

# How North Slope Oil Has Transformed Alaska's Economy

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I can't hope to do justice to the topic in just a few moments, so instead I will just engage you in a simple "thought experiment" ("Gedanken experiment" as Einstein would say) that I hope will give you a new perspective on the importance of North Slope oil to the development of the Alaska economy.

But first, here are a few numbers, to provide a sense of the order of magnitude of the effect we are trying to describe. (Some of these numbers are apples and some are oranges, so don't read too much into them.)

# North Slope Oil Statistics

15 Billion Barrels	Production (enough to supply total world demand for 6 months)
\$250 Billion	Value of production at the wellhead (at time of sale)
\$113 Billion	State of Alaska cumulative revenues (purchasing power in 2007 \$)
\$40 Billion	Alaska Permanent Fund balance

The North Slope has produced more than 15 billion barrels of oil (and 6 tcf of gas)—enough to supply the entire world demand for about 6 months. The value of this production at the wellhead, as it was produced, has been \$250 billion dollars. One dimension of the size of the impact on the state is the purchasing power, measured in 2007 \$, of the total revenues the state has collected from that production--\$113 Billion. Finally, the Alaska Permanent fund, at \$40 billion is ranked number 4 or 5 in the world among what are now known as “sovereign wealth funds” (UAE, Norway, and Kuwait are the top 3.)

And it’s hard to keep ahead of these numbers. For example, between the time I stood up and the time I will sit down, oil with a value of about \$1 million will have gone into the pipeline at Prudhoe Bay.

## Oil Share of Economic Measures

Production value since 1867	90%
State General Fund revenues	85%
Market value of resource production	82%
Industrial property tax base	80%
Private investment spending (Direct)	60%
Gross state product (Direct)	33%
Personal income (Total)	33%
Jobs (Total)	33%
Jobs in Oil Sector	3%

These big numbers are awe inspiring, but we get a better sense of the importance of oil to the economy if we look at oil's **RELATIVE** contribution (and here I am including the modest amount of oil and gas produced from Cook Inlet).

Starting with the highest share, we see that of all the natural resources produced and sold in Alaska since its purchase from Russia, petroleum has accounted for 90%. Oil supplies 85% of state general fund revenues (as well as considerable annual contributions to the Permanent Fund). Oil and gas production accounts for roughly 82% of the value of all marketed natural resource production in the state. Oil related industrial facilities account for 80% of the industrial property tax base of the state. Investment spending by the oil industry directly accounts for 60% of all private investment (including hospitals, residential housing, etc.). Oil directly accounts for one third of total state gross product (a measure of the total value of output of all sectors of the economy) (and a larger share indirectly). About 1/3 of all personal income in the state can be traced back to oil (either due to work in the oil patch, spending of state revenues, or the PF dividend). Similarly about 1/3 of all jobs can be traced back to oil, even though only about 3% of all jobs are directly involved in the production, transportation, and refining of oil.

So what has this meant for the state-its economy and its people. Let me just give you a quick list, more suggestive than comprehensive, and move on.

## Alaska with Oil: Bigger, Richer, Healthier

- ◆ Job Opportunities
- ◆ Business Opportunities
- ◆ High Incomes
- ◆ Low Taxes
- ◆ Low Prices
- ◆ New People
- ◆ Physical Infrastructure
- ◆ Public services
- ◆ Business infrastructure
- ◆ Consumer goods and services

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Needless to say, these effects have reached into every corner of the state impacting every business and household.

This list is pretty self-evident, and I'm sure any of you in this room could improve on it. But it doesn't really give us a sense of what Alaska would look like today without oil because oil has transformed the very economic, demographic, and social fabric of the state. We can only get that sense if we go back in time and rerun the economic history of the state—starting with a fateful day 40 years ago.

What if the headline in the paper that morning in 1967 looked like this:

adn.com  
**Anchorage Daily News**

**ANOTHER DRY HOLE  
AT PRUDHOE BAY**  
Companies Say "We Give Up"

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It's instructive to review **WHAT** the economy looked like at that time. In a nutshell, we were small, under developed, and poor.

**Alaska Economic Indicators:  
Then and Now**

	1967	2006
Jobs (000)	118	440
Private Jobs (000)	68	401
Per Capita Income (2006 thousand \$)	\$18	\$37
Population (000)	272	665

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The seal of the state reflects our economic base at the time, except for two missing parts—Cook Inlet petroleum and federal government support.

## The Alaska State Seal



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It's even more instructive to think about WHO we looked like because such a comparison gives us some idea of the path Alaska might have taken had we not had North Slope oil.

## Candidates for Comparison ?

- ◆ Oklahoma
- ◆ New Mexico
- ◆ South Dakota
- ◆ Wyoming
- ◆ Montana
- ◆ Idaho
- ◆ Florida
- ◆ Nevada
- ◆ Hawaii

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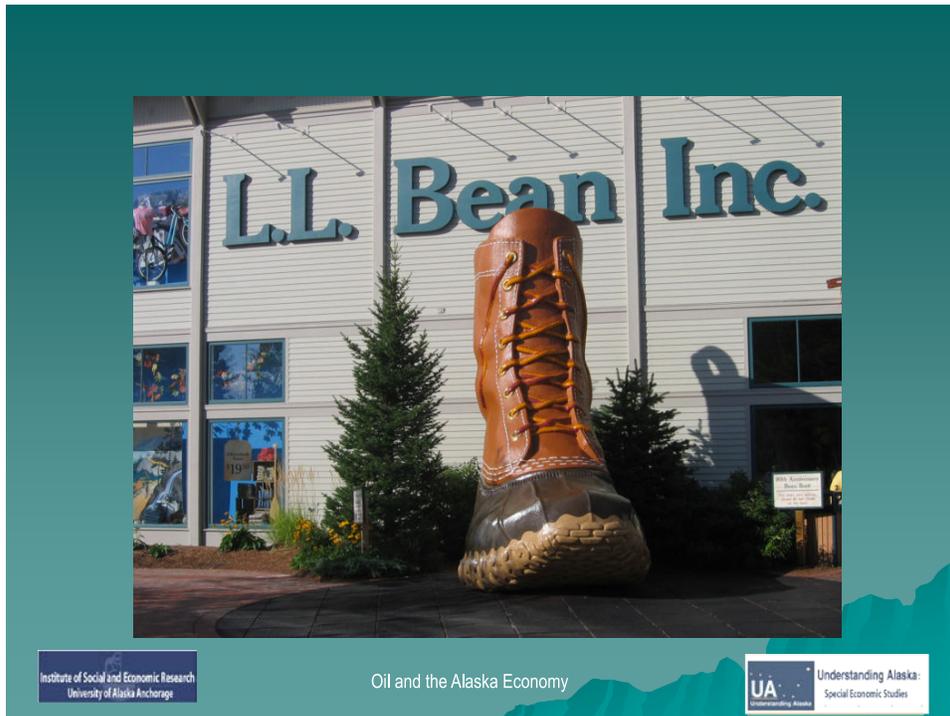
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I don't think we resembled other states with a large Native American population like Oklahoma, New Mexico, or South Dakota.

Nor did we resemble other smaller western states like Wyoming, Montana, or Idaho.

Finally we did not resemble other states where tourism was about to boom like Florida, Nevada, or Hawaii.

No, I think the closest comparison is with.....



Maine.

(Now for those of you in the audience who are Mainers, let me apologize in advance if you are offended. I look forward with great anticipation to visiting Maine someday. But last evening I was describing what I would be saying today to my daughter who lived for many years on the east coast. When I asked her if she had ever been to Maine her response was...Maine? Boring.)

Of course there are many differences between Maine and Alaska, among them the fact that only 1% of land in Maine is in federal ownership, that only 1% of its population is American Indian, that it is physically attached to the rest of the country, that presidents hang out there, that it has lobsters rather than crabs, and that its residents talk with a funny accent.

# Maine and Alaska

- ◆ Many moose
- ◆ Few humans
- ◆ Cold
- ◆ Remote
- ◆ Independent streak

But there are also many similarities including a large moose population and a small human population, a northern climate, remoteness, and an enduring myth about self reliance in the wilderness.

# 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

More to the point, there are striking economic similarities including an economic base dominated by natural resources with limited sustainable harvests and impacted by globalization, a small and declining manufacturing sector, and a high level of dependence on federal dollars. There are conflicting visions about the use of natural resources and, according to some observers, a “zero sum game” development mentality.

(And of interest to the old timers in the audience, both states in the recent past have asked the Brookings Institution “think tank” for strategic economic development advice.)

In fact without oil, Alaska would have looked a lot like Maine in 1967 except for a ship building facility on the Maine coast (Bath Iron Works), LL Bean, and several prestigious private institutions of higher learning—Bates, Bowdoin, and Colby.

I have to report that Maine’s economic growth over the last 40 years has not been outstanding. Here’s a typical summary of its performance (a quote that can be found in numerous locations on the web):

Throughout the second half of the 20th 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: 43<sup>rd</sup>
- ◆ Population growth: 46<sup>th</sup>
- ◆ Median age: 1<sup>st</sup>
  
- ◆ Median Paycheck: 77% as high as Alaska
  
- ◆ Projected population growth = 1/3 US average

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The economic performance indicators support that description. Today Maine is ranked 43rd among the states for Gross Product Per Capita (\$34K compared to \$59K for #2 Alaska), and 46<sup>th</sup> in the last decade for its population growth rate. However it did have

one number one ranking—that of the oldest population (Alaska is 49<sup>th</sup>). (Perhaps that is the source of my daughter’s perception.) The average full time, year round worker in Maine had a paycheck only 77% as high as the average Alaskan in 2005. And forecasting ahead for Maine, the US Census projects the population will grow at a rate only 1/3 the US average for the next two decades.

Before translating the Maine experience to Alaska without North Slope oil, we should keep in mind that Maine actually has some advantages when it comes to economic growth including proximity to markets (130 miles from Augusta to Boston), low labor costs, highly developed infrastructure, and compactness of size (smaller land mass with more people).

With the Maine example in mind, we can now ask what Alaska might look like today without North Slope oil.

### Alaska’s Non Oil Economic Drivers: Actual Job Growth (Thousands)

	1967	2007	Change
Tourism	1	22	21
Fishing	7	18	11
Mining	<1	2	2
Air Cargo	-	3	3
Timber/ Military	36	27	-9
Federal Civilian	18	17	-1
Federal Grants	Na	Na	UP

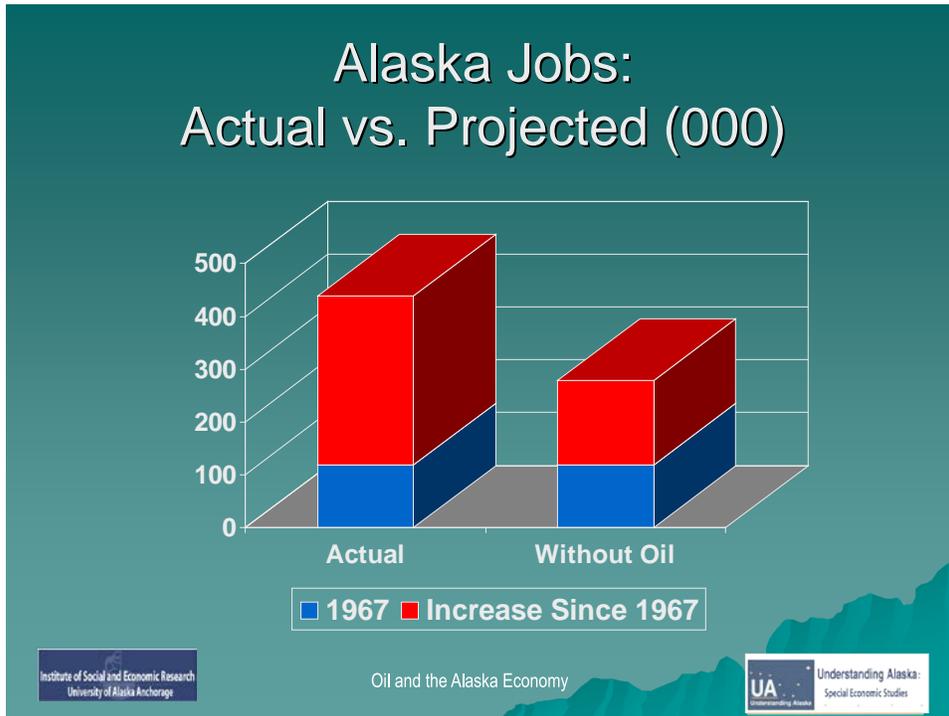
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If we assume “non oil” basic sector economic growth identical to actual historical experience, employment among our “non oil” drivers would have increased by 27 thousand between 1967 and 2006, with most of that growth coming from tourism and fishing.

This basic sector growth would have generated additional jobs thru the multiplier and cumulatively would have led to some maturation and deepening of the economy such as improved transportation links and utilities, more locally available business services, and a wider variety of goods and services available for household consumers (There would no longer be a need to go to Seattle to get a haircut.).

Without North Slope oil total employment would have grown from 118 thousand in 1967 to 280 thousand today--the level we actually reached in 1982—25 years ago.



This would have stimulated population growth from 272 thousand to 395 thousand--the level we actually first hit in 1976.

I don't have time to follow this thread and speculate on some of the fascinating social and political implications of a smaller Alaska, but I'm sure you can. I might summarize it by saying that the favorite restaurant you like to frequent in Anchorage would probably not be here, but then of course you probably would not be here to not enjoy it. (Some other obvious implications are that the population would be about 1/3 Alaska Native and it would be much older. Alaskans would be paying a lot of taxes and getting a lot less in public services. Consumption opportunities would be limited. Alaska history might be much less interesting.)

# Spillovers from Oil Development

## ▪ Boost to Non Oil Drivers

- Low taxes
- \$\$ for Infrastructure
- Availability of Fuel for Air Cargo

## ▪ Economic Maturation

- Stable markets
- Growing purchasing power
- Lower costs

But our performance without oil might not have been that good, because of the possibility of “spillovers” from oil development impacting growth of the non oil economy.

First, the wealth from North Slope oil production and the local availability of petroleum products have given our non oil economic drivers a boost.

Low taxes and high public spending on both operations and infrastructure have provided the tourism, fishing, mining, and air cargo industries with growth opportunities they would not otherwise have had. Consider the taxes side of this equation. Although their taxes might be enough to pay the direct costs of management of those resources, they do not produce a fiscal surplus that can be used to pay for fostering additional growth—either by investing in bricks and mortar, or in human capital development. (For example, how could the tourism industry flourish without infrastructure--ferries, docks, and roads. What would the fishing and mining industries look like without the various state loan programs for their benefit?)

The tax base represented by these sectors is limited and together they pay about 5 to 10 percent of the bills of the state general fund. In the absence of oil they would be asked to shoulder a larger share of the cost to run the schools and other public programs in this state. Could they afford it? (Keep in mind that Cook Inlet oil production peaked in 1970 at 83 million barrels per year, and today has fallen to about 6 million, so it could not have carried state finances for long.)

Would Ted Stevens Anchorage International Airport be the third largest cargo airport in the world without the local availability of jet fuel? It’s an interesting question.

So as valuable as growth in our “non oil” basic industries has been, it is entirely possible that without oil that growth might have fallen short of its actual performance.

Furthermore, the maturation and deepening of the economy that I mentioned might have been more limited if the only the impetus to growth were from the non oil drivers. That process requires stable markets, increasing purchasing power, and falling costs of doing business. Stable markets requires stable population, but tourism and fishing jobs, the biggest growth industries, are the most seasonal, tending toward “enclave” development—workers here in the summer going Outside with their earnings in the winter. Growing purchasing power comes from growing earnings, but tourism jobs in particular are not high paying. Falling costs of doing business relative to the US requires larger markets which foster competition and spread fixed costs more broadly.

I hope this little “thought experiment” has given you a new perspective on the importance of North Slope oil to Alaska. However lest you are feeling too smug, I want to end on a cautionary note.

While it is true that oil has transformed the Alaska economy in ways that those who were here 40 years ago and those of us who are here today would both applaud, the wealth it has brought to Alaska has come with a cost.

According to the World Bank and others, the economic performance of natural resource rich countries has historically fallen short of those countries not as richly endowed. This phenomenon is known as the “The Resource Curse”.

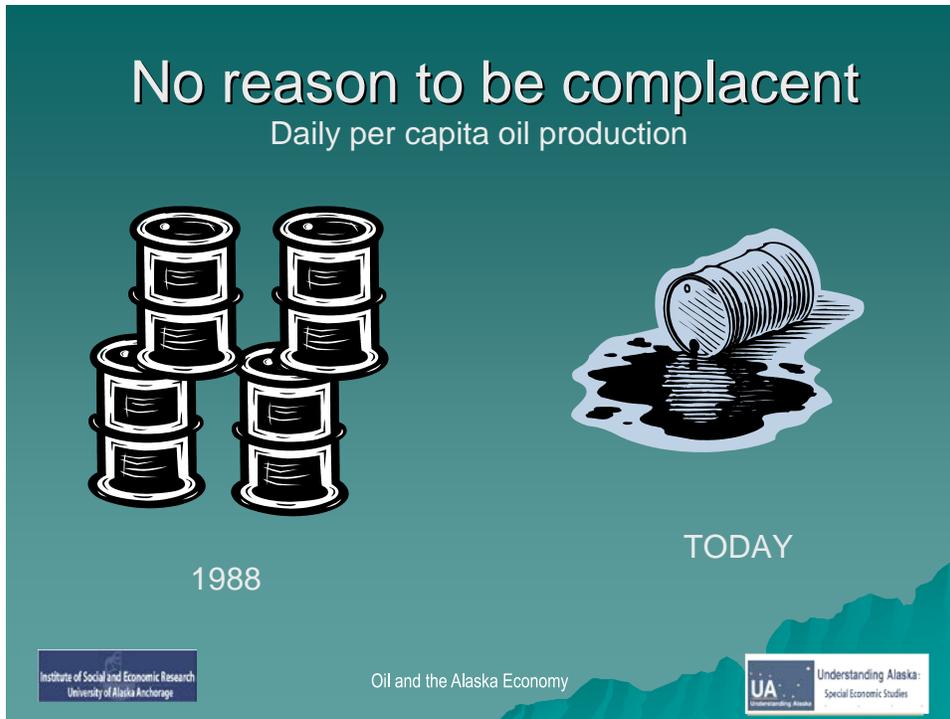
Although we obviously don’t have a terminal case, we do have some of the symptoms of the curse including those I have listed here.

# Resource Curse: Some Symptoms

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

Some of these symptoms have negatively affected our past economic performance, which is unfortunate, but I am more concerned with the likelihood that they will compromise our ability to make the best use of our wealth in the future.

I am particularly concerned about the mismanagement and underinvestment that are byproducts of a sense of complacency that accompanies windfalls.



The convergence of declining oil production and growing population make it abundantly clear that we cannot afford to be complacent. In 1988 daily oil production was 4 barrels for every Alaskan. Today it is one.

Have we “put by” enough against the day when oil will no longer drive the economy? And have we invested where we will get the greatest return? We have all been having too good a time to seriously consider these questions, but it’s time we started.

I’ll leave you with an example of an investment we did not make. I don’t know if not making it was the right choice or a missed opportunity, but it’s worth considering the price we paid for not making it.

Since 1982 over \$15 billion has gone to Permanent Fund Dividends and we have all enjoyed the resulting windfall increase in our purchasing power. Most of that \$15 billion has gone to consumption that produces an immediate boost in spending but little or no long term return to the economy.

One way we can measure what economists call the “opportunity cost” of the dividend program is by calculating the size of a hypothetical fund containing all those dividend payments, assuming management by the Permanent Fund corporation and reinvestment of all its annual earnings. That “son of the Permanent Fund” would today contain \$35 billion.

## “Son of the Permanent Fund” Fund



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As we look forward we need to keep in mind that every choice to spend today has an “opportunity cost” that our children will pay tomorrow.