EMPLOYMENT OUTLOOK 1983-1988

By Brit Harvey

METHODOLOGY

A discussion of likely trends in Alaska nonagricultural wage and salary employment, overall and by industry, is presented below for the period 1983 to 1988. This outlook is based on Research and Analysis staff judgement. Major assumptions are noted where appropriate.

OVERVIEW

The Alaska economy is currently experiencing rapid growth. The primary cause of this growth is State spending and lending of Prudhoe Bay revenue. A November 1982 study found a close correlation (R^2=.85) between State expenditures and employment.*1/* While the exact degree of influence is debatable, it is clear that State expenditures are driving the economy. State expenditures are the key economic variable during the forecast period.

State expenditures are essentially a function of three variables; Prudhoe Bay (including Kuparuk) production, the price of Prudhoe Bay crude oil, and the lag time between receipt and actual warrant expenditure of State income. Prudhoe Bay is currently very close to peak production of 600 million barrels per year. Production will decline rapidly, beginning about 1988. The probability of new fields contributing significantly to the State's income as Prudhoe Bay declines has been estimated at less than 1%. The probability of other sources, such as income taxes or coal production taxes, contributing significantly during the decline approaches zero. Only Prudhoe Bay natural gas could slow the decline, and this appears very unlikely. Of all the economic factors influencing Alaska employment, the decline of Prudhoe Bay production and the impossibility of replacing the State's Prudhoe Bay income flow are the most predictable.

The price received for Prudhoe Bay crude was $27 per barrel (FOB U.S. Gulf Coast) in March 1983. (This price is about $1 below the comparable delivered spot price for Saudi light crude.)

It is assumed that the Alaska crude price will continue to fall gradually to about $25 per barrel, and will remain at this level throughout the forecast period. This assumption might be considered conservative in the chaotic world oil market.

While Prudhoe production is largely an environmental given and world oil prices are beyond the control of any organization, the lag time between State oil income receipt and expenditure is at least theoretically a public policy. A recent study*2/* outlined a scenario where the State could cut spending, increase savings, and operate comfortably off the interest

indefinitely. The opposite scenario is rapid spending of State revenue accompanied by State borrowing to "leverage" the Prudhoe Bay wealth. All indications are that the State is following the latter course. Lacking evidence of an overriding public will to save the Prudhoe Bay inheritance and curtail current spending, the assumption is made that the curren pattern of State spending will continue. This means disbursement in some manner of permanent fund dividends, substantial additions to bonded indebtedness, allocations of almost all revenues in the year they are forecast to be received, and a substantial lag between allocation and actual warrant expenditure due to administrative delay.3/

Population is another variable best discussed in overview. The relationship between population and employment is important and complex. Increasing employment opportunities trigger in-migration, which creates further new job opportunities. This positive feedback cycle is currently operating strongly.

The assumption is made that national unemployment rates will remain at 10.0% or above through 1983, and will remain above 8.5% throughout the forecast period. This will produce in-migrant pressure, particularly during 1983. The extremely rapid population growth of the last two years is assumed to continue through 1983, and to decelerate in 1984, reaching a plateau in 1985, and showing only slight increases for the rest of the forecast period.

Nonagricultural wage and salary employment will increase by 5% during 1983. Construction and secondary industries will drive this growth. 1984 is likely to see a leveling off of employment growth.

Under the assumptions presented above, little growth can be expected during 1985-87. 1988, the five-year horizon of this forecast, is likely to see an employment decline of about 3%. The decline of Prudhoe Bay production will be inescapable, as state and local government layoffs combine with secondary industry contraction to reduce employment. No major project will take up the slack. The business and employment outlook will be bleak.

It should be noted that the potential exists for a statewide depression occurring in the mid to late 1980's. Several economists have made such a forecast. While this scenario is considered less likely than that presented above, the sensitivity of Alaska's economy to volatile oil prices introduces uncertainty into any forecast. The possibility of economic contraction occurring prior to Prudhoe Bay's decline deserves consideration.

MAJOR INDUSTRY FORECASTS

MINING 8,900 (1982 Annual average employment)

OIL AND GAS

Oil and gas employment will remain stable in 1983, and increase at about 3% annually from 1984 through 1988. Growth will be driven by statewide exploration and preliminary development of Beaufort Sea fields. The large payments made for Beaufort Sea leases, Alaska's high potential for giant fields, and the oil pipeline owners' need for crude to send through the pipeline following Prudhoe Bay's decline, all insure prompt, continuing investment in Alaska. Relatively tight industry budgets will slow this growth somewhat, and will prevent growth in employment during 1983.

OTHER MINING

Despite widespread publicity, non-oil mining is a minor industry in Alaska (9% of mining employment), and will remain so throughout the forecast period. The following projects will not affect employment significantly during the forecast period: Diamond Shamrock/CIRI Beluga coal, Placer Amax synthetic fuels, Cominco/NANA metals, and (due to small size) Noranda metals. The U.S. Borax molybdenum project must currently be considered questionable due to extremely poor molybdenum markets and projected poor world steel markets during the forecast period.

FORECAST - Gradual growth from 1984 through 1988, with possible faster growth in 1987 and 1988 due to the Borax project.

CONSTRUCTION 14,100

Construction is primarily a function of state expenditures and oil industry nvestment. Oil industry construction expenditures will peak during 1983. By 1984 the massive investment in Prudhoe/Kuparuk will be largely complete, and construction employment will decline sharply on the North Slope. Further declines are expected in 1985. Beyond 1985 construction employment is likely to increase somewhat due to Beaufort Sea exploration and development.

Non-oil related construction will follow a different trend. Following a post-pipeline peak in 1983 (8-10% annual growth), construction will drop in 1984 and will continue to decline through the forecast period. The pattern is closely related to state expenditures.

FORECAST - 11% growth in 1983, followed by a steep decline in 1984, and further declines through 1988.

MANUFACTURING 11,600

FOOD AND KINDRED

This sector is heavily influenced by the size of fish runs, which are difficult to forecast. A small decline is likely in 1983. Beyond 1983 it is assumed that employment will be stable. Significant increases in bottomfish processing employment are assumed not to occur during the forecast period.

FOREST PRODUCTS

A slight recovery may occur in 1983 due to increased Japanese demand. Beyond this point there is no reason to assume any further recovery will occur. There is the possibility of temporary or permanent employment declines should industry firms encounter further financial difficulties.

OTHER MANUFACTURING

It appears that Tesoro will expand its refinery, marginally increasing employment. Elsewhere, other manufacturing will behave similarly to the secondary industries.

FORECAST - Modest growth in 1983 and 1984. No growth through 1985 and 1986. Decline in 1988.

GOVERNMENT 60,200

FEDERAL

Federal government employment has remained flat during the 1980's. There is no reason to expect a change in this trend. Population-driven increases will be balanced by cutbacks in other programs.

STATE AND LOCAL

The Sheffield administration appears to be making a sustained effort to limit state government employment growth. The proposed zero-based budget for SFY85 can be expected to result in cutbacks. Population growth will put upward pressure on State employment for at least two years. Revenue declines will exert downward pressure, although the timing is a political question.

Local government employment will be heavily influenced by State contributions to local budgets. Local government is even more sensitive to population related demands.

FORECAST - Government employment will increase slightly in 1983, and gradually decline through the remainder of the forecast period. The

potential exists for growth in the earlier period followed by a crisis collapse in State and local employment in the late 1980's.

"ECONDARY INDUSTRIES 96,800

State expenditures and population are the primary influences on the secondary industries. The maturing of Alaska's economy during the current boom has increased the per capita secondary industry employment, which further increases population. This feedback phenomenon will also operate in reverse during the late 1980's, although not as strongly as during the growth phase.

FORECAST - 7% increase in 1983, 4-5% growth in 1984, 1% growth in 1985, flat in 1986 and 87, and a 2% decline in 1988.

SOURCES:

1/ "State Spending and the Alaska Economy", Erickson and Associates; Nov. 1982.

2/ "Sustainable Spending Levels from Alaska State Revenues;" Scott Goldsmith; March 1983.

3/ See 1 above.

Alaska Annual Average
Nonagricultural Wage and Salary Employment Forecasts
1982-1988 1/

	1982	1983	1984	1985	1986	1987	1988
TOTAL	194,400	204,100	206,100	206,100	205,100	205,700	199,500
Mining	9,100	9,100	9,400	9,700	10,000	10,200	10,300
Construction	14,500	16,000	13,200	12,200	11,100	10,900	10,000
Manufacturing	11,100	11,800	12,000	12,200	12,200	12,200	12,000
Food & Kindred	5,700	5,600	5,800	5,600	5,600	5,600	5,600
Lumber & Pulp	2,700	2,900	3,000	3,000	3,000	3,000	3,000
Other	2,700	3,100	3,400	3,000	3,600	3,600	3,400
Trans. Comm. & Util.	18,400	19,300	19,900	20,000	20,200	20,100	20,000
Trade	35,600	38,000	39,800	40,000	40,600	41,400	41,100
Finance-Ins. & Real Estate	9,400	10,300	10,900	11,000	11,200	11,400	10,900
Services	35,000	38,200	39,800	40,000	40,600	41,200	38,900
Government	61,200	61,400	61,100	61,000	60,200	59,200	56,300
Federal	17,900	17,900	17,900	17,900	17,900	17,900	17,900
State	17,800	17,900	17,800	17,600	17,300	17,000	15,800
Local	25,400	25,600	25,400	25,500	25,000	24,300	22,600

1/ Subcategories may not sum due to rounding.

Alaska Annual Average Percent Change
Nonagricultural Wage and Salary Employment Forecasts
1983-1988

	82-83	83-84	84-85	85-86	86-87	87-88
TOTAL	4.9	1.0	0.0	0.0	-0.2	-3.0
Mining	0.0	3.3	3.2	3.1	2.0	1.0
Construction	10.3	-17.5	-7.6	-9.0	-1.8	-8.3
Manufacturing	6.3	1.7	1.7	0.0	0.0	-1.6
Food & Kindred	-1.8	0.0	0.0	0.0	0.0	0.0
Lumber & Pulp	7.4	3.4	0.0	0.0	0.0	0.0
Other	14.8	9.7	5.9	0.0	0.0	-5.6
Trans. Comm & Util	4.9	3.1	0.5	1.0	-0.5	-0.5
Trade	7.3	4.2	0.5	1.5	2.0	-0.7
Finance-Ins. & Real Estate	9.6	5.8	0.9	1.8	1.8	-4.4
Services	9.1	4.2	0.5	1.5	1.5	-5.8
Government	0.3	-0.5	-0.2	-1.3	-1.7	-4.9
Federal	0.0	0.0	0.0	0.0	0.0	0.0
State	0.8	-0.6	-1.1	-1.7	-1.7	-7.1
Local	0.8	-0.8	0.4	-2.0	-2.8	-7.0