

ALASKA ECONOMIC **TRENDS**

SEPTEMBER 2008

Alaska's Oil Industry

WHAT'S INSIDE

Employment Scene

Two economic indicators, two different storylines



ALASKA DEPARTMENT OF LABOR
& WORKFORCE DEVELOPMENT

Sarah Palin, Governor
Commissioner Click Bishop

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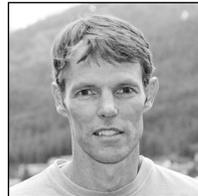
Cover: Workers are shown in August on Pioneer Natural Resources' Nabors Rig 19AC in the Beaufort Sea, five miles from shore in about five feet of water. The rig is part of Pioneer's Oooguruk project, which entailed building a gravel island, according to Pioneer officials. The company, with its minor partner, Eni Petroleum, made North Slope history when it finished the \$500 million-plus project in June. That made Pioneer, whose headquarters are in Dallas, the first independent oil company to operate a producing oil field on the North Slope. Photo: © Judy Patrick Photography

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Alaska's Resources Provide Economic Opportunity

By Governor Sarah Palin

Alaska's natural resources have painted our past and present economic landscape, and our future depends on wise management of Alaska's resource bounty.

Currently, oil revenues provide 88 percent of the state general fund. Thanks to oil revenues, wise Alaskans created the Permanent Fund that has returned about \$15 billion in dividends to Alaskans.

Energy generates more than a quarter of the state's gross state product and its riches trickle down through every pocket of the state's economy. Yet the energy industry employs only 4 percent of Alaska's workers, even with a 34 percent growth since 2000 to about 12,000 jobs in June 2008.

Most of Alaska's oil jobs are concentrated in the industry's production and management centers. More than half, 58 percent, are employed on the North Slope, followed by 21 percent in Anchorage. Of the remainder, 10 percent are on the Kenai Peninsula, 7 percent in the Fairbanks North Star Borough, 2 percent in Valdez and 2 percent elsewhere in the state.

Last November, with the hard work of our Legislature, we adopted legislation that ensured a fair share of our oil's value for Alaska and Alaskans. With current higher oil prices, the state's revenue from oil taxes could reach \$10 billion to \$14 billion this fiscal year.

Our Legislature recently agreed that we must help Alaska families get through the tough winter ahead by sharing the state's oil resources with a one-time, special payment of \$1,200 to each Alaskan eligible for the 2008 Permanent Fund Dividend.

But our longer-term prosperity will come from a gasline. With the Legislature's Aug. 1 decision to award the Alaska Gasline Inducement Act license to TransCanada, we can finally look ahead to bringing Alaska's natural gas from the North Slope to our homes, businesses and fellow Americans in the Lower 48.

We are one of the most resource-rich regions in the world. Yet, as we take advantage of our tremendous economic opportunities, we must address the large percentage of nonresidents and an emerging workforce skills gap as a high number of workers approach retirement.

The Alaska Department of Labor and Workforce Development's AGIA Training Plan is a roadmap that will help enhance Alaska's existing training programs so that Alaskans are provided opportunities to acquire or upgrade skills in preparation for gasline jobs. This time we won't rely on imported workers.

Strong partnerships are being created – within state government between the Department of Labor, Alaska Department of Education and Early Development and the entire University of Alaska system, along with other training providers, business and industry. Our efforts have resulted in numerous system improvements, including construction academies in a number of communities that train both Alaska youth and adults for jobs in the construction industry, expansion of the allied health and engineering programs at the University of Alaska, and the Alaska Career Ready Program in the Department of Education and Early Development.

We will continue our efforts to fund vocational, career and technical education that begins in our schools, relevant job training and apprenticeship opportunities to mentor new workers, among other critical needs.

Our natural resources – including our human resources – must be responsibly developed to ensure that Alaska's future is in capable hands.

Producing a third less oil but providing a record number of jobs

There's little doubt that the discovery of oil in Prudhoe Bay transformed Alaska's economy far beyond anyone's imagination. With as much as a third of the state's current economic activity somehow tied to oil, it certainly deserves a prominent place on Alaska's economic stage.

Part of the prosperity of Alaska's oil industry is defined by the direct jobs it creates around the state. The number of jobs isn't large, but they're some of the most sought-after jobs in Alaska. They require a highly skilled work force and their wages are the highest in the state. Aside from the lure of big paychecks, oil industry jobs have a bit of romance to them too – the excitement of discovery and the brawny work environment.

All that might partly explain why many Alaskans are relentless in their efforts to create more op-

portunities in the oil industry, whether it's a new discovery, developing the Arctic National Wildlife Refuge or building a gas pipeline. However, this article will focus on past and current employment trends in the industry to explain why its work force reached record levels in 2008, 20 years after oil production peaked.

A relatively small employer with a big roar

Oil revenue makes up 88 percent of the state general fund's unrestricted revenue. The stream from oil revenue could reach \$10 billion to \$14 billion this fiscal year,¹ according to some estimates.

The Alaska Permanent Fund, made possible by oil, has dispersed roughly \$15 billion in dividends since it began giving them in 1982. On a local level, the oil industry is often one of the largest property taxpayers.

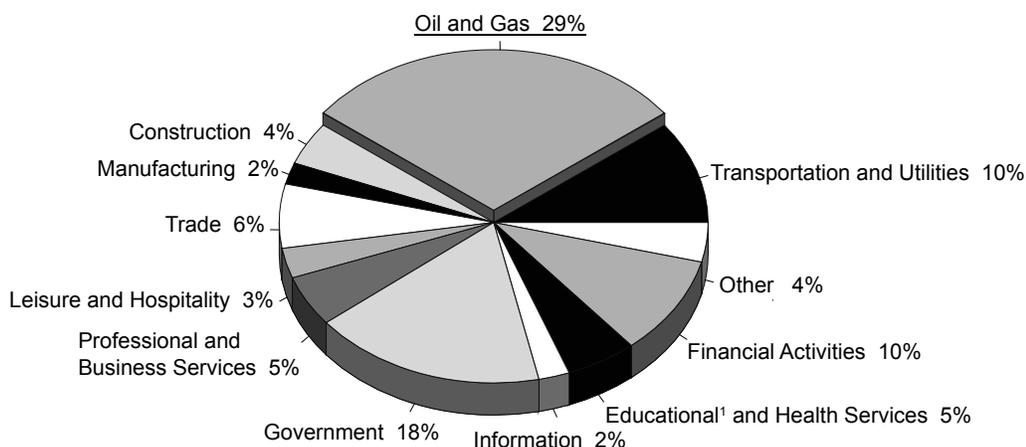
It generates more than a quarter of the state's gross state product.² (See Exhibit 1.) There are many other ways oil showers down on Alaska's economy as well.

But given all of that, the oil industry still isn't a very big direct employer.

¹ The current fiscal year is fiscal year 2009, which runs from July 1, 2008, to June 30, 2009.

² Gross state product for Alaska is a measurement similar to the gross national product, though it's limited to the production that takes place within the state's borders. It's the sum of value added from all industries in the state.

1 A Large Slice of Alaska's Gross State Product Alaska, 2006

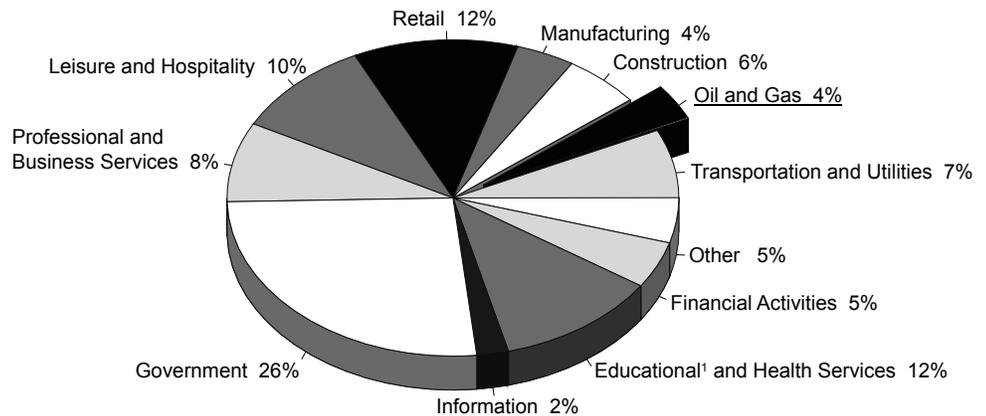


¹Private education only

Source: U.S. Department of Commerce, Bureau of Economic Analysis

In this article, direct oil and gas industry employers are defined as oil producers and oil field service companies – firms such as ASRC Energy Services, ConocoPhillips, CH2M Hill, Doyon Drilling, Peak Oilfield Services Company, Halliburton and Kuukpik Drilling. In technical terms, they fall into three groups: oil and gas extraction, drilling oil and gas wells, and support activities for oil and gas operations.³

Oil Industry Employment – Small But Mighty **2** Alaska's wage and salary employment, 2007



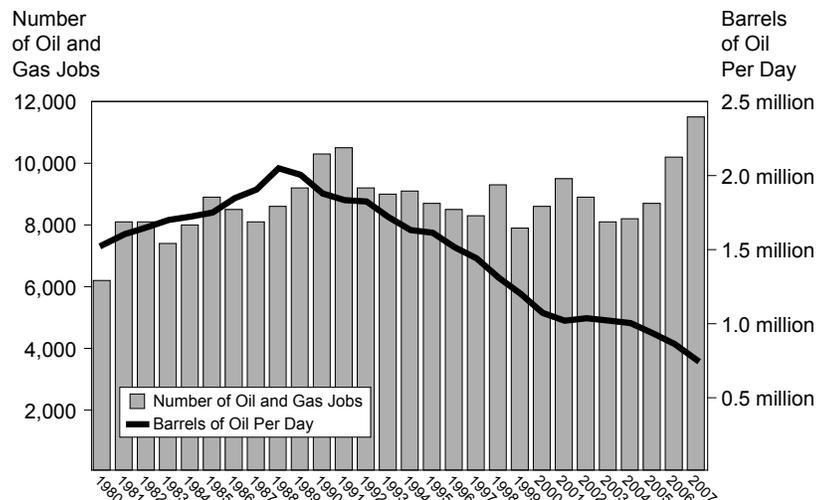
¹Private education only

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Using that relatively narrow definition, oil and gas employment (referred to as oil industry employment for the rest of this article) in June stood at 12,600.

Less Oil Production But More Jobs **3** Alaska, 1980 to 2007

Those jobs represent 4 percent of all wage and salary employment in Alaska, based on 2007 average annual employment numbers. (See Exhibit 2.)



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and Alaska Department of Revenue, Tax Division

If the narrow oil industry employment definition were broadened to include pipeline transportation – mostly Alyeska Pipeline Service Co. – and petroleum refineries and other downstream operations, the share would be slightly higher.

payroll grew by 5.8 percent, the largest increase since 2000.

Because the oil industry's average wage is more than twice the statewide average wage, its payroll impact is more impressive. Alaska's oil industry payroll in 2007 added up to \$1.3 billion, which represented 9 percent of all wage and salary payroll. If pipelines and downstream operations such as refineries are included, the share grows to nearly 11 percent.

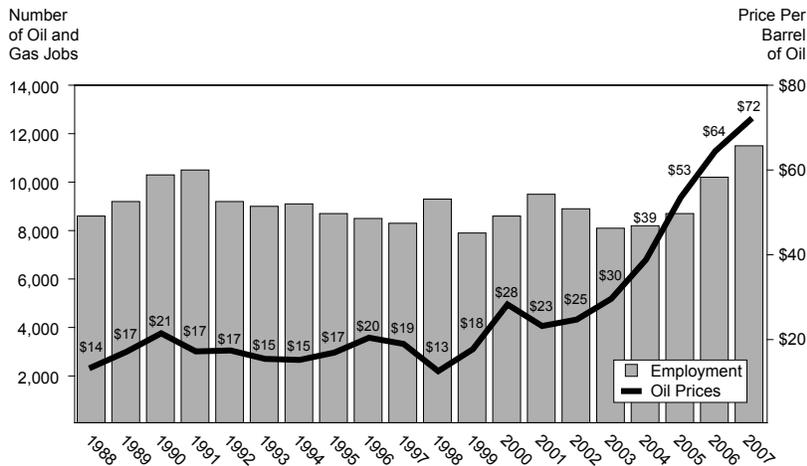
There are certainly thousands of other direct jobs that service the oil industry but aren't categorized as jobs with oil industry employers. Out of the more than 9,000 jobs in Prudhoe Bay in 2007, more than 1,500 weren't with oil industry employers.

Another recent example of the oil industry's influence on wages is reflected in payroll growth. Between 2006 and 2007, the oil industry's payroll grew by 18.8 percent. The total state

For example, NANA Management Services is one of the larger employers in Prudhoe Bay. Its

³ These are based on the North American Industry Classification System, or NAICS: 211, oil and gas extraction; 213111, drilling oil and gas wells; and 213112, support activities for oil and gas operations.

4 Oil Prices Impact Industry Employment Alaska, 1988 to 2007



Source: Alaska Department of Revenue, Tax Division; and Alaska Department of Labor and Workforce Development, Research and Analysis Section

employment falls into the four categories of catering, accommodations, facilities management and construction.

Other direct jobs associated with oil industry activity but not categorized as oil industry employment include those for security, transportation, engineering and logistic employers, among others.

Alaska's oil industry employment first peaked in 1991

For most of the past 15 years, Alaska's oil industry employment levels have fluctuated from year to year, with an overarching declining trend accompanied by periods of recovery. (See Exhibit 3.) Oil production peaked in 1988, and shortly after that, oil industry employment peaked in 1991 at 10,700. It wouldn't be until 2006 that the 10,000 barrier would be broken again.

Nationally, oil industry employment had peaked nearly a decade earlier in 1982, a testament at the time to the relative youth of Alaska's oil industry.

Other factors aside from production levels and prices explain the changing size of the oil industry's work force, both nationally and in Alaska. Dramatic improvements in technology in the last

decade have had a powerful effect on employment levels.

Examples include the widespread use of horizontal drilling, ultra extended-reach drilling, 3-D and 4-D seismic surveys, drill bit sensors and other advancements that reduced the number of wells that need to be drilled.

According to the Federal Reserve Bank of Dallas, the national oil and gas industry was the leader in productivity gains throughout the 1990s and continues to be an above-average performer. In other words, the oil industry has been able to perform more work using fewer workers.

Therefore, a decline in employment – nationally and in Alaska – wasn't always tied to a decline in production. The major oil producers also increasingly began using contractors, consultants, outside suppliers and temporary workers to perform many tasks, instead of adding to their permanent staff. That meant that both gains and losses in the industry weren't always captured among the oil industry employers.

One of the largest contractions in Alaska's oil industry work force took place from 1991 to 1992. BP, along with other oil industry employers and contractors, went through a period of major restructuring and consolidation in response to declining oil prices. The downsizing cost the industry 1,300 jobs – a record one-year loss.

Weak oil prices and other factors buffeted the industry again in 1995, when Atlantic Richfield Co. made major cuts to the size of its work force.

By 1998, employment in Alaska's oil patch began to recover with the development of the Alpine, Tarn and Badami fields, the drilling at West Sak, and preliminary work at North Star, Liberty and other fields.

Oil prices plunged from nearly \$19 per barrel in 1997 to \$13 in 1998 and record job losses followed. (See Exhibit 4.) For the first time since 1983, Alaska's oil industry employment fell be-

low 8,000 and the losses reverberated throughout the state's economy.

Finally, in 2000, recovery kicked in and by 2001, oil industry employment reached a 10-year high, nearly 2,000 jobs higher than the industry's nadir in 1999. The near concurrent development of both the Alpine and North Star oil fields were the two major reasons for the upswing in activity. What gave the oil industry's employment numbers some extra loft was the construction of large oil modules in Kenai and Anchorage. Before that, they were built in the Lower 48 or overseas.

The year 2000 marked a historic event: Alaska's largest oil industry employer and discoverer of Prudhoe Bay, Atlantic Richfield, disappeared from the scene when it sold its assets to BP and ConocoPhillips. The sale was a signal to many observers that Alaska's oil industry was moving into its very "mature" stage of development, and – barring any major field discoveries, the opening of ANWR for exploration or construction of a gas line – the industry's employment trajectory was most likely on a permanent downward sloping curve.

Oil industry employment climbs to new record

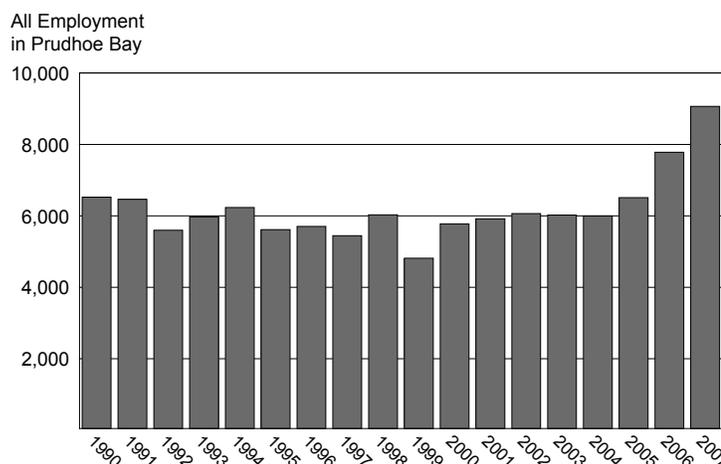
The following four years appeared to reinforce that view. With most of the work completed on the North Star and Alpine fields, oil industry employment began to fall steeply in 2001 and then hover at the 8,000 level through 2004. What made that peculiar was the fact that the price of oil was recovering nicely from its 2001 low of \$23 a barrel to \$39 in 2004. Even so, it appeared as if Alaska's oil work force was entering an era of stagnation and enduring decline.

Finally, and possibly due to four years of above-average oil prices that by 2005 had more than doubled from the 2001 low, the oil industry began to stir again in 2005.

Unlike many earlier recoveries, this one wasn't tied to one or two projects. Instead, there were a lot of smaller ones: continued work on heavy oil in West Sak, an increase in the production of

Prudhoe Reaches New Heights **5**

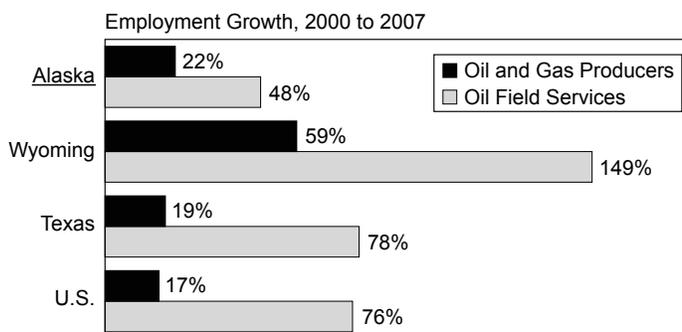
Prudhoe Bay employment, 1990 to 2007



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Oil and Gas Job Growth **6**

Selected states and the U.S., 2000 to 2007



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; Wyoming Department of Employment; and Texas Workforce Commission

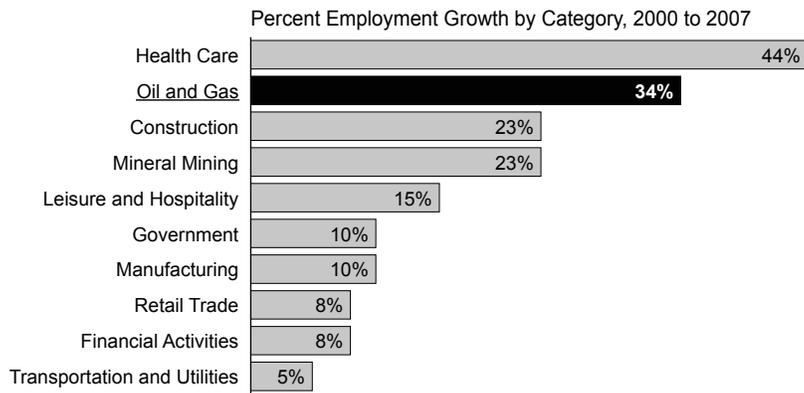
viscous oil, the repair of Prudhoe Bay production wells, work around Alpine, the building of new connecting pipelines, and the continued development of a number of satellite fields.

Then in early 2006, a section of BP's pipeline sprung a leak. It eventually turned out to be the largest oil spill in the North Slope's history.

Soon afterward, BP discovered additional corrosion problems, forcing the company to shut down the pipeline for a short period.

The spill and corrosion led BP to spend more than \$260 million in 2007 and 2008 to replace 16 miles of pipeline in Prudhoe Bay and up-

7 Strong Growth Since 2000 Alaska, 2000 to 2007



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

grade the company's facilities. Undoubtedly, that helped turbo-charge Prudhoe Bay employment numbers in late 2006 and early 2007. (See Exhibit 5.)

In fact, the University of Alaska's statewide construction forecast for 2007 predicted that construction dollars tied to oil industry activity would grow by 30 percent, single-handedly keeping overall statewide construction spending in the black that year.

Oil-related construction represented 38 percent of all construction dollars in 2007, compared to 28 percent in 2004. In a similar vein, the Alaska Department of Revenue estimates that capital expenditures made by the oil industry on the North Slope nearly doubled between 2004 and 2007.

The growing list of independent producers and other new players was another contributing factor to the upswing in activity. Shell Oil, for example, returned to the state in 2005; the company brought two drilling ships to drill four wells in the Beaufort Sea in 2007. Shell's plans were shelved due to permitting problems, but the company continues to work on the project. It has also launched plans for other offshore drilling programs.

In fact, Shell was the largest bidder in the 2008 Chukchi lease sale that netted \$2.7 billion, making it the highest lease bid in Alaska's history.

The surprise wasn't just the dollar amount; it was also its location. The leases are 50 miles offshore and hundreds of miles from any on-shore infrastructure. Such an investment could possibly be ushering in a new kind of oil development in Alaska.

Another example of a newcomer that's mixing things up in the industry is Pioneer Natural Resources. The company, with its minor partner, Eni Petroleum, made North Slope history when it finished the \$500 million-plus development of its offshore Oooguruk project in June. That made Pioneer the first independent to operate a producing oil field on the North Slope.

Other independents, newcomers and companies that have returned to the North Slope are either pursuing development in Alaska or have plans to do so. Those include FEX, Brooks Range Petroleum, Pacific Energy Resources, Statoil-Hydro and Petro Canada.

All that new activity is reflected in the oil industry's employment numbers. By 2006, oil industry employment reached near-record levels, and by 2007, the industry's employment zoomed past the 11,000 mark for the first time in history.

Another record was set last January when oil industry employment surpassed the 12,000 mark. It has remained at those new lofty levels through the first half of this year.

It's not unusual that most of that growth came from the oil field services side of employment and not the producers. (See Exhibit 6.) Typically, most of the changes in the level of oil industry employment come from the oil field service side of the industry. The producers, however, also grew – particularly BP.

BP's employment in 2000 was 1,018. By 2006 it reached 1,508 and it continued to grow. Some of BP's growth resulted from the company buying up Atlantic Richfield's assets. However, who would have thought that 20 years after oil production peaked in Alaska, the state's oil industry work force would reach new record-levels and oil would again become one of the fastest-grow-

ing industries in the state? (See Exhibits 3 and 7.)

Where the Oil and Oil-Related Jobs Are Alaska, 2007



Most of the work force is on the North Slope, in Anchorage and on the Kenai Peninsula

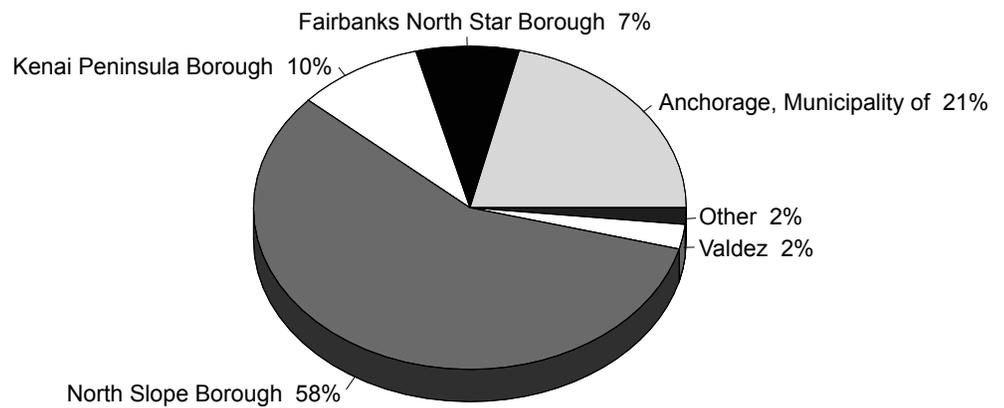
Nearly 90 percent of Alaska's oil industry employment is concentrated in three areas: Anchorage, and the North Slope and Kenai Peninsula boroughs. (See Exhibits 8 and 9.) The latter two are where all of the oil is produced; Anchorage is the state headquarters for many oil industry players.

Not surprisingly, the North Slope has the largest concentration of the oil industry's work force. Nearly half the North Slope's wage and salary employment stems from the oil industry.

Alaska's mature oil province, the Kenai Peninsula Borough, is home to oil and gas production, pipeline transportation, a liquid natural gas facility⁴ and an oil refinery. The borough also had a urea-ammonia fertilizer plant that used natural gas as its feedstock, but it closed in late 2007.

Combined, all those players represent 7 percent of the Kenai Peninsula Borough's wage and salary employment. Alone, the oil industry represents 5 percent. Because oil industry wages are more than twice the borough's average wage, the oil industry is responsible for 12 percent of the borough's wage and salary payroll.

In Valdez, most direct oil industry employment is tied to transporting oil from the North Slope through the trans-Alaska oil pipeline. Alyeska Pipeline Service Co. is the single-largest employer. SERVS⁵ is also a large employer. According to a recent Alaska Oil and Gas Association study, oil-related activity in 2007 generated nearly a



Note: This exhibit includes oil and gas, refinery, urea and pipeline employment.
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

quarter of Valdez's employment and more than a third of its payroll.

Although direct oil industry employment in the Fairbanks North Star Borough is relatively small, it's one of the North Slope's major logistic and supply centers. The same study attributes 3,250 jobs in Fairbanks to oil-related employment – 5.5 percent of the borough's wage and salary employment.

Fairbanks is also home to two oil refineries; Valdez has one.

A commuter work force

Although most jobs in the oil industry are concentrated in specific geographic areas, its work force is drawn from all around Alaska and the rest of the United States. That's particularly true for the North Slope, where only a few of the oil industry workers are North Slope residents.

After Anchorage residents, Matanuska-Susitna Borough residents and then Kenai Peninsula Borough residents form the second- and third-largest groups of Alaska residents who are North Slope workers, according to the 2000 Census. And there's little reason to believe that's changed since then. There's probably no area in the state that doesn't send some of its labor force to work somewhere in Alaska's oil fields.

⁴ Also called an LNG facility

⁵ SERVS is an acronym for Ship Escort/Response Vessel Systems. SERVS is an Alyeska subsidiary but the employment for SERVS and Alyeska is counted separately.

9 Oil and Related Employment by Area Alaska, 2007

	Oil Industry Employment	Petrochemical and Refinery Employment ¹	Pipeline Transportation Employment	Total Oil and Oil-Related Industry Employment
Statewide	11,656	603	842	13,101
North Slope Borough	7,497	--	43	7,540
Anchorage, Municipality of	2,439	32	337	2,808
Kenai Peninsula Borough ¹	909	325	14	1,248
Fairbanks North Star Borough	656	180	144	980
Southeast Fairbanks Census Area	--	--	18	18
Valdez	31	32	253	316
Yukon-Koyukuk Census Area	--	--	33	33
Other	124	34	--	158

¹The Kenai Peninsula Borough portion of the petrochemical and refinery employment category consists of the borough's Agrium plant and Tesoro refinery employment.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

For example, in the Mat-Su Borough, where no oil industry exists, about 6 percent of the borough's working population commutes to the North Slope to work. That's not surprising because Mat-Su's average wage for all industries is a third lower than the state's average oil industry wage.

A different twist on that story is the fact that the Kenai Peninsula Borough, which has the second-highest concentration of oil industry jobs within its boundaries – the North Slope has the highest – also exports many of its residents to work in the oil industry elsewhere in the state.

Number of nonresidents in the industry grows

Over the past decade, between 25 percent and 31 percent of Alaska's oil industry workers have been nonresidents (see Exhibit 10), and wages paid to nonresidents in the industry have grown from \$243 million to \$328 million. The year 2006 was a record year for the number and percentage of nonresidents in the industry.

How does Alaska compare to other oil-producing states?

Since 1979, Alaska has been the nation's No. 2 oil-producing state. If federal offshore production is included, Alaska ranks third behind Louisiana. (See Exhibit 11.)

As far as the oil industry's importance to the economies of different states, there's little doubt Alaska ranks first. (See Exhibit 12.) However, a person wouldn't guess that by looking at the size of Alaska's oil industry work force.

Alaska produced 15 percent of the nation's domestic oil supply in 2007 but employed only 3 percent of the U.S. oil and gas work force. (See Exhibit 13.) Texas produced 75 percent more oil than Alaska the same year but its oil industry work force was

195,000 strong – 17 times as large as Alaska's. (See Exhibit 11.)

It's not just among the big producing states where that imbalance exists. In New Mexico, for instance, oil production in 2007 was less than a quarter as large as Alaska's but New Mexico's oil industry work force was more than 3,000 larger. Many of the states mentioned produce more gas than Alaska. (The gas work force is included in the employment numbers.) More on that later.

But that doesn't explain most of the difference. There are a host of reasons that explain Alaska's much-smaller oil industry work force, in light of its tremendous production.

One big reason is simply that Alaska's oil fields enjoy large economies of scale. Prudhoe Bay, which is still responsible for 36 percent of the state's oil production, is the largest oil field in the nation and doesn't need a huge work force to produce its oil. Other fields on the North Slope, such as Kuparuk – the nation's second-largest – and Alpine, Milne Point and Liberty, keep company with the nation's larger oil fields. In fact, 14 of the nation's 100 largest oil fields are in Alaska.

In Texas, Oklahoma, Wyoming and other oil-producing states, some oil is produced from very small fields. There are 400,000 marginal fields or stripper wells operating in the U.S. and

a stripper well produces 10 barrels of oil or less per day. In many of the states, there are literally thousands of families and small companies engaged in producing oil and gas – something nearly totally absent in Alaska.

The U.S. Census Bureau in 2006 identified 65 oil and gas establishments in Alaska, versus 754 in Wyoming, 1,305 in Oklahoma and 6,472 in Texas.

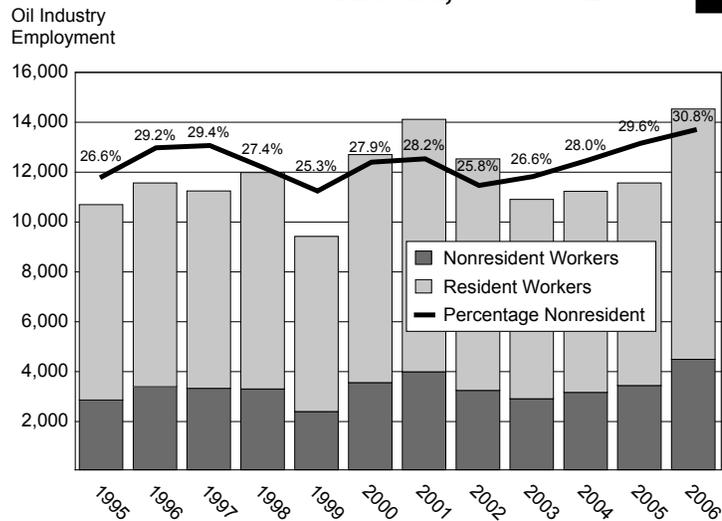
Another example of the difference between Alaska and other states is the number of wells being drilled. The Baker Hughes rig count for July was four for Alaska versus 923 in Texas. Even the count in Montana was higher than Alaska's. If Alaska's oil fields weren't as remote, employment in Alaska's oil patch would be considerably higher. Oil fields now considered marginal or simply noneconomic would be economic in a less remote environment.

Alaska is also less likely to be home to an oil industry headquarters or regional center, which also cuts into the size of its oil industry workforce.

That's also true for many of the oil field service companies and contractors. Other functions, such as corporate, research and sometimes exploration, take place outside Alaska. For example, Houston alone is home to more than 85,000 oil and gas industry workers who are serving Texas' needs but also the rest of the nation's and the world's.

Yet, there are a group of firms in Alaska that are homegrown and have their headquarters in the state. They include companies such as ASRC Energy Services (the largest oil industry employer in

Share of Nonresidents Grows Alaska, 1995 to 2006 10



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Oil and Gas Industry Employment by State 11 Production and number of establishments, 2006 and 2007

	2007				2006	
	Oil and Gas Employment	Petroleum Refinery Employment	Pipeline Transportation	Oil Production (in thousands of barrels)	Gas Production (in millions of cubic feet)	Number of Oil and Gas Establishments
Alaska	11,656	400	842	270,481	444,724	65
Texas ¹	195,031	21,151	13,428	475,069	5,513,739	6,472
California	18,346	12,893	2,750	249,698	315,209	525
Colorado	18,913	--	--	23,903	1,202,821	907
Louisiana ¹	46,610	--	2,441	468,383	1,361,119	1,438
Oklahoma	43,236	--	--	63,447	1,688,985	1,305
New Mexico	15,070	--	--	59,876	1,609,223	609
Wyoming	17,730	--	--	53,039	1,816,201	754
U.S. Total	437,600	--	--	1,862,908	19,381,895	18,118

¹These categories include federal offshore Gulf of Mexico oil production. They don't include offshore natural gas production.

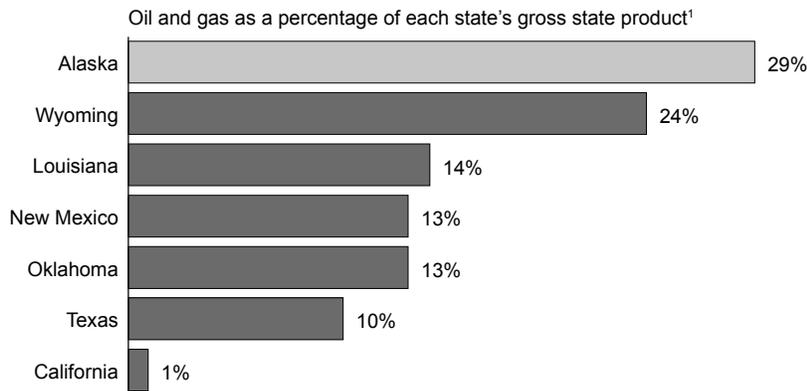
Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; the labor departments for Texas, California, Colorado, Louisiana, Oklahoma, New Mexico and Wyoming; U.S. Department of Energy, Energy Information Administration; and U.S. Census Bureau

the state), AES-Houston Contracting Company, Peak Oilfield Service Company, Udelhoven Oilfield System Services, Doyon Drilling and others. Just recently, Arctic Slope Regional Corporation announced it would no longer just be an oil service contractor – it would get involved in exploration and oil production as well.

But what is also true is that nearly all Alaska's oil industry work force is in the state solely to produce oil and gas in Alaska, not to provide

12 An Outsized Effect on Alaska

Alaska and other states, 2006



¹The percentages in this exhibit are estimates only. Due to the unavailability of Bureau of Economic Analysis detail, an assumption of support mining activities was made. The oil and gas contribution for the states, with the exception of Alaska, may be slightly too high.
Source: U.S. Department of Commerce, Bureau of Economic Analysis

their services elsewhere in the country or world. There are of course exceptions. Some Alaska-based firms have taken their arctic and other types of expertise and performed work Outside, but they're the exception.

Not only does Alaska have a considerably smaller oil extraction work force, it also has a smaller transportation infrastructure and fewer downstream operations, such as refineries. (Texas' refinery capacity is 4.6 million barrels per day compared to Alaska's 375,000.) And while Alaska has an 800-mile pipeline and a number of smaller ones, its pipelines don't compare to the thousands of miles of pipelines that snake through other states.

Alaska refineries for the most part only service local demand, which is relatively small. One exception is the jet fuel the state's refineries process for the huge international cargo fleet operating out of Anchorage. Alaska's refineries include Flint Hills and Petro Star in Fairbanks, Tesoro in Kenai, Petro Star in Valdez and two very small refineries on the North Slope.

Until recently, Alaska had only two downstream operations other than refineries, and that number was whittled down to one when Agrium's Kenai Peninsula fertilizer plant closed last year, as mentioned earlier. The only player now is ConocoPhillips' liquid natural gas facility on the Kenai Peninsula, which exports its product to Japan.

Among America's energy producers, Alaska is among the slow-growers

Alaska obviously isn't the only state or country enjoying the resurgence in oil industry activity – oil at \$100-plus a barrel does wonders for the industry. Although a record number of oil and gas industry workers are currently working in Alaska's oil fields and the oil industry is now one of the most dynamic in the state, Alaska is growing more slowly compared to most other oil and gas producing states.

Oil industry employment in the rest of the U.S. began to grow in 2004, two years before it started to grow in Alaska. Between 2000 and 2007, employment in the U.S. grew by 44 percent versus 34 percent for Alaska. In contrast, employment in Wyoming more than doubled (113 percent) and in Texas it grew by 49 percent over the same period.

There are probably a number of reasons for Alaska's less-robust growth. One certainly is its remoteness and associated costs. However, there are other reasons. In all other energy-producing states, there are far more players in the industry and they come in all different sizes, which probably makes them more nimble – whereas Alaska is dominated by a handful of large companies that tend to move more slowly in a changing environment.

Another big reason for the difference is the role natural gas is playing in the upswing in employment activity. Unfortunately, there's no current method to separate oil from gas-related employment.

While oil production in many states and the nation as a whole has been in decline since the mid-1970s, that hasn't been the case for natural gas production. In fact, nationally, natural gas production in 2007 reached its second-highest level in 27 years. Probably the only reason it was higher in the early 1980s was because gas production was often a byproduct of oil exploration.

A natural gas boom is taking place in many parts of the country, particularly in the Rocky Mountain states, and New Mexico, Oklahoma and Texas. Natural gas production in the past decade has doubled in Colorado and Montana, and has more than doubled in Wyoming, now one of the nation's largest natural gas producers.

Most current growth in Wyoming's oil and gas work force is tied to the production of gas, although oil production has also edged up in the past two years.

Nearly all Alaska's natural gas production has been in Cook Inlet. It peaked in 1996 and has gradually declined.

High earnings are its big attraction

It's a well-known fact that wages in Alaska's oil industry are an outlier on the high side. The average annual wage for an oil industry job in 2007 was \$108,538. (See Exhibit 14.) That's nearly two and a half times more than the state-wide average of \$43,524.

There are several reasons for the difference in pay, but what factors weigh heavier and which are less important isn't clear. Certainly, the profitability of the industry plays a role. The level of the required skills and experience, along with the demanding work schedules, are also factors.

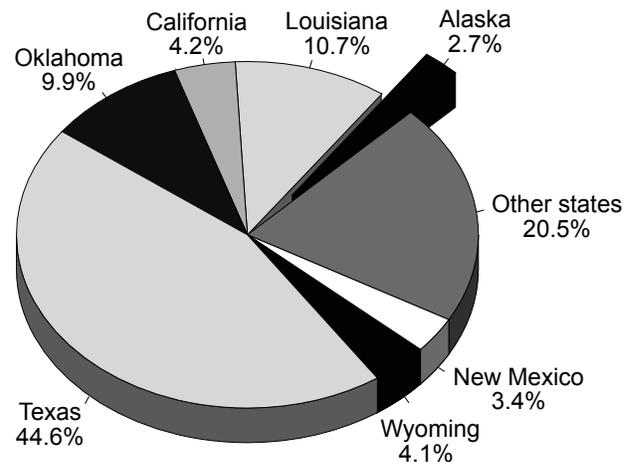
Overtime, mostly stemming from shift schedules on the North Slope or on Cook Inlet platforms, plays a big role too. The most common shifts are week on/week off or two weeks on/two weeks off. Remote-based employees often work 84 hours a week, which means 40 hours of straight time and 44 hours of overtime.

Other reasons for the higher pay include the remote work site settings, the hazards of some occupations, and the extreme climate workers encounter on Alaska's oil fields. Workers' prolonged periods of separation from their families are definitely a factor in the equation. Longer tenure in the industry is also reflected in hourly pay rates.

A Small Share of the Nation's Jobs Oil and gas employment, 2007

13

The U.S. Oil and Gas Industry



Sources: U.S. Department of Labor, Bureau of Labor Statistics; the labor market information Web sites for California, Louisiana, New Mexico, Oklahoma, Texas and Wyoming; and Alaska Department of Labor and Workforce Development, Research and Analysis Section

Wages in oil producer companies tend to be higher than those in oil field or drilling support firms – the average annual wage for the producers was \$152,840. And more job security usually exists with the producers. Work in oil field or drilling support companies often tends to be more project-orientated, which explains to some degree their more volatile employment levels. Annual wages among the non-oil industry employers in the oil patch are considerably below the annual wages for both the oil producer companies and the oil field or drilling support companies.

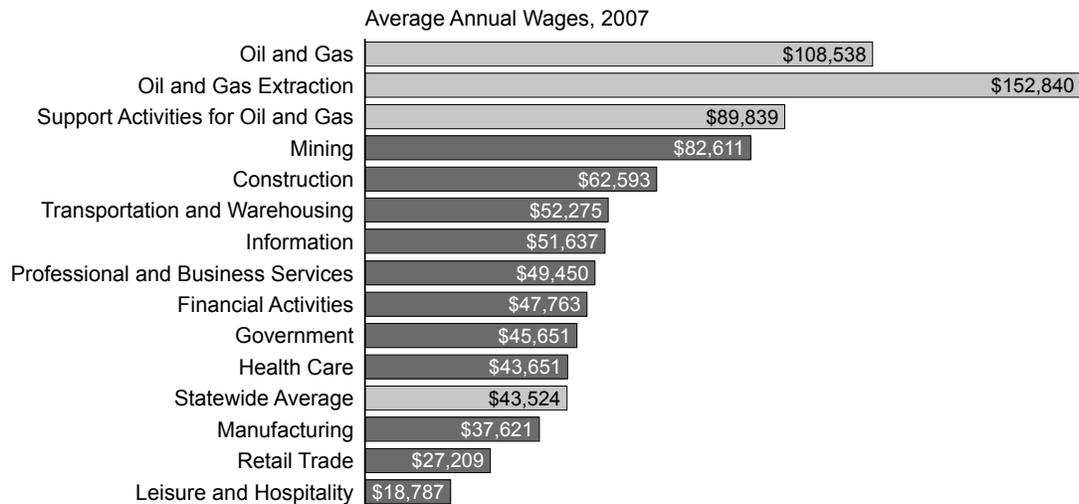
Big stuff must happen to keep these numbers positive

Employment in the oil industry has waxed and waned over time, but after oil production peaked, it was logical to believe that the labor force in the industry would generally follow oil production's declining trend. There were periods with flurries of activity to help stem the production decline, and employment would rally for a while, but further declines followed.

Yet in 2007, record oil prices, an oil spill and other activity pushed employment to record

14 Oil Industry's Wages Are Highest in Alaska

Alaska, 2007



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

highs, all while oil production continued to decline. However, it's probably clear that without other major developments or discoveries, the higher employment numbers will be temporary and those numbers will resume the broader downward trend.

There are ventures on the horizon, though, that might stem future losses and propel the

oil industry to new heights, launching the state into a new oil and gas epoch. It all started with Cook Inlet, then moved on to Prudhoe Bay. Alaska could now be on the threshold of a new era by becoming one of the nation's largest gas producers.

Two economic indicators, two different story lines

Alaska's seasonally adjusted unemployment rate rose two-tenths of a percentage point in July to 6.9 percent. June's preliminary rate was revised down one-tenth of a percentage point to 6.7 percent.

After steadily rising for most of 2007 and the first part of 2008, the state's rate has bounced around over the last four months and has not revealed a clear trend. For its part, the U.S. rate continued its gradual climb, rising two-tenths of a percentage point in July to 5.7 percent, a full percentage point higher than in July 2007.

Similar trends for Alaska and U.S. unemployment rates

The Alaska and U.S. rates have followed the same broad trends since at least 2001. (See Exhibit 1.) The national recession in the early part of the 2000s drove the U.S. rate from a low point of 4.2 percent to a high of 6.3 percent. After a lag of several months, Alaska's rate followed a similar course, rising from 6 percent to almost 8 percent between 2001 and 2003.

After the recession ended, the U.S. rate steadily fell until it reached a low point of 4.4 percent

in early 2007. Alaska's rate fell by roughly the same margin and bottomed out at 6 percent in early 2007. Since then, both the U.S. and Alaska rates have climbed as the nation has likely entered another recessionary period.

Looking just at unemployment rates, it may be tempting to conclude that Alaska's economy follows the same business cycles as the nation, and that both economies are currently in the midst of a slowdown. The rates seem to suggest that when the nation's economy is thriving Alaska's is doing likewise and that recessions afflict both economies during roughly the same time periods.

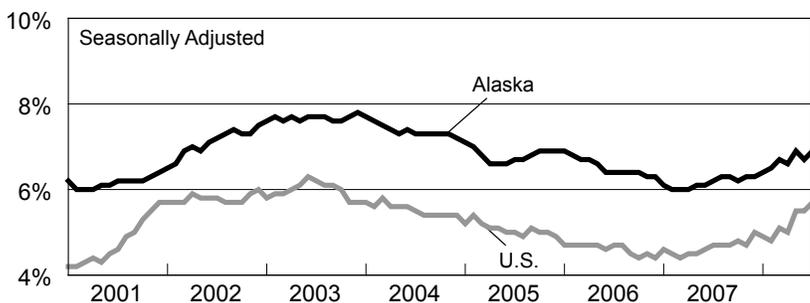
Job growth tells a different story

But unemployment rates can be a complicated economic indicator, and although they provide important information about the percentage of the labor force looking for work, they shouldn't be seen as a simple barometer of an economy's health – especially at the state level.

A more simple and straightforward tool for assessing the health of an economy is the rate of growth in payroll jobs. Unlike unemployment rates, which over the short term can rise as an economy strengthens and fall as an economy weakens, an increase in payroll jobs almost always equates to economic growth and a decline in the payroll job count almost always means economic distress.

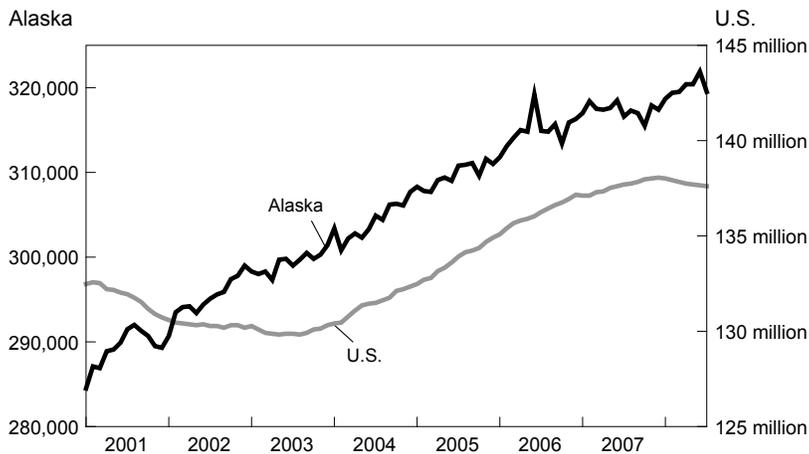
At the national level, the pattern of payroll job growth and loss is generally a reverse image of the rising and falling of the unemployment rate. For example, the U.S. economy registered job losses during the 2001-2002 recession as the unemployment rate climbed, and is showing losses again in 2008 as the unemployment rate has pushed upward. (See Exhibits 1 and 2.)

1 Unemployment Rates, Alaska and U.S. January 2001 to July 2008



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Bureau of Labor Statistics

2 Payroll Employment, Alaska and U.S. January 2001 to July 2008



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and U.S. Department of Labor, Bureau of Labor Statistics

But Alaska's payroll numbers over those same years bear little resemblance to the state's pattern of rising and falling unemployment rates. Unlike the up-and-down U.S. payroll numbers, Alaska's data show consistent, moderate growth in payroll employment¹ with little apparent relationship to trends in the unemployment rate. (See Exhibits 1 and 2.)

Reconciling the two indicators

All this begs the question of how unemployment rates can rise in Alaska without payroll jobs falling as they nearly always do for the nation. The most likely explanation is that Alaska's unemployment rates over the 2001 to 2008 period have been driven more by a slosh of workers back and forth to the state from neighboring states than by changes in Alaska's ability to sustain and increase its count of payroll jobs.

As separate and distinct from the rest of the U.S. as Alaska can seem, it's important to remember

¹ The jagged line of the graphed Alaska data also show the difficulty of seasonally adjusting numbers in a state where seasonal patterns are dramatic and occasionally shift due to the timing of fish harvesting and, less frequently, changes in weather patterns. The much smoother seasonally adjusted data for the U.S. reveal a more predictable seasonality, both in terms of the timing of seasonal movements and the magnitude of the movements. Because of Alaska's unruly seasonal patterns, the seasonally adjusted data aren't as reliable in interpreting changes from one month to the next as they are for the U.S. The seasonally adjusted data for Alaska are still useful, though, because over a period of several months they reveal changes in underlying trends more effectively than unadjusted data can.

that workers from other states can freely move to Alaska in search of employment and that Alaskans can freely move to other states when opportunities beckon.

The flow of workers to and from the U.S. is a much more regulated affair, with immigration laws and regulations limiting movement. With a more static labor pool, the nation generally sees corresponding changes in unemployment rates and payroll employment: when unemployment rates show a sustained upward trend, payroll jobs are usually falling and vice versa.

As a state with a highly seasonal, resource-based economy – and a climate that's not for everyone – Alaska has a particularly fluid resident population. About 6 percent of residents are new to the state each year and roughly that percentage also leave.

The number of people who migrate to Alaska – whether seasonally or with the intention of staying longer and making Alaska their home – is affected by the relative health of their home economies. If good jobs are plentiful locally, a person is less likely to look to Alaska for employment.

The same is true of Alaskans weighing the pros and cons of leaving the state for employment-related reasons. If the U.S. is in the midst of a recession, an Alaskan in search of work is less likely to leave the state than when the U.S. economy is strong and jobs are easier to come by.

Consequently, the number of unemployed workers and the unemployment rate in Alaska appear to have risen and fallen more in response to the rising and falling of the U.S. economy than to changes in the state's ability to generate job growth, which has been remarkably consistent for more than two decades.

It's important to recognize, though, that there are other possible explanations for why Alaska's unemployment rate could have been up and down during periods of relatively consistent payroll job growth. As noted, the rate is a compli-

cated indicator. Even assuming no migration to and from Alaska, the unemployment rate would change as the state's existing population moved in and out of the labor force.²

Job growth states benefiting from oil and gas boom

Through the first seven months of 2008, 28 of the 50 states registered a decline in payroll jobs and the nation as a whole lost more than 450,000 jobs.

On a percentage basis, the state with the biggest loss was Rhode Island with a 2.1 percent drop, followed by Florida, Arizona, Nevada and Indiana. (See Exhibit 3.)

Bucking the national trend are Texas and several other states that are benefiting from strong growth in the oil and gas industry. Alaska is tied with Montana and Wyoming for the fourth-highest growth rate in the country so far in 2008.

Nationwide, the natural resources and mining sector, which includes the oil and gas industry in addition to coal mines and other mining employers, has added about 40,000 jobs so far in 2008.

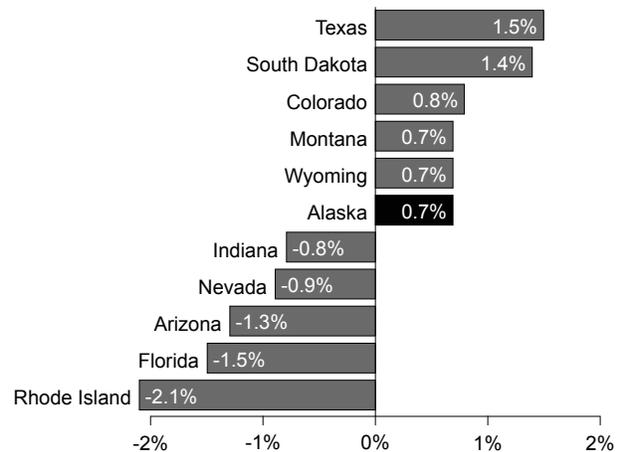
Payroll data follow seasonal trends

July and August are Alaska's peak employment months and the unadjusted payroll numbers show the expected seasonal increase. The net gain from June to July was 3,600 jobs as most of the state's seasonal employers shifted into their highest gears.

Seafood processing employment jumped by an estimated 5,800 in July and the construction and accommodations industries both added 600 jobs. Those additions more than compensated

² To be counted as unemployed, a person must be actively seeking work. So when a retired person decides to go back to work and starts looking for a job or a student who has recently graduated begins a job search, the number of unemployed people rises even though the population hasn't changed. The labor force, which is the universe from which the unemployment rate is calculated, consists of two parts: 1) those people who aren't working but actively seeking work, and 2) those people who are working (there are some exceptions where people are counted as employed even though they aren't working – people on paid leave, for example).

Alaska Doing Better than Most States 3 Payroll job growth in 2008,¹ highs and lows



¹ December 2007 to July 2008

Source: U.S. Department of Labor, Bureau of Labor Statistics

for the large seasonal decline in local government (-5,200) as public schools let out for the summer.

Job growth mostly in Anchorage/Mat-Su and Northern regions

Nearly all the state's over-the-year job growth was in the Anchorage/Mat-Su and Northern regions. (See Exhibit 6.) Growth in the Northern region is obviously driven by oil and gas, but so is much of the Anchorage/Mat-Su growth.

The oil companies' job counts in Anchorage have grown by an estimated 300 over the year and high levels of activity for the industry have stimulated growth in a variety of other industries. The Mat-Su Borough's growth continues to come predominately from its connection to Anchorage's job market.

A dramatic range of unemployment rates in July

July unemployment rates throughout the state ranged from a high of 26.8 percent in the Wade Hampton Census Area to a low of 1.5 percent in the Bristol Bay Borough. (See Exhibit 5.) Local unemployment rates were generally higher over the year, following the statewide trend. The only exception big enough to be of consequence was the North Slope Borough, which had a 4.7 percent rate in July compared to 6.0 percent in July 2007.

4 Nonfarm Wage and Salary Employment

	Preliminary	Revised	Revised	Changes from:	
	7/08	6/08	7/07	6/08	7/07
Alaska					
Total Nonfarm Wage and Salary¹	342,300	338,700	339,400	3,600	2,900
Goods-Producing ²	57,200	50,600	57,000	6,600	200
Service-Providing ³	285,100	288,100	282,400	-3,000	2,700
Natural Resources and Mining	15,200	15,100	14,100	100	1,100
Logging	300	300	400	0	-100
Mining	14,900	14,800	13,700	100	1,200
Oil and Gas	12,800	12,600	11,500	200	1,300
Construction	20,500	19,900	20,700	600	-200
Manufacturing	21,500	15,600	22,200	5,900	-700
Wood Product Manufacturing	400	400	400	0	0
Seafood Processing	17,200	11,400	17,900	5,800	-700
Trade, Transportation, Utilities	69,900	68,800	69,100	1,100	800
Wholesale Trade	7,000	6,900	6,900	100	100
Retail Trade	38,700	38,200	38,100	500	600
Food and Beverage Stores	6,800	6,700	6,900	100	-100
General Merchandise Stores	9,500	9,400	9,500	100	0
Transportation, Warehousing, Utilities	24,200	23,700	24,100	500	100
Air Transportation	6,900	6,800	6,800	100	100
Truck Transportation	3,500	3,400	3,500	100	0
Information	7,000	6,900	7,000	100	0
Telecommunications	4,300	4,300	4,300	0	0
Financial Activities	15,500	15,400	15,500	100	0
Professional and Business Services	27,100	27,100	26,400	0	700
Educational⁴ and Health Services	37,000	37,300	36,700	-300	300
Health Care	27,000	27,100	26,800	-100	200
Leisure and Hospitality	39,300	38,700	39,600	600	-300
Accommodations	11,900	11,300	12,000	600	-100
Food Services and Drinking Places	22,100	22,100	22,100	0	0
Other Services	11,700	11,700	11,700	0	0
Government	77,600	82,200	76,400	-4,600	1,200
Federal Government ⁵	17,700	17,400	17,600	300	100
State Government	24,400	24,100	24,000	300	400
State Government Education ⁶	5,700	5,800	5,600	-100	100
Local Government	35,500	40,700	34,800	-5,200	700
Local Government Education ⁷	16,800	21,900	16,400	-5,100	400
Tribal Government	3,800	3,700	3,800	100	0

Notes for all exhibits on this page:

¹ Excludes the self-employed, fishermen and other agricultural workers, and private household workers; for estimates of fish harvesting employment, and other fisheries data, go to labor.alaska.gov/research/seafood/seafood.htm

² Goods-producing sectors include natural resources and mining, construction and manufacturing.

³ Service-providing sectors include all others not listed as goods-producing sectors.

⁴ Private education only

⁵ Excludes uniformed military

⁶ Includes the University of Alaska

⁷ Includes public school systems

⁸ Fairbanks North Star Borough

Sources for Exhibits 4 and 5: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and the U.S. Department of Labor, Bureau of Labor Statistics
Sources for Exhibit 6: Alaska Department of Labor and Workforce Development, Research and Analysis Section; also the U.S. Department of Labor, Bureau of Labor Statistics, for Anchorage/Mat-Su and Fairbanks

6 Nonfarm Wage and Salary Employment By region

	Preliminary	Revised	Revised	Changes from:		Percent Change:	
	7/08	6/08	7/07	6/08	7/07	6/08	7/07
Anch/Mat-Su	173,300	175,500	171,600	-2,200	1,700	-1.3%	1.0%
Anchorage	153,300	155,300	152,500	-2,000	800	-1.3%	0.5%
Gulf Coast	33,600	33,000	33,500	600	100	1.8%	0.3%
Interior	49,000	49,000	49,400	0	-400	0.0%	-0.8%
Fairbanks ⁸	39,900	39,900	39,900	0	0	0.0%	0.0%
Northern	19,700	19,600	18,600	100	1,100	0.5%	5.9%
Southeast	42,500	40,450	42,700	2,050	-200	5.1%	-0.5%
Southwest	23,850	21,250	24,000	2,600	-150	12.2%	-0.6%

5 Unemployment Rates By borough and census area

	Prelim.	Revised	Revised
	7/08	6/08	7/07
SEASONALLY ADJUSTED			
United States	5.7	5.5	4.7
Alaska Statewide	6.9	6.7	6.2
NOT SEASONALLY ADJUSTED			
United States	6.0	5.7	4.9
Alaska Statewide	6.1	6.8	5.6
Anchorage/Mat-Su Region	5.7	6.2	5.2
Municipality of Anchorage	5.3	5.8	4.9
Mat-Su Borough	7.3	7.9	6.7
Gulf Coast Region	6.4	7.5	5.8
Kenai Peninsula Borough	6.7	7.3	6.0
Kodiak Island Borough	5.4	9.3	5.5
Valdez-Cordova Census Area	6.0	6.6	5.4
Interior Region	5.9	6.5	5.2
Denali Borough	2.2	2.5	2.1
Fairbanks North Star Borough	5.5	6.1	4.8
Southeast Fairbanks Census Area	7.6	8.4	7.0
Yukon-Koyukuk Census Area	15.0	14.9	12.8
Northern Region	9.3	9.8	9.5
Nome Census Area	13.2	13.3	12.8
North Slope Borough	4.7	5.2	6.0
Northwest Arctic Borough	12.1	12.9	11.0
Southeast Region	5.2	6.1	4.6
Haines Borough	4.2	7.6	3.1
Juneau Borough	4.3	4.9	3.9
Ketchikan Gateway Borough	4.5	5.5	3.9
Prince of Wales-Outer Ketchikan CA	12.6	12.0	11.1
Sitka Borough	5.1	5.7	4.6
Skagway-Hoonah-Angoon CA	5.9	7.0	5.8
Wrangell-Petersburg Census Area	7.6	10.1	6.1
Yakutat Borough	5.6	6.3	4.1
Southwest Region	10.7	12.4	9.5
Aleutians East Borough	6.4	9.2	5.3
Aleutians West Census Area	4.7	6.8	3.8
Bethel Census Area	15.1	15.5	13.3
Bristol Bay Borough	1.5	2.7	1.5
Dillingham Census Area	8.0	10.6	7.2
Lake and Peninsula Borough	5.1	5.5	3.6
Wade Hampton Census Area	26.8	23.4	25.2

For more current state and regional employment and unemployment data, visit our Web site. We have a new address:

laborstats.alaska.gov

A Safety Minute

A Focus on Crane Safety

Serious crane accidents across the country are making news this construction season. One occurred in July when a crane tipped over and crushed a bystander during a steeple-mounting ceremony in Oklahoma. In the past several months, accidents in Nevada, New York, Florida and Texas have claimed the lives of workers and bystanders.

“These crane accidents illustrate the importance of crane and jobsite safety,” said Labor Commissioner Click Bishop. “In Alaska we haven’t had a crane-related fatality for several years and I intend to keep it that way with a proactive safety effort. We ask all employers who use cranes to review crane lifting and safety policies, check cranes for mechanical integrity, and ensure crane operators are qualified and use appropriate safety procedures.”

While there’s no state requirement for crane operator certification, Alaska’s Occupational Safety and Health regulations require employers who use cranes to ensure every operator has appropriate training, knowledge and experience, and is physically fit to operate a crane. It’s the employer’s responsibility to adequately inspect and maintain the crane and rigging.

It’s also critical for employers to ensure that employees assisting with the lift are properly trained – including signaling, load limits and rigging techniques – and are aware of the hazards of operating a crane.

“I ask that all employers, safety professionals, crane operators and other concerned Alaskans stand by me and make sure that ‘we all go home safely tonight,’” Bishop said.

For help with crane standards in Alaska, employers should contact the Alaska Department of Labor and Workforce Development’s Alaska Occupational Safety and Health Consultation and Training Section at (800) 656-4972. The section is within the department’s Labor Standards and Safety Division.

Employer Resources

Workers’ Compensation Requirements

The Alaska Workers’ Compensation Act requires all employers with one or more employees in Alaska to have workers’ compensation insurance, unless the employer has at least 100 employees and has been approved as a self-insurer.

Employers purchase workers’ compensation insurance from commercial insurance carriers. Once employers have insurance, they’re required to post in their workplaces an Employer’s Notice of Insurance, which insurance companies provide. Employers must also submit proof of insurance to the Workers’ Compensation Division, the administrative arm of the Workers’ Compensation Board.

Executive officers of for-profit corporations are required to have workers’ compensation insurance unless they choose to waive coverage by filing a waiver with the division.

If employers are unable to obtain insurance coverage from a commercial carrier, they can purchase insurance through a state-assigned risk pool. And if employers feel their insurance premium is incorrectly calculated, they can request arbitration.

For more information or forms, call the Workers’ Compensation Division at (907) 465-2790 or visit the division’s Web site. Go to the Alaska Department of Labor and Workforce Development Web site at labor.alaska.gov. Under “Division Links” on the left, click on “Workers’ Compensation.” Then under “Quick Links” on the right, click on “Employer Information.” For the Employer’s Notice of Insurance form, under “Quick Links,” click on “Forms.”