

What drives Alaska's economy is new money: money coming in from outside the state. How big the economy is, and how much it grows, depends on how much new money comes in.

New money comes from "basic" sectors—the sectors that are the basis for all jobs and income across Alaska. They are, in effect, the gears driving the economy.

Alaska has eight main basic sectors, but the number of Alaskans they employ directly is small, compared with the number of jobs they support indirectly. Figure 1 shows numbers and shares of jobs for Alaskans that the federal government, the petroleum sector, and the other basic sectors generated on average between 2004 and 2006. The numbers for any specific period aren't as important as the percentages, which don't change much from year to year.

- If the flow of federal and petroleum money disappeared overnight, two-thirds of the jobs for Alaskans would also disappear, because each of them supports a third of those jobs.

- Alaska's other basic sectors combined support about a third of jobs for Alaskans. The seafood, mining, and timber sectors produce commodities that are exported. The tourism and international air cargo sectors sell services to people from outside Alaska. Federal retirement checks and investment income Alaskans collect from outside sources also generate jobs.

How is it that the federal government and the petroleum sector support most jobs for residents, and several other sectors support the rest? This summary, based on a longer paper (see back page), is a unique analysis of how the basic sectors drive the economy. Instead of looking just at jobs in a specific activity—seafood processing, for instance—we allocate all the jobs throughout the economy to the basic sectors that support them. This method gives a clearer picture of the structure of the economy, but it may produce different numbers than other methods.

Here we use jobs for residents to measure economic contributions—a reasonable measure but not the only one, as we discuss in the full paper.

We analyze just jobs for Alaska residents, even though many non-residents also work here. They don't typically spend their paychecks in Alaska, so they don't add as much to the economy.

To compare across sectors, we've converted all jobs to an annual average number. That means for industries like commercial fishing and tourism, which have a lot of seasonal jobs, we've translated the larger number of seasonal jobs into a smaller number of year-round jobs. Still, keep in mind that not all jobs are equal; some pay much more than others.

WHY DOES ALASKA'S ECONOMY LOOK LIKE THIS?

Before we talk more about how the basic sectors generate jobs, it's useful to look at the big picture. Why does the federal government play such a big role in Alaska, and why are most basic sectors ones that produce natural resources? Why don't we have, say, more in-state manufacturing or large high-tech businesses?

Federal spending in Alaska is high, relative to the population, for several reasons—including a large military presence; huge federal land holdings; federal health-care and other programs for Alaska Natives; and continuing construction of basic infrastructure that the federal government helps pay for.

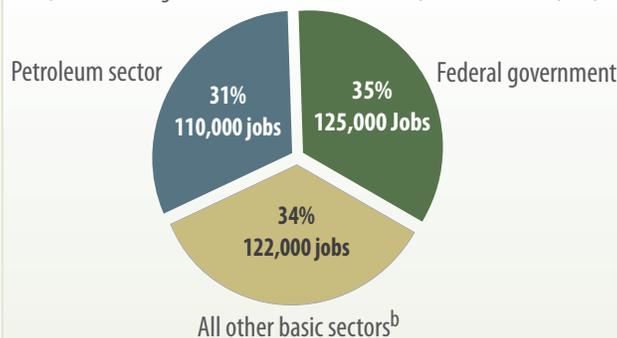
Alaska's economy has also historically been shaped by characteristics that increase the costs of doing business and make development difficult—including huge size, harsh climate, and distance from markets and suppliers. Economic growth and technological advances have reduced but not eliminated such disadvantages, especially in remote areas.

WHY IS NEW MONEY IMPORTANT?

Why is it important for new money to come into the state? That's because

no economy—in Alaska or anywhere—is self-sufficient. All economies have to buy goods and services that aren't produced locally, which means money flows out of the local economy to economies somewhere else. That loss has to be offset by new money flowing in, or the local economy would eventually go broke.

Figure 1. What Generates Jobs for Alaska Residents^a?
(Annual Average Number of Jobs for Residents, 2004-2006: 357,000)



^aExcludes jobs held by non-residents. ^bSeafood, tourism, mining, timber, international air cargo, and personal assets from outside Alaska (primarily federal retirement benefits).

Note: This analysis shows that the petroleum sector reaches across Alaska's economy, supporting jobs in almost every industry. But petroleum's effects go even deeper, as a follow-up ISER study will show. Without the support and stability petroleum has provided since the 1960s, Alaska's economy might be only half the size it is today. Look for the new study in early 2009.

How BASIC INDUSTRIES WORK

The new money every economy needs comes from selling goods or services to companies or people from somewhere else. Several of Alaska's basic sectors produce commodities for export to world markets—oil and gas, seafood, minerals, and timber. The tourism and air cargo sectors provide services to consumers from outside Alaska—visitors from other places who spend money in the state, and international cargo carriers that spend money locally for refueling and other services.

Money also arrives via the mailboxes of retirees, who collect Social Security, federal retirement benefits, and pensions. Other Alaskans also collect earnings from investments outside the state. The federal government doesn't produce commodities or services for sale in the market, but it's a basic sector because all federal money coming into Alaska is new money.

Keep in mind that the number of Alaskans the basic sectors employ directly is only a small fraction of the total jobs they generate. The best example of small direct employment but huge indirect employment is in the petroleum sector. Only about 5,000 Alaskans work directly in producing oil and gas, but the petroleum sector supports more than 100,000 jobs.

The oil companies spend a lot of money hiring other businesses to work for them, and they pay good wages. They also pay billions of dollars in taxes and royalties to the state government. In these and other ways, the petroleum sector supports jobs in almost all Alaska's industries. As Figure 2 shows, the petroleum sector supports 75% of state government jobs and more than half of local government jobs. A quarter to a third of all jobs in finance, utilities, retail and wholesale trade, and construction can be traced in some way to the petroleum sector.

For two of Alaska's basic sectors—tourism and retirement income—it's impossible to identify any specific direct jobs, because tourists and retirees spend their money at the same businesses where all Alaskans do. But these sectors nonetheless indirectly support thousands of jobs.

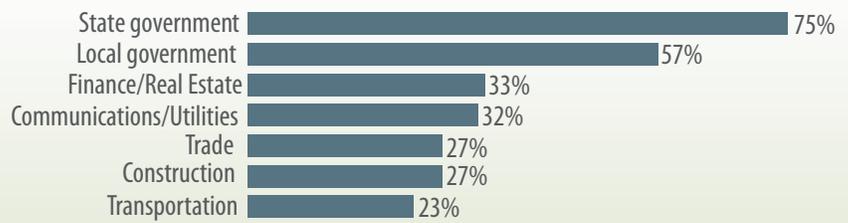
NON-BASIC SECTORS: SERVING ALASKANS

Besides the basic sectors, there are other parts of the economy that don't sell anything to people from outside Alaska but instead provide goods and services for Alaska households and businesses. These non-basic sectors depend on money generated by the basic sectors—but they are also essential to the economy, because they circulate money inside Alaska.

Money from the basic sectors circulates through the economy as households and businesses make local purchases—and as the money circulates, it generates additional jobs and income. That's known as the multiplier effect. The larger the non-basic sectors are, the more times the money turns over in the economy and the bigger the multiplier effect.

A big change in the Alaska economy since statehood has been the growth of industries providing local goods and services. As recently as the 1960s, Alaskans couldn't buy a lot of things locally, and they often traveled Outside for specialized medical care and other services. But in Alaska's urban areas the non-basic sectors now provide virtually the same goods and services found nationwide, and Alaska businesses are also able to get support services locally. Because the non-basic sectors are larger now, more money stays in the local economy longer.

Figure 2. What Shares of Jobs in Various Industries Depend on Petroleum?



PETROLEUM INDUSTRY



About 17% of U.S. oil production is from Alaska, and petroleum is the state's most important natural resource sector. Oil production is concentrated on the North Slope, with a small amount from Cook Inlet, which also produces natural gas. The petroleum industry creates jobs directly and indirectly through production; through revenues for state and local governments; and through special state savings accounts created with oil revenues. (A number of other studies, including a 2008 study by the Alaska Oil and Gas Association, have estimated the economic importance of petroleum. But because those studies use different methods, the results differ somewhat.)

- *Only a small share of the 52,000 jobs for Alaskans that depend on petroleum production are direct production jobs.* Petroleum production, exploration, and development activities also create jobs in oil-field support, construction, and other industries. The trans-Alaska pipeline, which carries North Slope oil to the port at Valdez, generates jobs in transportation and other industries. In-state oil refineries create jobs in manufacturing, transportation, and other industries. Jobs in many other Alaska businesses also depend on spending by households and businesses with income related to petroleum production.

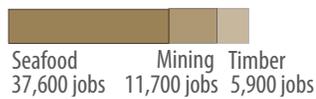
- *State and local petroleum revenues support about 50,000 jobs for Alaskans.* That includes roughly 30,000 state and local government jobs and 20,000 private jobs generated by state and local spending of oil revenues. Petroleum revenues essentially finance the entire state General Fund operating budget, and about 40% of local government revenues come either through local taxes on petroleum property or state aid. No other state depends so much on a single sector to support state and local activities.

- *Permanent Fund dividends and the Constitutional Budget Reserve also support about 7,000 jobs for Alaskans.* These jobs are indirectly generated by the petroleum industry, because the state's big savings accounts—the Permanent Fund and the Constitutional Budget Reserve—were established with petroleum revenues.

The Permanent Fund is a multi-billion-dollar savings account. The state constitution prohibits spending the principal of the Permanent Fund, but every year since the early 1980s the legislature has used a share of the fund's earnings to make payments to all Alaska residents. When Alaskans spend these dividends, they generate private jobs throughout the economy.

The Constitutional Budget Reserve was established as a savings account to be used when the state faces budget deficits—as it did several times in the 1990s, when oil prices and state oil revenues were low. Spending from this reserve generates jobs in the same way as other state spending of petroleum revenues.

TRADITIONAL RESOURCES INDUSTRIES



Alaska's traditional resource industries—which supported the private economy before oil was discovered—are the seafood, mining, and timber industries. Alaska's first salmon cannery opened in 1878, and the Gold Rush brought mining to Alaska toward the end of the 1800s. Large-scale timber harvesting began in the 1950s.

These resource industries remain important to the economy, but their contributions are often obscured by the prominence of the petroleum industry. Alaska is among the world's top seafood producers; only eight countries produce more wild seafood. The value of minerals from Alaska—especially zinc—climbed in recent years, as metal prices rose. The timber industry has shrunk since the 1990s.

- *The seafood industry supports almost 38,000 jobs for Alaskans*, on an annual average basis. Besides direct fishing and processing jobs, this includes jobs in boat repair, fuel supply, and air transportation, as well as jobs in stores, banks, and other businesses where Alaska households and businesses spend their income from seafood.

- *Mining supports nearly 12,000 jobs for Alaskans*, including about 2,500 direct jobs in production, exploration, and development, as well as a number of self-employed miners. Mining indirectly supports jobs in businesses that sell supplies to the mines and in construction companies working on mine development. Alaska Native corporations own land where several producing or planned mines are located—and royalties they receive from mining companies indirectly support some Native corporation jobs.

- *Alaska's timber industry supports about 6,000 jobs*. Timber was a big part of Southeast Alaska's economy from the 1950s to the 1980s. But it shrank as the federal government reduced the timber supply from the Tongass National Forest, as harvests on Alaska Native corporation lands declined, and as world markets became more competitive.

- *Alaska's small agriculture industry* produces mostly for local markets. The fur industry, which was important historically, is also small today.

NEWER BASIC INDUSTRIES



Two of Alaska's basic industries have developed largely since Alaska became a state: the tourism and international air cargo industries. Tourism has been increasing since the 1960s, but the number of tourists has grown sharply in more recent times. Between 1990 and 2006 the number of tourists visiting Alaska in the summer more than doubled—from under 700 thousand to about 1.6 million.

Almost all the international cargo activity is at Anchorage's Ted Stevens International Airport, ranked third worldwide for volume of cargo handled in 2006. For decades, air carriers flying between the U.S. and the Far East have stopped to refuel, change crews, and do routine maintenance. Many jets now have a range that would allow them to overfly Alaska, but most carriers still find it economical to carry a heavier payload and less fuel.

Three major carriers have also now established package-sorting facilities at Anchorage's airport, and a number of carriers move cargo between planes to consolidate shipments for different destinations.

- *Tourism supports about 40,000 jobs for Alaskans*, on an annual average basis. Perhaps half of these jobs are in restaurants, hotels, lodges, bars, sightseeing businesses, and other establishments that provide services to tourists. Additional jobs are indirectly generated when Alaska households and businesses spend their tourism-related income in the economy.

This estimate of jobs generated by tourism is calculated indirectly. That's because Alaskans also spend their money at the same businesses where tourists do—making it impossible to associate particular jobs with spending by tourists. Instead, we use available information on tourist spending and other factors to estimate jobs generated.

- *International air cargo activities at Anchorage's airport directly generate an estimated 3,500 jobs for Alaskans*, including cargo handlers, couriers, cargo pilots who live in Anchorage, and others involved in cargo activities. Those activities also indirectly support about 4,000 more jobs in other industries. Virtually all these jobs are in Anchorage.

PERSONAL ASSETS



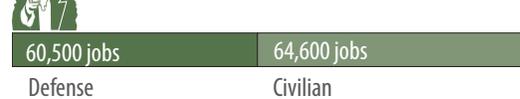
Another source of money flowing into the state is one Alaskans don't typically think of: personal assets. These are mainly retirement checks (sometimes called the "mailbox economy") for older Alaskans, as well as health-care spending for older people through Medicare, Medicaid, and private insurance. It also includes Alaskans' investment income from Outside.

Like tourists, retired Alaskans spend their money at the same stores, restaurants, and other businesses as all Alaskans do. That makes it impossible to associate particular jobs with spending by retirees. Our estimate of jobs generated by retirement income is calculated indirectly, based on the limited information about retirees in Alaska.

- *Retirement checks and health-care spending for older Alaskans generate nearly 15,000 jobs for residents*. Income from investments outside the state and other non-earned income flowing into Alaska generate about 3,500 more jobs.

- *Spending by older Alaskans is a growing source of jobs in the state*. Until recently, few people stayed in Alaska when they retired. But the number of Alaskans 65 and older quadrupled between 1980 and 2007, growing to 47,000—and that number is expected to reach 134,000 by 2030.

FEDERAL GOVERNMENT



The federal government supports more jobs for Alaskans than any private industry—including even the petroleum industry. Just over a third of Alaskans with jobs depend in some way on federal spending.

Federal spending in Alaska generates jobs in many ways and through both military and civilian activities. A lot of federal money flows into Alaska, relative to the number of Alaskans—an estimated \$9.25 billion in 2006, for a population of around 670,000. At the beginning of this summary we touched on some of the reasons why. Those include a large military presence, big federal land ownership, health and other programs for Alaska Natives, and the continuing need to build basic infrastructure in much of Alaska.

HOW DO SPECIAL CHARACTERISTICS SHAPE THE ALASKA ECONOMY?

Alaska is a long way from markets and suppliers; it's huge and 90% has no roads; it has severe winters and a lot of permafrost.

- Resource development is difficult and very expensive. Even rich resources (like North Slope natural gas) face big economic barriers.
- The costs of doing business are high, especially in remote areas. It's very hard to start new businesses or maintain existing ones.

The population is small—only three states have fewer people—and the people and the jobs are concentrated in relatively small areas.

- Only a few urban areas are large enough to benefit from economies of scale and support year-round businesses providing local services.
- Hundreds of remote communities are accessible only by air or water, have few jobs, and depend heavily on subsistence hunting and fishing.

Alaska has the highest seasonal variation in jobs nationwide. The number of private jobs is about 25% higher in summer.

- Communities that depend heavily on seasonal jobs in seafood and tourism have trouble supporting year-round local businesses.

Non-residents hold nearly one quarter of Alaska's private jobs. Many but not all these jobs are in industries that ramp up in summer.

- There aren't enough residents with the necessary technical skills to fill all the jobs in petroleum production and other non-seasonal industries.

No other state depends on a single, non-renewable resource as much as Alaska depends on oil production—which is declining.

- Oil revenues make up most of the state's general income and about 40% of local government revenues (largely through state aid).

Most resource development is in enclaves, in remote locations without an adequate skilled local labor supply or local support services.

- Developers supply their own workers and services, so regional economies get limited benefit from such jobs and business activity.

The resource industries that drive Alaska's economy are dominated by large national or international companies.

- That's partly because it requires so much money to develop and produce Alaska's resources, especially petroleum and minerals.

The federal and state governments together own 89% of Alaska land, compared with 35% nationwide.

- This limits potential local property tax bases, but offers opportunities (like state-owned oil fields) for revenues from resource development.

Nearly one-quarter of Alaska jobs are in government—compared with a U.S. average of 13%—largely because of federal jobs.

- Having so many public jobs makes Alaska's economy somewhat more stable in the face of changing market conditions.

About 11,000 Alaskans work for civilian federal agencies and another 53,000 Alaskans indirectly depend on civilian activities for their jobs. Federal grants to state and local governments for operations and capital projects, to Alaska Native non-profit corporations, and to other non-profits generate some of those indirect jobs. Other jobs are generated by payments to individuals (excluding the retirement income discussed earlier) and spending for food stamps, unemployment insurance, and other programs. These flows of federal dollars generate more jobs throughout the economy. For example, federal employees generate jobs when they spend their wages, and federal agencies create jobs when they buy from local businesses.

More than 22,000 direct military jobs and 6,000 civilian jobs in the Department of Defense are in Alaska, and military activities generate another 32,000 jobs around the state. Those jobs are generated in many ways—for instance, when military personnel spend their wages; when the military hires construction companies to build facilities or contracts with local businesses to provide various services; or when the military buys from local businesses.

CONCLUSIONS

As Alaska celebrates 50 years as a state, the size and structure of its economy is dramatically different from what it once was. A mix of basic sectors—public and private, large and small—combine to drive the economy. The federal government and the petroleum sector dominate the picture: the health of the economy really depends on their health, even though the number of Alaskans they employ directly is small, compared with their big indirect contributions.

Basic sectors that traditionally supported the economy—particularly seafood and mining—still make important contributions. Other sectors, especially tourism, have grown significantly since statehood. A growing number of retirees also contribute to Alaska's well-being. (Here we used

jobs as a measure of contributions, but as the full report discusses, there are other measures—payroll, income, sales, and gross state product.)

The contributions each sector makes depend on its specific characteristics, but the most important factors are purchases from other Alaska businesses and payroll generated for Alaska households. As the economy has grown, the basic sectors have been able to rely more on purchases from local Alaska businesses, and their employees have been able to find more goods and services provided locally. This expansion of businesses serving the local economy enhances the contribution of the basic sectors.

The snapshot of the Alaska economy provided here is the first step in understanding how Alaska's economy has changed over the past 50 years. We need to understand these changes, so we can continue to have a strong and resilient economy in the decades to come. The next paper in this series will look in more depth at how the petroleum sector has provided the resources and stability behind Alaska's economic transformation.

This summary is based on a report by Scott Goldsmith, *Structural Analysis of the Alaska Economy: What are the Drivers?* It's the first in a series of reports in the new ISER program, *Investing for Alaska's Future*. That program is studying the importance of investing for Alaska's future. But to plan for the future, Alaskans need to understand how their economy works. The program is underwritten by a grant from Northrim Bank, in partnership with the University of Alaska Foundation.

To see the full report and to learn more about the research program, go to:

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