How Oil Has Transformed the Alaska Economy

by
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COUNCIL OF PETROLEUM ACCOUNTANTS SOCIETY
ANNUAL MEETING
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Anchorage, Alaska
How Oil Has Transformed the Alaska Economy

With Financial Support from

Northrim Bank
Customer First Service

UNIVERSITY of ALASKA FOUNDATION
Structural Analysis:
Where Do the $$s Come From?
The Alaska State Seal
Traditional Natural Resources: Seafood

<table>
<thead>
<tr>
<th>Seafood</th>
<th>2005 Landed Value (Million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>$1,295</td>
</tr>
<tr>
<td>Salmon</td>
<td>$303</td>
</tr>
<tr>
<td>Groundfish</td>
<td>$660</td>
</tr>
<tr>
<td>Halibut</td>
<td>$169</td>
</tr>
<tr>
<td>Shellfish</td>
<td>$148</td>
</tr>
<tr>
<td>Herring</td>
<td>$159</td>
</tr>
</tbody>
</table>

28 thousand harvesters, 39% non resident. ??? processors, 73% non resident.
# Traditional Natural Resources: Mining

<table>
<thead>
<tr>
<th>Mineral Production Value (Mill $)</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc</td>
<td>$862</td>
<td>$2,003</td>
</tr>
<tr>
<td>Gold</td>
<td>$190</td>
<td>$336</td>
</tr>
<tr>
<td>Lead</td>
<td>$115</td>
<td>$184</td>
</tr>
<tr>
<td>Silver</td>
<td>$85</td>
<td>$130</td>
</tr>
<tr>
<td>Copper</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>$1,253</td>
<td>$2,653</td>
</tr>
</tbody>
</table>

Zinc is used to galvanize steel. Price went thru the roof in 2006.
New Natural Resources: Tourism

1.5 million tourists in 2006 bring $1.5 billion $$$ with them to Alaska.
New Natural Resources: Air Cargo

<table>
<thead>
<tr>
<th>2006 CARGO TRAFFIC (Million Metric Tonnes)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Memphis</strong></td>
<td>3.69</td>
</tr>
<tr>
<td><strong>Hong Kong</strong></td>
<td>3.61</td>
</tr>
<tr>
<td><strong>Anchorage</strong></td>
<td>2.80</td>
</tr>
<tr>
<td><strong>Seoul</strong></td>
<td>2.34</td>
</tr>
<tr>
<td><strong>Tokyo</strong></td>
<td>2.28</td>
</tr>
</tbody>
</table>

China Air alone averages 10 flights per day thru Anchorage.
New Natural Resources:
Retirees

52 thousand retirees ages 60+ in 2004. $1.5 billion of retirement and health care $$$$.
The “Updated“ Alaska State Seal

Oil and the Alaska Economy
Alaska Economic Drivers: The Foundation of the Economy

- Federal Govt: 34%
- Non-Pet Resources: 33%
- Oil and Gas: 33%

Shares of Personal Income in 2005
## Indicators of Oil’s Share of Economy

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>NR Production value since 1867</td>
<td>90%</td>
</tr>
<tr>
<td>State General Fund revenues</td>
<td>85%</td>
</tr>
<tr>
<td>Market value of resource production</td>
<td>82%</td>
</tr>
<tr>
<td>Industrial property tax base</td>
<td>80%</td>
</tr>
<tr>
<td>Private investment spending (Direct)</td>
<td>60%</td>
</tr>
<tr>
<td>Gross state product (Direct)</td>
<td>33%</td>
</tr>
<tr>
<td>Personal income (Total)</td>
<td>33%</td>
</tr>
<tr>
<td>Jobs (Total)</td>
<td>33%</td>
</tr>
<tr>
<td>Jobs in Oil Sector</td>
<td>3%</td>
</tr>
</tbody>
</table>
**NEW**
OIL IMPORTANCE INDICATORS

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs Today from Oil Production &amp; PFD</td>
<td>33%</td>
</tr>
<tr>
<td>Economy Today without Oil</td>
<td>50%</td>
</tr>
<tr>
<td>Economic Growth since Statehood</td>
<td>66%</td>
</tr>
<tr>
<td>State GF Operating Revenues</td>
<td>100%</td>
</tr>
</tbody>
</table>

Oil and the Alaska Economy
ANOTHER DRY HOLE AT PRUDHOE BAY
Companies Say “We Give Up”
Alaska: The Road Not Taken

I. Production Disappears
II. Squeeze on Resource Sector
III. Squeeze on Support Industries
IV. Squeeze on Federal $$
V. Squeeze on Retirees

A WORK IN PROGRESS

Oil and the Alaska Economy
Alaska Indicators 2007

- **JOBS (000)**: 361
- **INCOME (BILLION $)**: 24
- **PEOPLE (000)**: 660
I. No Production

- Oil Patch
- Government Spending
- PF Dividend
I. No Production--Part 1
The Oil Patch

Job creation

- 41,744 jobs – direct, indirect, induced
  - 4,497 Direct – primary companies
  - 8,410 Indirect – support industry companies providing goods and services
  - 28,837 Induced – jobs created when direct and indirect employees spend their income locally
I. No Production--Part 2

Government Spending

- **$16 Thousand**
  - **State Government Employees**
  - **$15 Thousand**
  - **Local Government Employees**
  - **$18 Thousand**

**Assumption:** All spent petroleum revenues pay for operations.

**Total Jobs = 49 Thousand.**
The PF Dividend

2008 DIVIDEND BASICS

$3,269 Dividend
611 Thousand Recipients
$2 Billion Distribution

COMPARE 2007 EARNINGS (Billion $)

- $1.4 Retail Trade
- $1.6 Federal Civilian
- $1.7 Construction
- $1.8 Oil + Mining
- $2.0 Health
- $2.2 Military
I. Production Squeeze

<table>
<thead>
<tr>
<th>Category</th>
<th>Jobs (000)</th>
<th>Income (Billion $)</th>
<th>People (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOBS (000)</td>
<td>254</td>
<td>17</td>
<td>107</td>
</tr>
<tr>
<td>INCOME (Billion $)</td>
<td>477</td>
<td>7</td>
<td>183</td>
</tr>
</tbody>
</table>

0% 25% 50% 75% 100%
Alaska with Oil:
Bigger, Richer, Healthier

- Job Opportunities
- Business Opportunities
- High Incomes
- Low Taxes
- Low Prices
- New People
- Public services
- Public Infrastructure
- Business infrastructure
- Consumer goods and services
II. Resource Industry Squeeze

- Light Tax Burden
- Investment in Developmental Infrastructure
- Operations Assistance
- Support Business Development
- Lower Wages

Oil and the Alaska Economy
## Resource Industry Squeeze: Job Growth (Thousands)

<table>
<thead>
<tr>
<th>Industry</th>
<th>1961</th>
<th>2006</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>10</td>
<td>45</td>
<td>35</td>
</tr>
<tr>
<td>Tourism</td>
<td>1</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>Fishing</td>
<td>7</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>Air Cargo</td>
<td>-</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Mining</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Timber</td>
<td>1</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Flow of Oil and the Alaska Economy
## II. Resource Industry Squeeze: Actual and Projected Tax Burden

### 2004 State GF Revenues (Million $): Seafood, Tourism, Mining

<table>
<thead>
<tr>
<th>Actual</th>
<th>$112</th>
</tr>
</thead>
<tbody>
<tr>
<td>If Oil $ Disappeared</td>
<td>$502</td>
</tr>
<tr>
<td>Incremental Burden, no Oil $</td>
<td>$390</td>
</tr>
<tr>
<td>Increase in Tax Rate</td>
<td>4 X</td>
</tr>
</tbody>
</table>
II. Resource Industry Squeeze

<table>
<thead>
<tr>
<th>JOBS (000)</th>
<th>233</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCOME (BILLION $)</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>PEOPLE (000)</td>
<td>442</td>
<td>35</td>
</tr>
</tbody>
</table>
III. Support Sector Squeeze

- Light Tax Burden
- Cost of Living Decline
- Reduced Seasonality
- Support Business Development
- Lower Wages
- Economies of Scale
- Enhanced Competition
III. Support Sector Squeeze: Non Seasonal Petroleum Jobs

Ratio of July to January Tourist Visitors is 10:1.

Index of Seasonality
1968 32%
2006 12%

Percent job increase July over January.

Oil and the Alaska Economy
III. Support Sector Squeeze: Household Tax Burden

34%*  

$13,150 Per Capita in 2006

* Average State Income Tax Rate to Replace Oil Revenues—1970 to 2006.
III. Support Sector Squeeze

- JOBS (000):
  - 214
  - 20

- INCOME (BILLION $):
  - 15
  - 1

- PEOPLE (000):
  - 409
  - 33
IV. Federal Dollar Squeeze

- Population Sensitive Payments
IV. Federal $$ Squeeze

<table>
<thead>
<tr>
<th>Category</th>
<th>Value (000)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOBS (000)</td>
<td>195</td>
<td>19</td>
</tr>
<tr>
<td>INCOME (BILLION $)</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>PEOPLE (000)</td>
<td>377</td>
<td>32</td>
</tr>
</tbody>
</table>
V. Retiree Squeeze

- Tax Free
- PFD
- Public Amenities

Oil and the Alaska Economy
V. Retiree Squeeze

**JOBS (000)**
- 189
- 6

**INCOME (BILLION $)**
- 12
- 1

**PEOPLE (000)**
- 366
- 11
Two Contrasting Alaska Economies in 2007: Without and With Petroleum

<table>
<thead>
<tr>
<th>JOBS (000)</th>
<th>No Oil and Gas</th>
<th>Add in Oil and Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCOME (BILLION $)</td>
<td>No Oil and Gas</td>
<td>Add in Oil and Gas</td>
</tr>
<tr>
<td>PEOPLE (000)</td>
<td>No Oil and Gas</td>
<td>Add in Oil and Gas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>0%</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Alaska economy would be about $\frac{1}{2}$ its actual size today without the development of Petroleum industry.
The Road Not Taken: Alaska Growth Since Statehood

<table>
<thead>
<tr>
<th>Category</th>
<th>Value (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOBS</td>
<td>90, 99</td>
</tr>
<tr>
<td>INCOME</td>
<td>3, 9</td>
</tr>
<tr>
<td>PEOPLE</td>
<td>230, 136</td>
</tr>
</tbody>
</table>

25% 50% 75% 100%

PEOPLE (000)
INCOME (BILLION $)
JOBS (000)
The Road Not Taken
The 2/3 Rule

About 2/3 of the economic growth in Alaska since Statehood can be traced to Petroleum.
The Road Not Taken: Alaska Economic Base

<table>
<thead>
<tr>
<th>Industry</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military</td>
<td>35%</td>
</tr>
<tr>
<td>Federal Civilian</td>
<td>23%</td>
</tr>
<tr>
<td>Tourism</td>
<td>20%</td>
</tr>
<tr>
<td>Fishing</td>
<td>16%</td>
</tr>
<tr>
<td>Mining</td>
<td>3%</td>
</tr>
<tr>
<td>Air Cargo</td>
<td>3%</td>
</tr>
<tr>
<td>Timber</td>
<td>0%</td>
</tr>
</tbody>
</table>
Candidates for Comparison?

- Oklahoma
- New Mexico
- South Dakota
- Wyoming
- Montana
- Idaho
- Florida
- Nevada
- Hawaii
Maine Is Not Like Alaska

- Physically attached to Lower 48
- Federal land ownership 1%
- Native American population 1%
- Lobsters instead of crabs
- Unusual accent
- Presidential hangout
Maine and Alaska

- Many moose
- Few humans
- Cold
- Remote
- Independent streak
Maine and Alaska

- Fish / Tourism / Timber / Mining / Agriculture
- Limits on sustainable harvests
- Challenged by globalization
- Small and declining manufacturing
- Dependence on federal $$$s

- Conflicting visions about use of resources
- “Zero Sum Game” development mentality

- Strategic development planning advice from Brookings Institution

Oil and the Alaska Economy
Throughout the second half of the twentieth century, Maine has struggled to find a proper balance between resource-based industrial development and environmental protection.

The state has come to rely heavily on tourism, small manufacturing enterprises and defense-related activities and installations for much of its economic base.
Maine Economic Performance: Some Evidence

- Gross State Product per capita: 43rd (Ak 7th)
- Job Growth: 66% (Ak 144%)
- Population Growth: 46th (Ak 5th)
- Median Age: 1st (Ak 49th)
- Housing Built Before 1939: 31% (Ak 2%)

- Median Paycheck: 77% as high as Alaska
- Projected Population Growth = 1/3 US average (Ak 30% above)
### Comparing a Family of 4

<table>
<thead>
<tr>
<th></th>
<th>Maine</th>
<th>Alaska</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages</td>
<td>$55,641</td>
<td>$72,750</td>
</tr>
<tr>
<td>State Taxes</td>
<td>-$7,077</td>
<td>$0</td>
</tr>
<tr>
<td>Dividend</td>
<td>$0</td>
<td>$6,800</td>
</tr>
<tr>
<td>Public Spending</td>
<td>$29,995</td>
<td>$49,064</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$78,560</td>
<td>$128,614</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>+$50,054</td>
</tr>
</tbody>
</table>

* Adjusted for lower cost of living in Maine.

Oil and the Alaska Economy
Actual Performance Since 1990: Jobs vs. Oil Production
(Index: 1990 = 1)

- 104 thousand jobs added
- Production down 2/3
Explaining The Paradox

- Federal $$ and Military Expansion
- Tourism, Mining, Retirees, Air Cargo
- Petroleum Revenues
- National Economic Boom
- Increased Labor Intensity in Petroleum Industry
- Anticipation of Gas Line, OCS, etc.
- Support Sector Catching Up
- Wealth Accumulation
The Economic Future of Alaska: 50 Years of Statehood Has Not Changed the Challenges
Alaska Natural Resources: 2005 Market Value (Million $)

<table>
<thead>
<tr>
<th>Resource</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>$18,164</td>
</tr>
<tr>
<td>Gas</td>
<td>$  761</td>
</tr>
<tr>
<td>Mining</td>
<td>$  1,506</td>
</tr>
<tr>
<td>Seafood</td>
<td>$  1,392</td>
</tr>
<tr>
<td>Timber</td>
<td>$    142</td>
</tr>
<tr>
<td>Tourism</td>
<td>$   1,592</td>
</tr>
</tbody>
</table>

Value determined at point of production except for mining.
Petroleum Resources for a Sustainable Economic Future (Billion Barrels of Oil)

Production History:
- North Slope: 15.4
- Cook Inlet: 1.3

Reserves Today:
- Central North Slope: 5.9
- Cook Inlet: 0.1

Potential Additional Reserves (Technically Recoverable—USGS, MMS):
- ANWR: 10.4
- NPRA: 10.6
- OCS: 23
- Central North Slope: 4
Resource Curse: Some Symptoms

- Corruption
- Rent Seeking
- Entrepreneurial Decline
- Overheating Economy
- Economic Distortions
- Public Sector Overexpansion
- Mismanagement
- Underinvestment
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