Alaska After Prudhoe Bay: Prospects for the Economy

by

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Institute of Social and Economic Research
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COUNCIL OF PETROLEUM ACCOUNTANTS SOCIETY
ANNUAL MEETING
April 23, 2009
Anchorage, Alaska
How Oil Has Transformed the Alaska Economy

With Financial Support from

Northrim Bank
Customer First Service

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

<table>
<thead>
<tr>
<th></th>
<th>SEAFOOD: 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>$15</td>
</tr>
</tbody>
</table>

28 thousand harvesters, 39% non resident.  ??? processors, 73% non resident.
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.
### 2006 CARGO TRAFFIC (Million Metric Tonnes)

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

 Shares of Personal Income in 2005

- OIL AND GAS: 33%
- NON PET RESOURCES: 33%
- FEDERAL GOVT: 34%
## 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>
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
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
1. No Production--Part 2

Government Spending

- **PETROLEUM REVENUE SPENDING**
  - $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $$$$ $###

- **STATE GOVERNMENT EMPLOYEES**
  - 16 Thousand
- **PRIVATE SECTOR JOBS**
  - 18 Thousand
- **LOCAL GOVERNMENT EMPLOYEES**
  - 15 Thousand

100% of State GF operating budget from petroleum revenues.

Total Jobs = 49 Thousand.

Assumption: All Spent Petroleum Revenues Pay for Operations.
I. No Production—Part 3
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>477</td>
</tr>
<tr>
<td>INCOME (Billion $)</td>
<td>107</td>
<td>7</td>
<td>183</td>
</tr>
</tbody>
</table>
| PEOPLE (000)   | 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
## 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>
### II. Resource Industry Squeeze: Actual and Projected Tax Burden

#### 2004 State GF Revenues (Million $):

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

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

0% 25% 50% 75% 100%
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

- Percent job increase July over January.

Index of Seasonality

- 1968: 32%
- 2006: 12%

Ratio of July to January Tourist Visitors is 10:1.
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>JOBS (000)</th>
<th>195</th>
<th>19</th>
</tr>
</thead>
<tbody>
<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>

0% 25% 50% 75% 100%
V. Retiree Squeeze

- Tax Free
- PFD
- Public Amenities
V. Retiree Squeeze

<table>
<thead>
<tr>
<th>JOBS (000)</th>
<th>189</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCOME (BILLION $)</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>PEOPLE (000)</td>
<td>366</td>
<td>11</td>
</tr>
</tbody>
</table>
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>
The Road Not Taken
The 1/2 Rule

The Alaska economy would be about ½ 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>1990</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOBS (000)</td>
<td>90</td>
<td>99</td>
</tr>
<tr>
<td>INCOME (BILLION $)</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>PEOPLE (000)</td>
<td>230</td>
<td>136</td>
</tr>
</tbody>
</table>
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
Maine Economic History in a Nutshell

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>+$50,054</td>
<td></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
Wealth Creation

$35 Billion

Oil and the Alaska Economy
The Economic Future of Alaska: 50 Years of Statehood Has Not Changed the Challenges

Oil and the Alaska Economy
## 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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