Cartelization

Continuation of War by Other Means?
Something New in History

The Oil Firm-State

extracts *de facto* tax on foreigners

core OPEC \( WT_{2007} = 53 \times 22 \text{m/d}(365 \text{d}) = 425 \text{b/y} \)

Firm-state is akin to tribute economies, but…

taxes flow without empire, force, or occupation
**WORTH FIGHTING FOR?**
Microeconomics of Oil Market Power

<table>
<thead>
<tr>
<th>In units/barrel let:</th>
<th>relevant functions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_m = $60$ $ = market price, i.e. $60</td>
<td>producer revenue $P Q = R$</td>
</tr>
<tr>
<td>$P_c = $7$ = price if market were competitive, i.e. $7$</td>
<td>core-OPEC revenue $P Q_e = R$</td>
</tr>
<tr>
<td>$Q = $ = quantity produced</td>
<td>core-OPEC wealth transfer $(P_m - P_c)Q_e = WT$</td>
</tr>
<tr>
<td>$Q_e = $ = quantity exported</td>
<td></td>
</tr>
<tr>
<td>$R = $ = revenue</td>
<td></td>
</tr>
<tr>
<td>$WT = wealth transfer (or monopoly rent)</td>
<td></td>
</tr>
<tr>
<td>$(60 - 7) = WT = $53</td>
<td></td>
</tr>
</tbody>
</table>

**Iran WT, 2007**

$(P_m - P_c)Q_e$ iran = WT

$53 \times 2.4 \text{ m/d (365 d)} = $46.5 \text{ billion}$

$46.5 \text{ b} = 0.7 \text{ Irani state revenue}$

**core OPEC WT, 2007**

$53 \times 22 \text{ m/d (365 d)} = $425 \text{ billion/yr}$

Compare to US aid to Israel, Egypt = $2.5 \text{ billion each}$
## Monopoly Rents and Instability
The Quest for *Wealth Transfer* $\$

<table>
<thead>
<tr>
<th>Instability</th>
<th>Contestants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Between states</strong></td>
<td></td>
</tr>
<tr>
<td>War</td>
<td>Iran-Iraq; Iran-Kuwait</td>
</tr>
<tr>
<td><strong>Within states</strong></td>
<td></td>
</tr>
<tr>
<td>Civil War</td>
<td>Iraq; Angola; Sudan; Chad</td>
</tr>
<tr>
<td>Extra-legal seizure</td>
<td>Nigeria; Russia; Venezuela</td>
</tr>
<tr>
<td>Contests for revenues of</td>
<td><em>Iran</em>: NIOC vs. state; <em>Mexico</em>: PEMEX vs. state; <em>Nigeria</em>: provinces,</td>
</tr>
<tr>
<td>state oil firm</td>
<td>bandits, rebels, national government</td>
</tr>
</tbody>
</table>
Within the Firm-State

Short-Run Political Return on Oil Investment = $0
Islamic Republic of Iran Revenue and Expense

Iranian Rials (nominal)

Revenue
Expense

2000 2001 2002 2003 2004 2005 2006
Disinvestment like Mexico, but Cash-Rich Just the Same
Iran Energy Balance, 1980-2004

yellow – domestic demand
blue - exports
The diagram shows the production in $10^6$ m$^3$ from 2000 to 2004. The production is categorized into five components: shrinkage, flaring, exports, reinjection, and domestic consumption of domestic product. The data indicates a steady increase in production over the years.

- **2000**: Approximately $80,000$ $10^6$ m$^3$
- **2001**: Approximately $90,000$ $10^6$ m$^3$
- **2002**: Approximately $100,000$ $10^6$ m$^3$
- **2003**: Approximately $110,000$ $10^6$ m$^3$
- **2004**: Approximately $120,000$ $10^6$ m$^3$

The production peaks in 2004, with domestic consumption being the largest component, followed by reinjection, shrinkage, exports, and flaring respectively.
Why Buyback Participation Fell

• Contentious post-contract behavior by IRI (not NIOC)

• Majlis conservatives assume E&D delays are intentional, meant to harm Iran

• Capricious changes to tenders

• Repeated price renegotiations
Non-economic Dimensions of Iranian FDI Policy

• IRI seeks to emulate Iraq’s fiscal policy of I-I War

• *i.e.* transform former adversaries into creditors

• *re* Asia IRI reserves largest, least-cost fields for Asian firms

• Results mixed:
  – Success with France, China
  – Failure with Japan, India (on oil)
Paradoxes of Irani Petroleum

Refinery leaks = 6% of crude supplied

Refinery disinvesment compels gasoline imports

Automobile import tariffs approach 100%, insuring survival of ancient gas-guzzlers

Fleet relies on subsidies that price gasoline at $0.35/gallon (new two tier price scheme)

Where is the gas?
Paradoxes of IRI Fiscal Policy

Net reserves triple to $42b in 4 years, yet

Russia stonewalled over $300m reactor payment

Popular infrastructure projects abandoned after capital budget triples in 4 years
NIOC-PEMEX Analogues

- Revolutionary Perspective on Seizure of Oil Assets Remains

- IRI & Mexican constitutions prohibit foreign ownership of mineral resources

- Conservatives assert that nationals have same competence as Western E&D firms, hence foreigners not needed
NIOC-PEMEX Analogues

Parallel workarounds (buybacks & PIRIDE GAS) to disguise foreign participation

Focus on short-run revenue for govt. operations

Potentially severe consequences if price declines
(Iran planning price = $40; PEMEX debt = $100b)

State ignores management’s risk-awareness
NIOC-PEMEX Analogues

• Refinery base suffers most neglect

• Upstream engineering & technology capacities inadequate
NIOC-PEMEX Differences

• Transparency

• State Cash position
  – IRI cash-rich, Mexico indebted
  – yet both oil firms cash-poor

• Firm Debt

• Extensive corruption of senior management, which is partly clerical
NIOC-PEMEX Differences

• US Relations (Iran-Libya Sanctions Act) Imposes Costs

• Parent state not trying to build nuclear weapon