What’s Driving Oil Prices?
James L. Smith
Cary M. Maguire Chair in Oil & Gas Management

Critical Issues in Energy
Federal Reserve Bank of Dallas
November 2, 2006

The Price of OPEC Oil ($/bbl)
PEAK OIL QUIZ

Instructions: With books closed and eyes on your own paper, please mark the single best answer.

1. Peak oil production indicates:
   a) Half gone.
   b) Running out.
   c) Starting out.
   d) None of the above.
   e) All of the above.
Instructions: With books closed and eyes on your own paper, please mark the single best answer.

1. Peak oil production indicates:
   a) Half gone.
   b) Running out.
   c) Starting out.
   d) None of the above.
   e) All of the above.
   f) Need more information.

Market Fundamentals Determine Shape of the Peak
Total Crude Oil Production (Worldwide)

PROVED OIL RESERVES (REMAINING)
CRUDE OIL PRODUCTION, OPEC vs Non-OPEC

Million Barrels per Day

Non-OPEC

OPEC

ALESSI BALSAMIC VINEGAR
SELL MORE NOW... OR SAVE FOR THE FUTURE?

Alessi Balsamic Vinegar (Modena, Italy)

Aged 4 years in wood: $3.29
Aged 20 years in wood: $11.29

*Seller’s Indifference:*

\[
\frac{3.29}{1.08^{16}} = \frac{11.29}{1.08^{16}}
\]

*Present Value of Future Sale = Current Sale*

SELL MORE OIL TODAY OR SAVE FOR FUTURE?

Saudi Arabian Light Crude Oil (Persian Gulf)

Sell Today (spot market 2006): $53.44
Sell Later (save until 2046): $78.10

*Seller’s Indifference:*

\[
\frac{53.44 - 3.00}{1.08^{40}} = \frac{1098.78 - 3.00}{1.08^{40}}
\]

*Present Value of Future Sale = Current Sale*
HOW DO HIGH OIL PRICES IMPACT OPEC?

Short-Run
Mostly favorable impacts, due to demand and supply rigidities and long lead times.

Long-Run
Mostly negative impacts, due to demand and supply reactions.

“The Coal Age didn’t end because producers ran out of coal!!”

---

OIL PRICE VS OPEC PROFITS

---
DIFFERENCES AMONG OPEC MEMBERS

<table>
<thead>
<tr>
<th>Member</th>
<th>GDP $ per capita</th>
<th>Proved Oil Reserves bbl per capita</th>
<th>Crude Oil Production bbl per capita</th>
<th>Reserves to Production Ratio years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>3,113</td>
<td>373</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1,290</td>
<td>20</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Iran</td>
<td>2,863</td>
<td>1,986</td>
<td>22</td>
<td>91</td>
</tr>
<tr>
<td>Iraq</td>
<td>1,063</td>
<td>3,989</td>
<td>24</td>
<td>165</td>
</tr>
<tr>
<td>Kuwait</td>
<td>27,028</td>
<td>36,775</td>
<td>340</td>
<td>108</td>
</tr>
<tr>
<td>Libya</td>
<td>6,618</td>
<td>7,084</td>
<td>106</td>
<td>67</td>
</tr>
<tr>
<td>Nigeria</td>
<td>752</td>
<td>275</td>
<td>7</td>
<td>42</td>
</tr>
<tr>
<td>Qatar</td>
<td>45,937</td>
<td>18,455</td>
<td>339</td>
<td>54</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>12,931</td>
<td>11,029</td>
<td>143</td>
<td>77</td>
</tr>
<tr>
<td>UAE</td>
<td>29,367</td>
<td>21,733</td>
<td>193</td>
<td>113</td>
</tr>
<tr>
<td>Venezuela</td>
<td>5,240</td>
<td>2,990</td>
<td>43</td>
<td>70</td>
</tr>
</tbody>
</table>

FACTIONS WITHIN OPEC

- **OPEC Fringe**
  - Algeria
  - Indonesia
  - Iraq
  - Libya
  - Nigeria
  - Venezuela

- **OPEC Core**
  - Iran
  - Kuwait
  - Qatar
  - Saudi Arabia
  - U.A.E.
WHICH OPEC MEMBERS LIKE HIGH PRICES?

![Graph showing profit vs. world oil price for Saudi Arabia, Other Core, and Fringe regions.]

TODAY'S MORAL:

- If the Saudis don't expect oil prices to reach $1,000 per barrel in the next 40 years -- and who does? -- they should produce more now.

- To produce and sell more oil now, the Saudis would have to reduce the price.

- Prudent investors should not expect more than $40-$50 per barrel over the next decade.
Doubts About Saudi Cuts Steady Oil; Gold Recoups Losses

Natural Gas Falls on Surplus Supply

New York crude oil futures were little changed after technical buying helped pare losses made on doubts Saudi Arabia will cut OPEC production cuts.

Prices slipped as low as $57.87 a barrel in electronic trading just 12 cents above a seven-month low reached last week, before rebounding after Organization of Petroleum Exporting Countries President Edmund Damluji said all members of the cartel agreed on the need for a 3 million barrels-a-day production cut.

Still, wider than Saudi Arabia, by far the biggest oil exporter in OPEC and the world, has traders thinking the kingdom might not be on board.
Thank You