

In the big, remote stretches of northern and western Alaska, many households keep themselves going with a mix of cash, subsistence, sharing, and other non-cash trading. That's a world away from the state's urban economy, and under standard measures like income, the remote rural economy lags far behind.

Over the years there have been many efforts to improve the remote rural economy—but there's a lot we don't know about it. Standard economic measures don't capture all the activity in an economy where subsistence, sharing, and non-cash trading play important parts. Some kinds of data don't even exist.

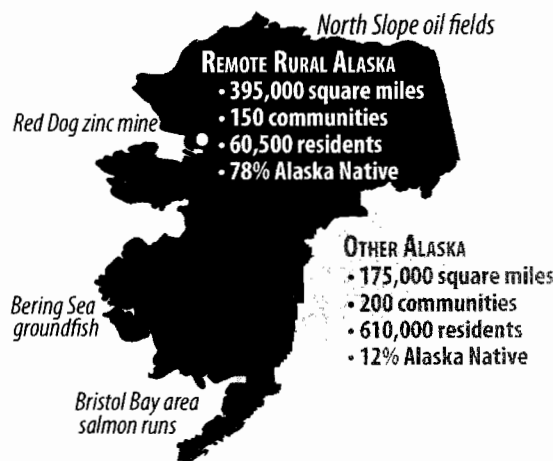
But to develop effective strategies, Alaskans need to understand the economic realities of the remote region. This paper is an overview of the remote economy, based on published data. It's at best an approximation, because the data are so limited. Still, it's a first step—and it highlights the many gaps in information.

Stretching from the North Slope to the Alaska Peninsula, the remote region covers 395,000 square miles and is large enough to hold Japan, Germany, and Great Britain. Alaska Natives, the region's aboriginal people, still make up most of the population—although thousands have moved to urban areas in recent times. The 60,500 residents live in five regional centers and about 150 small communities.

Most of Alaska's natural resource wealth is produced in the remote region—but largely in enclaves like the North Slope oil facilities. Outside the enclaves, the region's isolation, difficult terrain, and harsh climate have historically limited economic growth.

Commercial salmon fishing was the region's largest private industry for much of the last century, and thousands of residents still depend on it. But changes in world markets have hurt that industry. Oil has been by far the most valuable resource since the 1970s. Pollock and other groundfish harvested offshore are also valuable, making up much of the world's groundfish catch. And with rising prices, zinc produced in the region has also recently become much more valuable.

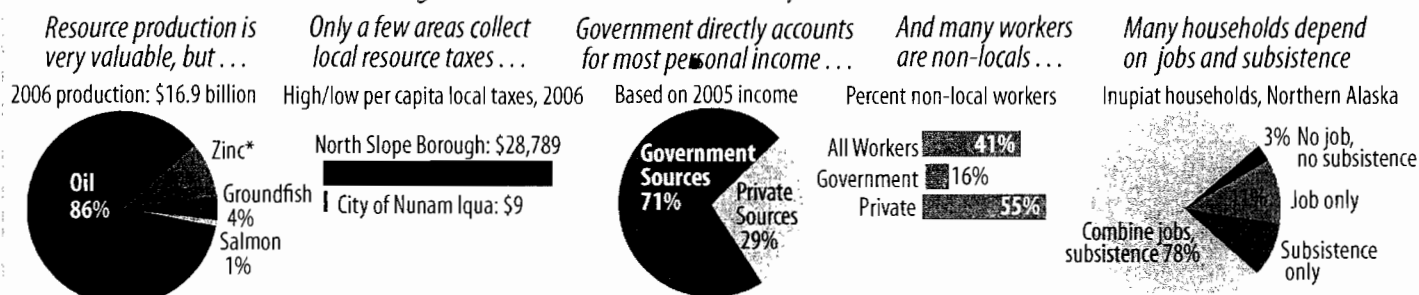
But with some important exceptions, this resource wealth bypasses the regional economy, and it's government that accounts



for most income of residents. Regional unemployment is high and cash incomes are low. Figure 1 tells the story of the remote economy.

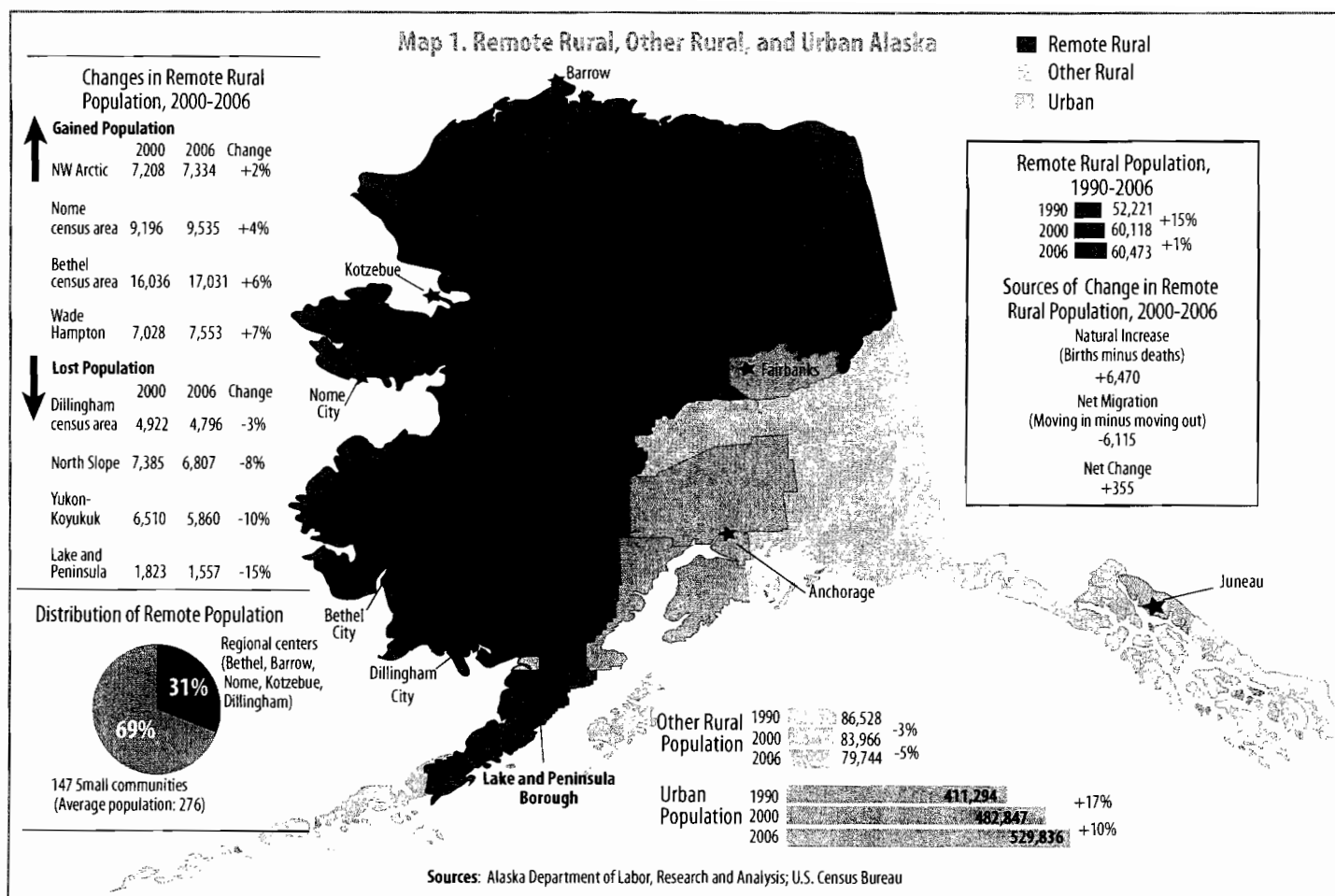
- *Despite the high value of resources produced in remote areas—nearly \$17 billion in 2006—local residents depend on government for 71% of their personal income.* That share would likely be closer to 90% if it also included income that indirectly depends on government spending. Government supports not only public but also many private jobs.
- *Some residents and a few areas do benefit from resource production—through local taxes, jobs, and Alaska Native corporations that own resources or do business with resource industries.*
- *The locations and types of jobs available in remote areas often don't match the local labor supply—which means many local residents are unemployed, while at the same time about 40% of workers are non-locals, either from other areas of Alaska or outside the state.*
- *Combining cash-paying jobs and subsistence activities is the way most households in remote areas get along.* A recent survey found, for example, that 78% of Inupiat households in northern Alaska combine jobs and subsistence fishing, hunting, and other activities.

Figure 1. The Remote Rural Economy: What Makes It Different?



*Zinc was the most valuable metal produced in remote rural Alaska in 2006, but smaller quantities of lead, silver, and gold were also produced.

Sources: Alaska Departments of Labor, Natural Resources, Fish and Game, and Commerce, Community and Economic Development; National Marine Fisheries Service; Bureau of Economic Analysis; Survey of Living Conditions in the Arctic, 1998-2001; author's estimates. Note: Resource production value based on wellhead value of oil, market value of zinc, and price paid fishermen for salmon and groundfish.



THE REMOTE RURAL REGION

We define the remote rural region as the North Slope, Northwest Arctic, and Lake and Peninsula boroughs and the Wade Hampton, Bethel, Nome, Dillingham, and Yukon-Yoyukuk census areas.¹ Most communities in this region are small and along the coast or on rivers, far off the state's main road and ferry systems.²

The people, the way of life, the local government structure, and the Alaska Native corporations in remote rural Alaska all influence the regional economy. Data about this region are spotty at best, and some figures we include here are estimates. The huge size, isolation, and small population of the region—and the complexity of the economy—make collecting data expensive and difficult. That complexity also means that standard measures—income, employment, and consumption—are useful but don't give the whole economic picture. They don't account for the contributions of subsistence and other non-market activities, or differences in spending patterns and other factors that complicate comparisons of living conditions between remote rural and urban places.

THE PEOPLE

We used population data from both the U.S. census, last done in 2000 but still the only available source for some data, and the Alaska Department of Labor's Research and Analysis section, which estimates population between federal censuses.³

• *One in eleven Alaskans lives in remote areas—about 60,500 in 2006.* A third live in the regional centers of Barrow, Bethel, Dillingham,

Kotzebue, and Nome—towns with populations in the thousands. The rest live in nearly 150 small communities with average populations of about 280.

• *Close to 80% of regional residents are Alaska Native. That share is higher in small places.* Non-Natives are concentrated in the regional centers, where they made up a third of the population in 2000.

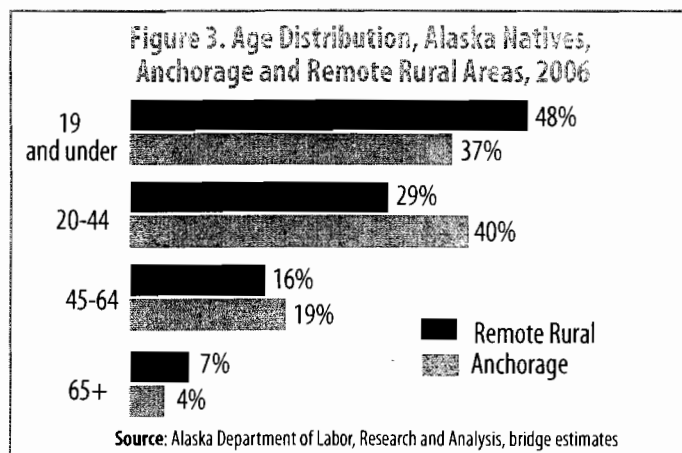
• *The remote rural population increased only about 1% between 2000 and 2006, despite thousands of births, and population actually declined in several areas.* Nearly 6,500 more people were born in the region than died between 2000 and 2006. But at the same time, 6,100 more people moved out than in (Map 1).

• *Much of that movement is accounted for by Alaska Natives moving from remote to urban areas.*⁴ The Alaska Department of Labor estimates that from 2000 to 2006, the number of Alaska Natives dropped about 3% in the remote region but was up nearly 25% in Anchorage. Lack of jobs in the smaller remote places is a big reason for this migration, but other factors likely also contribute—better access to specialized medical care, higher education, or technical training, for instance.

Figure 2. Estimated Changes in Alaska Native Population In Remote Rural Region and Anchorage, 2000-2006

	2000	2006	Change
Remote Rural	48,490	47,182	-3%
Anchorage	24,025	29,730	+24%

Source: Alaska Department of Labor, Research and Analysis, bridge estimates



THE MIXED ECONOMY

Some analysts wonder if the cash economy is replacing the traditional subsistence economy in remote rural Alaska. According to the evidence so far, the answer is no.

Subsistence activities—hunting, fishing, berry picking, and preserving meat and fish, among others—are part of the Alaska Native culture, as is sharing those subsistence foods. Both the subsistence activities themselves and the sharing among families and friends also have substantial economic value.

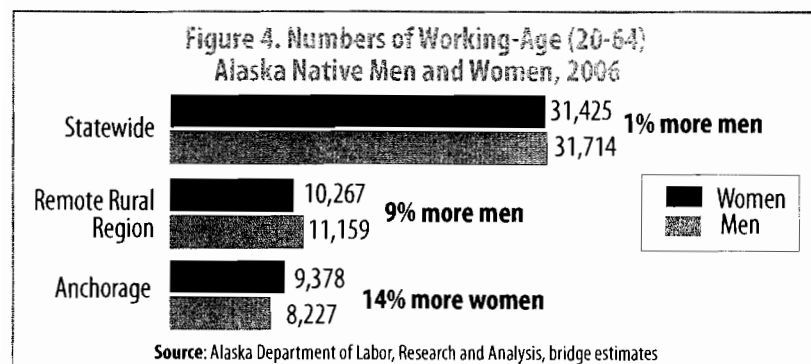
The Alaska Department of Fish and Game estimated in 2000 that among remote rural households (including both Alaska Native and non-Native households), 60% harvest game and 80% fish, and that annual harvests are several hundred pounds per person.⁵

But the U.S. Census Bureau reported in 2000 that most households in the remote rural region—85% of Alaska Native and 93% of non-Native—also had at least some income from wage work, and that wages made up most household income among both Alaska Native and non-Native households (Figure 5).

So it's clear, given the large subsistence harvests and the prevalence of wage-work, that remote rural households routinely combine work and subsistence. Evidence of that pattern is in the recent Survey of Living Conditions in the Arctic, an international survey of indigenous people around the Arctic. It found that in northern Alaska (including the North Slope and Northwest Arctic boroughs and the Nome census area), 78% of Inupiat households combined subsistence activities and jobs.⁶ (See Figure 1 on the front page).

There's also an "informal" economy, not captured in statistics, in remote places. Families and neighbors may trade services, share goods, or make cash payments not reported to the IRS. Such activities outside the standard market economy go on nationwide. But they are especially important in remote rural Alaska, where both cash and local businesses are scarce. Small remote communities can't support most of the service businesses—everything from vehicle repair to hair-cutting shops—found in urban areas.

No estimates exist of how much time residents spend in the informal economy. But such activities clearly add to households' economic well-being.



• Until recently, gains from natural increase were considerably larger than losses from migration. In the 1990s, the remote rural population grew 15%—almost as fast as growth in urban areas.

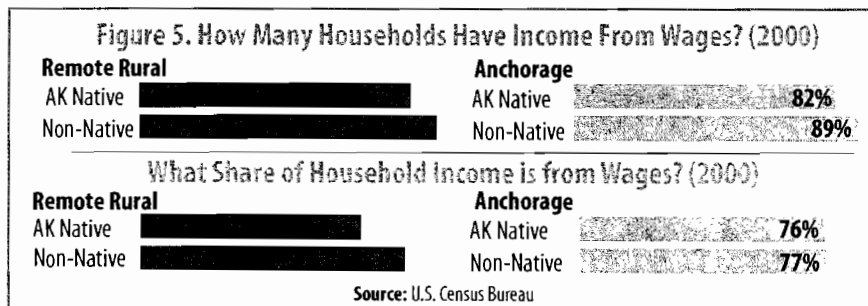
• Other rural areas—outside the remote region—have also lost population (Map 1). Those areas, typically on the state road or ferry systems, have been hurt by declines in the timber and fishing industries.

• Nearly half the Alaska Natives in remote areas are under 20, compared with 37% in Anchorage (Figure 3). High birth rates in remote areas partly account for that difference, but migration of working-age Alaska Natives from remote to urban areas also plays a part.

• Working-age Alaska Natives (20 to 64) make up 59% of the Native population in Anchorage but just 45% in remote places—another sign that Alaska Natives are moving to urban places (Figure 3).

• Alaska Native women of working age are especially likely to live in urban areas. Numbers of working-age Alaska Native men and women statewide are about equal. But in Anchorage, there are 14% more women and in remote areas 9% more men (Figure 4).

• Non-Native residents of the remote region are concentrated among working-age adults and are most likely to live in regional centers.



PRICES AND LIVING COSTS

Prices in remote rural places are much higher than in urban areas. Transportation costs, severe climate, small local markets, inefficiencies, lack of competition, and other structural problems all add to prices in remote areas.

The limited available information about how residents of remote places spend their money suggests that most cash spending, especially in the smallest villages, is for food from stores, utilities (including fuel), and transportation.

Rising energy prices have made it more expensive for all Alaskans to heat their homes and keep the lights on. But most remote rural places rely on fuel oil for both heating homes and generating electricity. Fuel oil is far more expensive than natural gas, which is available in Anchorage and a few other communities.

In mid-2007, energy from fuel oil in Bethel was roughly four times more expensive than energy from natural gas in Anchorage (Figure 6). And fuel oil is even more expensive in smaller remote places than in regional centers like Bethel.

Rising energy costs have also increased the costs of transporting food and everything else to remote places. For example, in 1990 the cost of buying the same market basket of foods was 45% higher in Bethel than in Anchorage, but by mid-2007 it was 92% higher (Figure 7). Again, prices are higher in smaller remote places than in Bethel and other regional centers.

Keep in mind that higher prices for individual items don't necessarily mean overall living costs are equally high. Comparing living costs in urban and remote rural Alaska is complicated, because households in remote places don't typically buy the same kinds and quantities of things urban households do.

A big difference is that people in remote places are more likely to buy gear and supplies for subsistence hunting and fishing. (That doesn't mean urban Alaskans don't hunt and fish—just that the percentage who do is smaller.) In turn, harvests of fish and game mean that people in remote places often don't have to buy as much meat and fish as most urban Alaskans do.

Transportation and other kinds of everyday expenses also differ. For instance, most urban Alaskans own cars, while snow machines and all-terrain vehicles are common in remote villages.

Another thing affecting spending patterns is that a majority of people in remote areas are Alaska Natives, who as indigenous people are eligible for federal health care, housing, and other programs. Such programs can reduce costs for Alaska Natives—but availability of specialized health care and other services is limited in small remote places.

Still, even though we know about some of these differences in spending patterns, there isn't enough specific information to estimate overall living costs for remote rural households. Estimating those costs would require knowing much more—for example, about what remote rural households typically buy, how much subsistence harvests offset food and other costs, and how much informal economic activities contribute to the well-being of households.

Figure 6. Cost of 100 Gallons of Fuel Oil and Equivalent Energy from Natural Gas in Anchorage, 2007^a

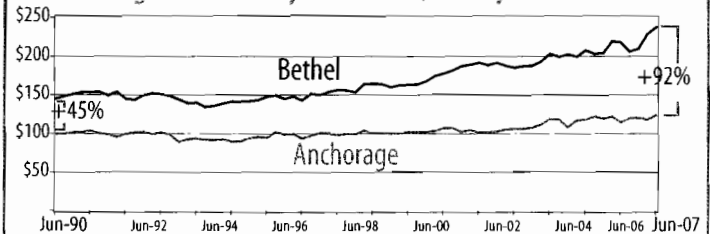
Fuel oil in Bethel ^b	\$459
Natural gas in Anchorage ^c	\$120

^a Author's calculation: 100 gallons of fuel oil equals 138 therms of natural gas

^b Fuel oil at \$4.59 per gallon, reported by Cooperative Extension Service, University of Alaska Fairbanks, June 2007

^c Contract price for 2007, reported by Enstar Natural Gas Company

Figure 7. Weekly Food Costs, Family of Four^a



^aBased on grocery store prices

Source: Cooperative Extension Service, University of Alaska Fairbanks

LOCAL GOVERNMENT

Local governments of several kinds play a big part in the remote rural economy, accounting for more than a quarter of all jobs. Borough and city governments are authorized under state law. Boroughs are regional governments similar to counties. School districts are also considered local government entities. Tribal governments for Alaska Native communities are authorized under federal law.

Many but not all remote places have city governments, which typically collect some local taxes—most often sales taxes. Alaska school districts get about two-thirds of their operating money from the state, and the rest comes from a combination of local and federal money. Tribal governments, supported by federal money, exist in Alaska Native communities throughout remote rural areas. They account for nearly 20% of local government jobs in remote places.

Borough governments have never been established in many parts of remote rural Alaska—because most remote places don't have adequate tax bases to support regional governments. There are, however, three borough governments in the remote rural region (as defined in this paper)—the North Slope, Northwest Arctic, and Lake and Peninsula boroughs (Map 1). They exist because resource production provides tax bases that other remote rural areas don't have.

The North Slope Borough, formed in 1972, collects taxes on petroleum property on the North Slope—which for 30 years has been the largest onshore oil-producing area in the country. Inupiat leaders realized early on that a borough government would help local people capture some benefits of oil production. It was the first non-tribal regional government in the U.S. controlled by Native Americans.

The Northwest Arctic Borough was established in 1986, after a very large mineral deposit was confirmed on land owned by NANA, the Alaska Native regional corporation representing northwest Alaska. The borough collects payments in lieu of taxes from the operators of the Red Dog mine, which primarily produces zinc but also smaller quantities of lead and silver.

The Lake and Peninsula Borough was established in 1989 and includes major commercial salmon fishing districts. It operates mostly with revenues from a tax on raw fish, but also collects taxes related to recreational hunting and fishing and tourism.⁷

Figure 8 compares local tax revenues among Alaska's urban and remote rural boroughs. The North Slope Borough, with the oil facilities around Prudhoe Bay as a tax base, collected nearly \$200 million in property taxes in 2006. It is second only to Anchorage in local tax revenues—and on a per-capita basis, it is the wealthiest borough in Alaska and among the wealthiest regional governments in the country.

The Northwest Arctic Borough collected \$8.6 million in payments in lieu of taxes from the Red Dog mine in 2006. The Lake and Peninsula Borough collected about \$1 million in local taxes, mostly from a fish tax.

Taxes boroughs collect are one way local residents benefit from resource production, because they fund local services and create local jobs. That's especially true of the North Slope Borough, which employs several hundred people. The two other boroughs, with much smaller tax bases, employ fewer people—Northwest Arctic about 30 and the Lake and Peninsula 6 full-time employees in 2006.

ALASKA NATIVE CORPORATIONS

Alaska Native corporations—both for-profit and non-profit—are unique to Alaska and have become very important to the remote rural economy (as well as the state economy). The for-profit corporations were established under the 1971 Alaska Native Claims Settlement Act, which awarded Alaska Natives 44 million acres and \$1 billion, to settle aboriginal land claims.

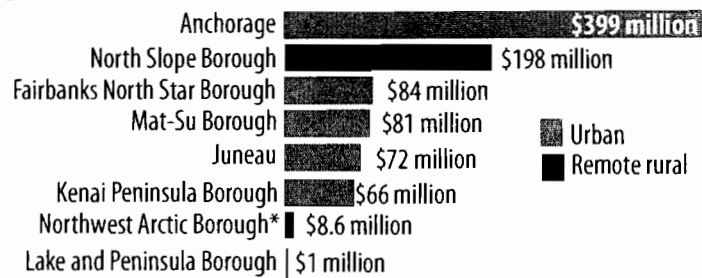
The act established 13 for-profit regional corporations (12 in Alaska and one outside), as well as more than 200 village corporations within the regions.⁸ Those corporations manage the land and money on behalf of their Alaska Native shareholders. Six regional corporations—Arctic Slope, Bristol Bay, Bering Straits, NANA, Calista, and Doyon—represent shareholders from remote rural areas. (Some areas within the Doyon and Bristol Bay corporation boundaries are outside our defined remote rural region.)

The non-profit corporations often grew out of older Native associations. They administer health, housing, and other programs the U.S. government provides Alaska Natives and other Native Americans. They are among the largest employers in remote areas (see Figure 11, page 7). Although funded largely with federal money, they are in the private non-profit sector.

The six for-profit regional corporations in remote rural areas own businesses in many industries, inside and outside Alaska. All six are involved—some much more than others—in resource industries in remote rural Alaska.

It's beyond the scope of this paper to try to sort out the regional corporations' many business

Figure 8. Local Tax Revenues, Urban and Remote Rural Boroughs, 2006



*These are not taxes but payments in lieu of taxes, paid by the operators of the Red Dog mine.

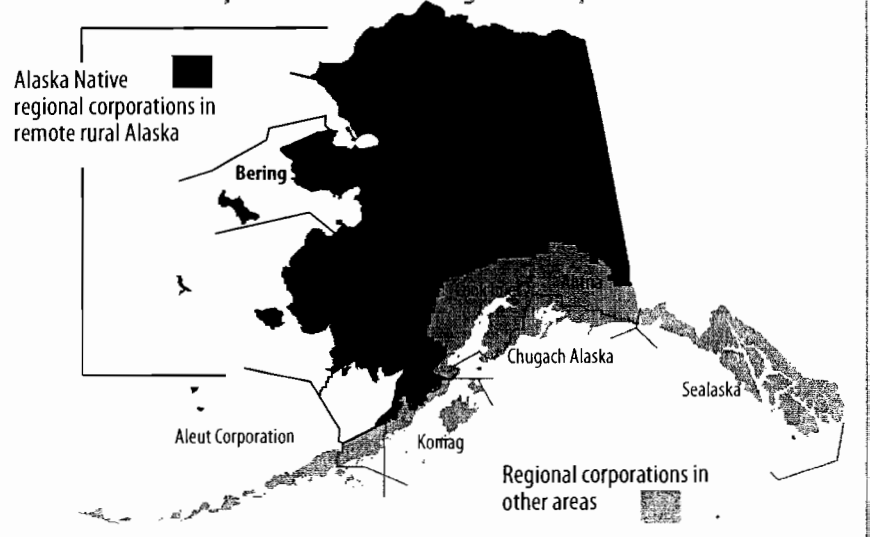
Sources: Alaska Division of Community Advocacy, *Alaska Taxable*; Northwest Arctic Borough

ventures. Instead, we'll cite a few examples, to show the ways they benefit from resource development—and in turn contribute to the remote rural economy. Broadly speaking, the corporations benefit when resources they own are developed or when they provide services to resource developers.

• *All Native regional corporations benefit when any corporation collects revenues from developing its subsurface minerals or timber.* That's because a provision of the claims settlement act (7i) requires the regional corporations to share 70% of the net revenues they collect from production of subsurface minerals or logging on their lands. That provision was included to account for the fact that some regions have more minerals and timber than others. From 1971 through 2004, about \$675 million was distributed among the corporations under the revenue-sharing requirement.⁹

• *The recent spike in oil prices has been good for Arctic Slope Regional Corporation.* ASRC is part owner of the Alpine oil field on the North Slope, and its royalties increase with higher oil prices. It also owns ASRC Energy Services, which was ranked number 6 among the top private employers in Alaska in 2006.¹⁰ It provides oil field services on the North Slope and in other places. ASRC also owns refineries in Fairbanks and Valdez. Shareholders working for various ASRC businesses—in remote rural Alaska and elsewhere—collected \$61 million in wages in 2006. The corporation reports that profits related in one way or another to high oil prices contributed to a fall 2007 shareholder dividend of \$42.21 per share, or \$4,221 for the average shareholder owning 100 shares.

Map 2. Alaska Native Regional Corporations



◦ *A recent big increase in zinc prices has benefited NANA regional corporation, which owns the land where the Red Dog zinc mine is located.* NANA collects royalties from the mine operators based on the price of zinc. As part of the lease agreement with mine operators, NANA also requires that shareholder hire be a priority—and in early 2007, NANA shareholders made up about 55% of the mine's 370 employees. NANA also owns businesses that provide a range of services for the North Slope oil fields and the Red Dog mine.

◦ *The fortunes of both ASRC and NANA depend heavily on resource prices.* As Figure 9 shows, as recently as 2002 oil and zinc prices were a small fraction of what they were in 2006—as were revenues of those corporations.

◦ *Other Native regional corporations in remote areas also benefit but in more limited ways from resource development.* Examples include Doyon, the corporation in interior Alaska, which owns a number of drilling rigs on the North Slope. Calista and Kuskokwim Corporation (representing 10 village corporations that merged) have an agreement with mining companies planning to develop a large gold deposit on corporation-owned land in southwest Alaska. A subsidiary of Bristol Bay provides construction and other services for North Slope operators. Bering Straits corporation, in western Alaska, owns part of the Rock Creek gold mine, being developed outside Nome.

The corporation activity described above is by no means comprehensive, but it gives an idea of the growing role of regional corporations in the remote rural economy.¹¹ It also reflects their vulnerability to volatile oil and mineral prices.

ECONOMIC DRIVERS

LARGE-SCALE RESOURCE PRODUCTION

The oil, zinc, salmon, and groundfish from remote rural Alaska or offshore waters were worth nearly \$17 billion in 2006 (Figure 1, front page) and will be worth more in 2007, with prices climbing even higher. But resource prices are famously volatile. Figure 9 compares 2002 and 2006 prices. Oil and zinc prices in 2006 were three to four times what they had been in 2002. Salmon prices hit highs in the 1980s and then began a long decline through 2002, when they began to recover somewhat. Prices for pollock from the Bering Sea were also up considerably between 2002 and 2006.

What prices will be next year or the year after depends on market, political, and environmental factors Alaska can't control. It's important to keep that in mind, because the benefits the remote rural economy gets from resource production—through industry jobs, borough governments, and Alaska Native corporations—also rise and fall with prices.

◦ *Figures from the Alaska Department of Labor show that around 1% to 2% of the several thousand oil company and support workers in the North Slope oil fields are residents of remote rural areas.*¹² Most work for subsidiaries of Alaska Native regional corporations.

◦ *More than half the workers producing zinc in northwest Alaska are shareholders of NANA corporation, but employment at the zinc mine is less than 400—compared with the thousands of jobs in oil production. Also, not all NANA shareholders are local residents. As of 2005, about 46% of mine employees lived in remote areas.*¹³

◦ *The commercial salmon fisheries employ far more regional residents than any other resource industry.* But the season is short—and as prices fell from the late 1980s to 2002 employment also fell. These are limited entry fisheries centered in Bristol Bay but extending out along the Alaska Peninsula and along rivers flowing into the Bering Sea.

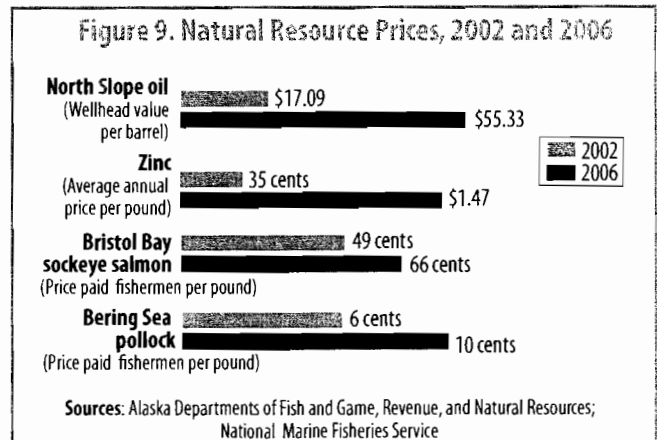
The Research and Analysis section of the Alaska Department of Labor estimates that about 4,000 residents of remote rural areas worked seasonally either as permit holders or crew members in the salmon fisheries in the 2005 season. In small fisheries of the Northern and Yukon Delta areas, most captains and crew members are local residents, but in the more lucrative Bristol Bay area fisheries only about 20% of permit holders and crew live in the remote region.¹⁴

◦ *Seafood processing also creates thousands of seasonal jobs in remote rural Alaska, primarily in the Bristol Bay area.* But non-locals (either from other areas of Alaska or outside Alaska) hold most processing jobs in that area—more than 80% in 2005, according to the Department of Labor. But local residents hold a larger share of the much smaller number of processing jobs in other remote rural areas.

◦ *Most coastal communities in western Alaska also share in the revenue from bottom fishing through the federal Community Development Quota (CDQ) program.* The program allocates a share of the seafood catch—including pollock, cod, halibut, and crab from the Bering Sea and Aleutian Islands—to six groups representing 65 western Alaska villages, including many in the remote rural region. Some groups own their own vessels and harvest their own allocation, but others lease their harvest rights and collect royalties.

In 2005, the CDQ program generated 2,025 seasonal jobs, a payroll of \$16.5 million, and \$120 million in net revenues and royalties for CDQ communities. Accumulated net revenues and royalties for CDQ groups totaled nearly \$820 million from 1992 through 2005.¹⁵ Most of that total is attributable to villages within the remote rural region.

Figure 9. Natural Resource Prices, 2002 and 2006



The CDQ groups have invested income in the local harvesting and processing sectors, in harbor improvements and other infrastructure, and training programs. This spending contributes to local income and economic activity. But much of this investment likely doesn't stay in the local economy. For example, the construction of boats purchased outside the region doesn't directly create local jobs.

◦ *State and federal services supported by taxes and royalties from resource production also benefit regional residents*—in addition to the benefits from borough governments, discussed earlier.

SMALL-SCALE RESOURCE-BASED ACTIVITIES

Smaller resource-based activities also take place in remote areas, including sport fishing and hunting lodges and guiding, as well as other tourism and recreation, small-scale mining, handicraft manufacture, resource management, logging, trapping, and agriculture.¹⁶ Their combined contribution to economic activity in the region (as measured by income for resident households) is modest—perhaps \$100 million to \$200 million annually.

But that is just a ball-park estimate. Jobs in these activities are often held by self-employed people, are mostly seasonal, and are often part-time—so many of them don't show up in the state's official employment figures.

Also, as with the major resource industries, it's likely that a large share of the income, particularly from small-scale mining and recreation, goes to non-locals. Still, these activities are valuable because they add to the region's jobs, income, and economic diversity.

GOVERNMENT SPENDING

◦ *Excluding resource development, the largest source of cash flowing into remote rural Alaska is the federal government* (Figure 10). Grants, purchases from businesses, payments to individuals, and wages totaled \$900 million in 2005. Grants made up more than two-thirds of that total, with the largest for Medicaid and the Alaska Area Native Health Service. Alaska Native non-profit corporations administer much of the federal grant money related to health care—and are among the largest employers in remote areas (Figure 11). Payments to individuals include retirement and disability payments, as well as food stamps and other assistance.

◦ *State general fund spending in the remote rural region was roughly \$250 million in 2005*—assuming that the share of state spending equals the share of the population. Available data don't allow us to precisely calculate general fund spending in remote areas. The largest component of state operating spending is for education. The state pays most of the costs for school districts—and school districts are among the largest employers in the remote rural region (Figure 11).

◦ *A share of federal grants to the state*—an estimated \$100 million—was also spent for remote rural projects in 2005.

◦ *Permanent Fund dividends provide a floor for household income in remote areas and accounted for 3% of all personal income in 2005.* These are payments the state makes annually to all Alaska residents from the earnings of the state's big savings account, the Permanent Fund (see Figure 18, page 11). Because every Alaskan gets equal payments, the dividends mean all households have at least some level of cash income.¹⁷

Figure 10. Estimated Federal, State, and Other Cash Flows into Remote Alaska, 2005
(Excluding Resource-Based Activities)

(In Millions of Dollars)

Total	\$1,400
Federal Money	
• Grants	\$640
• Purchases	\$73
• Payments to individuals	\$158
• Wages	\$29
State Money	
• General Fund	\$250
• Flow-through federal grants	\$100
• Permanent Fund dividends	\$50
Other*	\$100

* Includes private investment income, dividends paid by Alaska Native corporations, pensions, and cash brought in by residents who work elsewhere.

Source: Author's calculations

Figure 11. Number of Employees, Large Government-Supported Organizations in Remote Rural Alaska, 2006

School Districts

Lower Kuskokwim School District	1,104
Northwest Arctic Borough School District	648
Lower Yukon School District	592
Bering Strait School District	552
North Slope Borough School District	500

Private Non-Profit Organizations

Yukon Kuskokwim Health Corporation	1,292
Maniilaq Association	555
Norton Sound Health Corporation	478

Source: Alaska Department of Labor

OTHER SOURCES OF CASH

◦ *Cash coming into the region from other sources is modest, perhaps in the range of \$100 million.* It includes investment income, dividends paid shareholders by Alaska Native corporations, private pensions, and earnings of residents who work outside the region.

^aThis figure is an estimate of the general pattern of employment in remote rural Alaska. We relied on several sources that measure employment in somewhat different ways, and we made some adjustments in the figures so we could fit all the pieces together. It includes all jobs in the region, held by both local residents and non-locals. It is a count of the average number of jobs, not workers, over the year.

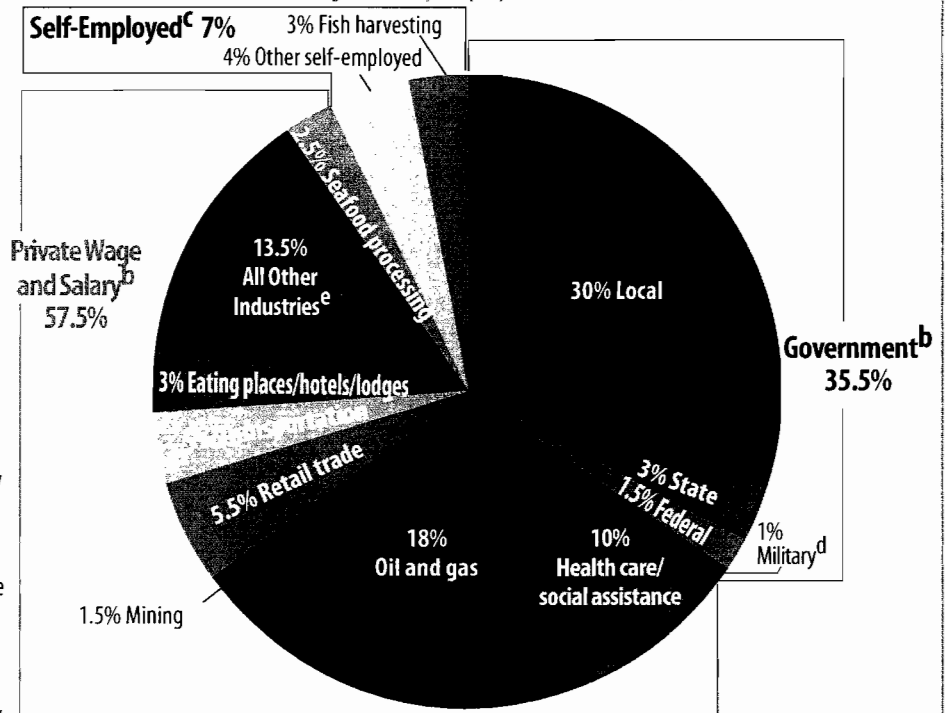
^bGovernment and private wage and salary employment are based on the Alaska Department of Labor's 2006 figures on average monthly employment by industry.

^cStandard employment figures cover wage and salary jobs but exclude self-employment, which is a significant share of all jobs. To include the self-employed for a complete and consistent picture of jobs in the region, we used the Alaska Department of Labor's estimate of annual average jobs in fish harvesting and our own estimate of other self-employment. Fish harvesting here includes average annual figures for the Northern, Yukon Delta, and Bristol Bay region fisheries, excluding those in the Bristol Bay Borough. We estimated the number of self-employed workers other than fish harvesters by subtracting fish harvesters from the total number of self-employed (proprietors) reported by the Bureau of Economic Analysis. We then converted the remaining count of proprietors to an estimate of annual average jobs, assuming the average proprietor works six months per year.

^dMilitary jobs based on the Bureau of Economic Analysis's 2005 figures by census area.

^eOther industries include construction, finance, real estate, arts, wholesale trade, and other services.

Figure 12. Estimated Employment in Remote Rural Alaska, 2006
(Based on Average Monthly Employment in 2006 of 34,729^a)



Sources: Alaska Department of Labor, Research and Analysis; Bureau of Economic Analysis; and author's estimates

TOTAL EMPLOYMENT IN THE REGION

How do all the cash sources just described translate into jobs? The region had average monthly employment of about 34,800 in 2006, including jobs held by local residents and people either from other areas of Alaska or outside Alaska. The total job count over the year would be larger than the average, because many jobs are seasonal.

Figure 12 is based on several sources, and it's not precise. Standard employment figures include only wage and salary jobs. Self-employment is estimated here. Also, some wage jobs don't show up in regional figures, because some employers report their employees where the business is headquartered rather than where they work.

- *Government (mostly local) accounts for almost 36% of jobs, self-employment 7%, and private wage and salary jobs just under 58%.*
- *One in five local government jobs is in tribal government. Others are in schools or municipal governments and utilities.*
- *The oil and gas industry accounts for 18% of employment and the mining industry 1.5%. Oil industry jobs are on the North Slope, in enclaves far from established communities—and almost all jobs are held by non-locals. Mining jobs are concentrated at the Red Dog mine, where about half the employees are local residents.*
- *About 10% of jobs are in health care or social assistance, primarily with the Alaska Native non-profits that administer federal health and other programs for Alaska Natives. Although supported by federal money, these are private jobs.*
- *Commercial fishing jobs account for an estimated 3% of jobs, on an average over the year. Fish processing accounts for another 2.5%.*
- *Other industries that contribute a significant share of private jobs are trade (mostly small general stores), transportation (mostly air) and eating places and hotels and lodges.*

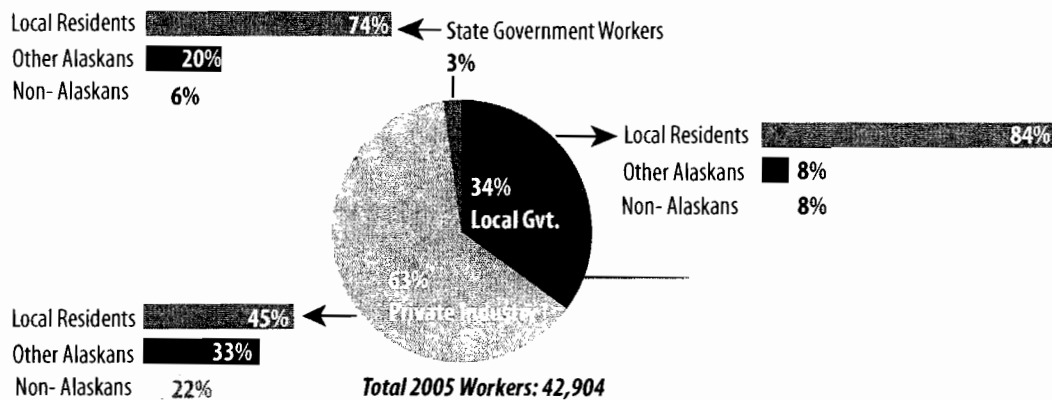
EMPLOYMENT AMONG LOCAL RESIDENTS

We know that many workers in remote areas aren't local residents, and Figure 13 shows the Alaska Department of Labor's 2005 estimate of how many workers are residents and how many are non-locals—either from other areas of Alaska or outside Alaska.

The total number of workers in the remote region—nearly 43,000 in 2005—is considerably higher than the 34,800 average monthly employment shown in Figure 12. That's because it is a count of everybody who worked at any time during the year. Two or more people can hold a single job over the course of the year. Also, the number of people who work during the summer fishing season is much larger than the annual average number of jobs in fish harvesting.

- *Nearly two-thirds of the workers in remote areas are in private industry—but less than half those workers are local residents. Alaskans from outside the region account for 33% of private workers and non-Alaskans 22%. Most oil industry and seafood processing workers are non-locals. All the other industries also have some non-local workers, but the percentages are smaller.*
- *Just over a third of the workers in remote areas have government jobs, and most are local residents. The majority of government jobs are in local government—school districts, city and borough governments, and tribal governments.*
- *Overall, local residents made up 59% of all workers in remote areas in 2005, but they collected only 44% of wages paid. Many of the highest-paying jobs—especially in the oil industry—are held by non-locals. Alaskans from other areas of the state collected 37% of the wages and non-Alaskans 19%.*

Figure 13. Workers* in Remote Rural Alaska, By Type of Job and Residence, 2005



Comparing Share of Resident Workers and Resident Share of Wages Paid, 2005

Share of Total Workers		Share of Total Wages	
Local Residents	59.5% 25,495	Local Residents	44% \$561.9 million
Other Alaskans	24% 10,345	Other Alaskans	37% \$472.1 million
Non-Alaskans	16.5% 7,064	Non-Alaskans	19% \$249.4 million

*Includes full-time, part-time, and seasonal workers covered by Alaska unemployment insurance. Excludes federal employees and self-employed people. Each worker is counted only once, even if some workers have more than one job.

UNEMPLOYMENT AMONG LOCAL RESIDENTS

We've just seen that non-locals account for about four in ten workers in remote areas. At the same time, unemployment among local residents is high. Both the unemployment rate and the number of unemployed people rose sharply in remote areas in recent years—even though many people left for urban areas.

Government statistics show that from 2000 to 2006, the unemployment rate in the remote region increased from 9.3% to 12%. The number of unemployed people rose from 2,264 to 3,194—a jump of 41%. During the same period, the unemployment rate in Anchorage was also up, but much less—from 4.9% to 5.3%—and the number of unemployed was up about 17% (Figure 14).

But those government figures probably underestimate the number of people who want jobs in remote areas, because they include only those who say they want jobs *and* have been actively looking for work. That ignores the "discouraged worker" effect in small places with few jobs—that is, people who would like jobs may not be actively looking because they know there aren't any jobs.

Another way of assessing how many residents are without work is the number of Alaska Native villages in the region that are exempt from the standard five-year limit on welfare benefits. Since the national overhaul of the welfare system in the late 1990s,

Figure 14. Changes in Unemployment, Remote Rural Alaska and Anchorage, 2000-2006

Number of Unemployed People		Unemployment Rate	
Remote	2000 2,264	2000 9.3%	
Rural	2006 3,194 +41%	2006 12.0%	
Anchorage	2000 6,909	2000 4.9%	
	2006 8,052 +17%	2006 5.3%	

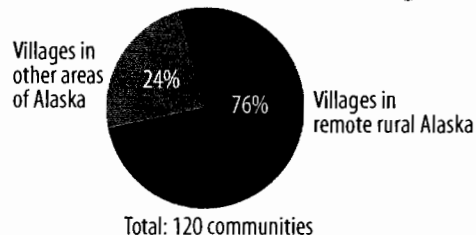
Source: Alaska Department of Labor, Research and Analysis

most welfare recipients are limited to five years of benefits. But residents of federally recognized Alaska Native villages where more than half the adults do not have jobs are exempt from that limit.

Figure 15 shows that 120 Alaska Native villages statewide are currently classified as exempt from the five-year limit. Three quarters of those villages are in remote rural Alaska. That measure *overstates* how many people can't find jobs, because not all adults want jobs—due to age, disability, family responsibilities, or other reasons.

Still, the large number of remote rural communities where half the adults don't have wage jobs shows there must be many people who want jobs but can't find them.

Figure 15. Alaska Native Villages Where Half the Adults (16 and Older) Don't Have Wage Jobs*



*These are villages exempt from the standard 5-year limit on welfare benefits, as determined by the Alaska Division of Public Assistance. That determination is based on 2000 U.S. census data supplemented by the most recent reliable data from surveys, following procedures established by the Alaska Department of Labor and Workforce Development. Under federal law, Alaska Native villages where half or more of the adult population (16 and older) don't have jobs are exempt from the 5-year benefit limit.

MONEY DOESN'T STICK

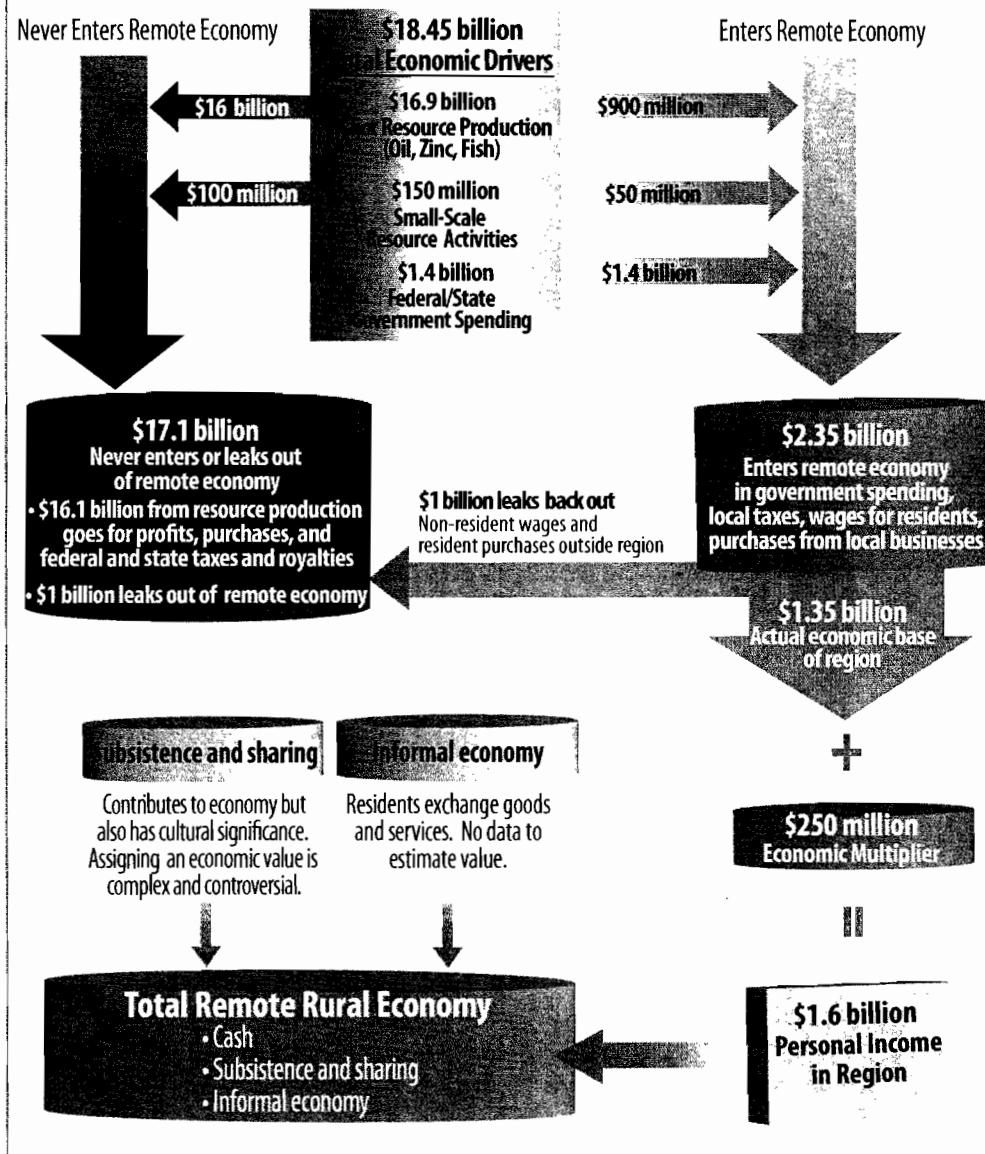
Figure 16 helps explain why the remote economy doesn't produce enough jobs for residents. It estimates cash either flowing into or generated in the region in 2006—and it shows that most cash generated in remote areas never influences the local economy at all. And of the cash that does flow into the economy, a big share doesn't stick around. The flows are approximations, based on limited data.

• Nearly \$18.5 billion was either generated in or flowed into remote areas in 2006, but only \$2.35 billion entered the local economy. The rest went directly to other areas for producer profits; purchases of labor, supplies, and services; and federal and state taxes and royalties.

• Of the \$2.35 billion that did go into the local economy in 2006, \$1 billion quickly leaked out again, because: (1) the many non-residents working in remote areas take their paychecks home when they leave, and (2) resident households and businesses can't or won't buy many things locally—and therefore spend money outside the region.

Figure 16. Schematic of Remote Rural Economy, 2006

(Author's estimates. All dollar amounts are approximations.)



uses his fishing income to buy food or fuel from local businesses. That keeps cash circulating in the local economy, which helps make local businesses profitable and pay their employees. That additional activity is called the economic multiplier.

• But in small remote communities the economic multiplier is small. They can't support many businesses—so, as we just discussed, residents often can't buy what they need locally. When they buy outside the region, the economy loses the money needed to support local jobs. We estimate that in 2006 the money coming into the region from outside sources generated only about \$250 million of additional household income as it circulated.

• The economic base of \$1.35 billion and the \$250 million economic multiplier together roughly total the \$1.6 billion in personal income of residents in 2006.

Figure 16 also recognizes that the remote economy is not based just on cash. Both subsistence and informal economic activities also contribute to the well-being of residents. But there isn't enough information to assign them monetary value. Subsistence activities also have cultural significance for Alaska Native people, making it even more complex to assign them a dollar value.

Figure 17 is another illustration of why small communities have trouble generating local jobs. In Anchorage, \$1 million of household income generates 3.4 trade jobs. With 270,000 people, Anchorage can support a range of businesses.

By contrast, remote areas with regional centers can generate only about half as many jobs—1.9 jobs per \$1 million in household income. In remote areas without regional centers, like the Wade Hampton census area, the number of jobs generated is much smaller: only 0.6 trade jobs for every \$1 million of household income.

This short characterization of the remote rural economy highlights both the challenges of economic development and the opportunities. Cash is in short supply. To increase that supply, residents and businesses have to find ways either to bring in more cash or to circulate it more before it leaks out.

Figure 17. Trade Jobs Generated by \$1 Million in Household Income

Remote rural with no regional center	0.6
Remote rural with regional center	1.9
Anchorage	3.4

Source: Author's calculations

• That left about \$1.35 billion as the actual economic base of the economy in 2006—the share of the \$18.5 billion that went to remote rural households, businesses, and local governments. That's the purchasing power households and businesses have to support the local economy.

• Major resource production was valued at nearly \$17 billion in 2006, but more than \$16 billion of that bypassed the local economy. Around \$900 million did go in—\$550 million in wages and \$350 million in local taxes and purchases.

• Smaller resource-based activities generated another \$150 million or so in 2006, with \$100 million bypassing the local economy and \$50 million going in.

• All the \$1.4 billion the federal and state governments spent for wages, grants, or purchases from local businesses in 2006 initially went into the local economy.

• The \$1.35 billion economic base from resource production and government spending generates more economic activity when residents, businesses, and governments buy locally. Say a resident fisherman

INCOME OF REGIONAL RESIDENTS

As we've just seen, personal income among the roughly 60,500 remote rural residents is about \$1.6 billion. Nearly all comes from outside sources, with about \$250 million from money circulating in the economy. Figures 18 to 21 show more about regional income.

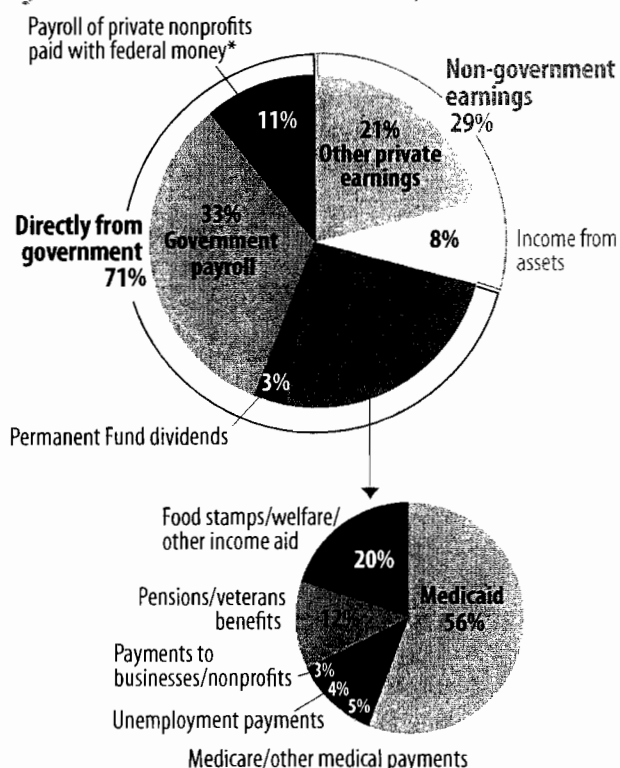
- *About 71% of personal income can be traced directly to government*—transfer payments, government payroll, and payroll for private jobs supported by federal money. Those private jobs are mostly in non-profit Alaska Native corporations that contract with the federal government to administer health and other programs for Alaska Natives.

- *The 29% of income not directly from government is private payroll and non-wage income.* But probably only about 10% of income is really independent of government. An unknown share is the indirect result of government spending—through the economic multiplier. Also, non-wage income is a government estimate of individuals' income from assets like stocks. Such income often stays in financial accounts rather than going into people's pockets.

- *Permanent Fund dividends make up 3% of personal income and other government transfers another 24%.* Those include unemployment and welfare payments and pensions, all paid directly to individuals. But by far the biggest single transfers are Medicaid payments to hospitals, doctors, and others for medical costs of low-income Alaskans. Also included are payments under Medicare, the program for older Americans. (The fact that government figures classify these medical payments as "personal income," even though they don't go to individuals, highlights why personal income is a less-than-perfect measure of cash actually available to families and communities.)

- *Per capita personal income in most remote rural areas in 2005 was anywhere from 25% to 50% below the state average*—largely due to

Figure 18. Sources of Personal Income, Remote Residents



* Author's estimate
Sources: Bureau of Economic Analysis and author's estimates, based on 2005 income

Figure 19. Per Capita Personal Income, 2005

North Slope Borough	\$42,209
Alaska	\$35,564
Dillingham census area	\$29,775
Nome census area	\$26,500
Northwest Arctic Borough	\$26,339
Lake and Peninsula Borough	\$26,027
Yukon-Koyukuk census area	\$25,674
Bethel census area	\$24,054
Wade Hampton census area	\$16,012

Source: Bureau of Economic Analysis

Figure 20. School Children Qualified for Free Meals,* 2007

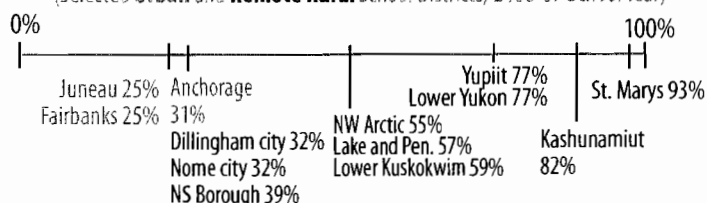
Remote rural districts	63%
Other Alaska districts	26%

*Children from families with incomes that meet federal guidelines; varies by family size

Source: Food and Nutrition Services, Alaska Department of Education and Early Development

Figure 21. Percentage of School Children From Families Receiving Public Assistance*

(Selected Urban and Remote Rural School Districts, 2006-07 School Year)



*Food stamps, Medicaid, or welfare payments.

Source: Alaska Department of Education

a combination of part-time work and lower wages (Figure 19). The exception is the North Slope, where the borough government and the Arctic Slope regional corporation employ many residents.

- *Poverty is widespread, under standard measures.* Among children in the region, 63% qualify for free meals at school, compared with 26% in other Alaska districts (Figure 20). Some areas are poorer than others. About 32% of children in the Dillingham school district are from families receiving public assistance—Temporary Aid to Families, Medicaid, or food stamps—compared with more than 80% in the Kashunamuit and St. Marys districts in the Wade Hampton census area (Figure 21).

CHALLENGES AND OPPORTUNITIES

Strengthening the economy of remote rural Alaska will take work as well as creativity. We can identify a number of challenges for the region and some opportunities as well. Keep in mind that the vast remote region has three very different kinds of communities—the many small, isolated villages; the five regional centers; and the enclaves where valuable natural resources are produced. Future challenges and opportunities will be different in those three kinds of places.

- *Importing goods and services will continue to be expensive.* Improved access can reduce but not eliminate the cost difference between remote rural and urban areas.

- *The young age of the population will continue to swell the labor force.* Most opportunities for young people will be created by retirements or turnover in health, education, and government administration jobs.

- *Future government spending in the region will be constrained,* as the federal budget tightens and as oil production—the state's main source of general operating money—declines.

• *Job growth will slow down, because so many jobs depend on government spending.* New jobs will be mainly in regional centers. Innovative ways to share jobs—like village labor contracting cooperatives—might be useful.

• *Development of oil and gas and hard-rock minerals will continue to offer high-paying jobs*—but such jobs will still typically be in remote enclaves, and most will continue to go to workers from outside the region. Local benefits will still likely be concentrated in a few areas.

• *The paradox of high local unemployment at the same time non-locals hold many jobs isn't likely to change overnight.* Many jobs in resource production are not only in isolated enclaves but also require special skills.

• *Opportunities in the "knowledge economy"*—data processing, for example—will continue to increase, but will require more education.

• *Expansion of small-scale mining, tourism, recreation, handicraft manufacture, agriculture, and trapping* can potentially provide modest economic benefits for some communities.

• *The undeveloped natural environment in remote areas will become more valuable* for tourism and recreation—but high costs and isolation will still constrain growth.

• *Cash will continue to be scarce.* Informal economic activities—like exchange of services among family and neighbors—will continue to be extremely valuable, because they reduce the need for cash. Cash circulating in the local economy will still only be able to generate a few jobs in retail trade and other support businesses.

• *Finding ways to capture more of the value of resource production for local residents* would boost the cash economy in remote areas. Right now most of the multi-billion dollar value of resource production bypasses the local economy.

• *To reduce unemployment, residents will have to continue moving out of the region or commuting to jobs in other areas.*

LIMITS OF DATA

Finally, as we said at the outset, the available data on the remote economy have many shortcomings. It's important to keep those shortcomings in mind.

• *By ignoring time residents spend in subsistence and the informal economy, employment figures underestimate time residents spend working.* If such time were included, employment would be larger than official data show and would have a more complex seasonal pattern.

• *More people are unemployed than the official figures show*—because those figures only include people actively looking for work. In many villages, residents know there aren't any jobs to look for.

• *Personal income numbers don't fully measure the well-being of households, because they ignore the value of subsistence harvests and services exchanged in the informal economy.* But putting a monetary value on subsistence is fraught with conceptual and political challenges.

• *Existing cost-of-living measures don't account for the differences in urban and remote rural spending patterns.* For instance, remote households typically have to buy more equipment and supplies for subsistence—but they may also receive federal health and other services non-Native urban households have to pay for.

• *The economic base of the remote rural region can't be accurately identified with current data.* We approximated cash flow into and out of the region by piecing together data with many gaps.

Of course, it's easy to identify shortcomings and hard to fix them. It may be impossible to correct them all, given the difficulties and costs involved. But finding ways to improve the economy of the remote rural areas has been a goal of Alaskans for decades. If more information were available, it would help us all understand the realities that constrain economic development in remote areas.

ENDNOTES

1. This publication excludes the Bristol Bay Borough and the Aleutian Islands from the remote rural region, because historically these areas have been different from other remote Alaska areas. The Aleutians East and Bristol Bay boroughs overwhelmingly depend on commercial fisheries with mostly non-local fishermen. And although the naval station on Adak Island closed in the 1990s, the large military population there dominated the Aleutians West census area for several decades. Still, including those areas wouldn't appreciably change the overall patterns we see in remote rural Alaska.

2. A few have road or ferry access.

3. The job of estimating population by race became more complicated after the 2000 U.S. census, which for the first time allowed people to identify themselves as being of more than one race. Previously, respondents chose a single primary race. Now, the Alaska Department of Labor does two types of estimates by race: (1) estimates based on the 2000 U.S. census definition, which includes a multi-race category; and (2) "bridge" estimates, which attempt to replicate the previous single-race categories, using assumptions about which primary race people of more than one race would choose. When presenting numbers by race in this publication, we use the bridge estimates, because they allow us to compare changes in Alaska's population by race over time.

4. See *Status of Alaska Natives 2004*, by Scott Goldsmith, et al., ISER, May 2004. This migration of Alaska Natives from remote to urban places doesn't imply that Alaska Natives living in urban areas no longer maintain ties with remote communities or take part in subsistence activities.

5. Robert Wolfe, Alaska Department of Fish and Game, Subsistence Division, 2000.

6. The Survey of Living Conditions in the Arctic is a survey of indigenous people in Northern Alaska and Arctic areas of Canada, Russia, and Greenland, conducted between 1998 and 2001. For more information see www.arcticlivingconditions.org.

7. A deposit of gold and copper believed to be among the world's largest, the Pebble site, has also been discovered in the Lake and Peninsula Borough, potentially adding to the borough's resource tax base. But the proposed open-pit mine near river drainages that provide habitat for Bristol Bay area salmon has been very controversial. In fall 2007, campaigns for and against the proposed mine continued.

8. In 2007 there were only about 169 village corporations. Some have merged with regional corporations; in southwest Alaska, 10 village corporations banded together to form a single new corporation.

9. Cited in 2006 report of Association of ANCSA Regional Corporation Presidents.

10. Alaska Department of Labor, *Alaska Economic Trends*, July/August 2007, "The Trends 100," by Neal Fried.

11. Information about business activities of individual corporations is from annual reports and Web sites of ASRC, NANA, Calista, Doyon, Bering Straits, and Bristol Bay corporations.

12. The Department of Labor reports that a shortcoming of these figures on workers by place of residence is that not all employers report the geographic area where their employees work. Some report all employment at their headquarters, not where the work takes place.

13. Data from ISER study of economic effects of the Red Dog zinc mine, to be published in 2008.

14. Includes the Department of Labor's Northern, Yukon Delta, and Bristol Bay region, excluding residents of the Bristol Bay Borough (which is not included in our analysis).

15. Alaska Department of Commerce, Community, and Economic Development Web site, October 2007. See www.commerce.state.ak.us/bsc/CDQ/cdq.htm.

16. Mining exploration, particularly at the Donlin Creek and Pebble sites, is included here—but development at those sites would move them into the large-scale resource production category.

17. Some households don't receive dividends because they are garnished for various reasons.

Understanding Alaska is a special series of studies looking at economic development issues, funded by the University of Alaska Foundation. This UA Research Summary is based on a longer paper by Scott Goldsmith, *The Remote Rural Economy of Alaska*, April 2007. Copies are available for \$5.00, plus postage; call 907-786-7710. It's also online at:
www.alaskanecconomy.uaa.alaska.edu/economy.htm

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