

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 8672
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As stated before, the property factor is a fraction whose numerator is the average value of the taxpayer's real and tangible personal property owned or rented and used in the state during the year. The denominator of the fraction is the average value of all the taxpayer's real and tangible personal property owned or rented and used during the year. In determining the values that go into this fraction, the following valuation principles are observed:

Property owned by the taxpayer is valued at its original cost. Rented property is valued at eight times the net annual rental rate. The net annual rental rate is the annual rental rate paid by the taxpayer less any annual rental rate received by the taxpayer from subrentals. The average value of property is determined by averaging the values at the beginning and ending of the year although the state may require averaging on a more frequent basis such as the monthly values during the year. For example, buildings and real estate owned by an oil corporation are included in the property factor at their original cost rather than at their market value. Equipment which is rented by a company would be included at 8 times its net annual rental rate. Other special leasehold properties such as oil and gas leases would be included in the property factor based upon the lease acquisition cost (bonus) plus 8 times the annual rental payments.

The payroll factor is a fraction, the numerator of which is the total amount of compensation paid its employees in this state during the year by the taxpayer. The denominator of the payroll factor is the total compensation paid its employees everywhere during the year. Compensation is treated as being paid in Alaska if the individual's service is performed entirely within the state. If an employee's service is performed both inside and outside the state but the service performed outside is incidental to the individual's service within the state, then the compensation will still be treated as paid in the state. If only some of an employee's service is performed in the state, then the compensation is treated as being paid in Alaska if the base of operations is in the state or the service is being directed in the state.

The sales factor is a fraction, the numerator of which is the total sales of the taxpayer in Alaska during the year. The denominator of the fraction is the total sales of the taxpayer everywhere during the tax period. Sales of tangible personal property are assigned to the state if:

- (1) the property is delivered or shipped to a purchaser, other than the United States Government, within Alaska regardless of the f.o.b. point or condition of the sale, or
- (2) the property is shipped from an office, store, warehouse, factory or other place of storage in Alaska and the purchaser is the United States Government or the taxpayer is not taxable in the state of the purchaser.

Sales, other than sales of tangible personal property, are assigned to the state if:

- (1) the income-producing activity is performed in Alaska; or
- (2) the greater portion of the income producing activity is performed in Alaska.

For example, these rules assign sales of petroleum products made by an oil corporation to Alaska only if they are destined to purchasers in Alaska. Sales of services, on the other hand, would be assigned to the state where the income producing activity is performed.

A special rule applies with respect to sales of tangible personal properties which are destined for a state when the taxpayer is not subject to tax by that state. In that case, the sales are "thrown back" to the state of origin. For example, if a corporation is making sales which are destined to a purchaser in Alaska, the sale would normally be assigned to Alaska. If, however, the only activity of the corporation in Alaska is the solicitation of orders and shipment of the product into the state from outside, then Alaska would not have jurisdiction to tax and the sale would be "thrown back" or assigned to the state of origin.

After the tax base is determined and the apportionment formula is calculated, it is then necessary to determine which portion of the tax base is subject to apportionment. The amount of income subject to apportionment is the net income from the unitary business, and the accounting method used to determine the net income from the unitary business is called the combined report.

The unitary business and the combined report. For many reasons, a business is not always run through one corporate entity. Especially in the case of very large companies operating on a global basis, literally hundreds of corporations may be formed to carry on the activities of what, in reality, is one unified, controlled business. To limit the determination of the Alaska source income to the one

corporate entity actually doing business in this state would be ignoring the reality that the one corporation is just an artificially defined part of the total business. Thus the net income from the entire unitary business is combined to determine the amount of income subject to apportionment to Alaska.

Although there are various tests to determine what is the unitary business, it is generally assumed that a business is unitary if there is (1) unity of ownership (more than 50% common ownership), (2) unity of operation (as evidenced by central purchasing, advertising, accounting and management divisions), and (3) unity of use (in its centralized executive force and general system of operation).

After the unitary business operations are defined, regardless of the structure or location of them, the results of operations of that total business are defined by reference to the Internal Revenue Code with specific Alaska modifications. That income is then divided between business and non-business income.

The business income of the entire business enterprise is then apportioned to Alaska using the three factor formula explained above. Any non-business income allocated to Alaska is added to the results of the formula and the Alaska tax rate is applied to the total assigned net income.

The effect of this unitary method of accounting (combination) is to apply the same formula approach for determining Alaska source income, regardless whether the business structures its operations through one corporation or through several.

To illustrate the concepts discussed above, an example of the division of income is discussed below.

Example

ABC Oil Co. is a worldwide oil company involved in the production, transportation and marketing of petroleum products. The business activities are carried out by the parent company and 54 subsidiaries. The operations in Alaska are carried out by three corporations:

1. The parent company involved in oil production,
2. A subsidiary navigation company involved in transportation of the crude oil to refineries, and
3. An Alaska marketing subsidiary which sells through service stations, products which were refined outside of Alaska. The three companies elect to file consolidated returns for Alaska purposes.

Its tax would be calculated as follows:

Income

Total "everywhere" business net income of Company A and all 54 subsidiaries	\$24,750,000
Add back unallowable income taxes	<u>20,250,000</u>
Alaska adjusted apportionable business income	\$45,000,000
Alaska allocated non-business income	\$10,000

Apportionment Factors

	Alaska	Worldwide	Alaska Factor
Property	245,000,000	6,140,000,000	4.0%
Payroll	5,000,000	356,000,000	1.4%
Sales	4,290,000	3,860,000,000	<u>.1%</u>

Of the total sales of all the companies, only .1% are destined to Alaska with 4% of the property in the state and 1.4% of the payroll located in Alaska.

Sum of the Alaska factors	<u>5.5%</u>
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Total apportionment factor percentage (5.5% divided by 3)	<u>1.8%</u>
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The consolidated Alaska taxable income and tax liability of the three companies operating in the state is computed as follows:

Total Alaska adjusted apportionable income of all companies	\$45,000,000
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Apportionment factor (divided by 3)	<u>1.8%</u>
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Alaska taxable income from apportionment of business income (1.8% X 45,000,000) =	\$ 810,000
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Alaska taxable income from allocation of non-business income	<u>\$ 10,000</u>
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Total Alaska taxable income	\$ 820,000
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Tax on first \$50,000 (@ 5.4%)	\$ 2,700
Tax on remainder (@ 9.4%)	72,380
Total Alaska tax due	\$ 75,080

Other methods of dividing income. In addition to the allocation and apportionment provisions discussed above, UDITPA provides other methods for extraordinary situations.

Section 18 of UDITPA provides:

If the allocation and apportionment provisions of this Article do not fairly represent the extent of the taxpayer's business activities in this state, the taxpayer may petition for or the tax administrator may require, in respect to all or any part of the taxpayer's business activity, if reasonable:

- (a) separate accounting;
- (b) the exclusion of any or more of the factors;
- (c) the inclusion of one or more additional factors which will fairly represent the taxpayer's business activity in the state; or
- (d) the employment of any other method to effectuate an equitable allocation and apportionment of the taxpayer's income. 31/

Thus the UDITPA provisions do allow some flexibility for the State or the taxpayer if the uniform allocation and apportionment provisions do not fairly represent the extent of the taxpayer's business activity in Alaska. These other methods include separate accounting, the use of different sets of factors or any other reasonable method.

One of those situations where the standard allocation and apportionment provisions do not accurately represent the taxpayer's business activities is the income taxation of transportation companies. Traditionally, transportation companies allocated and apportioned their income differently because of their unique characteristics which distinguish them from general mercantile businesses. Utilities and

financial institutions are specifically excluded from the provisions of UDITPA because of their unique characteristics, and the State must apply different allocation and apportionment provisions to them. 32/

For transportation companies, the State has applied different apportionment formulas to reflect their unique characteristics of continuous movement of property, employees and products through several jurisdictions. These formulas are also designed to prevent the assignment of income to high seas, foreign jurisdictions or the air ways. For example, the legislature has provided special allocation and apportionment rules for water transportation carriers transporting passengers or freight. For property located in fixed locations and wages of employees assigned to fixed locations, the standard apportionment formula in UDITPA applies. However, for the vessels used and wages of employees working on water transportation carriers, a "days spent in port" formula is used. Sales made by water transportation carriers are also assigned among the various states on the basis of a "days spent in port" formula. 33/

The "days spent in port" formula is a fraction whose numerator is the number of days spent by the water transportation carriers in Alaskan ports and whose denominator is the total number of days spent in ports everywhere by them. Days spent in ports do not include periods when the ships

are detained in port because of strikes, repairs, or seasonal reductions in service. Thus, under the "days spent in port" formula, property and payroll is assigned on the basis of days spent in port, which gives recognition to the loading and unloading of passengers and freight while at the same time not attributing income to the high seas.

In addition to transportation companies, there may be other industries which warrant special formulas based upon unique characteristics.

Separate accounting. Besides modification in the apportionment formula and the adoption of new and different apportionment formulas, UDITPA also provides for the use of separate accounting. It should, however, be noted that, as with the modifications of the factors, it is used only in exceptional cases rather than being the rule.

Separate accounting assumes that the portion of the business operated in one state can be separated from the rest of business operated elsewhere and accounted for separately. In effect, the corporation's activities in one state are treated as if they were carried on by a separate and distinct corporate entity. Essentially, the separate accounting method involves the specific identification of items of income and expense that represent the taxpayer's operations in the one state, and constructing a taxable income from

those identified items of income and expense without reference to the rest of the business.

The State has not sanctioned the use of separate accounting, however, except in situations where there is no unitary business, where the business in Alaska is truly separate from the business carried on elsewhere, and where it would not result in a distortion of income. There are a number of perceived problems associated with this approach which are discussed in Chapter VII.

Chapter II - Footnotes

- 1/ Sec. 2, ch. 7, ESLA 1955; approved April 9, 1955.
- 2/ Sec. 1, Ch. 31 FSSLA 1967; effective October 11, 1967.
- 3/ Sec. 1, ch. 110, SLA 1968; effective July 17, 1968.
- 4/ The Disaster Severance Tax was repealed by sec. 2, and the gas production tax increased by sec. 1, of ch. 247, SLA 1970; both effective July 1, 1970.
- 5/ Sec. 1, ch. 247, SLA 1970; effective July 1, 1970.
- 6/ The rates beginning July 1, 1980 would have been 43.2 cents a barrel for the first 300, 48.2 cents for the next 800, 50.7 cents for the next 1500 and 55.7 cents for production over 2500 barrels a day. Sec. 4, ch. 101, SLA 1972.
- 7/ AS 43.55.015(b) as enacted by sec. 4, ch. 101, SLA 1972.
- 8/ AS 43.55.010(e) as enacted by sec. 3, ch. 101, SLA 1972; AS 43.55.015(d) as enacted by sec. 4, ch. 101, SLA 1972.
- 9/ Under the reduced cents-per-barrel rates that would have become effective July 1, 1980, the "floor" on production tax and royalty revenues would have corresponded to price of \$2.50.
- 10/ Amerada Hess, et. el. v. State (Sup'r Crt. No 72-2719); ARCO Pipe Line Co. v. Herbert (Sup'r Crt. No 72-2798); Mobil Pipe Line Co. v. State (Sup'r Crt. No. 72-2720). These cases were consolidated into a single proceeding.
- 11/ Ch. 4, FSSLA 1973.
- 12/ AS 43.55.015(b) as amended by sec. 2, ch. 4, FSSLA 1973. Oil above 40° is taxed as if its gravity were 40°.
- 13/ AS 43.55.015(c) as amended by sec. 2, ch. 4, FSSLA 1973; 15 AAC 05.694.
- 14/ Sec. 1, ch. 5, FSSLA 1973, codified as AS 43.57.
- 15/ Sec. 1, ch. 1, FSSLA 1973, codified as AS 43.56.
- 16/ AS 29.53.045 and .050(b) as enacted by secs. 3 and 4, respectively, ch. 1, FSSLA 1973; AS 29.53.055 as amended by sec. 5, ch. 1, FSSLA 1973; effective January 1, 1974.

- 17/ If the assessed value of taxable oil and gas properties would result in a total assessed valuation exceeding this product (225 percent of average per capita statewide assessed value, multiplied by the number of the municipality's residents) when added to the assessed valuation of other property in the municipality, then the Department of Revenue designates what portion of the oil and gas assessment the municipality may tax. AS 43.56.010(c).
- 18/ AS 29.53.045(d).
- 19/ AS 43.56.030.
- 20/ AS 43.56.010(d).
- 21/ 15 AAC 05.840.
- 22/ AS 43.56.060(c).
- 23/ AS 43.56.060(d).
- 24/ AS 43.56.060(e)(1).
- 25/ AS 43.56.060(e)(2).
- 26/ Sec. 1, ch. 159, SLA 1975; effective June 26, 1975.
- 27/ Prepared February 10, 1975 by Malcolm Jarrell of Pritchard & Abbott, Valuation Engineers (Fort Worth, Texas) for the Department of Revenue.
- 28/ AS 43.58.030; 15 AAC 05.975.
- 29/ AS 43.58.180; AS 43.55.018; 15 AAC 05.980; 15 AAC 05.985; 15 AAC 05.695.
- 30/ AS 43.19.010, Art. IV.
- 31/ AS 43.19.010, Art. IV.
- 32/ AS 43.19.010, Art. IV.
- 33/ AS 43.20.071.

CHAPTER III. HISTORY OF REVENUES AND EXPENDITURES

A. INTRODUCTION

Before judging the adequacy of the State's tax system and the State's long term revenue needs, it is useful to step back and examine the expectations of State officials shortly after the 1969 North Slope lease sale regarding projected oil development. It is then interesting to compare those expectations with what actually happened in both the private sector and the government sector or with what is now projected to happen in the years to come.

One expression of the State's revenue expectations concerning oil development was articulated in Comments on the Proposed Trans-Alaska Pipeline (July 1971) in response to a request by the U.S. Department of Interior for information on the Trans-Alaska Pipeline. At one point the State commented:

From the State's point of view the things that can be accomplished with the North Slope oil revenues are the principal justification for building the Trans-Alaska Pipeline. The money will mean a better life for those people living in America's Arctic and Sub-Arctic regions. 1/

Thus, in mid-1971 the State expected the development of Prudhoe Bay to produce sufficient additional revenue to allow for the upgrading of the living conditions of the State's population through increased governmental services.

The oil and gas revenue projections made in the State's comments at that time included both the State's one-eighth royalty payments and its sliding scale production tax (three to eight percent at that time). These projections were based upon estimated crude oil prices on the West Coast, tanker tariffs, pipeline tariffs and through-put rates at that time. For example, West Coast refinery prices were estimated to range between \$3.22 and \$3.02 a barrel with \$3.12 as the most probable. The 1971 oil and gas revenue projections with accompanying assumptions are shown on the next table. 2/

1971 Oil and Gas Revenue Projections
(Selected Years)

YEAR	WELLHEAD OIL PRICE (\$/BBL)	WELLHEAD GAS PRICE (\$/MCF)	DAILY PRODUCTION (in millions)		REVENUE (in millions)		
			OIL(BBL)	GAS(MCF)	ROYALTY	TAX	TOTAL
76	1.98	.15	1.15	1.03	104	49	153
77	2.22	.15	1.70	1.53	172	86	258
78	2.23	.15	1.70	1.53	173	87	260
79	2.28	.15	1.85	1.60	192	93	285
80	2.32	.15	2.00	1.68	216	101	317
81	2.34	.15	2.00	1.68	216	101	317
82	2.35	.15	2.00	1.80	217	101	318
83	2.36	.15	2.00	1.85	218	102	320
84	2.37	.15	2.00	1.83	220	102	322
85	2.38	.15	2.00	1.88	221	101	322

In addition to the oil and gas revenue projections, overall revenue and expenditure projections through 1981 were made at that time as follows. 3/

GENERAL FUND RECEIPTS AND EXPENDITURES
(1971 projections in thousands)

YEAR	NON INVESTMENT REVENUE	INVESTMENT REVENUE	TOTAL REVENUE	TOTAL EXPENSES	SURPLUS OR DEFICIT	GENERAL FUND END OF YEAR
1971	143,356	74,238	217,594	296,000	(79,005)	830,989
1972	152,598	55,355	207,953	301,100	(93,146)	737,840
1973	172,252	47,754	220,006	343,495	(123,487)	614,350
1974	175,033	37,825	212,858	393,249	(180,390)	433,956
1975	187,518	33,978	221,496	450,071	(228,573)	205,379
1976	354,216	10,938	365,154	514,806	(149,651)	55,727
1977	476,242	(44)	476,198	589,157	(112,958)	(57,231)
1978	491,406	(9,189)	482,215	674,105	(191,889)	(249,121)
1979	528,670	(22,920)	505,749	771,540	(265,790)	(514,912)
1980	577,207	(41,313)	535,893	883,191	(347,297)	(862,311)
1981	593,995	(66,231)	527,763	1,011,059	(483,295)	(1,345,506)

These projections show that even with projected oil revenues the State would begin with budget deficits in 1971 and have a negative general fund balance beginning in 1977. By 1981 there was projected a budget deficit of \$483.3 million dollars and the general fund balance would be in the red by \$1.3 billion dollars.

In May 1972 the State updated its comments about the pipeline and showed an even more dismal picture of its finances. 4/ A downward revision in the State's revenue projections was made because of projected increases in pipeline costs and delays. Income from royalties and production taxes were not expected for the first two years of production, and wellhead values were projected not to exceed 43 cents until the eleventh year of production. As a result, total North Slope oil revenues were estimated to reach \$36.9 million dollars in 1977, 36.8 million dollars in 1978, \$118.6 million dollars in 1979, 125.8 million dollars in 1980 and 119.9 million dollars in 1981. Only by 1988 were oil revenues forecasted to reach the levels anticipated in the 1971 projections. 5/

In response to this outlook, the State's revenue need in 1972 was explained:

While Alaska's expenditures as an underdeveloped state continue to grow to meet the needs of the people, delay and cost escalation on a Trans-Alaska route have combined to shrink the absolute amount of revenue anticipated and to reduce the proportional contribution of that revenue to the State's budget especially in the early years of production. 6/

Since 1972 the oil pricing picture has been radically altered through the actions of OPEC (Organization of Petroleum Exporting Countries). While federal price controls have so far prevented Alaska from becoming a beneficiary of those

price increases for its Cook Inlet production, the changes have done much to restore the financial outlook for the State in the future.

B. DEVELOPMENTS IN THE PRIVATE SECTOR

Before proceeding to the actual development of revenues and expenditures of the State from 1969 to the present, it is useful to stop and look at developments in the private sector of the State's economy during this same time. Thus it is important to note the effect that recent oil development has had on the people of the State.

One effect of oil development activities in the private sector is indicated by changes in both the nominal and real incomes of residents in the State as shown in the State Income Series developed by the U.S. Department of Commerce and published in the Survey of Current Business. 7/

As shown in the table on page III-12, these state income series indicate that the income effect of the pipeline activities was not necessarily spread equally over the various population groups in the State. For example, wages and salaries earned by civilians in the state increased by 263.5 percent between 1969 and 1975, while proprietors' income (income of self employed businessmen with an unincorporated business) generated in the State increased by only 83.3 percent during the same period. At the same time, income (in the form of dividends, interest and rent) received by property owners living in the State increased by 232.9 percent from 1969 to 1975. The State's recipients of transfer pay-

ments (such as social security and other pensions and annuities) experienced income increases of 351.7 percent in the same period.

It appears that the non-military wage and salary earning populace benefited the most from the pipeline activities, while the proprietors shared only to a limited extent in the economic development. Their income gains amounted to about 31 percent (or less than one third) of the income gains realized by wage and salary earners. However, if some of these proprietors also owned rental property in the State, they shared in the over 232 percent income increase in the property income category. Probably only some proprietors in the State shared equally in the benefits which accrued to the property owners. Thus most benefits of the pipeline activities accrued to wage earners, many of whom were not residents of the State.

Although total wages and salaries increased substantially in the State, the income series shown in the table on page III-12 also indicate substantial amounts of income flowing out of the State. For example, in 1975, the income received by persons not residing in the State amounted to \$604 million, or 16.5 percent of the total labor and proprietors' income generated in the State. For 1969 through 1973, this share fluctuated between 4.4 to 5.2 percent, and increased to 9.6 percent in 1974. 8/

To determine the actual effect of the oil development in the private sector, however, it is necessary to look beyond the total income gains and look at the real increases in income adjusted by the cost of living effects in the State during this same period (1969-1975). The costs of living (inflation) rose substantially in Alaska during this period especially in 1974 and 1975, and the actual percentage increases are shown in the following table.

Cost of Living Increases
(percent)

1970	3.49
1971	3.01
1972	2.66
1973	4.23
1974	10.84
1975	13.74

To determine the real gains of the income group shown in the income series during 1969 through 1975, the total income figures must be deflated for the inflationary effects. Deflating the income series on the table on page III-12 shows that the extraordinary inflationary pressures of the last few years restricted the real economic gains of the various groups and limited the effective improvement in the income position of some of the groups to only about a third of the apparent income gains.

As stated earlier, proprietors participated the least in the economic gains as expressed in nominal terms. This was also the case in real terms as well. In 1974 and 1975 (the years of major improvements in their income) their real income was restricted the most because these two years had the highest inflationary pressures. It appears that this may have been due to the time lag which develops before the benefits of economic improvements are spread over the whole system, while inflationary pressures can become effective sooner.

Recipients of transfer payments were affected in a similar way. While they experienced a substantial improvement in their income position in current dollars (335% from 1970-1972), inflation tended to curtail these improvements. For example, as shown in the table on page III-12 this group actually received a reduction in real income during 1974 and 1975. This may be explained by the fact that changes in this group's income may have been determined less by the economic activities within the State than other external factors. Though this income group shared in both the negative impact of the development activities and the economic benefits, these persons were probably sheltered from both influences to such an extent that they still realized the greatest increase in real income of all groups from 1969 to 1975.

Generally, it appears from the table on page III-12 that wage and salary earners within the State were impacted less by the inflationary developments than any other group. Property owners were also in a good position, but proprietors shared in the positive developments only after a time lag.

When we analyze the development in the personal income series for persons actually residing in the State, the results should be qualified to some extent. It appears that civilian wage and salary earners as a group may have done well only because some of them were able to avoid the inflationary development within the State. Thus the seasonal labor force was probably able to take most advantage of the economic development by limiting their spending within the State, and that in turn probably curtailed the benefits to the business sector.

INCOME SERIES 1/
(millions of dollars)

A. INCOME SERIES IN CURRENT DOLLARS

	<u>1969</u> ^{2/}	<u>1970</u> ^{3/}	<u>1971</u> ^{4/}	<u>1972</u> ^{4/}	<u>1973</u> ^{5/}	<u>1974</u> ^{5/}	<u>1975</u> ^{5/}
BY PLACE OF WORK:							
TOTAL LABOR: PROPRIETORS INCOME	1,166	1,291	1,491	1,620	1,755	2,349	3,656
WAGE AND SALARIES	1,065	1,179	1,359	1,477	1,596	2,147	3,408
LESS: FEDERAL, MILITARY	199	221	229	242	246	254	261
CIVILIAN WAGES & SALARIES	866	958	1,130	1,235	1,350	1,893	3,147
PROPRIETORS INCOME	68	74	84	85	95	117	125
SS CONTRIBUTIONS	44	48	63	69	94	139	223
LESS: RESIDENCE ADJUSTMENT	-57	-67	-69	-72	-80	-226	-604
NET LABOR & PROPRIETORS INCOME BY PLACE	1,122	1,243	1,358	1,478	1,581	1,984	2,829
PLUS: PROPERTY INCOME	70	82	89	98	139	186	233
PLUS: TRANSFER PAYMENTS	58	79	102	121	262	232	262
PERSONAL INCOME BY PLACE OF RESIDENCE	1,250	1,404	1,549	1,697	1,982	2,402	3,324

B. INCOME SERIES IN REAL TERMS

TOTAL LABOR; PROPRIETORS INCOME	1,101	1,178	1,321	1,398	1,453	1,754	2,401
WAGE AND SALARIES	1,006	1,076	1,204	1,274	1,321	1,603	2,238
CIVILIAN WAGES & SALARIES	818	874	1,001	1,066	1,118	1,414	2,066
PROPRIETORS INCOME	64	68	74	73	79	87	82
NET LABOR & PROPRIETORS INCOME BY PLACE	1,059	1,134	1,203	1,275	1,309	1,482	1,856
PLUS: PROPERTY INCOME	66	75	79	85	115	138	153
PLUS: TRANSFER PAYMENTS	55	72	90	104	216	173	172
PERSONAL INCOME BY PLACE OF RESIDENCE	1,180	1,281	1,372	1,464	1,641	1,794	2,183

- 1/ U.S. Department of Commerce-Survey of Current Business, Washington, D.C.; See following notes.
2/ August 1972
3/ August 1973
4/ August 1974
5/ August 1976

C. DEVELOPMENTS IN THE PUBLIC SECTOR

As explained in Chapter IV, the revenue and expenditure patterns from 1966 to the present were examined to make projections of future expenditures and revenues.

1. Expenditures

When comparing the actual budget expenditures with earlier expectations, actual expenditures in the most recent years compare more closely to the 1971 estimates than the later expectations. This comparison is shown in the following table:

<u>Year</u>	<u>1971 Expenditure Projections</u>	<u>Actual Expenditures</u>
1971	296.6	259.9
1972	301.1	284.3
1973	343.5	309.1
1974	393.2	435.3
1975	450.1	455.7

Thus, for example, General Fund expenses for fiscal year 1975 were estimated at \$450.1 million dollars and the actual expenditures were \$455.7 million dollars.

In addition to looking at only the nominal changes in expenditures from 1971 through 1975, it is also relevant to examine the real increases in the budget during this

same period by eliminating inflationary influences. Accordingly, the expenditures have been deflated and are shown in 1967 dollars in the following table. In addition the percentage change in real expenditures are shown in the table.

YEAR	ACTUAL EXPENDITURES	REAL EXPENDITURES (1967 DOLLARS)	PERCENTAGE CHANGE IN REAL TERMS
1969	131.6	124.6	
1970	163.6	149.3	19.8
1971	259.9	230.0	54.0
1972	284.3	245.3	6.7
1973	309.1	256.7	4.6
1974	435.3	324.9	26.6
1975	455.7	296.3	(8.8)

The largest increases of the budget in real terms were from 1970 to 1971 and from 1973 to 1974 of 54 percent and 26.6 percent respectively. The smallest increases were from 1971 to 1972 and from 1972 to 1973. In addition there was actually a decrease of budget expenditure real terms from 1974 to 1975.

It is important to note that the increases in budget outlays in real terms do not necessarily depict an overall improvement in all service levels. The increases were mainly concentrated in 3 budget categories: education, health and social services, and transportation. ^{9/}

2. Revenues

The State's revenues increased from 1971 through 1975 more than had been projected in 1971. For example, in the State's 1971 projections, revenues in 1975 were expected to be \$221.5 million dollars whereas the actual revenues were \$333.4 million dollars. The differences between the 1971 revenue projections and actual revenues from 1971 through 1975 are shown in the following table.

<u>Year</u>	<u>1971 Revenue Projections</u>	<u>Actual Revenues</u>
1971	217.6	220.4
1972	208.0	219.2
1973	220.1	208.2
1974	212.8	255.0
1975	221.5	333.4

The substantial differences between the early projections and the actual revenue collections probably reflects the underestimation of the general impact which pipeline construction had on the State's economy.

It should be noted, however, that even with the increased revenue collections, there were budget deficits beginning in 1971 but these deficits were not as large as were earlier contemplated.

Chapter III - Footnotes

- 1/ State of Alaska, Department of Law - Comments on the Proposed Trans-Alaska Pipeline, July 30, 1971, p. 158.
- 2/ Ibid., p. 172.
- 3/ Ibid., p. 178.
- 4/ State of Alaska, Department of Law - Comments on the Trans-Alaska Pipeline and Its Alternatives, May 1972.
- 5/ Ibid., pp. 30-32.
- 6/ Ibid., p. 32.
- 7/ U.S. Department of Commerce, Social and Economic Statistics Administration, Bureau of Economic Analysis - State and Regional Personal Income, 1971, Survey of Current Business, August 1972; State and Regional Personal Income, 1959-1972, Survey of Current Business, August 1973; State and Regional Personal Income, 1958-1973, Survey of Current Business, August 1974; State Personal Income, 1974-1975, Survey of Current Business, August 1976.
- 8/ Ibid.
- 9/ State of Alaska - Budget Documents, Fiscal Years 1973 through 1976, Executive Budget Fiscal 1977.

CHAPTER IV. REVENUE AND EXPENDITURE PROJECTIONS

A. EXPENDITURE PROJECTIONS

1. Projection of regular budget items. Instead of simply using the State's total budget figures for past years as the basis from which expenditure trends may be identified and future budgets projected, each year's budget since 1966 was analyzed in terms of the present eight program categories: Education, Health and Social Services, Administration of Justice, Natural Resources and Environmental Conservation, Public Protection, Development, Transportation and General Government. Because the budget format was changed in 1972, earlier budgets first had to be reassembled into the current format in order to obtain a series of comparable expenditures long enough for meaningful analysis of each category.

The effects of the prevailing inflation during the historic base period tend to distort the results of any attempt to regress expenditures against independent socio-economic variables (such as population) during the same period. This distortion is amplified by the fact that the inflation rate was not uniform, but varied from year to year. To eliminate this undesirable effect from the analysis, the money spent each year for each program category was deflated to 1967 dollars. In other words, the annual expenditures were expressed, for analysis purposes, in terms of dollars having the same buying power as the dollar had during 1967. The deflation was done on the basis of the Consumer Price

Index reported for Anchorage.

The deflated expenditures for each of the eight program categories were then compared with independent variables to see if there appeared to be any sort of relationship between those variables and any of the program category's expenditures. The techniques employed to establish whether there was any relation is one commonly used in statistics, called regression analysis.

The results of this analysis show a high degree of correlation between population growth and expenditure growth for seven of the eight program categories, indicating that population changes were the major explanatory factor for the changes in expenditures in those programs. 1/ For Health and Social Services and for Development, the changes seem most closely associated with changes in the non-military resident population. The other five program categories seem to be influenced primarily by the total resident population. The one category whose expenditures appear unrelated to population change is General Government. Its budget changes are perhaps best explained in terms of the need for an adjustment in the overall State budget due to the State's revenue situation.

The projection for future General Government expenditures was made directly in current-dollar terms, using the historic

time trend observed for its past expenditures. The forecasts for the seven other program categories were made by estimating the resident population year by year during the forecast period, determining from these estimates the expenditures for each category in deflated 1967 dollars on the basis of historic relationship to the population, and then inflating the 1967 dollars on the basis of actual inflation to date and projected inflation for the future. 2/

Until Fiscal Year 1973 the annual resident population increases were close to three percent, never exceeding three and a half percent from one year to the next. However this changed with the beginning of pipeline construction in 1974, and annual increases exceeded even 10 percent. This sudden change in resident population growth clearly indicates developments different from the influences that historically prevailed. It is not assumed that these higher rates will continue. Instead, after an overall decline upon the completion of TAPS, the resident population will again reflect the underlying factors that induced the historic growth rate, and by Fiscal Year 1979 it will again be on the rise.

This rise would probably follow the historic annual growth pattern if there were no new influx of people for additional construction projects of vast magnitude. However, there will be at least one such project, the pipeline for Prudhoe Bay gas.

The prospect of the gas pipeline has two effects on the resident population. First, it will encourage some new residents brought up by TAPS to remain in anticipation of the new economic activity and opportunities the gas pipeline will bring. A similar anticipatory effect occurred with TAPS during the time when its construction was delayed: people who were already in Alaska waited out the delay. In the case of the gas pipeline this effect will keep the resident population at a higher plateau than would otherwise be the case, and it is assumed they will be absorbed into the state's socio-economic fabric without significantly altering it, as their counterparts were absorbed during the TAPS delay. 3/ The second population effect of the gas pipeline is the new residents it will attract when its construction begins.

To project the resident population during the forecast period, it was necessary to proceed in two steps. First, a baseline was projected from the present resident population. It reflects the emigration of some of the TAPS-induced population increase but also reflects the "anticipation effect" (those who will remain for the gas pipeline). The baseline was assumed to be subject to the underlying factors that caused the historic population growth and accordingly is projected to increase at the historic rate.

The second step is the projection on the population influx when the gas pipeline construction begins. To make

this projection, direct construction data submitted by the three proponents in their application filings before the Federal Power Commission were used but adjusted by one year to reflect the delay in the beginning of construction. Based on these respective employment data, estimates were made for the direct construction-induced total employment, population and income impacts by using an updated version of the econometric model generated by the University of Alaska Institute of Social, Economic and Governmental Research for the "Man in the Arctic" program. These estimates, when incorporated with the historic population growth, produce the following projections:

State Resident Population Forecasts
for the Three Gas Pipeline Projects
(thousands of people)

<u>Fiscal Year</u>	<u>El Paso</u>	<u>Arctic Gas</u>	<u>Alcan</u>
1976	415.0	415.0	415.0
1977	420.0	420.0	420.0
1978	403.5	402.3	420.7
1979	418.9	405.1	411.0
1980	442.6	414.2	428.7
1981	456.1	425.0	442.9
1982	456.1	434.0	448.8
1983	460.8	445.2	454.6
1984	471.1	457.1	465.4
1985	485.1	472.0	479.8

Using these three resident population forecasts, the total operating budgets for the eight program categories were projected on the basis of their observed relationships

to the resident population. Then the General Fund portion of those budgets was calculated in accordance with the State's present accounting practices. The resulting General Fund expenditures are tabulated below for each of the three proposed gas pipeline projects. 5/

Forecast of Ordinary General Fund Expenditures
For the Three Gas Pipeline Projects
FY 76 - FY 85
(\$ millions)

	<u>El Paso</u>	<u>Arctic Gas</u>	<u>Alcan</u>
FY 76	616.4	616.4	616.4
FY 77	728.0	728.0	728.0
FY 78	802.7	802.7	802.7
FY 79	899.1	869.8	881.8
FY 80	945.2	882.1	915.1
FY 81	1011.8	923.7	972.2
FY 82	1057.8	971.3	1024.0
FY 83	1104.6	1028.2	1073.8
FY 84	1150.7	1086.9	1126.4
FY 85	1212.2	1159.2	1191.4

It is essential to remember that this table does not reflect any offsetting revenue benefits that may be offered by a pipeline project, and consequently it is no indication of the relative net benefits to the State of any of the three proposals. It would be totally misleading, for example, to contend that the Arctic Gas route is superior to the other two solely on the basis of the lower level of State expenditures indicated for it by this table.

2. Extraordinary budget expenditures. Quite apart from the effects of the construction of a pipeline for Prudhoe Bay gas, the State will experience variations in budget expenditures due to legal requirements or to decisions made by the State. The causes for these variations would include royalty payments into the Alaska Native Fund until the State has paid a total of \$500,000,000, the costs for the Capital Move and the costs connected with opening the Haul Road.

2-A. Alaska Native Fund. Under the terms of the Alaska Native Claims Settlement Act, all lands selected by the State but which had not yet been patented to it were made subject to a two percent oil and gas royalty interest payable out of the State's one-eighth royalty interest. This royalty provision applies to the Prudhoe Bay field. Thus, until the \$500,000,000 has been paid, amounts equal to 16 percent of the State's royalty proceeds will have to be budgeted for Native Fund payments.

The amount of these payments will depend on the price of the oil in the field. Later in this chapter the Department's projections for that price, assuming the free market sets the price, are presented and explained. However, it could be that market forces are prevented from operating freely and fully, with a resulting diminution of the price. This possibility is explored in Chapter V.

For present purposes, the Native Fund payments are presented on the basis of the free-market price, but it should be remembered that these expenditures would change if the possibilities discussed in Chapter V were to come to pass.

Projected Native Fund Payments ^{6/}
(based on projected free-market prices)
(\$ millions)

FY 77	0.1
FY 78	39.5
FY 79	72.3
FY 80	97.4
FY 81	118.9
FY 82	139.7
FY 83	29.9
FY 84	-0-
FY 85	-0-

2-B. Capital Move. The costs to be borne by the State in moving the capital from Juneau to the Willow site are uncertain. The Capital Site Selection Committee estimated a cumulative cost through 1990 of \$2,642,665,000 for the Willow site, with a tentative allocation of \$520.82 million as costs that the State would pay. ^{7/} The Committee noted:

In the category of public/private facilities, the difference between the state portion at current allocations and total estimated 1990 costs is \$724,630,000. These costs could be borne by a combination of private Municipal, Federal and State entities. ^{8/}

The Boeing study analyzed relocation costs to the Anchorage/Palmer, Talkeetna and Fairbanks/Nenana areas

them to costs of keeping the capital in Juneau.

In presenting its conclusions, the Boeing study reported the following total incremental costs for the State in terms of present-value dollars discounted to 1980: 9/

<u>Relocation Site</u>	<u>Additional Cost (millions of 1980 present-value dollars)</u>
Anchorage/Palmer	109.7 to 113.7
Talkeetna	245.1 to 250.5
Fairbanks/Nenana	315.4 to 319.6

The Department of Revenue has not attempted to develop its own estimate of the relocation costs to the State. That is far outside the scope of this report and is beyond the area of the Department's experience and expertise.

To provide the reader with some indication of the State expenditures that may be associated with the Capital Move, the Department has prepared four hypothetical cases based on arbitrarily chosen figures for the total relocation cost borne by the State. These figures are \$500 million, \$1 billion and \$2 billion. The choice of these figures does not indicate any opinion regarding what the total costs to the State will be: you, the reader, must form your own opinion as to that. Rather, they are intended to allow you to see the approximate annual expenditures that could correspond to whatever portion the reader assumes will be

paid by the State of the total \$2.6 billion relocation cost estimated for the Willow site by the Capital Site Selection Committee.

For purposes of these examples, it was assumed that the financing will be by General Obligation Bonds, rather than funding the move from current revenues. This assumption spreads the costs out through time, making the annual expenditures much smaller than if current revenues are spent. 10/

The particular assumptions hypothesized for the bond financing are: the relocation costs borne by the State will be paid by bonds issued in roughly equal amounts in 1979, 1982, and 1985. 11/ The bonds run 22 years, with payments on the principal to be made for 20 years. Interest is seven percent. The State will make two payments per fiscal year.

The table below shows the resultant annual expenditures under these assumptions for the four hypothetical cases. The expenditure data are expressed in millions of dollars.

	Case A (\$500,000,000)	Case B (\$1,000,000,000)	Case C (\$1,500,000,000)	Case D (\$2,000,000,000)
FY 79	6.0	11.9	17.5	23.6
FY 80	11.9	23.8	35.0	47.3
FY 81	20.4	40.8	60.0	81.0
FY 82	26.2	63.1	75.8	101.9
FY 83	30.8	61.9	91.5	122.8
FY 84	38.4	77.4	114.8	153.7
FY 85	42.8	86.4	128.8	172.1

It bears repeating that your own judgment about relocation costs paid by the State is the factor that must determine which of these four cases you give weight to in estimating the State's annual expenditures for the move.

2-C. Haul Road. The North Slope Haul Road and the question of opening it to public use have been the subjects of considerable public discussion. Based in large part on the legalities entailed in the federal funding for the Haul Road, Governor Hammond has announced that the road will be opened. ^{12/} However, as an interim measure, the Governor has also declared that the opening of the road will initially be limited to industrial and mining users "until the peak industrial demands for the road have subsided" and until there develops "a rational plan for the sound and profitable management of State and Federal lands in the area affected by the road." ^{13/} Those users will bear the costs incurred by the State to keep the road open on a limited basis for their use.

For purposes of projecting expenditures for the Haul Road, the user fees were assumed to offset the State's costs during the period of limited use. Based on the necessary capital improvements projected by the Department of Highways and Public Safety, for the Governor's study of the Haul Road issue, on their projected operating costs, on an annual inflation rate of five percent and on a 5.2 percent interest

rate on the financing for the capital improvements, the following expenditures are indicated (figures are in millions of dollars):

pre-FY 81	-0-
FY 81	5.5
FY 82	21.6
FY 83	22.7
FY 84	24.4
FY 85	25.7

B. PROJECTIONS OF PETROLEUM-RELATED REVENUES

The State's petroleum-related revenues fall into either of two types: those which are directly based on production volumes and prices (production tax 14/ and royalty revenues), and those which reflect those factors only indirectly (property tax revenues).

1. Projected production volumes and prices. It is common sense that a purchaser, faced with a choice between two suppliers of similar goods, will prefer buying from the supplier who offers his goods at a lower price. This basic notion applies to the market place, too: if a seller seeks to enter the market, he will have difficulty doing so if the price he asks is greater than the price of the other sellers of similar goods.

This limitation on the price that a seller can sell his goods at has been incorporated into the Department's method in projecting the price for Prudhoe Bay oil. This oil will go primarily to United States refinery markets (except for those amounts that may be physically moved to Japan in exchange for other oil delivered to the Atlantic or Gulf of Mexico coasts). Even with Prudhoe Bay oil, there will not be enough American-produced oil to meet American refinery demand. In other words, Prudhoe Bay oil does not have to meet the price of U.S. domestic crude

oil to find a buyer since the buyers need more oil than there is available domestically. This gap between domestic supply and domestic demand has been, and will continue to be, bridged by increasingly larger amounts of foreign supplies. It is therefore imported oil that competes with North Slope oil and will tend to limit its market value.

Perhaps ironically, the country exporting crude oil most similar in quality to Prudhoe Bay oil is also the largest exporter - Saudi Arabia. While the Saudi Arabian "Light," "Medium" and "Heavy" crudes are all quite similar to Prudhoe oil in terms of straight-run refined product yields and in terms of refining costs, the closest overall match seems to be the Saudi "Medium." Accordingly, the Department's projection of North Slope oil prices has been based on a forecast of refiner's costs to acquire this Arabian oil and have it delivered to the refinery; from that total delivered cost, the transportation costs for Prudhoe Bay oil (from the field to the refinery) are netted out to arrive at a value in the field.

This market distribution analysis is made more complicated by an anticipated surplus of crude oil on the West Coast. While there will be an ever greater shortage of crude oil nationwide, the expected production from existing fields, Prudhoe Bay, Elk Hills, and from the California and Alaska Outer Continental Shelf will exceed the physical

capacity of the refineries on the West Coast. To be sold any surplus crude oil will be transported to other areas of the United States where the oil shortage will continue or will be shipped to Japan where it will be exchanged for foreign oil to be delivered to the oil-short areas of the U.S. The latter option has special complications. Because the federal statute authorizing the construction of TAPS forbids the export (except to Canada or Mexico) of oil shipped through TAPS without a determination by the President and Congress that this is in the national interest, and because no such decision has been made, the Department of Revenue has assumed for projection purposes that the surplus oil will be transported, initially by tanker and later by pipeline, from the West Coast to other regions of the country east of the Rocky Mountains.

The existence of multiple refinery markets for Prudhoe Bay oil (some on the West Coast and others elsewhere) complicates the forecast of its value in the field.

It has been assumed that when the West Coast surplus develops, some or all of the surplus oil will move to the Gulf of Mexico region. The value in the field for this surplus will also tend to be the value for oil absorbed on the West Coast. 15/

The following table with its notes sets out in detail the assumptions underlying the Department's forecast of Prudhoe Bay oil prices for each fiscal year through 1985. Pricing for Fiscal Years 1978 and 1979 is set out on a quarterly basis (the quarter is indicated by the Roman numeral in parentheses after the year) along with the average price for the year.

PROJECTED PRUDHOE BAY WELLHEAD VALUE
(IN CURRENT DOLLARS PER BARREL)

YEAR (QTR)	ARABIAN 31° F.O.B. RAS TANURA	PG/US TANKER TARIFF	REFINERY PRICE	AK/US TANKER TARIFF	LOWER 48 TARIFF	TAPS TARIFF	TOTAL TARIFF	PRUDHOE BAY WELLHEAD VALUE
1977	11.56 (a)	1.65 (b)	13.21	.57 (c)	--	--	--	--
1978 (I)	11.84	1.72	13.56	.58	--	5.92 (d)	6.50	7.06
1978 (II)	11.84	1.72	13.56	.58	--	5.92	6.50	7.06
1978 (III)	12.68	1.90 (e)	14.58	.60	1.10 (f)	5.15	6.85	7.73
1978 (IV)	12.68	1.90	14.58	.60	1.10	5.15	6.85	7.73
1978	12.26	1.81	14.07	.59	.55	5.54	6.68	7.39
1979 (I)	12.68	1.98	14.66	.62	.80 (g)	5.15	6.57	8.09
1979 (II)	12.68	1.98	14.66	.62	.80	5.15	6.57	8.09
1979 (III)	13.30	1.98	15.28	.64	.80	5.09	6.53	8.75
1979 (IV)	13.30	1.98	15.28	.64	.80	5.09	6.53	8.75
1979	12.99	1.98	14.97	.63	.80	5.12	6.55	8.42
1980	13.77	2.06	15.83	.66	1.20 (h)	4.79	7.65	9.18
1981	14.60	2.14	16.74	.68	1.30	4.38	6.36	10.38
1982	15.47	2.23	17.70	.71	1.40	4.15	6.26	11.44
1983	16.40	2.32	18.72	.74	.80 (i)	3.88	5.42	13.30
1984	17.38	2.41	19.79	.77	.80	3.64	5.21	14.58
1985	19.43	2.51	20.94	.80	.81	3.45	5.06	15.88

NOTES: PROJECTED PRUDHOE BAY WELLHEAD VALUE (table on preceding page)

(a) As explained in the text preceding the table, the cost to a refiner to obtain imported replacement oil of comparable quality to Prudhoe Bay crude represents the extent to which the open market would justify the price of Prudhoe Bay oil. Saudi Arabian "Medium" crude (31° API gravity, 2.5% sulfur) serves as the benchmark from which Prudhoe Bay prices are derived. The \$11.56 price represents the average price for Saudi Arabian "Medium" F.O.B. at Ras Tanura on the Persian Gulf. This average price reflects the December 1976 pricing action by Saudi Arabia. In the projection the price is assumed to rise at six percent per annum to offset U.S. and European inflation; in terms of dollars with constant value (constant buying power), the Arabian price is unchanging. In light of a developing global shortage of energy sources, particularly oil and gas, this assumption may be conservative, especially after 1985. On the other hand, assuming that the real (constant-value dollar) price increases at 3% a year yields a nominal-dollar price of \$91.45 (\$23.50 in real terms, as of January 1977) by the year 2000, and at that price oil as an energy source may have been significantly supplanted.

(b) Tanker transportation tariffs for the Persian Gulf to U.S. West Coast route during Fiscal Year 1976 were approximately \$1.59 per barrel when computed on an average annual AFRA basis. While the current world tanker market could continue to suppress tanker tariffs in the future, tariff rates are projected to cover annual increases in variable costs. Tanker tariffs consequently are increased in this projection at an annual rate of four percent. The \$0.21 per barrel import excise tax has been considered in arriving at these transportation costs.

(c) Tanker tariffs for the route between Valdez and the U.S. West Coast are computed on a weighted average basis according to port of destination and throughput volume. As in the case of foreign flag tankers, tariffs are increased 4% per annum from the composite base rate computed for operations in Fiscal Year 1978.

(d) The TAPS tariff each year will generate enough revenue to cover expenses, depreciation of the capital investment and a profit. A major determinant of the tariff is the number of barrels transported during the year. The more barrels, the lower the tariff can be in order to produce the necessary annual income.

Annual average throughput for TAPS is projected as follows (in millions of barrels per day): FY 78 - 0.94; FY 79 - 1.3; FY 80 - 1.53; FY 81 - 1.6; FY 82 - 1.7; FY 83 - 1.78; FY 84 - 1.88; FY 85 - 1.9. These rates reflect production in addition to that of the main Prudhoe Bay reservoir. TAPS tariffs are calculated on the basis of the pipeline's operating year, which is assumed to be the calendar year. The low average throughput expected during the 1977 operating year (i.e., the first two quarters of FY 78) is the reason for the high initial tariff. Some have predicted that the initial tariff will be a "break even" tariff, and on that basis it could be as low as \$4.13. A tariff based on the average throughput during the first year of operation (which will correspond to the State's fiscal year but which would end in the middle of the pipeline's second operating year) would be about \$4.85. The tariff projection is made on the basis of the entire pipeline, not on the basis of the financial situation of the eight individual companies that own it. Capital costs for the 1.2 million-barrel-a-day capacity are estimated at \$9.45 billion, including capitalized interest. Expansion of TAPS capacity to 2 million barrels a day is assumed to cost an additional \$995 million. All tariff projections assume that interest on debt financing for the pipeline will be recognized as an allowable expense in setting the tariff.

(e) Beginning in early 1978 (calendar year), the expected West Coast crude oil surplus is expected to develop. The surplus oil is assumed to go to the Gulf of Mexico area. Accordingly, the tanker tariffs are those for the trade between the Persian Gulf and the Gulf of Mexico. The tariffs are projected from the average AFRA basis during Fiscal Year 1976 and escalated at four percent per annum. Again, the 21 cent excise tax on imports is recognized.

(f) The "Lower 48 Tariff" here is the extra tankering costs assumed for moving the oil via the Panama Canal to the Gulf of Mexico. It is assumed that this is done on a temporary basis while one or more pipelines are built eastward across the Rocky Mountains from the West Coast.

(g) This is the projected tariff for a pipeline of 500,000 barrels a day capacity. The SOHIO pipeline has been used as the basis for the projection. Total cost for this capacity are estimated at \$500 million.

(h) It is assumed that the West Coast surplus continues to develop beyond the initial pipeline capacity (500,000 barrels per day) to move it eastward. While additional capacity is coming on line (expansion of the first pipeline or construction of a second line), tankers are again employed to transport oil to the Gulf of Mexico area.

(i) At this point additional pipeline capacity becomes available to transport the entire surplus out of the West Coast area.

Using these projected prices and the production assumptions given in note (d) to the preceding table, the following production tax and royalty revenues are forecast.

Projected Production Tax
and Royalty Revenues of the State 16/
FY 76 - FY 85
(\$ millions)

	<u>Production Tax Revenue</u>	<u>Royalty Revenue</u>	<u>Total</u>
FY 76	27.9	43.9	71.8
FY 77	27.1	38.5	65.6
FY 78	103.3	329.0	432.3
FY 79	153.9	520.2	674.1
FY 80	192.6	661.0	853.6
FY 81	296.3	788.3	1084.6
FY 82	471.2	916.2	1387.4
FY 83	595.3	1173.5	1768.8
FY 84	677.7	1359.0	1768.8
FY 85	740.3	1497.1	2237.4

2. Projected property tax revenues. It is assumed that TAPS reaches its present target of 1.2 million barrels a day by the end of this calendar year at its announced cost of \$7.7 billion. Production facilities needed at Prudhoe Bay to supply that volume of oil are already on the Slope and will be completed before the pipeline. It is assumed that an expansion of TAPS capacity is authorized by its owners next year and that the additional pipeline and production facilities for that increased capacity will move into the state as early as practicable after that authorization. The

expansion is assumed to be completed within two years of its initiation.

Construction of the gas pipeline is assumed to begin during Fiscal Year 1979. About the same time work will begin to ready the field for producing the gas for sale.

Municipal ad valorem tax levies are assumed to follow their historic patterns.

Under these assumptions the following State property tax revenues have been projected, depending on the gas pipeline route chosen.

Projected State Property Tax Revenues
For All Oil & Gas Properties Statewide
(\$ millions)

	<u>El Paso</u>	<u>Arctic Gas</u>	<u>Alcan</u>
FY 76	83.3	83.3	83.3
FY 77	140.9	140.9	140.9
FY 78	168.3	168.3	168.3
FY 79	171.8	170.6	170.6
FY 80	174.6	171.6	193.2
FY 81	214.7	176.6	226.7
FY 82	268.3	185.4	251.8
FY 83	307.0	195.6	257.0
FY 84	352.0	204.9	261.4
FY 85	358.7	212.6	295.9

3. Projected additional corporate income tax revenues due to Prudhoe Bay production. As production from the Prudhoe

Bay field approaches, there will be an increase in corporate income taxes that would not be reflected in the historic trend for this tax. As explained in Chapter II, Alaska income tax payments by large multistate and multinational corporations are not only determined by their economic situation within Alaska, but also by their economic well-being within the rest of the United States and the world. These companies compute their Alaska taxable business income by means of the three-factor apportionment formula described in Chapter II, based on proportion of their total property, sales and payroll that is in Alaska. Because of the magnitude of the investments in Alaska (TAPS and the field facilities at Prudhoe Bay, for instance), the business income apportioned to Alaska will increase. These increases have been estimated as follows (in \$ millions): 17/

FY 78	46.0
FY 79	51.0
FY 80	54.0
FY 81	57.0
FY 82	60.0
FY 83	63.0
FY 84	66.0
FY 85	69.0

C. PROJECTION OF NON PETROLEUM-RELATED REVENUES

1. Projected collections from business-related tax sources. Collections from tax sources historically show more rapid fluctuations than were observed on the expenditure side. Consequently, more difficulties were encountered in developing projection methods. On the assumption that there is a general tendency for a multitude of changes to offset each other, some of the revenue sources were lumped together for projection purposes, in the hope that the general development so described will become more stable and easier to determine.

Based on this assumption, those major taxes were aggregated whose revenues have a tendency to respond to business fluctuations. These are the Individual Income Tax, Corporation Income Tax, Fiduciary Tax, and the Business License Tax. Collections from these taxes vary with the business climate prevailing in the state. The data for non-agricultural wages and salaries data were used as indicators of the business climate, based on the previous observations (in Chapter III) that wage and salary earners evidently participated most directly in the economic development in the state, and because these incomes determine the consumption patterns unfolding in the state's economy. Thus, while non-agricultural wages and salaries are not the actual basis for these taxes (though they are the most important part

of the Individual Income Tax base), they are an indication for the economic fluctuations observed in the State which determine the revenue collections from these sources. For projection purposes wage and salary data were used which were produced by the revised MAP-Model based on the different pipeline scenarios described in part A of this chapter.

Projected Collections from
Business-Related Tax Sources
(Individual and Corporate Income Taxes,
Fiduciary Tax and Business License Tax)
FY 76 - FY 86
(\$ millions)

	<u>El Paso</u>	<u>Arctic Gas</u>	<u>Alcan</u>
FY 76	196.5	196.5	196.5
FY 77	247.5	247.5	247.5
FY 78	118.3	118.3	118.3
FY 79	142.3	123.7	131.7
FY 80	173.4	138.3	156.6
FY 81	186.2	154.2	173.6
FY 82	177.8	164.0	175.5
FY 83	183.3	180.2	182.3
FY 84	201.7	199.3	200.7
FY 85	223.7	221.3	222.7

These figures do not reflect the increase in Corporate Income Tax collections due to Prudhoe Bay production, which were projected in the preceding section.

2. Projected collections from non business-related tax sources. While the business-related taxes are relatively closely tied to the general economic situation in the state, other tax collections are influenced more distinctly by the population development. This is especially true for the

excise taxes; that is, the General Fund portion of the Cigarette Tax, the Alcoholic Beverage Excise Tax, the Highway Fuel Tax, Aviation Fuel Tax, and the Marine Fuel Tax. Because of this, these excise taxes were projected by use of the alternative population data for the three gas pipelines, as described in part A of this chapter.

Projected Collections from Excise Taxes
FY 76 - FY 85
(\$ millions)

	<u>El Paso</u>	<u>Arctic Gas</u>	<u>Alcan</u>
FY 76	34.0	34.0	34.0
FY 77	32.1	32.1	32.1
FY 78	31.6	31.6	31.6
FY 79	33.2	31.2	32.0
FY 80	36.9	32.5	34.8
FY 81	38.8	34.2	36.9
FY 82	39.0	35.6	37.8
FY 83	39.6	37.3	38.7
FY 84	41.2	39.0	40.3
FY 85	52.3	41.3	42.5

In addition, the school tax was projected separately. This is a \$10 annual tax imposed on any person age 19 or over who is receiving income through civilian employment in the State. Based on the above-mentioned population data, the civilian non-agricultural wage and salary employment was estimated, and from this the school tax revenue was projected.

3. Total tax revenues. The sum of the individually projected tax revenues constitutes the bulk of the non petro-

leum-related tax revenues. Therefore, by use of these data and a projection equation determined on the basis of historic relationships, the total non petroleum-related tax revenue for the projection period was estimated.

Projected Total Non Petroleum-Related
Tax Revenues
FY 76 - FY 85
(\$ millions)

	<u>El Paso</u>	<u>Arctic Gas</u>	<u>Alcan</u>
FY 76	243.5	243.5	243.5
FY 77	309.0	309.0	309.0
FY 78	167.3	167.3	167.3
FY 79	195.3	172.6	182.4
FY 80	233.3	190.1	212.6
FY 81	249.6	209.3	233.6
FY 82	240.4	221.5	236.6
FY 83	247.2	241.2	245.0
FY 84	269.0	264.0	267.0
FY 85	295.4	290.6	293.5

4. Other revenues. Fees and fines contribute a significant portion of the revenues going into the State's General Fund. Often they are paid in form of a flat dollar amount for privileges or services enjoyed or actions taken. Because of this, the collections from these revenue sources are closely related to the total resident population observed in the State. Therefore, State collections from these revenue sources were projected on the basis of the population projections.

With respect to the remaining miscellaneous revenues, except for the interest income from investments, it was not

possible to determine any specific development pattern other than a simple time trend which showed some extraordinary variations when the State Ferry System disposed of one of its vessels. These State revenues were projected by extending the time trend over the forecast period.

The most decisive fluctuation in the historic collection data from ongoing revenue sources can be observed with respect to the interest income from investments. When the State received more than \$900 million dollars in bonus bids from the September 1969 oil and gas lease sale, the historic income patterns were suddenly altered. Historically, the interest income had developed in close relationship to the General Fund balance, which did not fluctuate excessively over time because the State's economic and financial situation was relatively stable. The receipt of this large amount did not alter the historic relationship between the two series. Rather it moved the development to a higher plateau. Due to the fact that the ordinarily prevailing budget constraints ceased to exist, the General Fund balance started to exhibit larger fluctuations, and the interest income did so correspondingly. For projection purposes the prospective General Fund balances therefore had to be estimated. The balances reported in the State's Annual Financial Report were not used. Instead, a balance was computed by adding to the last reported balance the total projected unrestricted General Fund revenues and deducting from the sum the projected General

Fund expenditures. However, with commencement of the oil production from Prudhoe Bay, the State's financial situation will change again in a way comparable to 1969, except that this change will continue on an ongoing basis for longer than the projection period. The people of the State made one decision concerning the anticipated change. They authorized the establishment of the Permanent Fund. For projection purposes it was assumed that the Fund will earn interest income at rates comparable to the General Fund balance, and that the interest so earned will be transferred to the General Fund. The projected interest income thus includes interest from both the Permanent and General Fund balances.

D. SUMMARY

The three tables that follow summarize the projected General Fund expenditures, the non petroleum-related income, the petroleum-related income and the balances of the General Fund and the Permanent Fund (based on 25%). Expenditures for the Haul Road or the Capital Move are not reflected, but Alaska Native Fund payments are.

General and Permanent Fund Finances with El Paso Pipeline FY 76 - FY 85 (\$ millions)

	<u>General Fund Expend.</u>	<u>Petro. Revenue</u>	<u>Non Petro. Revenue</u>	<u>Interest</u>	<u>Total Revenue</u>	<u>General Fund Balance</u>	<u>Perm. Fund Balance</u>
FY 76	616.4	378.2	292.6	31.7	702.5	569.3	-0-
FY 77	728.1	489.9	362.8	26.9	879.6	718.3	2.4
FY 78	853.8	646.6	225.8	35.0	907.4	689.7	84.7
FY 79	971.4	896.9	260.2	53.9	1211.0	799.2	214.7
FY 80	1042.6	1082.2	302.4	68.3	1452.9	1044.3	380.0
FY 81	1130.7	1356.3	322.0	92.9	1771.2	1487.7	577.0
FY 82	1197.4	1715.7	315.2	131.2	2162.1	2223.3	806.1
FY 83	1134.5	2136.8	324.5	189.0	2650.3	3445.7	1099.5
FY 84	1150.7	2454.7	349.4	279.8	3083.9	5039.2	1439.2
FY 85	1212.2	2665.1	379.3	395.6	3440.0	6892.7	1812.5

General and Permanent Fund
Finances with Arctic Gas Pipeline
FY 76 - FY 85
(\$ millions)

	<u>General Fund Expend.</u>	<u>Petro. Revenue</u>	<u>Non Petro. Revenue</u>	<u>Interest</u>	<u>Total Revenue</u>	<u>General Fund Balance</u>	<u>Perm. Fund Balance</u>
FY 76	616.4	378.2	292.6	31.7	702.5	569.3	-0-
FY 77	728.1	489.9	362.8	26.9	879.6	718.3	2.4
FY 78	853.8	646.6	225.8	35.0	907.4	689.7	84.7
FY 79	942.1	895.7	236.3	53.9	1185.8	803.3	214.7
FY 80	979.5	1079.2	256.8	68.5	1404.5	1063.0	380.0
FY 81	1042.7	1318.2	279.0	94.0	1691.2	1514.5	577.0
FY 82	1111.0	1632.8	294.3	132.8	2059.9	2234.4	806.1
FY 83	1058.0	2025.4	317.1	189.7	2532.2	3415.1	1099.5
FY 84	1086.9	2307.6	343.2	278.0	2928.8	4917.3	1439.2
FY 85	1159.2	2519.0	373.3	388.3	3280.6	6664.5	1813.5

General and Permanent Fund
Finances with Alcan Pipeline
FY 76 - FY 85
(\$ millions)

	<u>General Fund Expend.</u>	<u>Petro. Revenue</u>	<u>Non Petro. Revenue</u>	<u>Interest</u>	<u>Total Revenue</u>	<u>General Fund Balance</u>	<u>Perm. Fund Balance</u>
FY 76	616.4	378.2	292.6	31.7	702.5	569.3	-0-
FY 77	728.1	489.9	362.8	26.9	879.6	718.3	2.4
FY 78	853.8	646.6	225.8	35.0	907.4	689.7	84.7
FY 79	954.1	895.7	246.5	53.9	1196.1	801.6	214.7
FY 80	1012.5	1100.8	280.5	68.4	1449.7	1073.6	380.0
FY 81	1091.2	1368.3	305.0	94.6	1767.9	1553.3	577.0
FY 82	1163.7	1699.2	310.7	135.1	2145.0	2305.6	806.1
FY 83	1103.7	2086.8	321.8	193.9	2602.5	3511.1	1099.5
FY 84	1126.4	2364.1	347.0	283.7	2994.8	5039.7	1439.2
FY 85	1191.4	2602.3	376.9	395.6	3374.8	6848.8	1813.5

Chapter IV - Footnotes

- 1/ The historic population statistics published by the U.S. Department of Labor were used. These figures indicate the population as of the first of July of the respective year, which is at the endpoint and beginning successive State fiscal years. To obtain a figure more reflective of the population during the State's fiscal year, the published population figures at the beginning and end of a fiscal year were simply averaged. This technique is somewhat crude, but no better method presented itself.
- 2/ Expenditures in the Education program category mostly depend on the number of enrolled pupils and the assessed valuation recorded for the school districts, because these are the major determinants in the statutory formula for State aid for education. The number of pupils was found to vary with the total population. The assessed valuation also appears to be strongly influenced by variations in the number of people residing in the state. Because of the mechanics of the formula for computing State educational aid, there is a difference of two years between the fiscal year for which the State aid is computed and the fiscal year for which the assessed valuation is recorded. Consequently the expenditures for this program category are dependent upon current-year changes in the total resident population and upon population changes during the two prior years. The projections for Education are correspondingly more complex than indicated in the text, although the fundamental approach is similar.
- 3/ While we can depict a systematic relationship, we are unable to determine the specific factors influencing the actual population development. However, we do believe that the underlying factors will continue to exist and be effective in the same direction as they did historically.
- 4/ These figures differ from those in the Department's Revenue Journal, Vol. 1, No. 1 (July 1976) due to the time adjustment to reflect delay and because the updated econometric model results were considered more appropriate.
- 5/ These numbers are based on those computer print-outs by Department of Revenue for the El Paso, Arctic and Alcan scenarios in which the program does not reflect any effects for the Capital Move or the Haul Road. They are prepared by subtracting the "ANAT" figures (State portion of Native Fund payments) from the "GFEX" figures (General Fund expenditures) and reflect the General Fund portion

of the State's "ordinary" annual operating budget. The "extraordinary" items of the State's budget are those discussed individually in the text: Native Fund, Capital Move and Haul Road. The figures for FY 76 and FY 77 are based on the actual budgets for those years. FY 78 figures are based on the Governor's budget for that fiscal year. Figures for subsequent year are based on Department of Revenue projections.

- 6/ These numbers were based on assumed past payments of \$2.2 million made to the Fund. Actual payments apparently were \$6,361,742.28 as of October 31, 1976. The payment projected for FY 83 would accordingly be reduced by the difference between estimated and actual past payments.
- 7/ Capital Site Selection Committee, The State of Alaska Capital Site Selection Project: The Selection of Three Alternative Sites (summary), p. 36.
- 8/ Ibid.
- 9/ Boeing Computer Services, Inc., Alaska State Capital Relocation Study (July 31, 1974), p. 76 (Exhibit 45).
- 10/ Under this assumption the General Fund balance becomes much larger than if the actual relocation are paid by annual appropriations. This balance is a source of interest earnings, which are a significant part of the unrestricted revenues that are projected in the second part of this chapter.
- 11/ The exact amounts of the hypothetical issues are (in millions of dollars):

	<u>1979</u>	<u>1982</u>	<u>1985</u>	<u>TOTAL</u>
Case A	170	165	165	500
Case B	340	335	325	1000
Case C	500	500	500	1500
Case D	675	665	660	2000

- 12/ Thus, unless we are willing to risk paying millions and face endless litigation, the Haul Road will be opened. That conclusion, however, is not the total picture; it merely frames the basic issue: conditions under which the road is opened - for opened it will be. Commitments made in previous administrations, public pressures and the road's very presence will assure it.

Governor Jay S. Hammond, "The North Slope Haul Road," View from behind the Governor's Desk #13 (August 23, 1976).

- 13/ Governor Jay S. Hammond, "North Slope Haul Road Interior Policy Statement" (September 1976).
- 14/ The one-eighth of a cent per barrel conservation tax depends on production volumes but not price, as does the production tax when paid on the cents-per-barrel basis.
- 15/ The value at Prudhoe Bay netted back from the refiner's cost to replace it with Saudi crude is greater when the "net back" is from the West Coast than it is when the "net back" is from the Gulf of Mexico. This is because the cost for Saudi oil delivered to port on either coast is roughly the same, while there is a greater distance and correspondingly higher transportation cost to get oil from Prudhoe Bay to the refiner in the Gulf of Mexico area. Netting that greater transportation cost out of roughly the same refinery price leaves a lower value in the field for the surplus oil that must be shipped to the more distant refinery.
- Where several producers all have Prudhoe crude which they cannot absorb at their own refineries on the West Coast, they must either sell it to an unaffiliated West Coast refinery or ship it eastward at the extra cost. In other words, if the non-integrated producer sells its oil to a West Coast refiner on the basis of its "net back" price from the Gulf of Mexico (or wherever it would ship the oil if it couldn't sell the oil on the West Coast), then that producer will be in the same condition as if he had shipped the oil out of the West Coast area. Since the producer would have to pay those extra transportation costs if the oil is not sold on the West Coast, free competition to sell on the West Coast would lower the "net back" price in the field for oil sold on the West Coast. The price would fall to the same level as the "net back" price in the field for oil sold in the Gulf of Mexico region. Thus the "net back" price based on the surplus oil is what theoretically would determine the price in the field for Prudhoe Bay oil going to West Coast refiners.
- 16/ Payments to the Alaska Native Fund have not been deducted from the royalty income presented in the table. The production tax forecast reflects the application of a total of \$506.5 million worth of EDIC for actual and estimated reserves tax payments in FY 76 and FY 77, respectively; it also includes the conservation tax.
- 17/ These figures are based on estimates prepared by Barbara Sorensen for the Legislative Affairs Agency in June 1976.

CHAPTER V. PROBLEM AREAS IN THE PRESENT TAX SYSTEM

A. DEFICIENCIES IN THE CORPORATE INCOME TAX

Some members of the 1976 Alaska Legislature and a consulting economist for the oil industry who has been hired as a consultant by the Alaska Legislature have expressed concern about the effectiveness of the State's corporate income tax. 1/ The concerns expressed were that the present income tax structure does not return to the State of Alaska 9.4 percent of the net income actually earned in Alaska and that it does not put multistate or multinational corporations on a par with domestic corporations.

The Department of Revenue in conjunction with the Legislative Affairs Agency hired two consultants, Jerome M. Zeifman and Kenneth G. Ainsworth, both of whom had extensive experience with state income tax structures. Jerome M. Zeifman is currently an Associate Professor of Law at Santa Clara University School of Law, where he teaches state and local taxation. 2/ Kenneth G. Ainsworth is a Professor of Economics and is Chairperson of the Department of Economics at Allegheny College, Meadville, Pennsylvania. 3/

Both Zeifman and Ainsworth had worked for several years in the area of state income taxation of interstate business, which culminated in an exhaustive study for the Committee on the Judiciary of the U.S. House of Representatives. 4/ Zeifman and Ainsworth have concluded their study for the

Department of Revenue and the Alaska Legislature entitled "The Taxation of the Petroleum Industry Under Alaska's Corporate Income Tax." For our study we have relied substantially on the judgments and findings as well as the recommendations of Zeifman and Ainsworth.

As discussed in Chapter II, the State's corporate income tax base is largely defined pursuant to the Internal Revenue Code, although the total amount of tax base subject to allocation and apportionment to Alaska is the entire taxable income of the corporate unitary business that does business both within and without Alaska. The amount of taxable income, however, that is actually attributed to Alaska is that amount of income obtained by multiplying the entire taxable income of the unitary business by the three factor formula of property, payroll, and sales.

1. The tax base. The first deficiency cited by Zeifman and Ainsworth in their report, and one with which we agree, is the definition of the tax base. 5/ To a large extent, a corporation's taxable income is defined pursuant to federal law under the Internal Revenue Code. Although the use of federal taxable income as a tax base has some advantages (such as ease of compliance for the taxpayer and an established body of law), it also has serious drawbacks. One drawback results from the eroded tax base which it presents. The definition of federal taxable income incorporates several

tax incentives and subsidies which have been enacted by Congress over the years that are designed to provide economic stimulus to the national economy as well as to encourage or discourage certain types of social behavior. Each incentive or stimulus enacted, however, erodes the tax base. These erosions include such items as: accelerated depreciation, percentage depletion, intangible drilling costs, foreign tax credits, capital gains, net-operating loss carry forwards and investment credit - to name just a few.

U.S. Representative Vanik in a recent presentation of the Annual Corporate Tax Study to the U.S. House of Representatives made some pertinent remarks on the federal eroded tax base. 6/

Mr. Speaker, readers should remember that the corporate tax rate, unlike the progressively scaled individual tax rates, is a statutory 48 percent. It is an exception, as this study shows, if a giant company pays even 40 percent in effective Federal income taxes, let alone the 48 percent corporate rate.

But I must stress that these companies are apparently able to reduce their U.S. income taxes through entirely legal means. The companies have made the utmost advantage out of every one of the Tax Code's "stimulants" that seek to promote one beneficial end or another; they have used every tax "incentive" or deferral permitted under law.

While the Tax Code has unfortunately developed into a tax lawyer's paradise of exemptions, exceptions, special provisions and benefits, these features mostly apply to corporate taxpayers. While individual taxpayers and small businesses also have special tax measures that reduce their tax rates, the amount is practically insignificant compared to corporate business sector tax benefits.

Overall, the 148 companies whose data allowed tax rate computation paid an effective Federal income tax of 21.3 percent, down more than a full percentage point from tax year 1974's 22.6 percent average. These figures are not even half of the 48 percent statutory corporate tax rate.

By incorporating wholesale the federal corporation tax law, Alaska adopts a much eroded tax base each time that Congress passes a new tax shelter or tax incentive.

Zeifman and Ainsworth point out in their report a further recognition of the federal eroded tax base. 7/ They explain:

As has been pointed out in the recent "Report to the Senate and House Committee on the Budget" of the United States Congress, the encouragement or subsidy, as the case may be, takes the form of a reduced income tax liability. The amount of the reduction from the "normal" tax owed has come in recent years to be called a "tax expenditure." In theory at least, the Government could have collected the full tax and used some part of it in some other way - by a Federally administered grant or loan program, for example - to encourage the same activity or help the same industry. [footnote omitted]

...

The concept of tax expenditures has been incorporated in the Congressional Budget Act of 1974, which requires the listing of present and proposed tax expenditures and a calculation of their revenue loss implications. In particular, Section 202(f)(1) requires the Director of the Congressional Budget Office to report annually on the "levels of tax expenditures under existing law."

To illustrate the magnitude of the tax expenditures (tax subsidies), Zeifman and Ainsworth include specific

estimates of tax expenditures from the most recent report of the Director of the Congressional Budget Office. 8/

SELECTED FEDERAL TAX EXPENDITURE ESTIMATES FOR CORPORATIONS
(Millions of dollars, fiscal years)

Function	1977	1978	1979	1980	1981
Expensing of exploration and development costs	840	1,045	1,285	1,540	1,85
Expensing of research and development expenditures	695	725	755	785	81
Capital gains: (other than farming & timber)	900	1,015	1,090	1,170	1,2
Asset Depreciation Range (ADR)	1,630	1,825	2,000	2,095	2,1
Deferral of income of controlled foreign corporations	365	365	365	365	36
Deductibility of charitable contributions (social services)	352	402	446	489	53

Thus whether you call various items tax expenditures, incentives, subsidies or encouragements, there is widespread recognition of substantial erosion in the federal tax base which Alaska has incorporated.

The erosions in the federal tax base apply specifically to oil corporations as well as to corporations in general. In fact the erosions may be more dramatic than for other industries. As explained by Representative Vanik "Oil remains largely untaxed. Five multinational oil companies

paid \$107 million in corporate income taxes to the Federal Government on pretax profits of more than \$2.2 billion for an effective average tax rate of 4.8 percent." 9/

As part of Representative Vanik's Corporate Tax Study, a listing of approximate effective tax rates of 148 selected large corporations was made. We have extracted some of those corporations listed which are particularly pertinent to this study of the oil and gas tax structure and have included them in the following table.

As can be seen in this table of selected oil corporations, the approximate effective federal tax rates on the corporate net income (before federal tax) reported to shareholders ranged from 1.8 percent to 35.6 percent. Adoption of the same eroded tax base by Alaska, even assuming that all income is taxable by Alaska, would mean a comparable Alaska effective tax rate of .28 to 5 percent instead of the 9.4 percent statutory tax rate for these selected companies.

	Approximate adjusted net income before Federal and Foreign income tax (thousands)	Approximate adjusted net income before Federal income tax (thousands)	Approximate current Federal income tax (thousands)	Approximate U.S. effective tax rate on world wide incom (per cent)
Mobil Oil Corp.	3,034,528	721,377	12,600	01.8
Texaco, Inc.	1,223,599	346,291	32,000	09.2
Standard Oil Co. of California	782,465	247,505	70,200	28.4
Shell Oil Co.	867,729	866,475	312,081	36.0
Atlantic Richfield Co.	828,622	498,598	70,100	14.0
Union Oil Co. of California	441,332	309,532	70,200	22.7
Standard Oil Co. of Ohio	178,868	154,339	6,539	04.2
Amerada Hess	324,476	161,001	29,864	18.6
Marathon Oil	457,327	207,786	74,000	35.6

Viewed in another manner Zeifman and Ainsworth in their report point out the difference between net income reported to stockholders (book income) and federal taxable income for 10 of the 13 major oil corporations doing business in Alaska. The differences showed that the book income figures (income reported to shareholder) exceed taxable income by \$1.6 to \$3 billion dollars a year.

We reproduced here a table from the Zeifman and Ainsworth report showing the difference between book income and taxable income for the sample of oil companies operating in Alaska.

DIFFERENCE BETWEEN BOOK INCOME AND TAXABLE INCOME
FOR A SAMPLE OF OIL COMPANIES OPERATING IN ALASKA

<u>Company</u>	<u>Difference 1973 (thousands \$'s)</u>	<u>Difference 1974 (thousands \$'s)</u>	<u>Difference 1975 (thousands \$'s)</u>
A	NA	221,219	38,825
B	177,629	208,882	129,451
C	NA	NA	17,009
D	39,814	34,204	NA
E	166,769	242,587	150,231
F	193,072	368,175	110,248
G	NA	NA	464,781
H	335,080	448,695	608,333
I	84,495	93,351	NA
J	(61)	(333)	72
K	NA	46,338	(120,374)
L	261,888	280,454	NA
M	278,634	784,519	193,439
Total	1,834,298 (4 cases not available)	3,056,434 (2 cases not available)	1,592,015 (3 cases not available)

Thus it can be demonstrated that the federal tax base has been substantially eroded, especially for the oil industry. It is this eroded tax base which Alaska has relied upon for its corporate income tax revenues.

1-A. Conflicting policies. In addition to the dollars-and-cents problem of incorporating the eroded federal tax base as the State's income tax base, there is a question as to the desirability or wisdom of adopting federal tax policies as Alaska's own by incorporating the federal tax base. As explained earlier, federal tax laws are not designed solely for revenue raising purposes, but for other economic and social policy reasons as well. These federal policies may not always coincide with Alaska tax and revenue policies. By incorporating, however, these federal tax provisions, the Alaska Legislature has in a real sense delegated to the U.S. Congress State policy-making, as reflected through various tax measures.

A prime example of how federal and State taxing policies may conflict is shown by the federal tax exemption for domestic international sales corporations (DISC). Under Internal Revenue Code Section 991, an exemption from taxation is provided for certain export companies that do a significantly large part of their business through exporting American goods overseas. This tax exemption was given to promote a desired federal fiscal goal - a favorable balance of payments

position for the United States. Unfortunately, this exemption flies in the face of Alaskan policies and revenue concerns. First of all, no State tax incentive is needed to encourage the export of Alaska products because there is a high demand for them. Second, it is not always clear that overseas export of our natural resources should be encouraged. Third, it seems especially inappropriate to exempt from State taxation those companies which do export Alaska resources and provide no income tax return to the people of the state for the extraction of those resources. 10/

Although this is only one example of many, it points to a particular problem of incorporating the federal tax laws in total. If Alaska wants to encourage certain types of development or certain industries through its tax laws the State may be thwarted by federal tax provisions working at cross purposes. On the other hand if State policies dictate the denial of incentives or subsidies in certain circumstances, Alaska may find itself unwittingly providing those incentives through its adoption of the federal tax base.

1-B. The non-responsive erosions. Besides adopting federal policies that may be irrelevant to Alaska's needs (thereby needlessly eroding the State's tax base) or which even conflict with State policies and objectives, incorporating the federal tax base may only clumsily advance Alaska's

interests even when its policies are the same as the federal policies. A Congressionally given incentive may or may not reflect benefits to Alaska, since the federal policy is not limited in application only to Alaska. This was specifically pointed out by Zeifman and Ainsworth in their report. 11/

...it is important to note that the tax incentives and tax subsidies granted to corporations by Congress are not limited in a geographical sense to activities that relate to particular States. For example, the provisions of the Internal Revenue Code which allow petroleum companies to expense, rather than capitalize, intangible drilling costs have the effect of encouraging the corporation to engage in drilling activities in any state or foreign country in which it may choose to operate. Thus, if the corporation is doing business both within and without Alaska, the tax expenditures made by Congress can be used for non-Alaskan drilling.

In other words, since Alaska has simply adopted the relevant provisions of the Internal Revenue Code, Alaska, in effect, offers the same type of tax incentives to develop non-Alaskan wells as Alaskan wells.

Thus even when federal and state policies coincide, federal tax incentives will not necessarily benefit the Alaskan economy. The federal incorporated incentives only serve to drain potential state income tax revenues without offsetting economic benefits.

1-C. Recent recognition of the problem. Both the Department of Revenue and the Alaska Legislature have recognized the problems of incorporating the federal tax base and

responded to it on a small scale for income taxpayers generally during 1975 and 1976.

For example, in 1975 the State income tax law was amended to disallow the foreign tax credit, which is applicable at the federal level to avoid double taxation of the same income by two national governments. 12./ The application at the state level is inappropriate. A limitation of \$500,000 on the amount of qualifying investment credit property was also adopted in 1975. 13./ This limitation gave a sizable amount of investment credit incentive to most businesses while insuring that the Alaska tax credits were not subsidizing investment property used elsewhere. In addition, several items in Congress's Tax Reform Act of 1975 were disallowed because of adverse impacts which they could have had on State revenues. These items included: special refund of 1974 income taxes, personal exemption credit, earned income credit, and the \$2,000 credit for purchase of a new principal residence. 14./

In 1976, recognition of the same problem was again dealt with, but in a broader stroke. The State income tax statute was amended to provide that changes in credits or exemptions passed by Congress would not be incorporated by reference into Alaska law until the second January 1 following the effective date of the federal law. 15./ Thus the Alaska Legislature would be given at least one full

legislative session to decide whether a particular federal exemption or credit should be applicable for Alaska. Only exemptions and credits have this "hold" before taking effect for the State income tax since they have the greatest potential revenue impact.

Thus the problem of federal incorporated tax base has been recognized and has been partially dealt with over the past few years. Even though these changes have helped, they are insignificant when compared to the multitude of federal tax incentives and subsidies that are still incorporated into the State's tax. Except for the disallowance of the foreign tax credit and the limitation on investment credit, oil industry incentives and subsidies have virtually remained untouched.

Untying the Alaska corporate income tax from the federal definition of taxable income for oil companies would appear to be long over-due. This action would not only increase the tax base, but would also allow Alaska to decide for itself which sort of tax incentives should be allowed. For example, the Legislature might decide that it wanted to allow percentage depletion or excess depreciation, but only with respect to Alaska based properties. In any event the decision would be based upon what is best for Alaska, rather than having taxing policies made by the U.S. Congress.

2. Alaska's share of the tax base. The other problem area in the corporate income tax area is the assignment of income to Alaska by oil and gas corporations.

As discussed earlier in Chapter II of this report, if a corporation conducts all of its business in the state, it assigns all of its income to Alaska. If, however, a corporation conducts its business in at least one other state, its business income is assigned to Alaska based upon the three factor formula set out in the UDITPA provisions. 16/ It is this assignment of income of multistate or multinational companies that presents the problem.

The three factor formula assumes that property, payroll and sales equally contribute to the earning of income by a corporation and that the total income of a corporate business can be divided among the taxing states in proportion to each state's share of property, payroll and sales. Theoretically it does. Any formula to apportion income by its very nature is arbitrary; however a three factor formula of different elements will tend to equalize the distortions of any particular factor. In addition, the more uniform the formula, the more the distortions of income are equalized from state to state.

This uniform three factor formula works best for general mercantile business in which property, payroll and sales

contribute equally to the earning of income in the states where they operate. For them the three factors are, for the most part, accurate representations of the taxpayers' activities in each state. For example, retail department stores are probably best apportioned on the basis of the UDITPA formula of property, payroll, and sales.

To determine whether the formula accurately represents the amount of an oil and gas corporation's activity in Alaska, it is first necessary to examine each of the factors in the formula.

As explained in Chapter II, the property factor is the combination of owned property included at its original cost and rented property included at eight times the annual rental rate. These property units are assigned to the various states on the basis of the physical location of the property. Property under construction, however, such as the Trans-Alaska Pipeline, is not included in the property factor until it has been completed. Therefore real and tangible personal property of oil and gas companies physically located in the state are assigned to Alaska's numerator at actual cost. Other real and tangible personal properties leased by the companies and physically located in the state are also assigned to Alaska's numerator at eight times their annual rental rate.

The payroll factor is the accumulation of employee compensation earned within the state. Generally, an employee's wages are assigned to a state's numerator if the wages were earned in the state. The rules change somewhat if the employee worked in more than one state. If that occurs, then the payroll is assigned to the state where the work was directed or controlled. Thus, only the wages of oil and gas corporation employees which were actually earned in Alaska are assigned to the Alaska payroll numerator.

The sales factor is first an accumulation of the total sales price of all of the business's sales. Sales of tangible personal property are attributed to a state on the basis of the destination of the products sold. Sales other than sales of tangible personal property are assigned to the state where the income producing activity is performed. Thus if the ultimate sale of oil and gas products to consumers is made in Alaska, those sales are assigned to Alaska's numerator.

Although there are problems with each of the three factors, the use of the uniform sales factor produces the greatest distortion of oil and gas corporation activity in Alaska. That is, the total value of petroleum products is assigned only to the state where the final destination sale is made. No value is assigned to the state where the petroleum is produced. Instead of prorating that value

added to the final product by the various phases of the business, the destination sales factor gives sole weight to the marketing side of the business.

Zeifman and Ainsworth also point out this deficiency in their recent report and describe it as follows: 17/

...the present apportionment formula operates in such a way as to reduce the amount of taxable income attributable to Alaska by corporations which extract non-renewable petroleum resources from the State. This effect occurs largely because the Uniform Division of Income for Tax Purposes Act contains a "destination-oriented" sales factor, in which sales of Alaskan oil are generally assigned to Alaska only with respect to petroleum products which are ultimately consumed in the State. As a result, the exportation of petroleum from Alaska has the effect of reducing the tax liability of the extractor of the Alaska petroleum.

Thus not only does the destination sales factor reduce the income tax revenues of the State, but it completely fails to measure the value of oil produced within it.

B. PROBLEMS WITH THE PRESENT OIL AND GAS PRODUCTION TAX

This section identifies certain problems that have been observed with the present production tax and other problems which may arise if it continues unchanged. Part 1 discusses the general nature of production taxes and their relative economic effect (compared to other factors) on commercial enterprises engaged in developing and exploiting petroleum resources. Part 2 focuses specifically on Alaska's existing oil production tax and explores where it may be deficient. Part 3 is an examination of petroleum-related revenue problems that could develop as the result of efforts to artificially depress the price of Prudhoe Bay oil below its market value. Part 4 reviews the existing natural gas production tax and describes its current deficiencies.

1. The general nature and economic effect of petroleum production taxes. A production tax is a tax imposed on the activity of producing one or more taxable substances, such as oil and gas. Typically production taxes do not reflect the expenses incurred to obtain the production. The tax is either some specified percentage of the gross value of the production or a flat fee of so many cents per unit of production. Since it is not based on net proceeds of the production operation, the production tax simply represents another cost of doing business to the producer.

There would seem to be two ways a production tax could affect the producer's decision-making: first, when the producer is deciding to invest in unknown acreage (i.e., when the bonus bids are made) and later, when the producing property is approaching the end of its economic (profitable) life.

Perhaps surprisingly, the production tax is often relatively unimportant in the evaluation and ranking of petroleum prospects by bonus bidders. The process to prepare and make a bonus bid is a concerted team effort intended to see far into the future. The finest available geologists, engineers, mathematicians and other experts examine the variables which significantly affect the profitability of production from a potential reservoir. Risk-adjusted estimates are made to answer these paramount questions: (1) What will the company receive per unit for the production? (2) How fast will the reservoir produce? (3) How much can be produced in total? (4) How much capital will be needed to develop the pool if it proves to have oil or gas? (5) How effectively will others bid for the same acreage? and (6) How does this prospect compare to other prospects in which the company might invest? Discounted cash flow analyses play an important role in this decision-making.

The effect of discounted cash flow analysis is to emphasize the importance of front-end costs and early profits: occurrences 10 or 15 years down the road have very little

impact on the picture presented by the earlier cash flows, even though the later occurrences are of major magnitude. During the early years when production is flush and profit margins are at their widest, the business cost reflected by a production tax is often slight compared to the profit margin. Even though the profit margin will be narrowed through time so that the production tax takes on greater significance, this will be far in the future. The economic attractiveness of the early years remains unaltered. Thus the production tax can play a rather minor role in the decision-making except for the evaluation of marginally attractive prospects. 18/

Once a discovery has been made and production begins, however, the production tax (and the landowner's royalty) can have a more significant impact on the economics of the production operation and the associated decisions. As operating costs rise during the life of the field, the profit margin shrinks. At some point the total production costs overtake the value of the oil or gas produced, and production can then be continued only by operating at a loss. As one of the costs of doing business, the production tax contributes to the total costs and tends to hasten the time when this break-even point (called the economic limit) is reached. The royalty to the landowner has a similar effect.

To illustrate how a production tax and the landowner's royalty affect the economics of production operations, a

simple hypothetical Field "A" has been set out as an example below. This producing field consists of 10 oil wells. Notice that in each of the fifteen production years shown, the wells produce more in terms of fluid volumes than they produce in crude oil. This is because oil wells usually produce significant quantities of salt water brine. As the ratio of water to crude oil increases, the cleaning and dehydrating of the total fluid stream becomes increasingly expensive, especially on the basis of the cost per barrel of oil. In the first years shown, most of the fluid flow from Field "A" wells is crude oil. During Year 2, the 10 wells average 5000 barrels of oil and 1000 barrels of salt water brine per day. Seven years later in Year 9, out of 7800 barrels of fluid produced each day, only 1300 barrels are crude oil. This is to say that five barrels of brine are produced for each barrel of crude oil recovered. It is readily apparent that the first years of producing operations are far less difficult than the last few years.

PRODUCTION ECONOMICS FOR HYPOTHETICAL FIELD "A"

Year	Total Fluid B/D	Total Oil B/D	Operating Expense \$/B	Capital Expense \$/B	Combined Expense \$/B
1	4000	3500	.23	.16	.39
2	6000	5000	.21	.11	.32
3	6700	4500	.32	.12	.44
4	7000	4000	.42	.14	.56
5	7300	3200	.76	.17	.93
6	7500	2560	1.21	.21	1.42
7	8100	2050	1.95	.27	2.22
8	7800	1650	2.61	.33	2.94
9	7800	1300	3.52	.42	3.94
10	7600	1150	4.44	.52	4.96
11	7400	1000	5.31	.62	5.93
12	7400	900	6.36	.68	7.04
13	7400	800	7.67	---	7.67
14	7200	700	9.19	---	9.19
15	7000	600	11.20	---	11.20

The effects of production tax and royalty can be perceived when a value is given to the production of Field "A". For simplicity, assume there is a constant nominal price of \$6.00 a barrel during the production life. With a one-eighth royalty and a five percent tax on the producer's share of production, the cost per barrel for the royalty is \$0.75 ($\$6.00 \times .125 = \$0.75$) and the tax on \$5.25 value ($\$6.00 - \$0.75 = \$5.25$) of the producer's share is 26.25 cents. This leaves about \$4.99 per barrel to cover the combined operating and capital costs. In Year 10 those combined costs are \$4.96, suggesting there would be little production after the tenth year. Of course, near the end of the productive life the capital expenditures would be reduced or discontinued. But in this example the operating costs alone rise to \$5.31 in

the next year, so the life would not be materially extended by the cessation of further capital investments in Year 10.

In the absence of the royalty and tax costs, the producer would have the full \$6.00 available to cover operating and capital expenses. Combined, those costs are \$5.93 in Year 11, meaning the field would be produced all of that year and part of Year 12. Again, with the discontinuation of capital expenditures, the operation could be extended farther into Year 12 until the operating expense exceeded \$6.00 a barrel. In other words, about a year would be added to the life of Field "A" if there were no production tax and royalty. Graphically, this may be shown as follows:

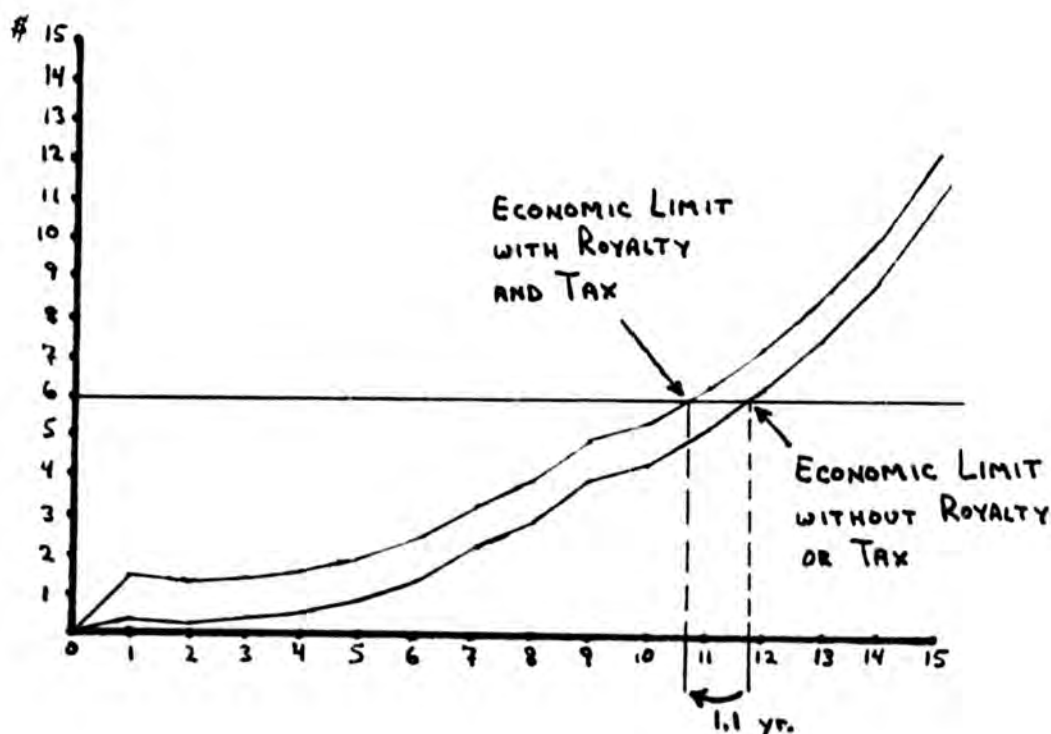


Figure V-1

To put the economic effects of royalty and production tax payments into perspective, it is useful to consider the effects of federal price controls. There are two major controlled price categories for U.S. oil, "old oil" and "new oil." ^{19/} The national average price for these two "tiers" is \$5.15 and \$12.40, respectively, which are significantly below their true market value of roughly \$13.80 (the cost for imported oil).* By depressing the price below the market

* It may be contended that the present world market prices are artificially heightened by the actions of OPEC and do not reflect what a "true" market price would be. This reasoning is specious at two levels of analysis. First, the OPEC price is what must be, and is being, paid in order to obtain OPEC oil. It is not a phony price, but one that is actually paid every day for millions of barrels of oil. Second, and more fundamental, is the fact that land, and the resources beneath it, are as equally entitled to receive scarcity value for their economic contribution as labor and capital. If there were unrestricted access to unlimited amounts of capital, competition would drive interest rates down to zero. Similarly, unlimited availability of labor would reduce wages to a minimum subsistence level. Given the scarcity of both capital and labor, interest rates are not zero and labor is not paid the minimum subsistence wage. By the same token, then, land and its resources should realize their scarcity value. Moreover, there is a sound reason to allow that scarcity value to be realized. The price of a resource should not be less than the economic cost for the last, most expensive increment to the supply that meets demand. Lower prices for lower-cost portions of the supply distort the demand and result in a misallocation of resources to that supply. At present, the alternatives to OPEC oil are synthetic crude, shale oil and oil from tar sands. The costs for these alternative sources are yet higher than the present level of OPEC pricing, implying that OPEC oil is in fact still underpriced and that its prices can actually be increased in real terms (i.e., in terms of dollars of constant buying power). OPEC will have raised its price too high if it exceeds the cost of one of the alternative sources and that source cannot be brought into the market immediately.