but we pretend it is a money price index.
Why?

• No single data source is very good: so multiple data sources:
  – across countries
  – across price concepts

• Back end code convoluted, closely tied to initial data collections.

• Since departure of original author (Gerard Malcolm), system is poorly understood.
To do

• Revise back end code to decouple from initial collections.
• Trim source data collection set?
• Update source data collections.
• Miscellaneous code cleanups.
## Crude Oil Prices (USD/TOE)

<table>
<thead>
<tr>
<th>Country</th>
<th>GTAP 6</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>usa</td>
<td>174</td>
<td>165</td>
</tr>
<tr>
<td>jpn</td>
<td>123</td>
<td>187</td>
</tr>
<tr>
<td>deu</td>
<td>96</td>
<td>180</td>
</tr>
<tr>
<td>aus</td>
<td>108</td>
<td>210</td>
</tr>
</tbody>
</table>
# Usage by Refineries (USD B)

<table>
<thead>
<tr>
<th>Country</th>
<th>GTAP 6</th>
<th>new</th>
</tr>
</thead>
<tbody>
<tr>
<td>usa</td>
<td>128.0</td>
<td>132.1</td>
</tr>
<tr>
<td>jpn</td>
<td>33.9</td>
<td>34.8</td>
</tr>
<tr>
<td>deu</td>
<td>17.2</td>
<td>18.1</td>
</tr>
<tr>
<td>aus</td>
<td>4.0</td>
<td>5.6</td>
</tr>
</tbody>
</table>
Release Strategy

• Informational release to members?
• 6.x release to members?
• Public release?