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FEDERAL REVENUES AND SPENDING IN ALASKA

INTRODUCTION

This *Review* looks at (1) how much the federal government spent in Alaska in 1980 and earlier years, as compared with how much it collected here in taxes, and (2) how this flow of federal money into and out of Alaska affected the state's economy.[1]

Most of the information presented here is from a study we recently did for the Alaska Statehood Commission.[2] The commission asked us to examine the fiscal relationship between Alaska and the federal government, looking particularly at how development of the Prudhoe Bay oil field has changed that relationship.[3]

We recognize as we write this in early 1982 that both federal spending and revenue collection in Alaska will be different this year than in 1980, as a result not only of changes in federal tax laws and spending policies but also the falling price of oil. Nevertheless, we feel that the detailed 1980 figures we present here still provide useful information on and insight into the fiscal relationship between Alaska and the federal government. In a concluding section we look at likely changes in federal spending and collection here in 1982 and the coming years.

In the following pages we present a number of statistics that are interesting in themselves; but taken together, the figures reveal how federal spending and taxation affect Alaskans and their economy. In the Conclusions section, we discuss what we find most significant about these figures, and assess the place of the federal government in Alaska's economy today.

THE FEDERAL GOVERNMENT IN ALASKA

The federal government has been a mainstay of

[1] In this *Review* we consider only direct federal spending in Alaska; the federal government also supports the state economy through loan programs.

[2] *Federal Revenues and Spending in Alaska*, by Scott Goldsmith and J. Phillip Rowe, Institute of Social and Economic Research, University of Alaska, September 1981. The views expressed here, however, are those of ISER and are not necessarily shared by the commission.

[3] The commission was established in 1980 to examine the relationship that has developed between Alaska and the federal

(Footnote 3 continued)
government since Alaska became a state in 1959.

This *Review*, after briefly describing the role of the federal government in Alaska's economy over the past several decades, looks in detail at federal spending in Alaska in 1980, breaking out categories of federal spending: expenditures of various federal agencies; largest grant programs in the state; and federal wages, jobs and transfer payments by census division. It also provides information on levels of federal spending and numbers of federal jobs in Alaska in earlier years.

Turning next to federal revenue collection here in 1980, we discuss the largest sources of federal revenues in Alaska, including both those paid by corporations and by individual Alaskans, and assess the effects of the progressive federal income tax structure on Alaskans' incomes.

We then look at the net effects of federal spending and taxation on numbers of jobs in Alaska. Finally, we discuss the significance of the statistics presented here, and talk about likely changes in federal spending and collection in Alaska in the coming years.

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FEATURE

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Federal Revenues and Spending in Alaska
(Edited by Linda Leask)

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Alaska's economy since World War II, when the Department of Defense recognized that Alaska's location would make it strategically important to U.S. defense in the coming years. During and after the war, the Defense Department established air bases, missile sites, communications systems, and other military facilities throughout the state. An Alaskan economist has described these Department of Defense activities as the biggest "industry" in Alaska throughout the 1950s and 1960s.[4]

Apart from federal activities, Alaska's economy has historically been driven by production of natural resources—fur, gold, fish, timber, and, most recently, petroleum. But in the 1950s and 1960s, the economic activity generated here by natural resource industries was much less than that generated by activities of the federal government in Alaska—primarily activities of the Department of Defense and secondarily activities of various federal agencies responsible for managing the vast federal land holdings in Alaska.

In the 1970s, natural resource development once again assumed prominance in Alaska's economy, as development of the Prudhoe Bay oil field multiplied state government revenues and brought on sharp increases in the number of jobs in the state. By 1980, the federal government was no longer the dominant force in the state economy that it had been two decades earlier, but, as shown in the following pages, the federal government in the 1980s is still an important force in an economy that is otherwise very much subject to the vicissitudes of natural resource development.

Federal Spending in Alaska

Federal Spending Statewide[5]

Of the $2.2 billion the federal government spent in Alaska in 1980, 78 percent was for operational

[4]See George W. Rogers, "Alaska's Economy in the 1960s," *Alaska Review of Business and Economic Conditions* 7 (December 1970).

[5]The figures in this section represent obligations of various federal agencies operating in Alaska in 1980, as opposed to amounts actually spent—the difference being that some money obligated in a given year may not be spent until the following year. Also, the figures presented here have been adjusted to include only money actually spent in Alaska; in some instances, money that is budgeted for Alaska operations is spent outside the state—for supplies and equipment, for instance.

expenses and 22 percent for grants. The biggest federal spender in Alaska that year was the Department of Defense, with expenditures of $760 million; the second largest was the Interior Department, which spent about half that amount. One-third of federal grant money in Alaska in 1980 was for highway planning and construction. Other grant programs that received substantial shares of federal money included education programs, state-operated welfare programs, and programs for the unemployed.

In Alaska and across the country, the federal government spends money primarily for its own operations and secondarily for grants to state and local governments and private organizations. Operational costs include all the federal government's costs of providing services, paying its civilian and military employees, maintaining and constructing federal facilities, and making transfer payments to individuals. Federal grants are mainly monies the federal government distributes to state and local governments to help pay for a wide range of public programs. A smaller portion of federal grants go to private, nonprofit organizations, and to individuals.

Table 1 shows that the federal government spent about $2.2 billion in Alaska in fiscal 1980. About $1.7 billion, or 78 percent, of that total was for operational expenses. Nearly half a billion, or 22 percent, was for grants.

The federal government's biggest expenses in Alaska in 1980 were $725 million for military and civilian payrolls and $823 million for other kinds of operating expenses. Those two categories of expense accounted for about 70 percent of federal spending in the state that year. Another $178 million, or about 8 percent of the total $2.2 billion, was paid directly to Alaskans in Social Security and other transfer payments.

Federal grants in Alaska in 1980 totalled about $474 million, with most of that money going to the state and local governments, and smaller portions to individuals and nonprofit organizations. Table 2 lists the largest federal grant programs in Alaska in 1980. Federal aid for transportation planning and construction garnered by far the largest share of federal grant money here in 1980—$136 million, or nearly one-third of the total. Most of that $136 million was specifically for highway planning and construction. Alaska has historically received substantial federal highway grants, because these grants are determined in part by the proportion of federal land in the state; until recent years, about 90 percent of the land in Alaska was owned by the federal government, and today the federal government still owns about 60 percent of land in the state.

Other programs that received smaller but still significant shares of federal grant money in Alaska in 1980 were education programs, state-operated welfare programs, and programs for the unemployed. Education programs received approximately $67 million, or about 14 percent of total grants. The largest federal grants for education in 1980 went to the School Aid to Federally Affected Areas program, which provides money to schools in areas where the federal government owns lands that are exempt from local taxes.

Federal contributions to three state-operated welfare programs made up about 13 percent of federal grants here in 1980. The Food Stamp, Medicaid,

Table 1

Direct Federal Spending in Alaska, FY 1980
(in millions of dollars)

Categories of Expense	Amount	Percentage of Total
Operations		
Military Payroll	$ 303.0	13.8%
Civilian Payroll	422.7	19.2
Direct Transfers[a]	178.1	8.1
Other Operating Exp.[b]	823.0	37.4
Total Operations	$1,726.9	78.5%
Grants		
Grants to State, local, and private agencies	410.2	18.6
Indirect Transfers[c]	63.7	2.9
Total Grants	$473.9	21.5%
Total Expenses	$2,200.8	100%

[a]Direct federal transfer payments are those, like Social Security payments, that the federal government itself pays its citizens. See Table 8 for a list of direct federal transfer programs.

[b]Includes maintenance, procurement, and other operations costs not specifically included in other categories, as well as costs of operating the Alaska Railroad and the U.S. Postal Service in Alaska.

[c]Indirect federal transfers are monies the federal government contributes to transfer programs that the State of Alaska administers and shares costs of. See Table 8 for a list of state-administered programs partially paid for by the federal government.

Sources: Community Services Administration, *Geographic Distribution of Federal Funds in Alaska, 1980*; Bureau of Economic Analysis, "Major Sources of Personal Income."

Table 2

Largest Federal Grant Programs in Alaska, FY 1980

(in millions of dollars)

Categories of Programs	Amount	Percentage of Total Grants[a]
Aid for Transportation Planning & Construction	$136.1	29%
Highway Planning & Construction	108.6	
Airport Planning	17.2	
Other Transportation	10.3	
Aid for Education	$66.9	14%
School Aid to Federally Affected Areas	48.9	
School Nutrition Programs	5.8	
Head Start Program	3.3	
Other Aid to Education	8.9	
Aid to State-Administered Welfare Programs	$63.7	13%
Food Stamp Program	25.6	
Medicaid	22.4	
Aid to Families w/Dependent Children	15.7	
Aid to Unemployed & Underemployed	$54.8	12%
Comprehensive Employment & Training Program (CETA)	29.5	
Econ. Develop. Grants	3.9	
Unemployment Ins. Admin.[b]	10.8	
Other	10.5	
Aid to Alaska Natives	$26.4	6%
Indian Employment & Training Program	12.0	
Indian Employ. Assist.	6.0	
Other Native Assist.	8.4	
Other Programs[c]		26%

[a]Alaska received a total of $474 million in federal grants in 1980; this column shows what proportions of that total the largest grant programs received.

[b]Federal grants to the state government for administration of the unemployment insurance program.

[c]There were more than 200 grant programs in Alaska in 1980, 72 of which received at least $500,000 each.

Source: Community Services Administration, *Geographic Distribution of Federal Funds in Alaska, 1980.*

and Aid to Families with Dependent Children (AFDC) programs received about $64 million of federal money that year. The federal government pays half the costs of the Medicaid and AFDC programs in Alaska, and all but administrative costs of the Food Stamp program.

Programs to help the unemployed in Alaska cost the federal government about $55 million in 1980. Chief among these was the Comprehensive Employment and Training (CETA) program, under which the federal government encourages employers to hire the chronically unemployed by helping pay the wages of such workers.

An additional 6 percent of federal grant money in Alaska in 1980 went to aid programs specifically for Alaska Natives, including employment and training programs.

The balance of federal grant money—about one-fourth of the total $474 million—was divided among the remaining grants programs in the state. There were more than two hundred federal grant programs here in 1980, and seventy-two of these received more than $500,000 each.

Table 3 shows how federal operational and grants spending changed in Alaska between 1974 and 1980. During that 6-year period, overall federal spending in Alaska nearly doubled, growing from $1.2 billion to $2.2 billion. Operational expenses alone grew about 115 percent, increasing from $805 million to $1.7 billion. Federal grant spending in Alaska also generally increased, although not as much as operational spending. In 1974, grants accounted for nearly 30 percent of all federal spending in Alaska; by 1980, they made up only 22 percent.

The federal agencies responsible for spending $2.2 billion in Alaska in 1980 are listed in Table 4. The Department of Defense, which spent $760 million, or nearly 35 percent of all federal money expended here that year, was by far the largest single spender. This is not surprising; as we discussed earlier, defense spending in Alaska has been substantial since World War II. The Air Force spent about half of the money expended for defense in Alaska in 1980.

Table 3

Federal Expenditures for Operations and Grants in Alaska, FY 1974–1980

(in millions of dollars)

Fiscal Year	Operations	Grants	Total
1980	$1,726.9	$473.9	$2,200.8
1979	1,510.8	421.4	1,932.2
1978	1,354.8	398.3	1,753.1
1977	1,087.8	457.0	1,544.8
1976	1,113.6	254.5	1,368.1
1975	947.5	367.6	1,315.1
1974	805.4	320.1	1,125.5

Sources: Fiscal years 1974-1976, Community Services Administration, *Federal Outlays in Alaska*; fiscal years 1977-1980, Community Services Administration, *Geographic Distribution of Federal Funds in Alaska.*

The next largest spender in Alaska in 1980 was the Department of the Interior, with expenses of about $350 million. The Department of the Interior spends significant sums in Alaska because its various agencies manage the federal government's huge land holdings in the state. In most earlier years, the Bureau of Land Management (BLM) spent more money here than any other Interior agency, because it had the largest share of responsibility for federal lands. In 1980, however, expenditures of the U.S. Geological Survey (USGS) were the largest because USGS was overseeing a federal petroleum exploration program in the National Petroleum Reserve on the North Slope. The USGS spent about half of all money expended by the Department of the Interior here in 1980.

Table 4 shows that the departments of Transportation and Health and Human Services each spent about $300 million in Alaska in 1980. Within the Department of Transportation, the agency with the largest budget was the Federal Highway Administration; as we noted in our discussion of grant programs, most of this money was for federal highway grants to the state. In the Department of Health and Human Services, the biggest spender in 1980 was the Indian Health Service, which spent about $120 million to

Table 4

Federal Expenditures in Alaska, by Department, FY 1980
(in millions of dollars)

Department	Expenditures	Percentage of Total Expenditures
Defense	$762.3	34.6%
Air Force	394.9	
Army	261.5	
Navy	53.4	
Corps of Engineers	26.6	
National Guard	25.9	
Interior	$346.8	15.8%
Geological Survey	167.8*	
Bureau of Indian Affairs	89.2	
Bureau of Land Mgt.	42.9	
Fish & Wildlife Svc.	19.5	
Office of the Secretary	12.3	
National Park Service	7.8	
Other Agencies	7.3	
Transportation	$291.4	13.2%
Federal Hwy. Admin.	109.3	
Federal Aviation Admin.	81.8	
Coast Guard	55.6	
Alaska Railroad	34.7	
Other Agencies	10.0	
Health & Human Services	$279.8	12.7%
Indian Health Svc. & Facilities	121.1	
Social Security Admin.	93.4	
Health Care Financing Admin.	39.9	
Office of the Secretary	14.8	
Other Agencies	6.9	
Labor	$82.3	3.7%
Employ. Training Admin.	77.0	
Other	5.3	
Agriculture	$81.3	3.7%
Forest Service	38.4	
Food & Nutrition Svc.	33.7	
Other Agencies	9.2	
Education	$71.6	3.3%
School Assist. Federally Affected Areas	48.9	
Educationally Deprived Children's Program	5.2	
Indian Education Grants	3.9	
Other Programs	13.6	
Postal Service	$55.0	2.5%
Commerce	$46.4	2.1%
Nat'l. Oceanic & Atmospheric Admin.	38.9	
Econ. Develop. Admin.	4.8	
Census Bureau	1.8	
Other Agencies	.9	
Veterans Admin.	$37.1	1.7%
Treasury	$34.9	1.6%
Other Departments	$112.0	5.1%
Total	$2,200.8	100.0%

*Expenditures of the Geological Survey were exceptionally large here in 1980 because that agency was carrying out a petroleum exploration program in the National Petroleum Reserve on the North Slope.

Source: Community Services Administration, *Geographic Distribution of Federal Funds in Alaska, 1980.*

provide services to Alaska Natives and maintain health service hospitals and clinics. The Social Security Administration spent about $93 million here in 1980, largely for payments to retired or disabled Alaskans.

Table 5

Federal[a] and Total Wages and Salaries in Alaska, by Census Division,[b] 1979
(in millions of dollars)

Census Division	Federal Wages & Salaries[a]	All Wages & Salaries	Federal as Percentage of Total
Aleutian Islands	$ 43.9	$ 86.8	51%
Anchorage	361.3	1,794.6	20
Angoon	.4	4.3	9
Barrow-North Slope	2.1	193.4	1
Bethel	10.1	39.7	25
Bristol Bay Borough	7.1	17.4	41
Bristol Bay	2.1	23.8	9
Cordova-McCarthy	2.1	25.2	8
Fairbanks	118.1	543.4	22
Haines	.7	8.0	9
Juneau	23.6	204.2	12
Kenai-Cook Inlet	3.7	154.5	2
Ketchikan	8.6	114.5	8
Kobuk	3.5	13.9	25
Kodiak	13.0	93.0	14
Kuskokwim	4.6	7.5	61
Matanuska-Susitna	2.9	56.8	5
Nome	6.8	35.3	19
Outer Ketchikan	2.3	9.1	25
Prince of Wales	.9	14.5	6
Seward	2.8	24.5	11
Sitka	15.9	86.1	18
Skagway-Yakutat	2.2	14.5	15
Southeast Fairbanks	19.1	31.5	61
Upper Yukon	.8	4.2	19
Valdez-Chitina-Whittier	1.9	49.0	4
Wade Hampton	3.2	7.5	43
Wrangell-Petersburg	4.8	46.0	10
Yukon-Koyukuk	17.9	61.0	29
Alaska	$686.4	$3,764.4	18%
U.S.			6%

[a]Includes both military and civilian payrolls.

[b]This table shows census divisions as they existed in 1979; in the 1980 census, the U.S. Bureau of the Census changed the boundaries of some divisions and reduced the total number of divisions from 29 to 23.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Local Area Personal Income, 1974-1979*, June 1981.

Together, the departments of Defense, Interior, Transportation, and Health and Human Services spent about 80 percent of all federal money expended here in 1980. The remaining 20 percent was divided among various departments, the chief of which were the departments of Labor, Education, and Agriculture.

Federal Wages and Jobs

In the preceding section we looked at overall federal spending in Alaska; in this section we focus on a single component of that federal spending—federal wages—and how those wages translate into federal jobs.

In 1979, the 41,200 federal civilian and military jobs in Alaska made up 22 percent of all jobs in the state, and federal wages accounted for 18 percent of all wages—a proportion three times larger than the national average. Federal jobs made up as little as 5 percent and as much as 60 percent of all jobs in various Alaska census divisions in 1979. From 1959 to 1979, federal jobs declined as a proportion of all jobs in Alaska, because numbers of military jobs here dropped while other jobs, particularly those in the support industries, increased significantly.

Table 5 shows federal wages as a proportion of total wages in Alaska and in each of its census divisions in 1979, the most recent year for which we have such breakdowns by census division. Table 6 shows how those wages translated into jobs.

In 1979, the federal government paid about $690 million in military and civilian wages to 17,742 civilian and 23,323 military employees in Alaska. Federal wages made up about 18 percent of all wages in the state that year, while federal jobs made up 22 percent of all jobs. The proportion of federal jobs to all jobs in the state is higher than the proportion of federal wages to all wages, because military wages are generally lower than civilian wages. As the table shows, federal wages made up only 6 percent of all wages nationwide in 1979.

More than 70 percent of the 41,265 federal jobs in Alaska in 1979 were concentrated in the vicinities of Anchorage and Fairbanks, where there are large military bases; Anchorage is also the state headquarters for most federal civilian operations. Federal civilian jobs in 1979 accounted for 13 percent of all civilian jobs in Anchorage and 11 percent of civilian jobs in Fairbanks.

In other Alaskan communities, with smaller populations and fewer jobs, the importance of federal jobs and wages varied greatly in 1979. Also, relative numbers of civilian and military jobs varied among

Table 6

Federal and Total Jobs in Alaska, by Census Division,[a] 1979

Census Divisions	Federal Jobs			Total Jobs		Federal Civilian as Percentage of all Civilian	All Federal Jobs as Percentage of Total Jobs
	Civilian[b]	Military	All Federal	Civilian	Civilian & Military		
Alaska	17,942	23,323	41,265	166,529	189,852	11%	22%
Aleutian Islands	704	2,175	2,879	3,317	5,492	21	52
Anchorage	9,758	11,862	21,620	77,565	89,427	13	24
Angoon	8	3	11	247	250	3	4
Barrow-North Slope	248	17	265	5,549	5,566	4	5
Bethel	411	15	426	3,459	3,474	12	12
Bristol Bay Borough	84	369	453	783	1,152	11	39
Bristol Bay	107	0	107	1,689	1,689	6	6
Cordova-McCarthy	37	54	91	1,137	1,191	3	8
Fairbanks	2,319	5,580	7,899	21,112	26,692	11	30
Haines	11	0	11	476	476	2	2
Juneau	1,177	275	1,452	10,450	10,725	11	14
Kenai-Cook Inlet	104	55	159	6,779	6,834	1	2
Ketchikan	265	188	453	5,317	5,505	5	8
Kobuk	248	17	265	1,364	1,381	18	19
Kodiak	286	892	1,178	4,831	5,723	6	20
Kuskokwim	78	55	133	504	559	15	24
Matanuska-Susitna	97	147	244	3,078	3,225	3	8
Nome	177	41	218	2,208	2,249	8	10
Outer Ketchikan	54	0	54	512	512	11	11
Prince of Wales	30	0	30	763	763	4	4
Seward	69	15	84	1,359	1,374	5	6
Sitka	596	193	789	3,934	4,127	15	19
Skagway-Yakutat	68	12	80	1,105	1,117	6	7
Southeast Fairbanks	335	849	1,184	1,130	1,979	30	60
Upper Yukon	35	28	63	386	414	9	15
Valdez-Chitina-Whittier	46	42	88	2,180	2,222	2	4
Wade Hampton	134	13	147	872	885	15	17
Wrangell-Petersburg	199	14	213	2,347	2,361	8	9
Yukon-Koyukuk	257	412	669	2,076	2,488	12	27

[a]See note b, Table 5.

[b]Federal civilian jobs here include both military-related and other federal civilian jobs.

Sources: Alaska Department of Labor, *Statistical Quarterly*, 1978; and *Alaska Population Overview*, December 1979.

census divisions. In some census divisions virtually all federal employees were military personnel, and in others they were mainly civilian workers. In Angoon and Haines in southeastern Alaska, and on the North Slope, federal jobs made up less than 5 percent of all jobs. Conversely, in the Aleutians, in the Bristol Bay Borough, and in the Southeast Fairbanks census division (which includes Glennallen, Delta Junction, and other communities southeast of Fairbanks), federal civilian and military jobs made up 30 to 60 percent of all jobs.

Table 7 shows numbers of federal jobs in Alaska from 1950 through 1979. The table breaks all jobs into basic and support jobs, and shows federal jobs as a proportion of all jobs and of just basic jobs. Basic jobs are, as the name implies, the foundation of the economy—jobs in industries that produce exportable commodities. Basic industries in Alaska include fishing, logging, farming, mining (including petroleum development), manufacturing, tourism, and some construction and transportation.[6] We also consider federal government jobs in Alaska as basic jobs. Al-

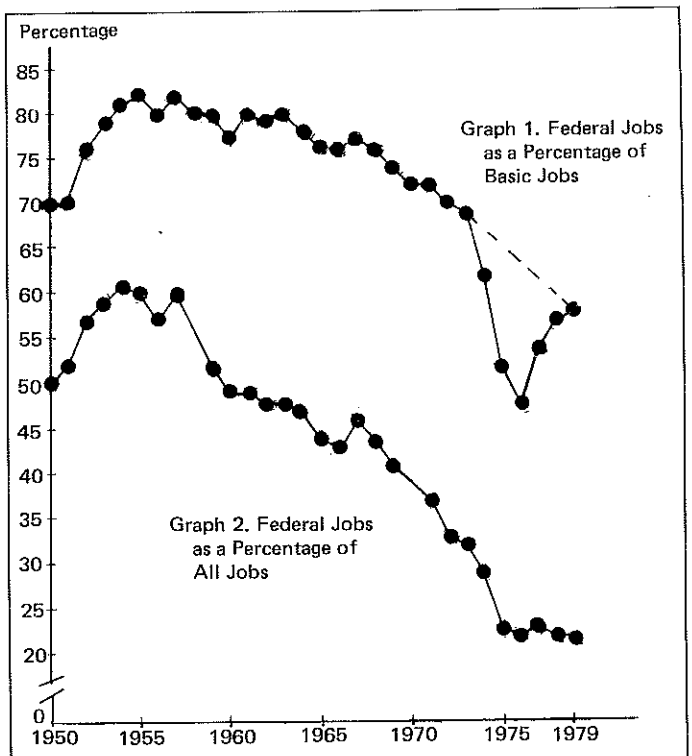
[6]See note b, Table 7.

though the federal government produces no commodities as such, it produces services that are "exportable" in the sense that they generally benefit all Americans.

Support jobs, on the other hand, provide services to local residents rather than produce commodities for export. Support industries here include retail and wholesale trade, finance, real estate, services, utilities, transportation, and insurance. We also classify state and local government jobs as support jobs, because they provide services only to Alaskans.

As Table 7 shows, federal military and civilian jobs made up more than 70 percent of all basic jobs in Alaska in 1950, and 80 percent of basic jobs when Alaska became a state in 1959. By 1979, federal jobs as a proportion of basic jobs had declined, but still constituted half of the basic jobs in the state.

From 1959 through 1979, federal jobs as a proportion of all jobs—both basic and support—declined more rapidly, from about 50 percent to 22 percent. This decline occurred because: (1) there were fewer federal jobs in Alaska in 1979 than there had been in 1959, and (2) other kinds of jobs in the state, particularly support jobs, increased significantly during that same period. Numbers of military personnel assigned to Alaska peaked at about 50,000 during the Korean War in the early 1950s; by the time Alaska had become a state in 1959, they had declined to 34,000. By 1979, total military personnel in Alaska had fallen to 23,000. Federal civilian employees, on the other hand, increased somewhat between 1959 and 1979, growing from about 17,000 to 18,000. This increase in federal civilian jobs in Alaska did not, however, offset the decline in military jobs, so that between 1959 and 1979 total federal jobs in Alaska dropped from nearly 51,000 to 41,000—a decline of 20 percent.



Note: The sharp dip in federal jobs as a proportion of all basic jobs in the mid-1970s occurred because thousands of temporary basic jobs were created during construction of the trans-Alaska pipeline. The dotted line in Graph 1 shows what the trend of federal jobs to all basic jobs in Alaska would have looked like in the mid-1970s if the effects of pipeline construction jobs were excluded.

Figure 1. Federal Jobs as a Percentage of Basic Jobs and of All Jobs in Alaska, 1950-1979

During the period when federal jobs here were declining, other kinds of jobs were on the increase. Basic jobs other than federal jobs more than doubled between 1959 and 1979, growing from 12,500 to more than 29,000. But support jobs grew at a much faster rate than basic jobs. Over that 20-year period, support jobs in Alaska grew from less than 34,000 to more than 119,000—an increase of 250 percent.

Figure 1 graphically shows the decline in the relative importance of federal jobs to basic jobs and to all jobs in Alaska between 1950 and 1979.

Graph 1 of the figure shows the changing proportion of federal jobs to basic jobs. Federal jobs as a proportion of basic jobs peaked at more than 80 percent in the 1950s, then gradually declined to about 70 percent by 1973. Between 1973 and 1976, the proportion dropped to less than 50 percent. By 1979, it once again increased to nearly 60 percent. The federal share of basic jobs dropped off sharply in the mid-70s because construction of the trans-Alaska pipeline created thousands of temporary construction jobs in the state. After the pipeline was completed, the overall number of basic jobs decreased and federal jobs as a percentage of basic jobs again increased.

Graph 2 in Figure 1 shows the changing proportion of federal jobs to all jobs—both basic and support—in Alaska from 1950 to 1979. We can see that the decline in the federal share of all jobs was much greater during that period than was the decline in the proportion of federal jobs to just basic jobs. As far back as 1967, when federal jobs made up 45 percent of all jobs in the state, the federal government's share began a sharp decline that continued until 1976, and then essentially leveled off in the late 1970s. By 1979, federal jobs made up only about 22 percent of all jobs here.

Federal Transfer Payments

In this section, we look closely at another part of federal spending in Alaska: transfer payments that

Table 7

Total and Federal Jobs in Alaska, 1950-1979
(in thousands)

Year	Basic Jobs[a]					Support Jobs[c]	Basic & Support Jobs	Federal Jobs as % of Basic Jobs	Federal Jobs as % of Total Jobs
	Federal								
	Civilian	Military	All Federal	Other Basic[b]	All Basic				
1979	17.9	23.3	41.2	29.4	70.6	119.1	189.7	58%	22%
1978	18.1	22.5	40.6	30.1	70.7	115.1	185.8	57	22
1977	17.7	25.0	42.7	36.0	78.7	110.4	189.1	54	23
1976	17.9	25.0	42.9	45.7	88.6	107.5	196.1	48	22
1975	18.3	24.9	43.2	40.3	83.5	102.7	186.2	52	23
1974	18.0	27.5	45.5	27.7	73.2	82.5	155.7	62	29
1973	17.1	27.5	44.6	20.2	64.8	72.7	137.5	69	32
1972	17.2	26.4	43.6	18.9	62.5	68.1	130.6	70	33
1971	17.3	30.1	47.4	18.5	65.9	62.3	128.4	72.	37
1970	17.1	31.4	48.5	18.6	67.1	57.4	124.5	72	39
1969	16.5	32.3	48.8	17.4	66.2	52.7	118.9	74	41
1968	16.9	32.6	49.5	15.5	65.0	47.4	112.4	76	44
1967	17.4	33.7	51.1	14.8	65.9	44.6	110.5	77	46
1966	17.5	31.0	48.5	15.7	64.2	49.0	113.2	76	43
1965	17.4	33.0	50.4	15.6	66.0	48.0	114.0	76	44
1964	17.2	35.0	52.2	14.5	66.7	43.8	110.5	78	47
1963	16.6	34.0	50.6	13.0	63.6	42.1	105.7	80	48
1962	15.7	33.0	48.7	12.6	61.3	40.3	101.6	79	48
1961	15.6	33.0	48.6	12.5	61.1	38.9	100.0	80	49
1960	15.6	33.0	48.6	14.9	63.5	36.6	100.1	77	49
1959	16.8	34.0	50.8	12.5	63.3	33.6	96.9	80	52
1958	16.8	35.0	51.8	13.0	64.8	31.1	95.9	80	54
1957	17.4	48.0	65.4	13.9	79.3	30.6	109.9	82	60
1956	16.3	45.0	61.3	15.6	76.9	30.0	106.9	80	57
1955	15.7	50.0	65.7	14.8	80.5	28.3	108.8	82	60
1954	15.7	49.0	64.7	15.1	79.8	26.4	106.2	81	61
1953	15.9	50.0	65.9	17.9	83.8	27.1	110.9	79	59
1952	14.5	50.0	64.5	20.7	85.2	27.0	112.2	76	57
1951	13.9	38.0	51.9	21.9	73.8	25.9	99.7	70	52
1950	13.6	26.0	39.6	17.0	56.6	21.9	78.5	70	50

[a]Basic industries are generally those which produce exportable commodities that drive the economy; these industries include agriculture, forestry, mining (including petroleum development), manufacturing, fishing, tourism, and some elements of construction. We also consider federal civilian and military jobs as basic jobs. Although the federal government does not produce any commodities as such, federal activities produce services for all Americans.

[b]Numbers of basic jobs other than federal jobs shown in this table are estimates which do not include jobs in fishing and tourism, because little historical information exists on numbers of jobs in those two industries. Because jobs in tourism and fishing are not included here, the importance of federal jobs to total basic jobs may be somewhat overstated. However, we have included all construction jobs as basic jobs here, when in fact some construction jobs are support jobs. Thus, the exclusion of fishing and tourism jobs and the inclusion of all construction jobs tend to balance each other, and the pattern of growth in numbers of "other basic jobs" as shown in column 4 is accurate.

[c]Support industries are generally those which do not produce commodities but rather provide goods and services to Alaskans. Support jobs include jobs in retail and wholesale trade, real estate, services, utilities, finance, insurance, and in state and local government. Unlike federal jobs, which are considered basic jobs, state and local government jobs are support jobs because state and local governments provide services just to Alaskans.

Sources: Scott Goldsmith and Lee Huskey, Institute of Social and Economic Research, "Structural Change in the Alaskan Economy: The Alyeska Experience," paper presented at 29th Alaska Science Conference; and Man in the Arctic Program (MAP) model data base.

the federal government makes directly to Alaskans and contributions it makes to state-administered transfer programs.

Federal transfer payments in Alaska totaled $242 million in 1980, with payments to retired persons covered under federal pension plans accounting for roughly half of that total; by far the largest single transfer program in Alaska in 1980 was the Social Security program. Federal contributions to state-operated welfare programs made up one-quarter of total federal transfers in 1980. The importance of federal transfer payments to per capita income varied substantially among the state's census divisions in 1979, making up as little as 4 percent and as much as 30 percent of per capita income in different regions of the state.

Transfer programs are primarily programs under which the federal or state governments make direct payments to individuals, for a variety of reasons. Most such direct federal transfer payments are of two kinds: (1) payments to retired persons covered under federal pension programs , and (2) payments to aged or disabled persons qualified to receive federal help in paying medical or other costs. The federal government also contributes to state-operated welfare programs for poor individuals or families.

Table 8 shows direct federal transfer programs in Alaska in 1980, and state-operated programs to which the federal government contributed. Federal transfer payments totalled $242 million in Alaska in 1980, or about 11 percent of all federal spending here.

By far the largest direct federal transfer program in Alaska in 1980 was the Social Security program, under which retired or disabled Alaskans collected about $74 million. Retired military persons collected $34 million in retirement pay, and retired federal workers collected about $10 million.

Veterans entitled to federal help in paying medical and other costs received about $29 million in Alaska in 1980, while older Alaskans collected about $17 million for medical costs under the Medicare program. Alaska Natives were paid almost $14 million under the Indian General Assistance program .

The federal government also contributed about

Table 8

Transfer Programs with Federal Funding in Alaska, FY 1980

Programs	Amount (in millions of dollars)
Direct Federal Transfer Programs[a]	
Social Security	$73.9
Military retired pay	34.4
Veterans benefits	28.6
Medicare	17.1
Indian General Assistance	13.9
Federal Employee Unemployment & Compensation	10.2
All Direct Transfers	$178.1
Federal Contributions to State-Administered Programs[b]	
Food Stamp Program	$ 25.6
Medicaid	22.4
Aid to Families with Dependent Children (AFDC)	15.7
All Federal Contributions	$ 63.7
Total Direct Federal Transfers and Federal Contributions to State-Administered Programs	$241.8

[a]Transfer programs under which the federal government itself makes payments to individuals.

[b]Transfer programs administered by the state but funded jointly by the state and federal governments.

Source: Community Services Administration, *Geographic Distribution of Federal Funds in Alaska, 1980.*

$64 million to three state-operated welfare programs in 1980. Two of these state-operated programs which we have classified as "transfer" programs do not in fact involve direct payments to individuals. Under the Food Stamp program, qualified Alaskans can buy food stamps, which they in turn can use to buy groceries worth more than they paid for the stamps. Under the Medicaid program, the federal and state governments pay medical costs of poor Alaskans. Still, although these two programs do not put money directly into pockets of Alaskans, as do other transfer programs, we include them in Table 8 because the programs do increase purchasing power of recipients.

The state-operated program that received the most federal money in 1980 was the Food Stamp program, to which the federal government contributed nearly $26 million. The federal government also paid $22 million to the Medicaid program that year and roughly $16 million to the AFDC program. The State of Alaska pays half the costs of the Medicaid and AFDC programs, and only the administrative costs of the Food Stamp program.

Table 9 shows per capita federal transfer payments as a proportion of total per capita income in the various census divisions of Alaska in 1979, the most recent year for which we have such information. Federal transfer payments shown in column 2 of the table include both direct federal payments to individuals and federal contributions to state-operated programs. Column 3 shows combined federal and state per capita transfers in 1979. In addition to transfer programs that the state funds jointly with the federal government, Alaska funds several of its own transfer programs, including the pension program for retired state workers, longevity bonus payments to persons who have lived in Alaska for at least 25 years, general assistance payments to low-income persons, and supplements to the federal Supplemental Security Income program. A comparison of columns 2 and 3 of Table 9 shows us that federal transfers made up about 60 percent of all transfers statewide in 1979. In some census divisions federal transfers made up 75 percent of all transfers, and in no census division did federal transfers make up less than half of all transfers.

Federal transfers made up about 5 percent of the state's 1979 per capita income of $11,152. The importance of federal transfers to per capita income varied greatly around the state that year. In Anchorage, Fairbanks, and Juneau, which had per capita incomes higher than the state average, federal transfers made up less than 5 percent of per capita income. In areas of the state where per capita incomes were near the state average, federal transfers generally made up between 5 and 10 percent of per capita income in 1979.

It was in the census divisions with the lowest per capita incomes that federal transfers were most important in 1979. In these poorer areas of the state, federal transfers made up 20 to 30 percent of per capita income. The Wade Hampton census division in western Alaska had the state's lowest per capita income in 1979, and federal transfers made up 30 percent of its $2,730 per capita income. In three other census divisions with very low per capita incomes—Angoon in southeastern Alaska, Kobuk in western Alaska, and Kuskokwim in northwestern Alaska—federal transfers made up 20 percent of per capita income.

Federal Revenues From Alaska

In the previous section, we described federal spending in Alaska in 1980 and earlier years; in this section we examine the reverse: federal tax and other revenue collections from Alaska in 1980 and earlier.

Individual Alaskans paid about $1.3 billion in federal taxes and other levies in 1980, and overall economic activity in the state generated about $3.7 billion in federal revenues. The largest source of revenue generated by economic activity that year was the corporate income tax, which cost businesses operating in the state—primarily oil companies operating at Prudhoe Bay—nearly $2 billion. The largest source of revenues from individuals in 1980 was the personal income tax, which cost Alaskans $685 million that year.

Table 10 shows us that the federal government collected either $1.3 billion or $3.7 billion from Alaska in 1980, depending on which of two valid methods we use to calculate revenues.[7] These two methods of calculating revenues from Alaska essentially measure (1) federal taxes paid directly and indirectly by individual Alaskans and (2) federal taxes generated by economic activity in the state, including taxes paid both by Alaskans and by businesses operating in the state. Both these methods in some sense measure federal revenues "from Alaska." The first shows the federal tax burden on Alaskans themselves, while the second shows the importance of economic activity in Alaska—chiefly production of oil at Prudhoe Bay—to the federal treasury.

[7]There is in fact a third measure of federal revenues from Alaska; the Internal Revenue Service annually reports on tax collections by state. These reports, however, show only where the taxes are collected—which would in many cases be different from where the tax liability was actually incurred. Therefore, we do not believe these IRS reports accurately show federal revenues generated in Alaska.

Table 9

Alaska Per Capita Income and Transfer Payments, by Census Division.* 1979
(in dollars)

Census Division	Per Capita Income	Federal per Capita Transfers	Total (Federal & State) per Capita Transfers	Federal Transfers as Percentage of per Capita Income
Aleutian Islands	$10,793	$1,038	$1,180	10%
Anchorage	12,200	456	769	4
Angoon	5,491	1,055	1,493	19
Barrow–North Slope	10,018	533	827	5
Bethel	5,772	779	1,122	13
Bristol Bay Borough	12,737	892	1,236	7
Bristol Bay	5,973	715	1,028	12
Cordova–McCarthy	11,042	521	875	5
Fairbanks	12,308	461	918	4
Haines	7,364	776	1,204	10
Juneau	14,605	611	1,148	4
Kenai–Cook Inlet	8,868	354	702	4
Ketchikan	14,003	722	1,191	5
Kobuk	4,760	923	1,383	19
Kodiak	9,615	471	747	5
Kuskokwim	3,929	929	1,309	24
Matanuska–Susitna	8,878	509	1,057	6
Nome	7,223	884	1,289	12
Outer Ketchikan	8,420	952	1,371	11
Prince of Wales	8,699	486	819	6
Seward	11,408	753	1,213	7
Sitka	14,064	669	979	5
Skagway–Yakutat	8,584	718	1,115	8
Southeast Fairbanks	7,134	439	838	6
Upper Yukon	11,091	1,434	2,048	13
Valdez–Chitina–Whittier	9,145	720	1,176	8
Wade Hampton	2,737	816	1,070	30
Wrangell–Petersburg	12,263	735	1,156	6
Yukon–Koyukuk	12,422	913	1,338	7
Alaska	11,152	540	903	5

*See note b, Table 5.

Sources: Bureau of Economic Analysis, *Local Area Personal Income, 1974-1979*, Vol. 9, Far West Region, June 1981; Bureau of Economic Analysis, "Transfer Payments by Major Source," Regional Economic Information System computer printouts, April 1981.

The two yield such different results in Alaska today because the "economic activity" method includes very substantial federal taxes paid by oil companies operating at Prudhoe Bay. Until the mid-1970s, revenues measured under either method were similar because there was no large tax-generating economic activity in the state. Below we describe the two methods of revenue calculation in more detail.

Personal Incidence Method. Under this method of revenue calculation, only those federal taxes paid directly and indirectly by individual Alaskans are considered revenues from Alaska.

Alaskans—and other Americans—pay federal taxes directly and indirectly. Personal income taxes are direct taxes on individuals; what we pay is the amount we calculate on our federal tax returns. But federal business taxes also fall indirectly on individuals. The government collects various taxes directly from businesses, but businesses can shift the expense of taxes to: (1) their employees, by paying

lower wages than they would have in the absence of federal taxes,[8] or (2) to their customers, by charging more for goods than they would have if there had been no federal tax, or (3) to their stockholders, by paying lower dividends.[9]

Economists disagree about precisely how businesses pass on taxes to individuals; some economists believe all individuals ultimately bear business taxes, while others believe that business taxes are borne mainly by certain groups of individuals. Economists do agree that businesses in fact pass on their tax costs somehow.

The amount of federal taxes that individuals pay directly and indirectly is known as the "personal incidence" of taxes. To estimate federal taxes paid directly and indirectly by Alaskans in 1980—column 1 of Table 10—we had to make a number of assumptions about who ultimately pays federal business taxes. We believe these assumptions are reasonable; however, we emphasize that the resulting figures could have been somewhat different had we used different assumptions.[10]

Economic Activity Method. Under this method of revenue calculation, all federal revenues generated by economic activity in the state are considered revenues from Alaska. We make no attempt here to measure how business taxes are passed on to individuals; we estimate taxes that the federal government collects directly from Alaskans, from others who work in the state but live elsewhere, and from businesses operating in the state.

By far the largest sources of federal revenues from Alaska in 1980 were federal taxes on Prudhoe Bay oil. To estimate these corporate revenues, we had to make some assumptions about the size of the corporate tax base in Alaska. Essentially, we used the State of Alaska's 1980 definition of the corporate tax base. The state government at that time taxed the gross value of Prudhoe Bay crude oil at the point of production.[11] For example, if Prudhoe Bay oil was worth $20 per barrel when it entered the trans-Alaska pipeline, the state government considered that $20 as gross income generated in Alaska.

This definition of the corporate tax base implicitly assumed that all the activity associated with Prudhoe Bay oil production occurs in Alaska. However, the companies producing that oil have operations in many states, and some of the activity that has made possible the discovery and development of the giant oil field in fact has occurred outside Alaska. For example, banks that loaned money to oil companies for petroleum exploration here were located outside the state, and some of the planning and engineering that goes into the continuing development of the Prudhoe Bay field takes place in oil company headquarters outside Alaska. Therefore, the oil companies have argued that part of the "economic activity" involved in producing Prudhoe Bay oil takes place outside the state, and thus part of their taxable income from that oil production is actually generated in other states. Partially in response to these arguments, the state government recently altered its definition of the corporate tax base here.[12]

Our findings, however, would not have been substantially different had we used a different definition of the corporate tax base; the overwhelming importance of petroleum revenues as a source of federal tax dollars here would be apparent in any case. We do want to emphasize, however, that our revenue estimates are more useful as indicators of the importance of Prudhoe Bay oil to federal tax coffers than as precise measures of federal petroleum revenues actually generated in Alaska.

Column 2 of Table 10 shows our estimates of various federal taxes generated by economic activity here in 1980.

Personal Incidence vs. Economic Activity. Column 1 of Table 10 shows us the federal tax burden

[8]Businesses can also shift tax costs to individuals other than employees who are involved in production.

[9]Businesses could also pass federal taxes on to state and local governments, if they could offset an increase in federal taxes by a reduction in state and local taxes. However, the state and local governments would in turn recoup lost revenues by raising taxes for some group of citizens, and thus the incidence of the federal tax would again ultimately fall on taxpayers as individuals.

[10]In general, we used the same assumptions that are used by the Tax Foundation, Inc., a nonprofit organization that publishes information on federal revenues and other aspects of government finance. See Appendix E of *Federal Revenues and Spending in Alaska* for a discussion of these assumptions.

[11]In 1980, the State of Alaska defined gross taxable corporate

(Footnote 11 continued)
income of petroleum companies operating in Alaska as the value of oil at the point of production. Adjustments we made to the state corporate tax base include allowances for accelerated depreciation, state oil and gas income tax payments, and others. See Appendix C of *Federal Revenues and Spending in Alaska* for a complete listing of these adjustments. The state also taxes income Alyeska Pipeline Service Company receives for transporting oil through the trans-Alaska pipeline, and other kinds of petroleum-related income.

[12]For state tax purposes, a number of state governments are party to the Multistate Tax Compact, which allocates "economic activity" of multi-state corporations among the various states in which they operate through a three-part formula. This formula allocates taxable income of a given corporation among various states based on proportions of total company payroll, property, and sales in each state. The State of Alaska now uses a modified allocation formula based on property, sales, and extraction to determine taxable petroleum income here.

Table 10

Federal Revenues from Alaska, FY 1980
(in millions of dollars)

	Personal Incidence[a]	Economic Activity[a]
Tax Revenues		
Individual Income	685.3	729.6
Social Security	345.3	471.6
Corporate Income	119.5	1,899.8
Excise[b]	42.7	12.7
Windfall Profits	8.3	461.6
Estate and Gift	2.3	2.3
Total Tax Revenues	$1,203.4	$3,577.6
Non-Tax Revenues		
Customs Duties	17.4	17.4
Alaska Railroad & U.S. Postal Service[c]	62.7	62.7
Resource Revenues[d]	40.5	40.5
Other Revenues	11.4	11.4
Total Non-Tax Revenues	132.0	132.0
Total Revenues	$1,335.4	$3,709.5

[a]See text for explanation of these two methods of calculating revenues from Alaska.

[b]Includes all excise taxes except the windfall profits tax on oil. Excise taxes are taxes on commodities, including gasoline, tobacco products, and alcoholic beverages.

[c]The federal government collected about $63 million in revenues from the Alaska Railroad and U.S. Postal Service here in 1980, but spent about $90 million to finance operations of those two entities that year.

[d]Revenues from sale of timber and other resources on federal land in Alaska; does not include revenues from Outer Continental Shelf lease sales off Alaska's coast.

on individual Alaskans in 1980, while column 2 shows dollars that flowed into the federal treasury as a result of economic activity in the state that year. The largest differences in revenues calculated under each method are in the corporate income tax category, so to illustrate the difference between the two methods, we will briefly describe how we arrived at the corporate income tax figures in each column of Table 10.

We estimate that individual Alaskans indirectly paid about $119 million in federal corporate income taxes in 1980. If all corporations nationwide in 1980 passed on all their corporate tax costs to individual Americans, then individual Alaskans—as consumers, employees of corporations, or stockholders—bore some portion of that national corporate tax bill.

Alaskans' share of that tax bill is based primarily on the state's population, personal income, and other factors reflecting the relative national importance of Alaskans as stockholders, consumers, and employees. The total corporate income tax the federal government collected in 1980 was $64.6 billion. Thus, we can see that Alaskans' indirect share was about 0.2 of 1 percent of the national corporate tax bill in 1980.

Under the "economic activity" method of calculating revenues, we estimate that the federal government took in about $1.9 billion from businesses operating in Alaska in 1980. Most of this corporate income tax was paid by companies engaged in extracting oil at Prudhoe Bay.

Thus, in summary, the $119 million shown in column 1 of Table 10 represents individual Alaskans' indirect share of corporate income taxes that businesses passed on to individuals nationwide, and the $1.9 billion in column 2 is the estimated amount the federal government collected from businesses as a result of operations in Alaska in 1980.

Table 10 shows that under the "personal incidence" method of calculating revenues from Alaska in 1980, the largest source of federal tax was the personal income tax, which netted the government about $685 million that year. Social Security taxes on

wages cost Alaskans another $345 million. As we noted above, we estimate that Alaskans indirectly paid about $119 million in corporate taxes in 1980. Excise taxes—taxes on gasoline, alcohol, and other products—cost Alaskans about $43 million in 1980; Alaskans' share of the windfall profits tax on oil totalled about $2 million.

Tables 10 and 11 provide two breakdowns of federal revenues generated by economic activity in Alaska in 1980. Column 2 of Table 10 breaks out revenues by tax category, while Table 11 divides revenues into petroleum and nonpetroleum revenues.

As we noted above, the largest source of federal tax dollars from economic activity in Alaska in 1980 was the corporate income tax, which cost businesses operating in the state $1.9 billion. As Table 11 shows, the petroleum industry paid nearly all—$1.8 billion—of that corporate income tax, with other businesses paying about $110 million. The windfall profits tax on oil netted the federal government an additional $460 million here in 1980; this tax was in effect for only the last half of the year. Economic activity in the state generated about $730 million in personal income taxes in 1980.[13]

About 63 percent of the $3.6 billion in tax revenues generated by economic activity here in 1980 were petroleum revenues, with other kinds of taxes accounting for 37 percent of the total.

[13]Our estimate of personal income taxes the federal government collected as a result of economic activity in the state is higher than our estimate of income taxes paid by individual Alaskans, because the "economic activity" figures also include income taxes paid by those who worked in the state in 1980 but lived elsewhere.

Table 11

Federal Petroleum and Non-Petroleum Tax Revenues* from Alaska, FY 1980

Type of Revenue	Amount (in millions of dollars)	Percentage of Total
Petroleum Revenues		
Corporate Income	$1,790.0	50%
Windfall Profits	461.6	13
Total Petroleum	$2,251.6	63%
Non-Petroleum Revenues		
Corporate Income	$ 109.7	3%
Other	1,216.3	34
Total Non-Petroleum	$1,326.0	37%
Total Tax Revenues	$3,577.6	100%

*Based on economic activity method of calculation.

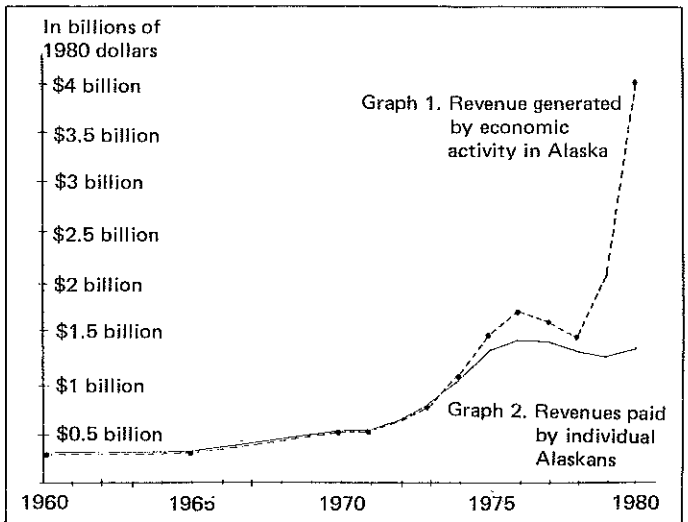


Figure 2. Federal Revenues from Alaska, 1960–1980
(in billions of 1980 dollars)

Other kinds of revenues—non-tax revenues—totalled about $132 million here in 1980. These non-tax revenues make up a small portion of total revenues, and it is very difficult to calculate their relative levels using the "personal incidence" and "economic activity" methods. Therefore, we have assumed that levels of these revenues would be the same under either method of calculation. The largest source of revenues under this category in 1980 was the $63 million that the federal government collected from operation of the U.S. Postal Service and the Alaska Railroad. Sale of timber and other resources on federal lands in Alaska in 1980 brought the federal government about $40 million, and customs duties and other miscellaneous revenues netted about $30 million here that year.

Figure 2 shows real changes in federal revenue collections from Alaska between 1960 and 1980, as measured under both the personal incidence and economic activity methods of calculation. "Real" change is change minus the effects of inflation. To measure real change in federal revenues from Alaska, we converted all dollars to 1980 dollars.

The figure shows that from 1960 until the start of pipeline construction in 1974, revenues calculated under both methods were roughly equal; there was essentially no large tax-generating activity in the state. Then, in the mid-1970s, construction of the trans-Alaska pipeline began pushing revenues from economic activity higher than those from individual Alaskans. But the gap between the two did not widen sharply until oil production started at Prudhoe Bay in mid-1977 and the federal government began collect-

ing substantial taxes on that production. By 1980, revenues from economic activity in the state were three times higher than those paid by individual Alaskans.

Effects of the Progressive Federal Income Tax

A hypothetical family of four in Anchorage would have paid about 16.5 percent of its income in federal personal income taxes in 1980, while the same family with equal buying power in the average U.S. city would have paid about 13 percent. This disproportionate federal tax burden on Alaskans is a result of the progressive federal income tax system, which taxes Alaskans' nominally higher incomes at a higher rate, without regard for the higher living costs that accompany those incomes. This progressive federal tax not only drives up living costs of individual Alaskans but also affects the entire state economy by increasing wages and thus the costs of doing business.

In discussing revenues from Alaska in 1980, we looked at the incidence of various federal taxes on individual Alaskans; if we calculated federal taxes paid by residents of other states, we would generally see little difference among these states in the incidence of such taxes. Most federal taxes are shared equitably by all Americans, whether they live in Alaska, Kansas, or New Hampshire. The *exception* to this rule is the personal income tax, which falls heavier on Alaskans than on other Americans.

Alaska has both the highest living costs and highest per capita incomes in the nation. Living costs are high for a number of reasons related to the state's isolation, vast size, harsh climate, and small population. As a result of these higher living costs, wages in Alaska are also higher: we need higher incomes to pay higher prices.

Under the federal income tax system, individuals pay ever-larger proportions of their incomes in taxes as those incomes increase. For example, an individual who earns $30,000 per year pays a larger percentage of that income in tax than does the individual who earns $20,000 per year. Alaskans are hard hit by this progressive tax structure, because the system fails to take into account the higher living costs that accompany the state's high incomes. Table 12 provides a hypothetical example of how this progressive tax system costs Alaskans proportionately more than other Americans, and further increases Alaska's already high living costs.

The table shows incomes that the federal Bureau of Labor Statistics estimated would be required for a hypothetical family of four in Anchorage and in the average U.S. city to maintain the same moderate standard of living in 1980. The bureau estimated the Anchorage family would need $29,700 to buy goods and services and pay taxes in 1980; the same family in the Lower 48 could buy the same standard of living and pay its tax bills with $23,100. Overall budget costs, then, were 28 percent higher in Anchorage.

The table breaks out federal tax costs and other living costs from the overall budget figures. Costs of food, housing, and other items—excluding federal taxes—were 23 percent higher in Anchorage than in the average U.S. city. Federal taxes, however, were a dramatic 60 percent higher for the Anchorage family

Table 12

Effects of Progressive Federal Income Tax on Alaska Cost of Living, 1980

	Anchorage	U.S. Urban Average	Ratio
Total budget costs, family of four at moderate standard of living[a]	$29,682	$23,134	1.28
Budget costs, excluding federal income taxes	24,833	20,119	1.23
Federal income taxes[b]	4,849	3,015	1.60
Taxes as percentage of total budget costs	16.3%	13.0%	
Anchorage taxes at U.S. urban average rate	$3,859		
Excess Anchorage Taxes	$ 990[c]		

[a]Budget figures from the U.S. Bureau of Labor Statistics, *Autumn 1980 Family Budgets and Comparative Indexes for Selected Urban Areas.*

[b]Calculated on the basis of a joint return with four exemptions, using the standard deduction.

[c]$4,849 (Anchorage taxes at 16.3% rate) minus $3,859 (Anchorage taxes at 13% rate).

Note: The progressive federal income tax in fact increases overall living costs of this hypothetical family by more than simply the $990 in excess taxes shown in this table. As discussed in the text, the progressive federal tax system has driven up wages in Alaska, and as wages increase so do costs of goods and services. Thus, if the excess federal tax burden on Alaskans were eliminated, we would anticipate that wages and thus also overall living costs would decline somewhat.

than for the average U.S. family—because the Anchorage family's nominally higher income was taxed at a higher rate, even though the family in both locations had equal buying power.

The hypothetical Anchorage family paid $4,850 in federal income taxes in 1980, or 16.3 percent of total budget costs. The same family at the same standard of living in the average U.S. city paid $3,015, or 13 percent of total budget costs.

We can readily see the effect that this progressive tax system has on Alaska's cost of living: while all budget costs aside from federal taxes were 23 percent higher in Anchorage, costs of federal taxes combined with all other budget items were 28 percent higher than U.S. average costs. If, on the other hand, the family with equivalent buying power in Anchorage and in the average U.S. city had been taxed at the same rate of 13 percent, the Anchorage family's tax bill would have been about $3,860, or $1,000 less, in 1980. Looked at in a slightly different way, the excess tax burden on the Anchorage family—that portion of federal taxes the Anchorage family paid solely because it had a higher nominal income—was about $1,000 in 1980. If this excess federal tax had been eliminated, the Anchorage family's overall costs of living would also have been reduced.

This progressive federal income tax, however, has much broader effects than those on individual Alaskans. We believe that wages in Alaska have been driven higher to compensate for these high federal taxes—that part of the difference between Alaskan wages and average U.S. wages is due to the federal tax system. These increased wages have further increased the already high costs of doing business in Alaska. These high costs in turn have discouraged business activity, and thus the whole state economy has suffered as a result of the progressive federal income tax system. Stated another way, if the excess federal tax on Alaskans were eliminated, the entire state economy would benefit through reduced costs.

Tax Costs of Federal Grants

In every year since becoming a state, Alaska has received more in federal grants than it paid into the national grant budget; in 1980, Alaskans received roughly two grant dollars for every dollar they paid into the federal grant program.

Straightforward comparisons of overall federal spending and taxation in Alaska do not tell us how many dollars of federal benefits Alaskans received in exchange for the dollars they paid in taxes. As we noted earlier, most of the money the federal government spends in Alaska—and in all other states—in any given year is for federal operations. In 1980, about 80 percent of the money the federal government spent nationwide was for operations and about 20 percent for grants. Federal operational spending benefits all Americans, regardless of where the money is spent. An obvious example of federal operational spending in Alaska that benefits all Americans is defense spending. These expenses do, of course, also benefit Alaskans by bringing money into the economy and creating jobs, as we will discuss in detail in the next section. Still, it is not valid to say that in 1980 Alaskans received $2.2 billion federal dollars in exchange for the $1.2 billion tax dollars that individual Alaskans paid.

A much better measure of dollars paid versus dollars received is the federal grant dollars we receive as compared with tax dollars we contribute to the national grant program. Unlike operational expenses, federal grants do more narrowly benefit residents of the geographic region in which the dollars are spent.

The Tax Foundation has determined that each state, based on population, income, and other factors, pays some portion of the overall federal grant costs. Table 13 shows how much Alaskans and residents of other states paid into the federal grants program in exchange for each grant dollar they received in 1980. These contributions to the grants program are determined under the "personal incidence" method of measuring tax collections. The table shows that Alaska in 1980 was among the states paying the least for every grant dollar received. Alaska paid about 52 cents for each grant dollar received. Washington, D.C. paid proportionately the least into the federal grants program, contributing only 32 cents for each grant dollar spent in the nation's capital.

Residents of Texas and Connecticut, on the other hand, paid more into the grants program than they received. Texas, for example, paid $1.40 into the grant program in exchange for every $1.00 it received in 1980.

Table 14 shows how much Alaskans have paid into the grants program in exchange for grants received since 1960. When Alaska became a state, Alaskans paid only 16 cents into the grants program for every grant dollar the state received. The relative amount paid by Alaskans increased each year until 1979, when Alaskans paid 61 cents for every federal grant dollar received; this proportion fell to 52 cents for every dollar in 1980.

Thus, in every year since Alaska joined the union, Alaskans have paid less into the grants program than they received in federal grants. In 1980,

Table 13

States with Highest and Lowest Tax Burdens for Federal Grants Received, FY 1980

States	Amount Paid into Grant Program for Each Grant Dollar Received
Highest	
Texas	$1.40
Connecticut	1.35
Indiana	1.34
Ohio	1.27
Florida	1.23
Lowest	
Mississippi	.53
Alaska	.52
South Dakota	.48
Vermont	.45
Washington, D.C.	.32

Note: Approximately 20 percent of the federal budget in fiscal 1980 was spent for grant programs nationwide. The Tax Foundation has determined that each state, on the basis of population and other factors, pays some portion of the costs of federal grant programs. This table shows how much Alaska and other states paid into the grants program for each dollar of grants received; for example, Alaska paid 52 cents into the grants program for each $1 it received in grants, while Texas paid $1.40 for each $1 of grant money it received in 1980. These relative tax burdens are calculated on the basis of personal incidence of taxes on residents of each state.

Source: Tax Foundation, Inc.

Alaskans essentially received twice as much in federal grants as they paid into the grants program.

Generally, states with large land areas and small populations tend to receive higher than average grants. In Alaska, other factors have also historically increased the state's share of grant money. Much of the federal grant money that the state and local governments here have received over the years has been for development of infrastructure (roads and harbors, for example) that did not exist when Alaska became a state. Also, the federal government owns much of the land in Alaska, and this land as well as federal facilities are exempt from local taxation; some federal grants are made to compensate local jurisdictions for foregone taxes.

This comparison of tax dollars that Alaskans pay into the federal grant program and grant dollars the state receives is one measure of how the federal government benefits and costs Alaskans. As we discuss in the Conclusions section, there are much broader benefits and costs that cannot be measured in such a dollar comparison.

Employment Effects of Federal Spending and Revenue Collection

Here we look first at numbers of state and local government jobs supported by federal grants between 1965 and 1979, and at how those jobs as a proportion of total state and local government jobs changed during that period. We then discuss overall numbers of jobs created and lost in Alaska in 1980 as a result of federal spending and taxation.

Federal grants supported an estimated 5,500

Table 14

Alaska's Tax Burden for Federal Grants Received, FY 1960-1980

Fiscal Year	Amount Paid into Grant Program for Each Grant Dollar Received
1980	$0.52
1979	.61
1978	.64
1977	.61
1976	.55
1975	.42
1974	.36
1973	.38
1972	.34
1971	.33
1970	.33
1969	.28
1968	.25
1967	.21
1966	.12
1965	.15
1964	.11
1963	.20
1962	.19
1961	.17
1960	.16

Note: See note on Table 13 for explanation of how these figures are calculated.

Source: Tax Foundation, Inc.

state and local government jobs in Alaska in 1979, or about 15 percent of all state and local government jobs. As recently as 1965, federal grants supported nearly 40 percent of all state and local government jobs. Overall federal spending directly and indirectly created 71,700 jobs in Alaska in 1980, while federal taxation indirectly cost the state about 23,000 jobs. Thus, on balance, federal spending created 48,700 more jobs here in 1980 than federal taxation cost the state.

State and Local Government Jobs Funded by Federal Grants

Table 15 shows federal grants to the state and local governments in Alaska between 1965 and 1979, and numbers of jobs that this grant money supported. The first five columns of the table show the size of the state general fund, federal grants to that fund, federal grants as a proportion of the general fund, total state government jobs, and numbers of state government jobs supported by federal grants.

Between 1965 and 1979, state general fund expenditures (excluding transfers to local governments) grew from $131 million to $866 million—an increase of more than 500 percent. During the same period, federal grants to the state general fund increased about 160 percent, growing from $84 million to $220 million. Thus, while both the size of the general fund and the level of federal grants to that fund increased between 1965 and 1979, the general fund grew much faster. As a result, federal grants as a proportion of the state general fund dropped sharply during those 15 years, decreasing from about 63 percent of all general fund monies in 1965 to 25 percent in 1979.

Numbers of state jobs supported by federal grants declined slightly between 1965 and 1979, dropping from about 4,400 in 1965 to 3,800 in 1979.[14] Several factors probably contributed to this relatively small change in numbers of state jobs supported by federal grants. First, although nominal federal grant dollars contributed to the general fund increased between 1965 and 1979, consumer prices more than doubled during the 15-year period. Thus, much of the apparent increase in grant dollars simply resulted from rising prices. Also, there was a real increase—an increase beyond that brought on by inflation—in government wages between 1965 and 1979.

The last five columns of Table 15 show local government expenditures in Alaska between 1965 and 1979, and federal grants as a proportion of those local expenditures. During that period, local government spending in Alaska increased more than tenfold, jumping from $61 million to $806 million. Federal grants to local government also increased sharply during those years, particularly the mid- and late 1970s. Federal grants to local governments increased from a modest $3 million in 1965 to $67 million in 1979. Federal grants as a proportion of all local expenditures increased from about 5 to 8 percent over that period, and numbers of local government jobs supported by federal grants increased from about 300 to 1,700.

Looking at combined numbers of state and local government jobs supported by federal grants—shown in the last column of Table 15—we see that in 1965 federal grants supported about 4,700 state and local government jobs, or nearly 40 percent of the total 12,200 state and local jobs. By 1979, federal grants supported about 5,500 state and local government jobs, or about 15 percent of the total 36,600 such jobs.

Overall, the importance of federal grants to the state general fund declined sharply between 1965 and 1979, while federal grants as a proportion of local government revenues increased slightly during that same period. However, in 1979 federal grants still made up a much larger proportion of state than local expenditures, accounting for 25 percent of the state general fund and only 8 percent of local government revenues. Likewise, numbers of state jobs supported by federal grants declined slightly between 1965 and 1979, while numbers of local jobs supported by federal grants increased. By 1979, however, federal grants still supported twice as many state as local government jobs.

Jobs Created and Lost Through Federal Spending and Taxation

Federal spending and taxation here affect Alaska's economy in a number of ways. In this section, we measure those spending and taxation effects through numbers of jobs created or lost as a result of federal activities here in 1980.

It is difficult to completely analyze the overall impact on the state's economy that would occur should the federal government suddenly cease to spend or collect money here. The federal government is such a large part of the state's economy that in the absence of federal activity the whole structure of the economy would change. The form such a massive change would take is impossible to predict; for example, to what extent would the state and local

[14] These are estimates of numbers of state and local government jobs supported by federal grants—derived by assuming that $1.00 of federal grant money supported state and local employment to the same extent as would $1.00 from any other source.

Table 15

Estimated Alaska State and Local Government Jobs Supported by Federal Grants, 1965–1979

STATE GOVERNMENT

Year	State General Fund Expenditures[a] (in million $)	Federal Grants to State Gen. Fund[b] (in million $)	Federal Grants as/% of State Expenditures	Total State Govt. Jobs[c] (in thousands)	State Jobs Supported by Federal Grants[d] (in thousands)
1979	$866	$220	25%	15.0	3.8
1978	769	233	30	14.3	4.3
1977	734	230	31	13.9	4.3
1976	640	241	38	14.1	5.4
1975	462	186	40	15.5	6.2
1974	391	141	36	14.2	5.1
1973	366	146	40	13.8	5.5
1972	327	124	38	13.3	5.1
1971	301	111	37	11.7	4.3
1970	197	77	39	10.4	4.1
1969	164	73	45	9.3	4.2
1968	149	62	42	8.7	3.7
1967	156	79	51	8.1	4.1
1966	127	69	74	7.7	4.2
1965	131	83	63	7.0	4.4

LOCAL GOVERNMENT

Year	Local Government Expenditures[e] (in million $)	Federal Grants to Local Government[e] (in million $)	Federal Grants as a Percentage of Local Expenditures	Total Local Government Jobs[c] (in thousands)	Local Jobs Supported by Federal Grants[d] (in thousands)	State & Local Govt. Jobs Supported by Federal Grants (in thousands)
1979	$806	$67	8%	21.6	1.7	5.5
1978	596	51	9	19.8	1.8	6.1
1977	539	38	7	17.2	1.2	5.5
1976	426	27	6	15.2	.9	7.1
1975	360	24	7	13.3	.9	7.1
1974	324	32	10	11.6	1.2	6.3
1973	286	15.	5	10.6	.5	6.0
1972	225	6	3	10.0	.3	5.4
1971	178	9	5	9.0	.5	4.8
1970	117	5	4	8.1	.3	4.4
1969	104	5	5	7.5	.4	4.6
1968	89	4	4	6.6	.3	4.0
1967	90	4	4	6.3	.3	4.4
1966	83	5	6	5.7	.3	4.5
1965	61	3	5	5.2	.3	4.7

[a]Excluding state General Fund transfers to local governments; based on Alaska Department of Administration, *Annual Financial Reports*, 1965-1979.

[b]U.S. Dept. of Commerce, *State Government Finances*, annual.

[c]Alaska Department of Labor, *Statistical Quarterly.*

[d]Federal grants as a percentage of state General Fund expenditures (excluding transfers to local government), multiplied by total state government employment.

[e]U.S. Department of Commerce, *Governmental Finances*, annual.

governments and private industries take over functions previously carried out by the federal government? What would be Alaska's relationship to the U.S. economy in such an instance? Because of these difficulties in predicting and analyzing structural change here in the absence of the federal government, we made simplifying assumptions in order to estimate effects of federal activities on Alaska's economy. Our primary assumption is that no entity would replace *any* of the spending or taxation activities of the federal government, should the federal government itself cease such activities.[15]

Federal spending in Alaska, by introducing money into the economy, creates jobs both directly and indirectly. Table 16 shows how the various categories of federal spending in Alaska created jobs in 1980. This federal spending included payrolls for federal civilian and military employees, grants to state and local governments and private entities, transfer payments to individuals, and loan guarantees and subsidies.[16]

Military and civilian payrolls of about $723 million paid for 41,200 federal jobs here in 1980. We estimate that these direct federal jobs in turn generated about 17,000 support jobs in private industry. To arrive at this estimate of private jobs indirectly created by federal jobs, we assumed that in general two federal jobs would create one private support job. However, about 2,400 federal jobs in 1980 were in military commissaries and post exchanges, which provide services that would otherwise be provided by private industry. Thus, to calculate numbers of support jobs created by federal jobs, we first subtracted commissary and post exchange jobs, which substitute for, rather than generate, private support jobs.

Another category of federal spending that directly and indirectly created jobs here in 1980 was federal grant spending. We estimate (as noted in the discussion of Table 15) that grants to state and local governments directly supported 5,500 state and local government jobs here in 1980 and that these jobs, as well as grant money that went to private organizations, generated in turn about 3,000 private support jobs.

Federal transfer payments to individuals indirectly create jobs, because individuals spend transfer money for goods and services. We estimate that in 1980 federal transfer payments (including both those the federal government made directly to individuals and federal contributions to state-operated transfer programs) indirectly created about 4,000 jobs in private industry here. We used a computer simulation model of Alaska's economy to arrive at this estimate.

Finally, loan guarantees and subsidies that the federal government provides also indirectly generate jobs in Alaska. Such guarantees and subsidies make loan activities here more profitable than they would otherwise be, thus stimulating economic activity—and increased economic activity creates jobs. We estimate that federal loan guarantees and subsidies indirectly generated about 1,000 jobs in private industry in Alaska in 1980.[17]

Overall then, federal spending in Alaska in 1980 directly and indirectly created 71,700 jobs here.

Just as federal spending creates jobs here by introducing money into the economy, federal taxation and other kinds of revenue collection cost the state jobs. Unlike federal spending, which creates jobs both directly and indirectly, federal collections do not directly eliminate existing jobs but cost the state jobs only indirectly, by removing from the economy money that might otherwise have been used to create additional jobs.

In 1980, federal revenue collections decreased Alaskans' disposable incomes by about $1.3 billion. This $1.3 billion was the amount Alaskans directly and indirectly paid in federal revenues in 1980.[18] We estimate that this $1.3 billion taken out of the economy in 1980 indirectly cost the state 23,000 jobs that could otherwise have been created.[19]

Federal revenue collections in fact cost the state more jobs in 1980 than just the 23,000 which we estimate were lost through revenue collections from individual Alaskans. As we discussed in looking at the effects of the progressive federal tax system on Alaskans, federal taxes drive up the costs of doing business here. Increased costs discourage business activity. In the absence of federal taxes, costs of doing business would be reduced, which would stimulate economic activity and increase the number of jobs. Measuring these effects of federal taxes on over-

[15] See *Federal Revenues and Spending in Alaska*, Chapter 4, for a more detailed discussion of these assumptions.

[16] We did not include federal loan guarantees and subsidies in our earlier discussion of federal spending in Alaska because such spending is an indirect rather than a direct federal expenditure. In this section, however, we do include employment effects of federal loan guarantees and subsidies in our analysis, because these subsidies and guarantees stimulate economic activity and thus help create jobs. We estimate that federal loan guarantees and subsidies totalled about $212 million here in 1980.

[17] Authors' estimate.

[18] We use these revenues from individual Alaskans, rather than revenues generated by economic activity, as a basis for this discussion because collections from individual Alaskans represent money actually taken out of the state economy.

[19] We used a computer simulation model of the state's economy to arrive at this estimate.

Table 16

Jobs Created by Federal Spending in Alaska, 1980

Categories of Spending	Amount (in million $)	Jobs Created (in thousands) Federal Govt.[a]	State/Local Govt.	Private Industry
Payroll				
Civilian Payroll	$422	17.9		
Military Payroll	301	23.3		
Total Payroll	$723	41.2		17.0[b]
Grants (excluding transfers)[c]				
State Government, Local Government, Other	$410		5.5[d]	3.0
Transfers[e]	$242			4[f]
Loan Programs	$212			1[g]
TOTAL		41.2	5.5	25.0
			71.7	

[a]These are 1979 federal employment figures; the numbers of federal jobs were essentially the same in 1980.

[b]Federal jobs, excluding 2.4 thousand commissary and post exchange jobs, multiplied by 0.5.

[c]Total grant payments, excluding federal grants to state-operated transfer programs.

[d]See Table 15. We have here used estimated numbers of state and local government jobs funded by federal grants in 1979; we believe these numbers were essentially the same in 1980.

[e]Includes direct federal transfers and federal grants to state-operated transfer programs.

[f]Indirect employment generated by transfer payments based upon simulations of the Man in the Arctic Program (MAP) computer model.

[g]Author's estimate.

all business activity in the state would require an industry-by-industry analysis of the effects of taxes—an analysis far beyond the scope of this work.

Table 17 shows the net employment effects of federal spending and taxation here in 1980. Federal spending directly and indirectly created 71,700 jobs, while revenue collections indirectly cost the state 23,000 jobs. On balance, then, federal spending created 48,700 more jobs here in 1980 than federal collections cost the state.

CONCLUSIONS

The Fiscal Relationship

Our analysis of the flow of federal money into and out of Alaska shows these significant points about the fiscal relationship between Alaska and the federal government:

- The federal government continues to be very important to Alaska's economy. In 1980, when development of petroleum resources on the North Slope was fostering substantial economic growth in the state, the federal government still supplied one in five jobs here—three times the national average. These direct federal jobs, and federal transfers, loan guarantees, and grants indirectly generated thousands more jobs in state and local government and private industry.

Federal taxation does cost the state jobs by taking money out of the economy, but we estimate that in 1980 federal spending here created twice as many jobs as federal taxation cost the state.

The importance of jobs created by federal spending lies not only in their numbers, but also in their stability; the federal government is the largest and most stable source of jobs in an economy that is otherwise very much subject to the vicissitudes of natural resource development.

- The federal personal income tax system discourages business development in Alaska. Because the progressive federal tax system takes no account of the higher living costs that accompany Alaskans' nominally high incomes, Alaskans have historically paid larger proportions of their incomes in taxes than other Americans with the same effective incomes. We

Table 17

Net Employment Effects of Federal Spending and Taxation in Alaska, 1980

Jobs Created by Federal Spending	(in thousands)
Federal Jobs	+41.2
Other Jobs	+30.5
Total	+71.7
Jobs Lost through Federal Taxation*	
Total	−23.0
Net Effects, Federal Spending & Taxation	+48.7 jobs

*Based on the $1.3 billion in federal revenues paid by individual Alaskans in 1980. In arriving at this figure, we assumed that federal tax policy does not differentially affect the profitability of Alaskan businesses; see text for further discussion of this point.

believe that to compensate for this high tax burden, wages in Alaska have been driven up. However, higher wages further increase the already high costs of doing business in Alaska, and thus discourage business development. Therefore, the effects of the federal tax system fall not so much on individuals—whose wages have been increased to compensate for the taxes—but on the entire state economy by discouraging business growth.

- State and local governments in Alaska receive more federal grant money than the U.S. average. The Tax Foundation, Inc. estimates that in 1980 Alaska received about two grant dollars for every one dollar Alaskans paid into the national grant program in taxes.

Alaska has received relatively high federal grants since it became a state. In general, states with large land areas and small populations tend to receive higher than average grants, and in Alaska other factors tend to increase grants to the state and local governments. Over the years, much grant money has been used to aid the state and local governments in developing the economic infrastructures (roads, harbors, and airports, for example) that did not exist when Alaska became a state. Also, the federal government owns much of the land in Alaska, and this land as well as federal facilities are exempt from state and local taxation. Thus, some federal grants are to compensate local jurisdictions for taxes lost because of federal land ownership. Finally, the federal government has a number of grant programs specifically for Alaska Natives, and these programs also increase Alaska's share of grant money.

- Prudhoe Bay oil production makes a substantial contribution to the federal treasury. We estimated that in 1980 the federal government collected about $2 billion in federal corporate income and windfall profits taxes from North Slope petroleum operations.

It is tempting to try to go beyond the above conclusions and compare the $2.2 billion in overall federal spending here in 1980 with the $3.7 billion in revenues collected from individuals and businesses as a measure of what Alaska receives from and contributes to the federal treasury. Such a comparison makes it appear that Alaska contributed $2 to the federal treasury for every $1 it received that year.

However, such a straightforward dollar comparison is misleading because it implies: (1) that all federal spending here is solely for the benefit of Alaskans; (2) that taxes paid by multinational corporations operating in Alaska are somehow costs borne only by Alaskans; and (3) that all the costs and benefits in the complex relationship between Alaska and the federal government can be measured in an analysis of dollars spent and taxes generated within the state. We discuss each of these three points briefly below:

- All federal spending here is not solely for the benefit of Alaskans. In fact, most of the money that the federal government spends here is for operations that are intended to benefit all Americans rather than just Alaskans. An obvious example is defense spending. Defense spending in Alaska is relatively high, and Alaskans benefit from such spending because it creates jobs here—but in a much broader sense, Americans as a whole benefit from maintenance of the national defense system. Conversely, much federal spending that takes place outside the state benefits Alaskans as well as the residents of the state wherein the spending occurs. Again, we can cite defense spending as an example of such spending.

- Taxes paid by multinational oil companies operating in Alaska are ultimately borne by residents of all states. Federal revenues from Prudhoe Bay oil can be considered revenues from Alaska in the sense that they are generated by oil production here, and our analysis makes it apparent that the Prudhoe Bay field is an important federal as well as state tax base. But to use taxes paid by multinational corporations in a comparison of what Alaska receives from and contributes to the federal treasury implies that such taxes are somehow costs only to Alaskans. In fact, taxes paid by multinational corporations operating here ultimately cost residents of all states, because federal business taxes are passed on to individuals nationwide.

- Our analysis of dollars spent and taxes generated here does not measure all the costs and benefits in the complex relationship between Alaska and the federal government, but rather the limited kinds of costs and benefits we have already discussed—primarily jobs created and lost as a result of federal spending and taxation. There are many kinds of costs and benefits beyond these that cannot readily be assigned a dollar value. What, for example, is the dollar benefit to Alaskans of the protection they receive from the national defense system? Or the dollar benefit to the federal government of Alaska's strategic military location?

In summary, then, our analysis of the flow of federal money into and out of Alaska is most useful as an indication of the many ways in which the federal government influences the state's economy.

Future Changes

We recognize that both federal spending and collection here in 1982 will be different than in 1980; we do not know precisely what these changes will be, but we can talk in general about likely changes.

Changes in Federal Spending in 1982

The federal government is currently attempting to reduce spending nationwide by reducing costs of or eliminating some programs and turning other programs over to state and local governments. In Alaska, the federal government has already cut, or has plans to cut, a number of grant programs that were among the largest in the state in 1980. These include the Highway Planning and Construction program, the School Aid to Federally Affected Areas program, the Comprehensive Employment and Training (CETA) program, and the Food Stamp and Medicaid programs. Also, the Interior Department has announced plans to turn over thirty-seven Bureau of Indian Affairs's schools to the state government by the end of 1982 and is reducing or eliminating some programs for Alaska Natives, most notably the Indian General Assistance program. The federal government also hopes to turn over operation of the Alaska Railroad to the state government.

What the overall effect of these cost-cutting moves on federal spending in Alaska will be is uncertain; the largest single federal spender in Alaska is the Department of Defense, and the Reagan Administration plans to increase defense spending nationwide. Thus, overall federal spending may change little in 1982 while the composition of that spending shifts.

Changes in Federal Revenues from Alaska

A number of factors will change federal collections from individuals and from economic activity in the state this year.

Revenues from Economic Activity. Revenues from economic activity in the state in 1981 were substantially higher than those we estimated for 1980, for two reasons: the price of oil continued to rise in 1981, and the windfall profits tax, which was in effect only half of 1980, was collected throughout 1981. However, we anticipate that federal revenues from economic activity in Alaska in 1982 will be significantly below those of 1981 because: (1) changes in federal tax law appear to have reduced corporate income taxes, which were the federal government's largest sources of revenues here in 1980 and 1981, and (2) the price of oil is falling in 1982. How far the price will drop is uncertain, but the price drop to date will certainly reduce federal revenues from Prudhoe Bay oil.

Revenues from Individual Alaskans. Federal personal income tax collections from Alaskans will probably increase somewhat in 1982, but at a slower rate than in the past. Recent federal tax law changes reduced the rate of personal income taxes but also increased the rate of Social Security taxes. These tax changes will tend to counterbalance each other. At the same time, personal incomes of Alaskans will increase somewhat in 1982; the combined effects of tax law changes and increasing personal income will probably tend to increase personal income tax collection from Alaskans.

Beyond 1982, the relative importance of the federal government to Alaska's economy is likely to continue to decline somewhat, as it has done over the past two decades. How large this decline will be will depend on: how much other elements of the economy grow and how much the federal government reduces—or at least reduces the rate of increase of—federal spending here.

Future growth in Alaska's economy, apart from federal activities, is closely tied to petroleum development. The price of oil was dropping in early 1982, as more oil was produced than demanded worldwide. Analysts predicted that this price drop would decrease state government revenues in the upcoming fiscal year by half or more, and the implications of sharply reduced state revenues reverberated throughout the economy. In the long run, however, the price of oil is likely to once again increase, but how soon and how much is uncertain. Because costs of extracting Alaskan oil are high, reduced oil prices could not only reduce state revenues from current production at Prudhoe Bay, but also curtail petroleum exploration and development here—and thus curtail state economic growth.

It seems likely that aside from cuts that the federal government is making in specific programs, many kinds of federal spending in Alaska will at least hold steady or increase somewhat in the coming years. Therefore, the factor most affecting the relative importance of the federal government to Alaska's economy in the upcoming years will be growth in other parts of the economy—which will be determined by petroleum development. Given the uncertainties of such petroleum development, the federal government will continue to be a crucial source of jobs and stability in Alaska's economy for the foreseeable future.

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