BEHAVIORAL ASPECTS OF THE STATE OF ALASKA'S OPERATING BUDGET FY 1970 - FY 1977

by

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An Analysis Funded by

Legislative Affairs Agency
Alaska State Legislature

and

National Science Foundation
Man in the Arctic Program

Institute of Social and Economic Research
University of Alaska

Anchorage - Fairbanks - Juneau

March 31, 1978

Note to Readers

Since this paper was written, additional wage and salary information has become available for FY 1977 which permits the computation of worker earnings for FY 1977, and gives another year of data for Table 12. The results appear below, ranked in order of their 1972-1977 rate of change:

	Earnings (1967 $)	Index (1972=100.0)	Average Annual Growth, 1972-1977
Contract Construction	$29,681	172.7	11.5%
Services	10,902	154.0	9.0%
Transport.-Comm.-P.U.	14,750	133.1	5.9%
Mining	20,449	127.9	5.0%
State Government	11,660	115.5	2.9%
Trade	8,295	104.7	0.9%
Manufacturing	10,271	104.3	0.8%
Federal Government	10,061	101.3	0.3%
Local Government	9,988	100.8	0.2%
Finance-Insurance-Real Estate	8,932	99.2	- 0.2%
Agriculture-Forestry-Fisheries*	14,485	133.4	5.9%

* The growth rate in this sector would qualify it for second place. However, it is shown separately because of its small size and variable and inconsistent year-to-year results; e.g., considering only the period 1972 to 1976, this sector was in last place. One year's data moved it to second place. The other sectors are far more consistent. For the most part, they maintain the rankings shown in Table 12.

Introduction

Two fundamental questions arise concerning the pattern of state expenditures since the discovery of oil at Prudhoe Bay, Alaska, in 1968 and the subsequent lease sale in 1969 which brought the state about $900 million dollars in one day. The first of these is: in view of subsequent rapid rise in total state expenditures, has the State of Alaska spent its money in a relatively conservative or profligate manner? The second question is: are there a limited number of demographic or economic variables which tend to explain the increase? Without attempting to directly answer the first of these two questions, the first section of this paper describes in several ways the State of Alaska's pattern of expenditures between 1970 and 1977 and compares the growth in expenditures with growth in population, personal incomes, and value of economic output. The second part of the paper describes the results of some statistical analysis which shows the relationship between the size of major program categories of the operating budget and the level of state economic activity, adjusted for the effects of available revenue. Finally, since there is a possibility that additional funds have resulted mainly in wage increases, rather than increases in the level of "service" provided by government, the last section of this paper describes a brief experiment in which analysis was done on the impacts of personal service expenditures per budgeted position and of the number of budgeted positions on the level of operating expenditures per capita from 1972 to 1977.

The Level of Expenditures from 1970 to 1977

Total state expenditures of the State of Alaska increased about 3.5 times between 1970 and 1977. As can be seen from Table 1, in real dollar (constant dollar) terms, the 1977 level was about 2.2 times the 1970 level, for an annual average rate of increase of about 12 percent over the entire period. Since 1972, the first fiscal year to feel the full impact of the North Slope revenues, the rate of increase in total real expenditures has been somewhat less--about 6.2 percent--while real operating expenditures grew at about 9.3 percent, and capital expenditures first grew at 3.2 percent through 1976, falling back to about the 1972 level in real terms by 1977. Three pieces of information stand out in the table. First, the "real" or constant dollar rate of increase is only about 62 percent of the nominal rate. Nearly 40 percent of the increase has occurred because of inflation. Second, the rate of increase was much more rapid between 1970 and 1972 than it was between 1972 and 1977. This suggests that after an initial period of adjustment to higher revenues, spending has increased at a much slower rate. Third, operating expenditures, which are more sensitive to population growth on a year-to-year basis than capital expenditures, have grown more rapidly than capital expenditures over the whole period 1970 to 1977; but capital expenditures, which may be more sensitive to revenue, grew more rapidly than operating expenditures between 1970 and 1972. Operating expenditures have continued to grow steadily since 1972, while capital expenditures have been less responsive, being more or less flat since 1972.

Table 1

OPERATING AND CAPITAL EXPENDITURES,
STATE OF ALASKA, FY 1970-1977

(thousands of dollars)

Fiscal Year	Current Dollars			Constant 1967 Dollars		
	Operating Expenditures[1]	Capital Expenditures[2]	Total[3]	Operating Expenditures	Capital Expenditures	Total
1977	$853,501.5	$285,112.8	$1,138,614.3	$506,228.6	$169,106.0	$675,334.6
76	739,210.8	310,877.2	1,050,088.0	468,151.2	196,882.3	665,033.6
75	597,070.2	272,951.5	870,021.7	421,362.2	192,626.3	613,988.5
74	482,348.0	196,411.2	678,759.2	386,187.3	157,254.8	543,442.1
73	421,833.8	189,216.1	611,049.9	359,926.5	161,447.2	521,373.6
72	371,534.4	198,550.2	570,084.6	325,052.0	173,709.7	498,761.7
71	332,780.1	125,892.9	458,673.0	299,532.0	113,314.9	412,847.0
70	228,048.7	100,104.2	328,152.9	212,732.0	93,380.8	306,112.8
nual Rate Increase, 1970-77	20.7%	16.1%	19.4%	13.2%	8.9%	12.0%

[1]Operating expenditures are defined as state operating budget actual expenditures pursuant to a given fiscal year's appropriations (as revised), plus valid encumbrances as of the end of the fiscal year. This includes debt service obligations and the General Fund transfers made to the University of Alaska shown in the State operating budget "actual" column.

[2]Capital expenditures are defined as General Fund capital outlay program current year expenditures plus valid encumbrances as of the end of the fiscal year, plus Capital Projects Funds expenditures defined as follows. For the years 1970 and 1971, Capital Projects Funds expenditures are estimated as current year cash expenditures, plus encumbrances as of the end of the fiscal year. For 1972 through 1977, the funds are reported on an accrual basis, so the relevant figure is total disbursements (expenditures plus reserve for encumbrances), less prior year reserve for encumbrances, which are assumed to be paid during the year.

[3]Total expenditures include those main state budget items which actually require General Fund expenditures, or which are accounted for by appropriation of general obligation bond funds. Thus, the restricted funds expenditures of the University of Alaska (which are not expenses of the main state budget) are not included; however, the expenditures of the Special Revenue Funds, almost all of Debt Service Fund expenditures, the administrative and operating expenditures of the Enterprise Funds are included, along with the expenditures of the Working Capital Funds, transfers from the General Fund to the Teachers' Retirement System, and the administrative expenditures of the Trust and Agency Funds.

(Detail may not add to totals because of rounding error.)

Sources: Alaska Division of Budget and Management, Office of the Governor, Executive Budget FY 1970-71 to FY 1979; Alaska Division of Financing, Department of Administration, State of Alaska Annual Financial Report, FY 1969-70 to FY 1976-77.

Table 2 reveals the influence of total state population on the real expenditure series. Since resident population grew by about five percent per year (even faster if one considers only civilian population) during the period 1970-1977, nearly half the increase in real spending can be attributed to increases in population. During the period 1972 to 1977, real per capita expenditures grew at an average rate of only 0.5 percent, and capital expenditures actually failed to keep pace with population growth, while per capita real operating expenditures grew at a relatively modest 3.4 percent. Examining the two subperiods 1970 to 1972 and 1972 to 1977, one can see the sharp contrast between the operating and capital expenditures. Both grew rapidly during 1970 to 1972, a period of relatively low population growth, but the rate of increase was much more rapid in the capital budget. In contrast, the period 1972 to 1977 showed a fall in per capita capital expenditures approximately equal to the rate of increase in population. The final column shows that "available" General Fund monies grew rapidly, initially, then declined as the State ran down the large balance in the General Fund which had been due to the North Slope lease sale in September 1969. The capital budget responded more rapidly to the initial change in the available funds; then when it became clear that the balance was finite, capital expenditures stabilized. The more population-sensitive component, operating expenditures, continued to grow slowly, holding almost constant in real per capita terms between 1972 and 1976.

Table 2

STATE REAL PER CAPITA OPERATING AND CAPITAL EXPENDITURES, 1970-77

(constant 1967 dollars)

Fiscal Year	Resident Population[1]	Operating Expenditures Per Capita	Capital Expenditures Per Capita	Total Expenditures Per Capita	Available General Fund Monies, Per Capita[2]
1977	413,289	$1,224.88	$409.17	$1,634.05	$1,966.19
76	404,635	1,156.97	486.57	1,634.54	1,495.60
75	351,159	1,199.92	548.54	1,748.46	1,542.42
74	330,600	1,168.14	475.66	1,643.80	2,108.29
73	324,800	1,108.15	497.07	1,605.22	2,562.78
72	312,930	1,038.74	555.11	1,593.85	2,942.25
71	302,361	990.64	374.77	1,365.41	3,063.25
70	294,560	722.20	317.02	1,039.22	458.98
		Average Annual Rate of Increase			
1970-77	5.0%	7.8%	3.7%	6.7%	-
1972-77	5.7%	3.4%	- 6.0%	0.5%	-
1970-72	3.1%	19.9%	32.3%	23.8%	-

[1]State's estimate from Research and Analysis Section, Employment Security Division, Alaska Department of Labor, State of Alaska Current Population Estimates by Census Divisions, July 1 [year]. The population as of the beginning of the fiscal year was used.

[2]Beginning fiscal year General Fund balance, plus estimated revenues available for new appropriation as estimated in the Budget Document for the fiscal year to which it applies.

Any state's options for increasing or decreasing the level of its expenditures are limited by ongoing legal obligations, such as debt service, and are modified by Federal funding sources which expand the State's potential fiscal resources. A reasonable question to ask is: how much of the increase in expenditures recorded between 1970 and 1977 was funded by Federal sources, and how much represented a drain on Alaska's treasury? Table 3 provides a partial answer to this question. In this table, one can see that in spite of fairly large increases in Federal funds supplied to the State's General Fund and Special Revenue Funds, which account for almost all state budgeted expenditures of Federal funds, Federal funding has actually declined slightly as a source of state expenditures. Looking at the year-to-year changes, one can see that state expenditures went up every year while Federal funding sometimes fell. In no year was the increase in Federal funding large enough to absorb the increase in state expenditures, even though it may have reduced the incremental cost of new programs. One is led to the conclusion that increases in Federal funding do not, in themselves, explain the increases in the State's budget.

In most states, an excellent predictor of the growth in state budgets has been the increase in personal incomes of its citizens. This is both because of the growth in "demand" for government services with increases in incomes, and because in most states personal income is an excellent indicator of the size of the tax base. In Alaska, available state funds are only loosely dependent upon personal incomes because of

Table 3

FEDERAL REVENUE OF THE GENERAL FUND
AND SPECIAL REVENUE FUNDS,
COMPARED TO EXPENDITURES

(thousands of dollars)

	Current Dollars		Constant 1967 Dollars		
Fiscal Year	Federal Revenue[1]	State Expenditures	Federal Revenue	State Expenditures	Federal Revenue as a Percentage of Expenditures
1977	$237,197.7	$1,138,614.3	$140,686.7	$675,334.6	20.8
76	254,371.3	1,050,088.0	161,096.5	665,033.6	24.2
75	203,009.0	870,021.7	143,266.8	613,988.5	23.3
74	153,940.1	678,759.2	123,250.7	543,442.1	22.7
73	159,487.0	611,049.9	136,081.1	521,373.6	26.1
72	136,078.7	570,084.6	119,054.0	498,761.7	23.9
71	123,328.4	458,673.0	111,006.7	412,847.0	26.9
70	87,298.5	328,152.9	81,435.2	306,112.8	26.6
erage Annual te of Growth	15.3%	19.4%	8.1%	12.0%	-

[1] From Statement #2, "Combined Statement of Revenue, General and Special Revenue Funds," State of Alaska Annual Financial Report. FY 1970 and 1971 figures were aggregated for the same accounts from the revenue reports for the General and Special Revenue funds from the same source. No consolidated report was available.

the fact that first Federal funds and later oil revenues supplied an unusually large proportion of the State's financial needs. However, the increased personal incomes of Alaskans may have worked on the demand side to increase the demand for government services and for state expenditures. As the economy has grown in size and the average wealth of Alaskans has grown, one would expect that, as in other states, the total level of state spending would grow in real (constant dollar) terms. Table 4 illustrates this result with three comparisons. The State's real budget expenditures per capita are compared with real available funds per capita, real personal income per capita, and gross real value of output per capita. Because no convenient estimate of "available" funds for general obligation bonds exists, since these are sold on national money markets and the State's "full faith and credit" capacity to borrow is only loosely limited by current state revenues and incomes of its citizens, the comparison is made between total operating budget plus general fund capital expenditures and the three indicators of demand and/or funding capacity. The bottom half of the table emphasizes the percentage change of each of the columns by reporting each series as an index, with fiscal 1972, the first year after the North Slope fund transition, as the base year.

The table reveals that the rate of growth in non-general obligation bond expenditures has not kept pace with either the growth in per capita income or per capita output, and that (as Table 5 more explicitly demonstrates), state expenditures are not a much different percentage of

Table 4

STATE PER CAPITA OPERATING BUDGET AND GENERAL FUND CAPITAL EXPENDITURES, COMPARED TO PER CAPITA AVAILABLE FUNDS, PERSONAL INCOME, AND GROSS PRODUCT, 1970-1977

(thousands of 1967 dollars; gross product in 1958 dollars)

Fiscal Year	Operating Budget Plus General Fund Capital Expenditures	Available General Fund Monies, Per Capita	Personal Income Per Capita[1]	Gross Output Per Capita[2] (1958 dollars)
1977	$1,498.48	$1,966.19	NA	NA
76	1,457.14	1,495.60	$6,399	$5,446.3
75	1,496.81	1,542.42	6,175	5,381.8
74	1,452.43	2,108.29	5,539	4,618.4
73	1,399.58	2,562.78	4,941	4,217.2
72	1,405.24	2,942.25	4,601	4,368.2
71	1,253.02	3,063.25	4,505	4,567.9
70	941.18	458.98	4,297	4,542.2
		Index (1972 = 100.0)		
1977	106.6	66.8	NA	NA
76	103.7	50.8	139.1	124.7
75	106.5	52.4	134.2	123.2
74	103.4	71.7	120.4	105.7
73	99.6	87.1	107.4	96.5
72	100.0	100.0	100.0	100.0
71	89.2	104.1	97.9	104.6
70	67.0	15.6	93.4	104.0

[1]Fiscal year basis. Source for personal income: U.S. Department of Commerce, Bureau of Economic Analysis. Source for population: Alaska Department of Labor.

[2]Fiscal year basis. Source: Institute of Social and Economic Research.

Table 5

OPERATING BUDGET PLUS CAPITAL EXPENDITURES
AS A PERCENTAGE OF INCOME
AND AVAILABLE FUNDS

Fiscal Year	Percentage of Personal Income	Percentage of Available General Fund Monies
1977	NA	76.2
76	22.8	97.4
75	24.2	97.0
74	26.2	68.9
73	28.3	54.6
72	30.5	47.8
71	27.8	40.9
70	21.9	205.1[1]

[1]Expenditures exceed available funds, since available funds were revised upward by some $900 million after fiscal 1970 had begun. This was not reflected in either the beginning balance for the year, or in the preliminary revenue estimates.

personal income in the most recent year than they were in 1970. The table also shows that although the original rapid growth in available funds undoubtedly had an influence on expenditures, it appears that since 1972, expenditures and available funds have been moving in opposite directions. Real per capita output of the Alaska economy was actually declining slightly between 1970 and 1974, probably due to the delay of North Slope development, but this was a period of very rapid increase in per capita spending. In general, it appears that per capita income "demand" influence might have been quite important, since the "supply" of available funds was declining throughout the study period after 1970, and available funds were being fully utilized by FY 1975. Table 5 demonstrates this latter fact and shows the level of spending as a (mainly declining) percentage of state income.

Table 6 compares Alaskan state direct expenditures (a slightly different expenditures definition than in Table 5) as a percentage of estimated fiscal year personal income with those of twelve other western states. Generally speaking, the Alaskan state expenditures make up a significantly higher proportion of personal income than they do in the other states. However, two things are worth pointing out. First, many governmental functions which are performed by the state government in Alaska are performed at the local level in other states, and Alaska supplies a much higher proportion of local government (especially local school) revenues than is common in most of the other states. Thus, when local government expenditures and state government expenditures are

Table 6

ALASKA AND THE WESTERN STATES
STATE EXPENDITURES AND STATE AND LOCAL
EXPENDITURES AS A PERCENTAGE
OF INCOME, FISCAL YEARS 1970 AND 1976

State	State General Expenditures Pct. of Personal Income		State and Local Direct General Expenditures as a Pct. of Personal Income	
	1970	1976	1970	1976
Alaska	25.5	25.2	30.4	31.0
Arizona	11.8	12.7	17.9	20.6
California	10.9	11.6	19.2	20.9
Colorado	10.3	11.3	17.4	20.4
Hawaii	19.3	20.0	23.7	25.7
Idaho	12.6	13.8	18.6	20.3
Montana	12.9	13.9	20.2	22.8
Nevada	11.1	11.2	19.3	20.7
New Mexico	17.4	16.7	22.7	22.0
Oregon	11.6	12.8	19.1	22.7
Utah	14.8	15.1	20.5	21.9
Washington	12.3	12.1	18.9	18.5
Wyoming	16.4	16.7	24.2	25.5

Sources: U.S. Department of Commerce, Bureau of the Census, State Government Finances in 1976, GF76, No. 3, issued August 1977, Governmental Finances in 1976, GF76, No. 5, issued September 1977, and U.S. Department of Commerce, Bureau of Economic Analysis special personal income printouts by state.

combined, the gap between Alaska and the other states narrows considerably. Second, the trend in most of the Western states has been that state expenditures (or state and local expenditures) are taking an increasing proportion of personal income. Alaska is among the very few which show an unchanged or declining percentage between 1970 and 1976, the last year for which data are available. This is in spite of the fact that currently, about two-thirds of Alaska's budget is funded by oil revenues, which are not constrained by the personal incomes of its citizens. It will be interesting to see if this apparent trend persists into the post-pipeline period.

Analysis of State Discretionary Expenditures

There are several sources of difficulty inherent in estimating the effects of various variables such as income on the State's budget over time. It is reasonably clear that capital expenditures have not behaved in the same fashion as operating expenditures, that some parts of the budget such as debt service respond to the costs of previous budgetary decisions rather than current demand for services, and that the Federal government may influence the State's spending decisions by providing part of the funding. In order to obtain a clearer estimate of the effect of "demand" for services on the state budget, one can make the following adjustments. First, since the capital budget is not expected to be especially responsive to current service requirements, but rather requires expenditures over a longer budgeting cycle as equipment or

buildings must be augmented or replaced, capital expenditures should be separated from operating expenditures. Second, Federal government funds have zero opportunity cost to a state (they represent no drain on the State's financial resources), so the state could always be expected to undertake any program requiring Federal funds, to the extent that Federal funds paid for the program. In other words, the state would make the real budget decision on the cost of the program to the state. To adjust for this fact, Federal funds were subtracted from the total budget expenditures to get the State's program costs. This remainder is that portion of the budget over which the State exercises current year-to-year discretion.[1]

Table 7 contains the resulting measure of the growth in the discretionary budget. The table values have been adjusted for both the influence of inflation and population increases by deflating the nominal dollar values by the Anchorage Consumer Price Index, and then dividing by the State's resident population. For the convenience of the reader

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[1]It may be argued that several nominally "discretionary" expenditures as defined here may be mandated by law or custom, and thus are not really under the control of the budget process. Similarly, some capital expenditures may be more "discretionary" than the operating expenditures, since there may be some additional leeway in timing of these expenditures. However, law or custom changes in response to economic, political, and social pressure, so the entire operating budget was included. To the second objection, one can only say that the capital budget involves different and more complex decision processes, and a clear test case was desired in which potential current demand for government expenditures could be estimated.

Table 7

STATE DISCRETIONARY REAL PER CAPITA OPERATING EXPENDITURES BY FUNCTION, FISCAL YEARS 1970-1977[1]

1967 DOLLARS

	Education[2]	Social Services[2]	Health[3]	Natural Resources and Environmental Conservation	Public Protection	Administration of Justice	Development	Transportation	General Government	Total[3]
1977	$437.48	$81.22	$54.58	$61.71	$25.35	$95.90	$59.07	$139.47	$87.93	$1,042.76
76	411.84	75.00	50.54	58.02	19.94	87.29	55.08	133.41	79.55	970.67
75	357.50	66.86	50.81	55.50	20.29	89.73	79.72	149.07	77.79	947.27
74	359.37	76.08	49.31	51.31	17.46	79.83	50.86	136.72	81.14	902.08
73	340.81	60.28	46.34	46.99	14.06	71.84	49.68	129.29	71.93	831.21
72	342.21	61.50	44.85	51.79	13.99	65.33	42.75	124.57	61.99	808.98
71	333.51[4]	54.01[4]	48.01[4]	48.82[4]	12.80[4]	61.94[4]	43.90[4]	130.70[4]	69.30[4]	802.99[4]
70	225.57[4]	31.48[4]	35.70[4]	44.99[4]	13.28[4]	61.60[4]	32.90[4]	121.73[4]	73.40[4]	640.63[4]

INDEX (1972 = 100.0)

1977	127.8	132.1	121.7	119.2	181.2	146.8	138.2	112.0	141.8	128.9
76	120.3	122.0	112.7	112.0	142.5	133.6	128.8	107.1	128.3	120.0
75	104.5	108.7	113.3	107.2	145.0	137.3	186.5	119.7	125.5	117.1
74	105.0	123.7	109.9	99.1	124.8	122.2	119.0	109.8	130.9	111.5
73	99.6	98.0	103.3	90.7	100.5	110.0	116.2	103.8	116.0	102.7
72	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
71	97.4	87.8	107.0	94.3	91.5	94.8	102.7	104.9	111.8	99.3
70	65.9	51.1	79.6	86.9	94.9	94.3	77.0	97.7	118.4	79.2
Average Annual Growth 1972-77:	5.0%	5.7%	4.0%	3.6%	12.6%	8.0%	6.7%	2.3%	7.2%	5.2%

Table Notes:

1. Discretionary expenditures are estimated by taking "actual" total expenditures plus encumbrances for each function or program category as reported in the Executive Budget of the Governor, and subtracting debt service and Federal revenues reported for each budget request unit. This number is then deflated by the Anchorage Consumer Price Index, estimated on a fiscal year basis by a simple average of the included four quarterly figures for CPI. Finally, to get the numbers on a per capita basis, real expenditures were divided by the Alaska Department of Labor July 1 estimates of Alaska resident population as of the beginning of each fiscal year (for FY 1970, the 1970 U.S. Census April 1 count was used).

2. The figures have been adjusted to report individual BRU's in the same program category as they occupied in the FY 1978 and FY 1979 Executive Budget. This, for example, required the moving of the Alaska Skill Center from Social Services to Education for the years 1970-75. Education includes state budget transfers to the University of Alaska.

3. The "actual" expenditures reported for Health for fiscal 1972 in the FY 1974 budget contain an apparent error. Medicaid, a new program, was combined with General Relief-Medical BRU from Social Services and was transferred to Health. While the budget reports an estimate of projected expenditures for FY 1973, there is no estimate of FY 1972 expenditures for the transferred program, in spite of the fact that the state's Annual Financial Report records cash expenditures of $3.957 million for this category. The reported figure here includes an estimate of General Relief-Medical expenditures equal to $3.957 million cash expenditures, plus a change in encumbrances of $1.036 million. The total has also been adjusted to accommodate the changed figure for Health.

4. Fiscal year 1970 is reported in a different format than FY 1971-77. The individual BRU's have been allocated to the program categories where they appear in the FY 1978 budget. FY 1970 is the first fiscal year in which the revenues from the 1969 Prudhoe Bay lease sale could have figured in the actual expenditures.

Sources: Alaska Governor, Executive Budget, various issues.

Alaska Department of Administration, Division of Finance, Alaska Financial Report, various issues.

U.S. Bureau of Labor Statistics, "Consumer Price Index-Pacific Cities and U.S. Average," various issues.

interested in percentage changes, the lower half of the table shows an index of how total expenditures and those for each government function have increased or decreased relative to the 1972 base.

Several observations can be made from Table 7. Total real discretionary operating expenditures per capita have increased to 163 percent ($1,042.76 ÷ $640.63) of their 1970 value, with an annual rate of increase of 12.4 percent between 1970 and 1972, and a 5.2 percent rate of increase between 1972 and 1977. The 1972-77 annual rate of growth, 5.2 percent, is considerably greater than that reported for combined operating and capital expenditures of 0.5 percent reported in Table 2; and it is also greater than the rate of growth (3.4 percent) reported for total operating expenditures, indicating the declining importance of Federal funds in the operating budget.

The distribution of growth has been quite uneven across sectors. The lowest rates were turned in by those sectors which are probably the least closely linked to the individual citizen's demand for government service. Transportation budget request units mainly relate to the operations and maintenance services. As the wealth of the State's citizens increases, the level of expenditure in the short run is probably more dependent upon the amount and condition of the transportation capital stock in place, which may not grow at the same pace as the population. Thus, although total real discretionary spending for Transportation grew by 10.1 percent between 1975 and 1977, population grew

by 17.7 percent, causing a decrease in per capita expenditures. Natural Resource low growth rates seem to be a result of a decision to fund local water and sewer grants (Department of Environmental Conservation) out of bond funds rather than out of general funds after 1972. Grants for this purpose fell by $2 million over a two-year period. Beginning in 1974, debt service charges on these bonds started the expenditure growth process again, but at a lower rate than if the grants had all been made through the operating budget. There seems to be no one single cause for the growth in this budget after 1975. All programs expanded together, with most of the dollar increase appearing in the Fish and Game Resources cover program, which is related to the State's interest in increasing the productivity of the fishing industry. Natural Resources and Environmental Conservation budget increases, therefore, are probably less related to increases in the underlying demand for direct government services than they are to specific capital programs in environmental protection, on the one hand, and the State's efforts to develop a specific industry, on the other. Growth rates and percentage statistics for Natural Resources, Transportation, and all other program categories, plus selected cover programs, are shown in Table 8.

Many of the faster growing program categories in the discretionary budget may be more closely related to the increasing wealth of Alaska's population, but may also be the result of increased expenditures for special purposes. Among the faster growing are Education, Social Services, Public Protection, Administration of Justice, and General Government.

Table 8

SUMMARY OF GROWTH STATISTICS,
ALASKA DISCRETIONARY BUDGET
1972 - 1977

Program Categories and Selected Cover Programs	Average Annual Real Per Capita Growth Rate	Program Categories: 1972 Pct. of Total	Program Categories: 1977 Pct. of Total	Cover Programs: 1972 Pct. of Category	Cover Programs: 1977 Pct. of Category
Total Discretionary Expenditures:	4.9%	100.0	100.0	-	-
Education Category:	5.0%	42.3	42.0	100.0	100.0
Primary and Secondary	4.2%			79.5	76.4
Post-Secondary and Adult	7.9%			19.2	21.9
Community Services	10.4%			1.3	1.6
Social Services Category:	5.7%	7.6	7.8	100.0	100.0
Aged	19.0%			16.5	29.7
General Population	- 1.1%			73.7	52.9
Employment Stabilization	35.3%			4.0	13.9
Administration	- 4.9%			5.8	3.4
Health Category:	4.0%	5.5	5.2	100.0	100.0
Public Health	1.1%			28.7	24.9
Mental Health	3.6%			39.5	38.8
Medical Assistance	6.2%			31.1	34.5
Planning	27.5%			0.7	1.9
Natural Resources Category:	3.6%	6.4	5.9	100.0	100.0
Public Protection Category:	12.6%	1.7	2.4	100.0	100.0
Consumer Protection	9.0%			51.3	45.2
Worker Protection	7.2%			11.0	8.9
Life and Property Protection	16.2%			37.7	45.8
Administration of Justice Category:	8.0%	8.1	9.2	100.0	100.0
Criminal Justice Support and Planning	39.6%			0.2	0.7
Criminal Identification and Apprehension	10.3%			22.9	26.5
Due Process	7.1%			38.6	38.6
Offender Confinement and Parole	3.6%			37.0	31.3
Worker Protection	28.0%			1.2	2.9
Development Category:	6.7%	5.3	5.7	100.0	100.0
Transportation Category:	2.3%	15.4	13.4	100.0	100.0
General Government Category:	7.2%	7.7	8.4	100.0	100.0

Source: Executive Budget.

Education expenditures fall into three main categories: Elementary and Secondary Education, Post Secondary and Adult Education, and Community Services (e.g. libraries and museums). Of these three, the two which are likely to be the most "income elastic"--that is, those for which demand could be expected to be most sensitive to the wealth of the people--grew the fastest. Primary and Secondary Education, is generally thought to be more of a "necessity," and might be less responsive to changes in income. Also, the school population apparently grew less than the total population. In any event, Primary and Secondary Education was only able to grow at about 4.2 percent in real per capita terms. This caused this cover program to decline as a proportion of the education total from about 79.5 percent to about 76.4 percent. In contrast, a growth rate of 7.9 percent in Post Secondary and Adult Education caused an increase from 19.2 percent to 21.9 percent of the total. Even though Community Services grew still faster, its total contribution, less than two percent in the beginning, did not change significantly.

Social Services expenditures are categorized into several cover programs, including: Social and Economic Assistance to the Aged, Social and Economic Assistance to the General Population, Employment Stabilization, and Social Services Administration and Support. The General Population category and Administrative category discretionary expenditures have fallen as a percentage of total Social Service discretionary expenditures (from 73.7 to 52.9 percent and from 5.8 to 3.4 percent, respectively), while Services to the Aged have grown from 16.5 percent

to 29.7 percent of the budget for Social Services, and Employment Stability programs increased from 4.0 percent to 13.9 percent. The specific causes of expenditure growth seem to be the adoption of several new programs for the aged, such as the Longevity Bonus and Senior Citizen Tax Exemption, and the fact that the State has taken some responsibility for funding training programs under the Employment Stabilization category, whereas this funding was almost 100 percent Federal in 1972. The direction of change in each of the Social Services total operating (as opposed to discretionary) expenditures was the same, but the cushion provided by Federal funds in the cover programs for the general population and for employment security tended to make the movements in State funding less apparent and to deemphasize the local priority given to programs for the aged. Much of the growth in the total program has been due to the Federal Comprehensive Employment and Training Act, which since 1975 has provided funds for between 33 and 45 percent of all spending for Employment Stabilization. The other major source of growth--programs for the aged--consists entirely of state funds.

It is difficult to say which Social Service programs, if any, could be described as being income elastic. It is true, however, that the cover program with the slowest rate of growth in discretionary expenditures is Administration, which is likely to be least closely tied to growth in demand for services. The growth in personal incomes of Alaskans could have caused the increase in programs for the aged in several

ways: first, the general feeling of wealth could have led the legislature to give tax relief and extra income (under the Senior Citizen Tax Exemption and Longevity Bonus Programs) to a group which traditionally does not share in general prosperity; second, some senior citizens' incomes may have risen, increasing their capability of remaining in the state, and leaving them eligible for these programs; third, rising personal incomes would increase the value of property exempted from the property tax under the Tax Exemption Program and should have increased the required state offset. The rate of growth in discretionary spending for employment stabilization can largely be explained by the matching requirements for the CETA program, and it is therefore more difficult to attribute this growth to increased demand for employment stabilization programs, generally. State discretionary spending for a wide variety of programs for the general population of the state actually dropped in real per capita terms between 1972 and 1977, possibly a result of the increased economic well-being of the population. The State did fund a slightly larger (68.0 percent, as opposed to 62.8 percent) percentage of services to the general population in 1977 than in 1972.

Health was not one of the faster growing categories of per capita discretionary spending between 1972 and 1977. Health services are generally regarded by economists as relatively income-elastic: that is, private individuals will spend proportionately more on the maintenance of their health as their incomes rise. However, this does not seem to be

as true in a public as in a private sense in Alaska. Health services are divided into four major categories: Public Health, which is concerned with medical, hospital, and physical health maintenance services of the state; Mental Health, which is concerned with Alaska Psychiatric Institute, Harborview Developmental Center, and the regional centers for the purposes encompassed by these two institutions; Medical Assistance, which is composed of Medicaid and other programs to assist indigent persons obtain medical care; and Comprehensive Planning. Public Health and Mental Health, which are addressed to the basic medical, developmental, and psychiatric needs of the population as a whole, might not be expected to grow along with the general increase in demand for private health care, which has been a demand for more sophisticated medicine. These categories actually grew more slowly on a real discretionary per capita basis than the Health category average of 4.0 percent (they grew at 1.1 and 3.6 percent, respectively), partly due to an absolute decrease in spending for communicable disease control, which may be less necessary as incomes rise. The Medical Assistance category grew at 6.2 percent in real per capita terms, and Planning grew at 27.5 percent. The former is quite important in describing the pattern of spending in the Health category as a whole. Largely as a result of Federal programs (State expenditures were only about 59.3 percent of the total budget for Medical Assistance in 1977), overall real spending for Medical Assistance has increased at an annual rate of 25.6 percent between 1972 and 1977. Even discretionary expenditures grew at 12.2 percent (6.2 percent per capita),

but it is difficult to say in what sense this spending was actually discretionary, since in 1977, for example, 76.7 percent of state money spent for Medical Assistance was required General Fund matching money. The 27.5 percent annual per capita growth rate in real discretionary spending for Planning seems to have been the result of its original small size and a number of new health planning programs, possibly a result of increased demand for sophisticated medical care in the private sector. Overall, Health seems to be a marginal case with respect to the likelihood of a strong demand for services arising out of increased incomes. It may not be surprising, therefore, that Health shows an increase in per capita spending which is less than that of discretionary spending as a whole.

Public Protection was the fastest growing of all the program categories between 1972 and 1977. On a real per capita basis, the average annual growth in this category during that period was 12.6 percent. The program category can be divided into three cover programs: Consumer Protection, Worker Protection, and Life and Property Protection. Discretionary expenditures for these showed annual real per capita growth rates of 9.0 percent, 7.2 percent, and 16.2 percent, respectively. The rapid increase in Life and Property Protection (which grew from 37.7 percent to 45.8 percent of Public Protection discretionary expenditures over the five-year period) was due to large increases in driver and vehicle services costs and the Alaska Disaster Office. The former may have been a result of increased mobility of Alaskans in response to

increases in wealth--additional vehicles owned, for example. The latter is not probably determined by personal income but reflects an increased state budgetary capability for carrying out services to communities. Expansion of consumer protection functions is apparently a result of the increased expenditures of the Pipeline, Transportation, and Public Utilities Commissions, arising out of an increasingly elaborate physical plant in a maturing state. The general awareness of hazards in industry, desires of consumers for financial protection, and additional demands on licensing services may be a general consequence of rising wealth of Alaskans but may have much more to do with a national social trend toward increased consumer protection, which is not necessarily the result of increased wealth.

Administration of Justice real per capita discretionary expenditures grew at an average annual rate of about 8.0 percent, the second highest of any category. The Executive Budget breaks this program category into five cover programs, and their relative growth reveals a little more about the probable causes of the high overall growth rate. The five categories are Criminal Justice Planning and Support, Criminal Identification and Apprehension, Due Process (mainly the judicial system), Offender Confinement and Parole, and Worker Protection. The smallest of these categories, Planning and Worker Protection, grew at real annual per capita rates of 39.6 percent and 28.0 percent, respectively, between 1972 and 1977. However, even when combined, they account for only 3.6 percent of total discretionary spending for Administration of Justice. Of

far more importance is that Crime Identification and Apprehension expenditures grew at a real per capita rate of 10.3 percent and, in so doing, increased from 22.9 percent to 26.5 percent of the discretionary Justice budget. The major increases have occurred since 1974, suggesting that the urbanization and pipeline impact may have caused much of the increase. Also, the increase is concentrated in the State Trooper Detachments and Criminal Investigation Bureau, which have nearly tripled their budget in the last three years, which the Budget Document says was "in response to public desire throughout the State for increased police protection." Due Process grew at slightly less than the average rate and about maintained its budget percentage (38.6 percent of Administration of Justice discretionary total in 1977), while Offender Confinement and Parole, the least oriented toward the public of all the major cover programs, grew at only 3.6 percent in real per capita terms and fell from 37.0 percent to 31.3 percent of the total. Of the large programs, police protection is probably the most oriented toward service to individuals in the community, since much police patrol work is primarily deterrent in nature. It is not surprising, therefore, that an apparent response to increased individual wealth, given the urbanization of Alaska, has been increased real spending per capita on police protection. It is less clear whether the Court System is exactly service-oriented, but if the primary service provided is a speedy resolution of disputes between individuals, and if both the number of disputes and the costs of delay are consequences of increased wealth, the amount spent on resolution of disputes should be

income elastic. Indeed, this seems to be the case. Expenditures for trial courts (district and superior courts) per capita held roughly constant in real per capita terms from 1972 to 1974, then increased by nearly 50 percent between 1974 and 1977. The fast growth in the Worker Protection cover program seems to be almost entirely a consequence of the Alaska Local Hire Law and its administration. A strong case can be made that expenditures for this function should have increased as per capita incomes rose, since much of the increase in per capita income was due to the pipeline-related jobs that were to be administrated under Local Hire. As the importance of the function rose, so would spending for the program.

Development category discretionary spending grew at 6.7 percent between 1972 and 1977. Except for the year 1975, when special pipeline impact grants of $10 million caused an upward aberration, the growth in this category was rapid and steady. Over 80 percent (86.6 percent in 1977) of all non-debt service funds spent in this category were for local community development (the remainder were spent for general economic development). In real per capita terms, combined Municipal Services Revenue Sharing and directly shared taxes have grown at 6.8 percent, which is just slightly greater than average for the whole category. The principal purpose of the system of grants from the State to local governments is to use the State's taxing power over incomes of individuals, corporations, and the State's mineral wealth to hold down property tax rates in local communities. Shared taxes are a direct result of taxes collected on

business licenses (gross receipts), amusements, aviation fuel sales, electricity and telephone services, liquor, and fisheries. Distributions would be proportional to collections, which are strongly influenced by the pace of the economy, as measured by incomes earned.

Municipal revenue sharing occurs on a per capita basis to local government units and consists of specific dollar amounts per capita for specific purposes. While there have been new programs and increases in the level of funding per capita for each of these purposes, the primary cause of the increase seems to have been the rapid increase in the qualifying population. The most extreme example is in transportation services, where the ratio of qualifying population for this purpose, to estimated state resident population (as estimated by the Department of Labor at the beginning of the fiscal year), went from 0.34 to 1.04. (The latter ratio implies there was a higher qualifying than total population in 1977. This is because borough governments and city governments within a borough can both qualify, using the same population.) To the extent that increases in demand for (especially new) local government services are a product of increased real incomes, and to the extent that municipal revenue sharing is motivated by a public desire to substitute the State's relatively progressive and income-elastic tax structure for the municipalities' and boroughs' essentially regressive property tax--and sales tax--dependent tax structures, the municipal services revenue program may be regarded as a program for which there may be increasing expenditures as real wealth rises. In the future, the Development category

might for this reason be highly correlated with increases in per capita income.

The final program category, General Government, consists of a wide variety of administrative and legislative governmental services functions which one would not necessarily expect to be correlated with per capita income, since most of the services are not provided directly to citizens. Most are of a general nature, such as those of the Legislature or Executive Office of the Governor, or are provided to other units of government (e.g. Legislative Budget and Audit, Archives, Risk Management, Buildings and Equipment Services). Expenditures are more likely to increase over time along with the size and complexity of the rest of state government. In the immediate future, the planning for movement of the state capital and its actual execution may lead to interim increases in this category, particularly for buildings and communications services.

The actual historical pattern of real per capita discretionary expenditures was estimated as a function of personal income and the level of available revenues for the years 1970 to 1977, using multiple regression techniques. The results from the runs are reported in Table 9. This exercise was considered useful, since it could be that even though growth in a given category of expenditure might occur for a series of precise identifiable reasons related to individual cover programs, a simpler and more general explanation might be provided by the growth in the economy and the amount of funds available. Second, multiple regression

allows us to statistically separate the effect of rising incomes from the related effect on available state funds, whereas they would ordinarily be observed to move together.

As Table 9 shows, in every case except Transportation, the separate elasticity of the per capita income term was statistically significant at the 95 percent confidence level. If the correct variables are in the equation, in only 5 percent of randomly selected repetitions of these analyses would the true value of the elasticity differ by more than two standard errors from the estimated value. In every case, the degree of significance was less for the available funds term, and in several cases it was not significant. The corrected multiple correlation coefficient, which measures the proportion of variation of dependent variable which can be attributed to the variation of both explanatory variables together, shows a very poor "fit" for General Government, but is at least adequate for the others. (Transportation is a marginal case and is only that good because of the dummy variable.)

The estimated elasticities vary considerably, but in no case was the elasticity for available funds nearly as large as that for personal income, indicating per capita expenditures were far more sensitive to variations in the level of personal incomes than they were to variations in the estimated supply of funds (General Fund balance plus estimated taxes). A plausible way of interpreting this piece of data is that even in cases where there is an outside source of funds available for appropriation that does not involve an increase in personal taxes, the demand

EXPENDITURES ESTIMATED AS A FUNCTION OF PER CAPITA INCOME AND AVAILABLE FUNDS[1]

Department Variable	Per Capita Income[2] Estimated Elasticity[3]	Standard Error	Student "t" Ratio[4]	Per Capita Available Funds Estimated Elasticity[3]	Standard Error	Student "t" Ratio[4]	CRSQ[5]
Total	0.828	0.079	10.514*	0.127	0.020	6.308*	0.954
Education	0.959	0.046	20.993*	0.218	0.117	18.594*	0.991
Social Services	1.344	0.242	5.542*	0.338	0.622	5.438*	0.889
Health	0.583	0.096	6.069*	0.142	0.025	5.755*	0.903
Natural Resources	0.640	0.086	7.458*	0.482	0.022	2.190	0.891
Public Protection	1.528	0.187	8.165*	0.017	0.048	0.347	0.902
Administration of Justice	1.061	0.016	6.769*	0.034	0.040	0.835	0.863
Development[6]	0.931	0.160	5.821*	0.169	0.040	4.224*	0.939
Transportation[7]	0.216	0.081	2,672	0.031	0.020	1.551	0.749
General Government	0.534	0.179	2.979*	- 0.037	0.046	0.814	0.525

*Statistically significant coefficient.

[1]The estimated per capita levels of expenditures are the same as in Table 7. The regression form was $\ln(y) = a + b \cdot \ln(x) + c \cdot \ln(z)$, with 8 observations, this gave 5 degrees of freedom.

[2]The per capita income measure actually used was per capita lagged one period, which was believed to be a superior measure of expected wealth in the year for which a budget was written, and because it provided a superior statistical fit.

[3]Rounded to three decimal places. All estimates were rounded off.

[4]The critical values for a two-tail test with 95 percent confidence intervals are 2.571 for 5 degrees of freedom, 2.776 for 4 degrees of freedom, 3.182 for 3 degrees of freedom. Absolute values are shown in each case.

[5]CRSQ = Multiple correlation coefficient, corrected for degrees of freedom.

[6]A dummy variable was used in this equation to adjust for the 1975 pipeline impact grants. Degrees of freedom = 4.

[7]A dummy variable was used in this equation to adjust for unexpectedly high transportation maintenance expenditures in FY 1975. Degrees of freedom = 4.

for some classes of services would not necessarily keep pace with increases in the wealth of the citizens of the state. This was true in the historical period for education, health, natural resources development, transportation, and general government. On the other hand, social services (particularly employment services and services to the aged), public protection (especially crime prevention), and administration of justice (particularly district and superior courts) might be expected to take increasing proportions of the Alaska budget.

Finally, it is not obvious from the data that substantial additional revenues at this point would have a significant impact on the level of real per capita spending. While there was a rapid one-time adjustment between 1970 and 1971, both the low elasticities shown in Table 9 for available funds and the more moderate growth rate of the budget between 1972 and 1977 indicate that demand for government services may be the more important factor in state spending over the long run. When the state once again approaches its fiscal limits, a lower growth rate in expenditures than those indicated in Table 7 would probably occur, since those shown in Table 7 are essentially unconstrained growth rates in expenditures. The best news of all to the fiscal conservative is that the rate of increase in expenditures of the State government is not infinite when the fiscal constraints are temporarily taken off. Unfortunately, the question of what would happen if the increase in funding were relatively permanent rather than transitory cannot be answered using the historical data.

The Effect of Wage Rates on Operating Expenditures

Another interesting aspect of the history of the Alaskan budgets from 1970 to 1977 can be stated as the following question: if the rate of spending per capita increased between 1970 and 1977, was this merely because wage rates of state workers were increasing, or because there were additional services provided? There can be no really good answer to this question because, except in a few cases, the "services" or "output" of state government are very difficult to count. By contrast, in private industry the output is sold, and this provides a measure of the value or amount of service to the consumer. Government often specializes in goods and services for which a market either cannot be established or which social policy has excluded from the marketplace.

A partial and somewhat indirect answer can be given, however. One aspect of the answer is to see how much of the change in per capita expenditures over the historical period can be attributed to variations in wages paid per unit of labor, how much was due to changes in the level of "service," as measured by numbers of state workers in each fiscal year, and how much was due to other causes. The rationale for focusing on state government wages and employment is twofold. First, government workers are a large and highly visible component of government expenditures, so it is worthwhile to see what the effect of wage increases might have been on the average program category during the period. Second, since workers in other industries compare their increases in wages with

those of state workers, it is worthwhile to note whether increases for state workers have been significantly faster or slower than in other industries.

Table 10 shows total non-University real operating expenditures per capita, real non-University personal services expenditures per capita, real personal services expenditures per non-University worker, and non-University government workers per capita for the fiscal years 1970 to 1977. The bottom half of the table shows each variable as an index, with 1972 equal to 100.0. As can be seen from the table, personal service expenditures per capita grew substantially slower between 1972 and 1977 than total operating expenditures per capita; however the increase in personal service expenditures per worker tended to lead personal service expenditures per capita. This latter result, as described below, may be at least partially due to the drop in total state employment associated with the transfer of rural elementary and secondary school functions to the Rural Education Attendance Areas, and possibly higher average salaries among the remaining employees. In any case, increases in expenditures per worker more than offset the decline in employment, and personal services per capita expenditures grew by 3.3 percent between 1972 and 1977. This was in spite of the fact that state government workers per thousand population, a crude measure of "service," slipped from 33.3 population to 26.96 per thousand between 1972 and 1977. The latter ratio was even slightly lower than in 1970, while expenditures per worker were about 47 percent higher. This does not tell the whole story, however.

Table 10

INFLUENCE OF PERSONAL SERVICES EXPENDITURES
PER WORKER ON EXPENDITURES
PER CAPITA, 1970-1977

Total Non-University Operating Expenses (Less Debt Service) Per Capita (1967 $)	Personal Services Expenditures Per Capita (1967 $)	Personal Services Expenditures Per Non-University State Worker (1967 $)	Non-University State Workers Per Thousand Population
$1,162.39	$343.76	$12,751	26.96
1,099.33	307.91	11,192	27.51
1,131.95	395.54	11,184	35.37
1,101.05	385.66	11,258	34.26
1,042.86	366.64	10,390	35.29
980.75	332.73	9,992	33.30
942.99	312.72	10,116	30.91
690.92	243.46	8,665	28.09
	Index (1972 = 100.0)		
118.5	103.3	127.6	81.0
112.1	92.5	112.0	82.6
115.4	118.9	111.9	106.2
112.3	115.9	112.7	102.9
106.3	110.2	104.0	106.0
100.0	100.0	100.0	100.0
96.1	94.0	101.2	92.8
70.4	73.2	86.7	84.4

s: Executive Budgets; State of Alaska Department of Labor, Employment Security Division, Research and Analysis Section, Statistical Quarterly.

Table 11 demonstrates, using a slightly different measure of employment, that the increase in personnel costs may have been partially caused be a change in the structure of Education costs. Comparing the indices from Tables 10 and 11, one can see that total personal services expenditures per non-University man-month of labor shows a lower rate of increase than does personal services expenditures per non-University employee, shown in Table 10. The exact reasons for this are not clear, but the difference arises from a systematic increase in the ratio of budgeted man-months to actual average numbers of employees between 1972 and 1977. The cause may be increased use of part-time help by state agencies, or by a failure to spend all budgeted man-months allocated, or simply differences in reporting. In both tables, between 1972 and 1975, unit labor costs were rising more slowly than personal services expenditures per capita, implying that some of the cost increase was due to additional "services" rendered. In 1976, the downward adjustment in workers and personnel expenditures which occurred when the State Operated Schools became local schools evidentally involved a proportionately larger decrease in workers than it did in expenditures per worker, since personal services expenditures per capita (B) fell by more than expenditures per man month (A). Since this adjustment, unit personnel expenses have again been rising slower than personal service expenditures per capita--a change from 1976 to 1977 of 5.3 percent as opposed to 11.7 percent--which indicates increased employment per capita is again explaining more than half the increase in personnel costs.

Table 11

INDICES OF REAL PERSONAL SERVICES EXPENDITURES PER BUDGETED MAN-MONTH, REAL PERSONAL SERVICES EXPENDITURES PER CAPITA, AND OPERATING EXPENDITURES PER CAPITA BY PROGRAM CATEGORY, 1972-1977

(1972 = 100.0)

	Education[1]			Social Services			Health			Natural Resources			Public Protection		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
1977	99.9[2]	14.0[2]	109.9	118.5	134.4	111.8	118.4	113.2	148.7	118.7	147.5	115.7	116.4	172.2	190.9
76	96.8[2]	13.0[2]	103.7	124.6	131.7	114.5	109.1	107.2	138.3	116.8	135.6	110.1	106.7	122.9	162.1
75	97.0	105.4	105.4	108.0	130.3	104.5	107.9	110.6	137.4	107.8	127.7	105.6	103.3	142.2	163.1
74	113.1	109.7	107.9	105.0	116.0	119.4	101.1	108.1	131.9	100.5	117.0	97.5	102.8	133.7	134.3
73	128.5	116.9	105.6	108.5	116.4	112.9	97.5	103.6	117.2	103.2	108.7	90.7	97.9	109.0	107.5
72	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

	Administration of Justice			Development			Transportation			General Government			Total[1]		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
1977	119.8	137.9	139.1	102.2	146.3	131.9	114.6	114.2	107.9	132.1	123.6	136.5	114.9	103.3	118.5
76	118.6	124.6	127.7	98.2	128.3	122.6	110.3	109.2	103.2	145.1	127.5	123.6	109.1	92.5	112.1
75	110.6	126.4	130.4	96.7	120.3	173.0	109.4	119.1	115.3	116.2	116.7	123.5	106.6	118.9	115.4
74	101.1	113.5	115.5	94.6	121.8	111.2	100.4	110.1	105.7	137.7	139.2	131.2	107.4	115.9	112.3
73	102.8	103.9	104.5	80.6	120.4	110.5	103.2	106.4	102.5	99.8	110.1	111.9	106.8	110.2	106.3
72	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

A = Real Personal Services Expenditures Per Budgeted Man-Month Index (1972 = 100.0)
B = Real Personal Services Expenditures Per Capita Index (1972 = 100.0)
C = Real Operating Expenditures (Less Debt Service) Per Capita

Note: [1]University of Alaska personal services expenditures and man-months are excluded. The University budget is included only as transfers to the University affect the General Fund budget.

[2]State Operated Schools were transferred to local control and placed under the School Foundation Program in FY 1976.

The distribution of increases shown in Table 11 reveals that average costs per worker may be rising at very different rates in different categories. So it appears from the personal services expenditures per budgeted man-month. The only categories showing five-year increases less than the average in personal services expenditures per man-month are Education, Development, and Transportation. However, Education is the only category showing a below-average gain in personal service expenditures per capita, since employment increases in the other two categories make up the difference between the rates of increase in personnel costs per man-month and personnel costs per capita. Personal services expenditures per man-month grow faster than personal services expenditures per capita in Education, Health, Transportation, and General Government. In all other cases, the increase in per capita personnel costs was partially due to budgeted man-months' growth rate exceeding the growth rate in population, and in some cases such as Public Protection, employment growth was the larger cause of increased personnel costs. Finally, both in the totals and in several of the detailed program categories, it is apparent that since personal services expenditures per capita grew more slowly than total operating expenditures per capita, one cannot look to wages and salaries alone, or even to personnel expenditures, to fully explain the 1972 to 1977 budget changes. The causes of increase are clearly broader.

The final question is whether the increase in expenditures on state workers, especially wages and salaries, has grown significantly faster

than the wages and salaries of workers in other industries. Table 12 shows that for the years 1972 to 1976, state government (this time, including University employees) workers came in fifth, when ranked with other sectors of the economy according to earnings gains during the period 1972-1977. If the period 1966-1976 is broken down differently, into pre-North Slope (1966-69), pre-pipeline (1969-1974), and pipeline periods, state government workers do not do much better. From 1966 to 1969, they ranked fourth; from 1969 to 1974, second; and from 1974 to 1977, sixth. They also rank second between 1970 and 1972. While growth in state workers' real earnings has been steadier than in most of the other sectors, it certainly has not been faster, overall.

Conclusion

In summary, one can say that between 1970 and 1977, the state budget grew rapidly by almost any measure. However, the rate of growth has been much slower since the initial adjustment to North Slope oil revenues, and much of the growth was due to inflation and changes in the population of Alaska. Real per capita expenditure growth has been very unevenly distributed among programs, for a variety of reasons.

Second, the discretionary operating budget appears to be more sensitive to changes in the "demand" side of state expenditures than it is to transitory changes in available revenues. Finally, the rate of increase cannot be solely or even for the most part attributed to increases in wages and other personal services expenditures, which were not out of line with the growth in wages in most industries in Alaska.

Table 12

REAL EARNINGS PER WORKER AND INDEX OF REAL EARNINGS PER WORKER BY INDUSTRY, ALASKA, FY 1966-1976

(1967 Dollars; 1972 = 100.0)

	Contract Construction:		Services:		Transportation, Communications, Public Utilities:		Mining:		State Government:		Trade:	
	Earnings[1]	Index	Earnings[1]	Index	Earnings[1]	Index	Earnings[1]	Index	Earnings[1]	Index	Earnings[1]	Index
1976	$26,725	155.5	$10,433	147.4[2]	$14,666	132.4[2]	$19,445	121.6	$10,958	108.5	$8,365	105.6
75	23,337	135.8	9,159	129.4[2]	13,210	119.2[2]	18,504	115.7	10,557	104.5	8,150	102.9
74	16,996	98.9	7,645	108.4	11,673	105.4	15,962	99.8	10,268	101.7	7,706	97.2
73	16,333	95.1	7,446	105.2	11,459	103.4	16,175	101.2	10,004	99.1	7,885	99.5
72	17,183	100.0	7,080	100.0	11,080	100.0	15,988	100.0	10,099	100.0	7,924	100.0
71	16,302	94.9	7,043	99.5	10,985	99.1	16,040	100.3	9,742	96.5	7,799	98.4
70	16,994	98.9	7,066	99.8	11,088	100.1	15,618	97.7	9,217	91.3	7,921	100.0
69	16,671	97.0	7,047	99.5	10,723	96.8	15,134	94.7	8,730	86.4	7,776	98.1
68	15,799	91.8	6,831	96.5	10,671	96.3	15,227	95.2	8,546	84.6	7,770	98.1
67	16,087	93.6	6,512	92.0	10,480	94.6	13,656	85.4	8,166	80.9	7,639	96.4
66	14,725	85.7	6,460	91.2	10,167	91.8	12,892	80.6	7,919	78.4	7,595	95.8
e Annual 1974-76:	+ 25.4%		+ 16.6%		+ 12.1%		+ 10.4%		+ 3.3%		+ 4.2%	
e Annual 1969-74:	+ 0.4%		+ 1.7%		+ 1.7%		+ 1.1%		+ 3.3%		- 0.2%	
e Annual 1966-69:	+ 4.2%		+ 2.9%		+ 1.8%		+ 5.5%		+ 3.3%		+ 0.8%	
e Annual 1972-76:	+ 11.7%		+ 10.2%		+ 7.3%		+ 5.0%		+ 2.1%		+ 1.4%	

Table 12 (continued)

	Federal Government		Manufacturing		Finance, Insurance, Real Estate		Local Government		Agriculture, Forestry, Fisheries	
	Earnings[1]	Index	Earnings[1]	Index	Earnings[1]	Index	Earnings[1]	Index	Earnings[1]	Index
1976	$10,008	100.8	$ 9,828	99.8	$8,531	99.8	$9,836	99.3	$10,569	97.3
75	10,159	102.3	10,192	103.5	8,611	100.7	9,250	93.4	12,275	113.1
74	10,219	102.9	9,753	99.0	8,743	102.2	9,563	96.5	15,134	139.4
73	10,493	105.7	9,625	97.0	9,000	105.2	10,364	104.6	13,172	121.3
72	9,930	100.0	9,848	100.0	8,552	100.0	9,907	100.0	10,857	100.0
71	9,968	100.4	9,860	100.1	8,264	96.6	9,474	95.6	10,919	100.6
70	9,735	98.0	9,531	96.8	8,229	96.2	8,937	90.2	11,718	107.9
69	8,761	88.2	8,879	90.2	7,779	91.0	8,600	86.8	12,356	113.8
68	8,880	89.4	8,901	90.4	7,784	91.0	8,494	85.7	8,073	74.6
67	8,329	83.9	8,720	88.5	7,688	90.0	7,787	78.6	9,413	86.7
66	8,019	80.8	9,073	92.1	7,827	91.5	8,219	83.0	9,556	88.0
Average Annual Growth 1974-76:	- 1.0%		+ 0.4%		- 1.2%		- 1.4%		- 16.5%	
Average Annual Growth 1969-74:	+ 3.1%		+ 1.9%		+ 2.3%		+ 2.1%		+ 4.1%	
Average Annual Growth 1966-69:	+ 3.0%		- 2.1%		- 0.2%		+ 1.5%		+ 8.9%	
Average Annual Growth 1972-76:	+ 0.2%		Negl.		Negl.		- 0.2%		- 0.7%	

Table Notes:

1. Real earnings were estimated by summing total nonagricultural quarterly payroll for each industry for the four quarters of the fiscal year, as reported and corrected in Department of Labor's Statistical Quarterly, dividing by an average of the corresponding 12-month's employment reported in the same place, and deflating by the Consumer Price Index for Anchorage, Alaska (October 1967 = 100.0). For the years 1970-1977, a simple average of the four quarterly CPI observations within the fiscal year (July-June) was used. For the years 1965-1968, the index was not estimated quarterly, so an estimate of each non-reported quarter was first generated from corresponding annual data by assuming the implicit annual rate of change reflected in the October index occurred in each quarter of the year. The quarterly estimates were then averaged on a fiscal year basis.

2. Substantial pipeline employment is buried in these sectors in the year noted.

Sources: Alaska Department of Labor, Research and Analysis Section, Statistical Quarterly, various issues.

U.S. Bureau of Labor Statistics, "Consumer Price Index - Pacific Cities and U.S. Average," various issues.