

Two Views of the “New Harpoon”: Economic Perspectives on Alaska’s Native Regional Corporations

**Discussion Draft:
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version 2/3/98
February 3, 1998

Summary

The Alaska Native Claims Settlement Act (ANCSA) departed from previous U.S. Indian policy by granting a large measure of economic sovereignty in the form of land and money to Alaska Native business corporations. As a group, the Native corporations have grown to become a significant source of economic activity in Alaska. However, overall financial performance between 1973 and 1993 was poor. The 12 regional corporations lost more than half of their original cash endowment -- about \$380 million¹ -- in direct business operations. The village corporations appear to have lost similar amounts. Only windfall tax preferences and asset sales allowed the regional corporations to report positive net income, pay modest dividends, and in some cases avoid bankruptcy.

Analysis of active business operations by sector shows that the corporations' losses were concentrated in statewide enterprises outside the oil industry, such as fishing, construction, and hotels. Oil investments produced mixed results. Surprisingly, the best business performance was in local enterprises, where the limited size of the market was clearly observable to all. Joint ventures with established non-native firms lost slightly less money than wholly-owned operations.

ANCSA aimed for equity among Alaska Natives by conveying equal amounts of money per person and by requiring the sharing of natural resource profits. The natural resource revenue sharing worked well, but the cash windfalls from the sales of resource-related tax net operating losses (NOLs) were not shared. This further widened the inequalities

¹This number is slightly higher than the \$350 million cited in the 10/24/97 draft of this paper. The difference comes from reclassifying \$27 million of cashflows from business revenue to contributed capital and/or natural resource asset sales.

resulting from differential economic performance. By 1993, the wealthiest 15% of ANCSA shareholders held more than 50% of total regional corporation book equity. The poorest 20% held less than 1% of the equity. Cumulative dividends ranged from zero to almost \$15,000 per shareholder.²

ANCSA must be judged against realistic benchmarks. It is not clear that a tribal reservation system would have delivered a better outcome. In any event, the major economic and social force in Alaska during the past 25 years has been the rapid development of North Slope Oil (Colt 1993, Berry 1975, Strohmeyer 1990). ANCSA was only one part of the social and political response to the changes wrought by oil.

1. Introduction

Economists often propose one-time lump-sum transfers of wealth as a policy tool for helping disadvantaged groups or achieving other social goals without disturbing the efficiency of decentralized markets (Bourguignon 1991). This strategy was reflected in the Alaska Native Claims Settlement Act of 1971 (ANCSA): a one-time, large-scale conveyance of land and money to a poor minority group. While many Alaska Natives saw ANCSA as “simply a real-estate deal,³” it is clear that some Natives as well as many in Congress regarded it as an economic development tool.⁴

Under ANCSA, Alaska’s 75,000 living Eskimos, Indians, and Aleuts acquired clear title to 44 million acres of land -- an area larger than the 6 New England states combined -- and they got to select much of the land themselves. They also received almost one billion dollars in cash compensation. This wealth was vested in business corporations, not tribes. Every Alaska Native alive on December 17, 1971 became a voting shareholder in a regional corporation operated under state law. Most Natives also owned part of a village corporation. No one was allowed to sell their shares until 1991 at the earliest.

Referring to his people’s historical whaling culture, one Inupiat Eskimo called the corporations the “new harpoon.”⁵ Today one can find two views of ANCSA and the Native corporations. The “cheerleaders” point to ever-increasing assets, revenues, employment, and economic activity [Bradner 1990, Forker 1996]. The Alaska State Chamber of Commerce, not an early supporter of the land claims movement, marked

²A further source of unequally distributed wealth is the exclusion of Natives born after December 19, 1971 from the initial ownership of ANCSA assets. I do not deal with this issue here.

³Willie Hensley, personal communication, October 1991. Hensley was one of the leading architects of the settlement on the Native side.

⁴“The bill before you is not just a question of land,” said John Sackett, an Athabaskan Indian, as the U.S. Senate considered the initial settlement. ‘It is a grasp, a handhold for the development of our future.’ ” quoted in Bernton, Hal, 1992. “Alaska’s Native corporations at 20: Mixed results amid sharp divisions.” *Washington Post*, 1/2/92 p. A3

⁵Charlie Edwarsen, “The New Harpoon: An Essay”. In H.P. Gallagher, 1974. *Etok: A Study in Eskimo Power*. New York: Putnam

the 20th anniversary of ANCSA with a lavish dinner honoring the Native corporations as major-league players in the Alaska business world.

The more numerous critics of ANCSA point to limited or nonexistent dividends, a blind focus on profits, inequitable distribution of economic benefits, and conflicts with traditional tribal culture (Rude 1996, Grotha 1994, Jung 1995,). Some academics saw the near-bankruptcy of several corporations and the resulting cash bailout from sales of tax benefits as evidence that the whole ANCSA experiment was ill-adapted to the difficulties of development in the remote north (Anders 1989, Flanders 1989). Canadians, looking towards their own settlement process, urged rejection of the ANCSA corporation model in favor of trust funds; Alaska's own oil-based Permanent Fund was held up as a model of prudent external investment (Pretes, Robinson & Wuttunee 1989). Within Alaska, the tribalists have cited the failure of ANCSA as evidence of the need for greater political sovereignty [need cite: Venetie brief(s)].

Proponents of both views tend to rely on anecdotal evidence, so who is right? In this paper I develop and analyse 20 years of consistent data on the financial performance of the 12 in-state regional corporations in an attempt to shed some light on this question.

In Section 2, I consider the 12 regional corporations as a consolidated group, and show that while they have become significant sources of economic activity, their bottom-line business performance between 1973 and 1993 was generally poor. Section 3 contains further analysis of active business operations by economic sector. This shows that the corporations' losses were heaviest in statewide enterprises outside the oil industry, such as seafood, construction, and hotels. In Section 4 I consider the distribution of benefits among shareholders. ANCSA apportioned the money settlement on an equal per capita basis and required the aggressive sharing of natural resource profits, but these mechanisms were swamped by initial differences in economic success and by the failure to share the proceeds of the cash windfalls from the sale of resource-related tax net operating losses (NOLs). In Section 5 I draw some tentative conclusions and speculate about the future.

2. The ANCSA Regional Corporations: An Economic Powerhouse?

2.1 Overall Economic Activity

The 12 in-state Native regional corporations vary widely in numbers of shareholders, land area, and natural resource endowments, as shown in Table 1.

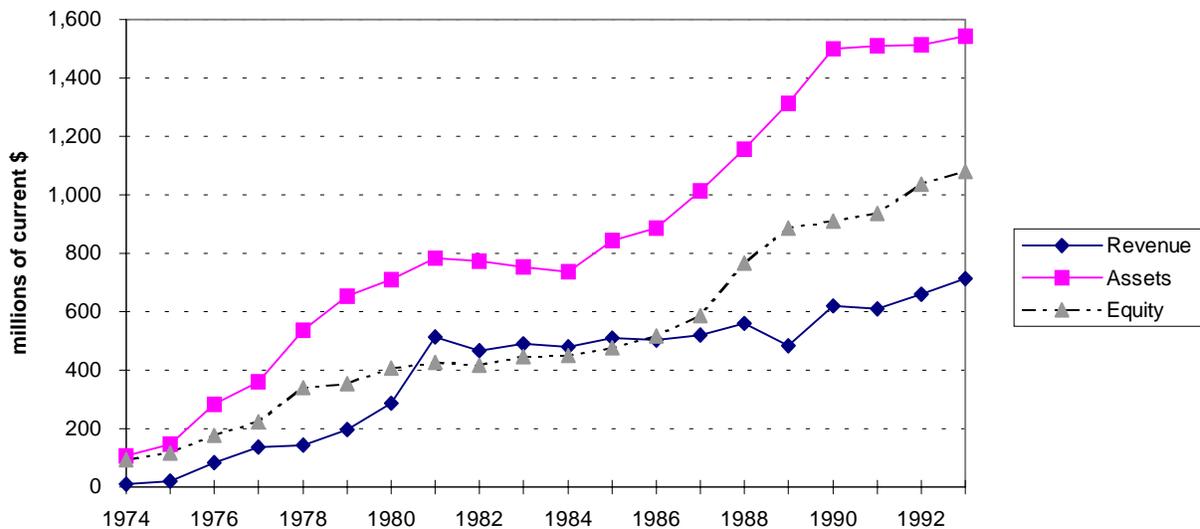
Table 1: The ANCSA Regional Corporations

	number of shareholders	regional and village land area (million acres)	Initial ANCSA cash (\$ million)	major natural resource endowments
Ahtna	1,100	1.7	6.4	
Aleut	3,249	1.6	19.5	
Arctic Slope	3,738	5.1	22.5	potential oil and gas
Bristol Bay	5,200	3.0	32.5	
Bering Straits	6,200	2.2	38.1	
Calista	13,306	7.0	80.1	
Chugach Natives	2,109	1.0	11.5	timber
Cook Inlet	6,553	2.5	34.4	known oil and gas
Doyon	9,061	12.5	53.4	potential minerals
Koniag	3,731	1.7	20.0	
NANA	5,000	2.2	28.9	zinc-lead deposits
Sealaska	15,700	0.3	92.5	old-growth timber
Total	74,947	40.8	439.9	

Measured in terms of total revenue or assets, the corporations have clearly become an economic powerhouse in the State of Alaska. Total revenue increased steadily to \$714 million in 1993 for the group of 12 taken as a whole. Assets grew more sporadically, with spurts during the late 70's and late 80's due to infusions of federal cash.

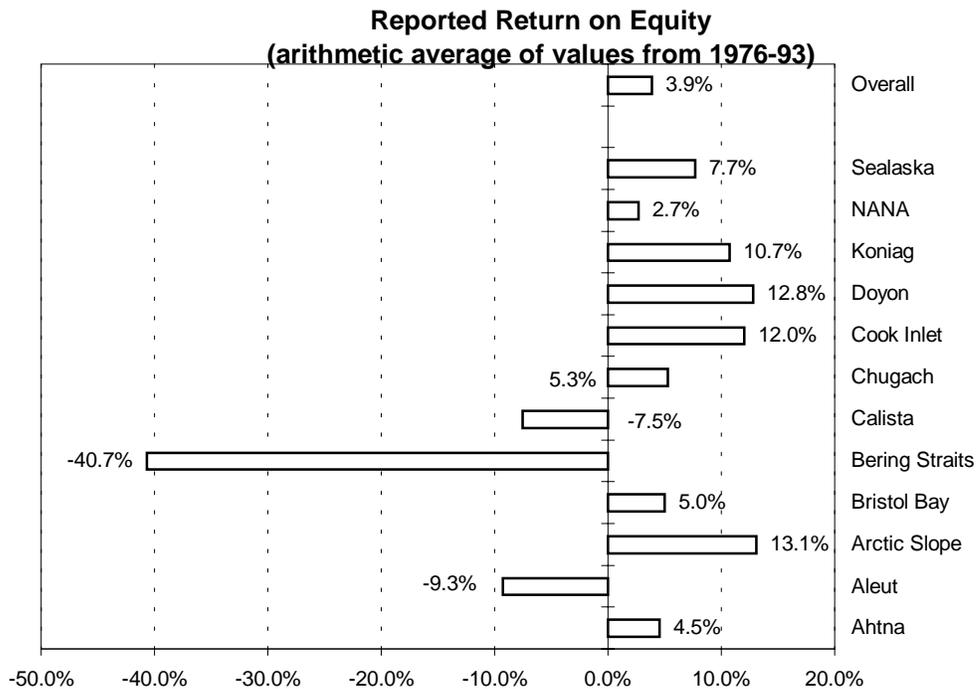
Figure 1

**Gross Revenues, Assets, Book Equity
All Regional Corps**



Overall return on book equity as reported on financial statements was less spectacular—averaging only 3.9% over the 1976-1993 period.⁶ And this average conceals a huge disparity among the twelve regions, as shown in Figure 2.

Figure 2



2.2 Looking Behind the Aggregate Growth

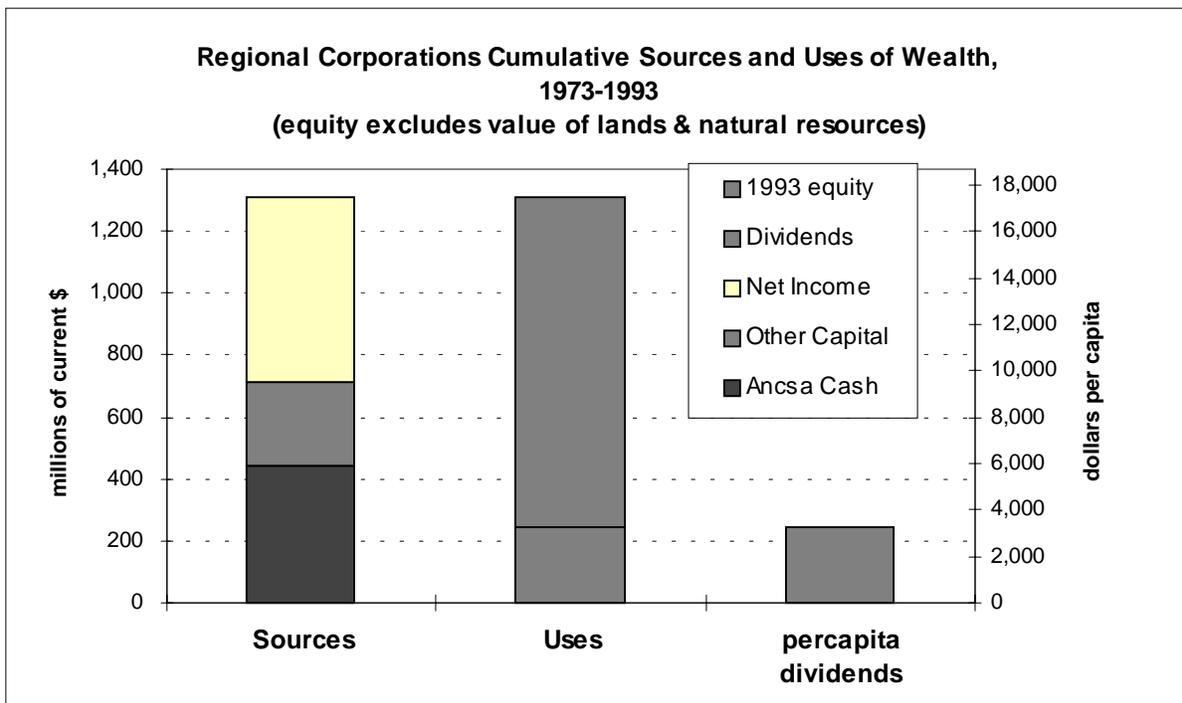
What do these aggregate statistics mean for the Alaska Native shareholders who were intended to benefit from ANCSA? Figure 3 shows a condensed balance sheet for the 12 regional corporations as a consolidated entity. This framework is a highly condensed “life history” from inception through the end of 1993 that will be useful for further analysis.

The regional corporations received about \$6,000 per shareholder as their 45% share of the ANCSA cash settlement. As a group, they got the equivalent of an additional \$3,600 in other contributed capital. Almost all of this went to Cook Inlet Region, Inc. (CIRI) in the form of surplus federal properties and bidding rights on other real estate seized by the FDIC during the savings and loan crisis. CIRI got the properties and rights in exchange for reduced amounts of Alaska lands. This additional capital was worth about 6 times as much as the corporation got in ANCSA cash, and helps explain the large amounts of absolute income CIRI has generated.

⁶This is an arithmetic average over time of the consolidated ROE of all twelve corps. treated as a single economic entity.

Figure 3

Sources and Uses of Wealth: 1973-93			
		millions of	\$ per
		current \$	capita
	ANCSA Cash	440	5,870
	plus: Other Capital	273	3,641
	plus: Net Income	596	7,956
	equals: Total Sources	1,309	17,467
	less: Dividends Paid	(243)	(3,249)
	equals: 1993 Equity	1,066	14,223



Starting with this initial endowment, the corporations reported about \$600 million -- about \$8,000 per shareholder -- in net income. From this pool of accumulated wealth, about \$243 million -- \$3,200 per shareholder -- was paid out as cash dividends. The rest of the wealth -- about \$14,000 per shareholder at the end of 1993-- was held by the corporations as shareholders' equity.

2.3 Problems with the Accounting Data

Because of several special features of ANCSA, standard financial statements prepared using generally accepted accounting principles are poor indicators of actual economic performance. Reported accounting profits are a mixture of asset sales, windfall gains from tax preferences, and other transfers, as well as productive economic activity. It is

difficult to disentangle these strands of reported net income into meaningful economic data, for at least the following reasons.

First, natural resources and land conveyed by the settlement are not carried as assets on the corporate books. Thus reported book equity tends to understate shareholder wealth in resource-rich regions. This omission reduces the denominator in a rate of return calculation, overstating the true value of the ratio. Second, with no natural resource assets listed as assets, depletion is not charged against revenue when a natural resource is extracted and sold. This overstates income by confusing asset sales with true production. The overstatement of income inflates the numerator of the rate of return calculation, further inflating the calculated result.

Although these two accounting problems stem from the same source, the two effects on the rate of return calculation are separate, as shown in the following example. Suppose reported net income is NI and reported book equity is B . Then the reported rate of return on equity is:

$$ROE = NI / B$$

Now suppose that reported net income NI consists partly of natural resource asset sales, r_n , made from an asset base with a market value of A_n that is owned outright by the shareholders. (If the corporation *processes* the raw resource after extraction, the asset sale is the imputed amount normally taken as a depletion charge). Then the correct calculation of the return on shareholder equity would be:

$$ROE^* = (NI - r_n) / (B + A_n).$$

In considering these resource-related accounting problems it is important to note that they are not unique to Alaska native corporations.⁷ Indeed, the problems that resource rents pose for national income accounts are well-known. Scholars of growth have a healthy respect for their importance when a country is a heavy resource exporter. For example, Mankiw, Romer and Weil (1992) completely exclude all oil-exporting countries from their sample when doing cross-country comparisons of growth rates.

The third accounting problem is that ANCSA firms have no market values because the stock is not traded. Market values of residual claims would include capitalized future expected natural resource rents and partly solve the accounting problems just mentioned. It is impossible to say *a priori* how the use of a market value for equity for the denominator would affect the rate of return calculation.

⁷Reliance on resource exports is an economic fact of life for the entire Alaska economy. The State of Alaska recorded more than \$40 billion from oil royalties and severance taxes as "petroleum revenue" between 1970 and 1996 even though the cash flows from the sale of this one-time petroleum wealth are clearly not sustainable. Historically, the economy has been built on successive resource extraction booms based on furs, gold, copper, fish, proximity to the Soviet Union (In 1960 military spending accounted for more than half of Alaska's total employment (Goldsmith 1994)), and only quite recently petroleum. In each case the resource was essentially nonrenewable and the economic stock quickly depleted.

Fourth, a great deal of revenue and expense is treated as “extraordinary,” due to the many business startups and shutdowns during the period. In particular, the significant losses from many failed businesses are listed as “extraordinary losses,” rather than operating losses. On the revenue side, the corporations generated large cash windfalls by selling paper tax net operating losses to other companies. Proper economic analysis of business operations should include the “extraordinary” losses and exclude the windfall gains.

2.4 Adjustments to the Accounting Data

To deal with these problems I isolate and analyze several major components of each corporation’s net income. This approach allows me to concentrate on flows (revenues, expenses, etc.), which are measured well by the accounting data, rather than trying to impute returns to poorly measured and poorly reported stocks of assets. To implement the approach I start with reported net income and then make the following adjustments⁸:

- 1) Adjust for the effect of the *sharing* of natural resource revenues.
- 2) Remove sales of tax net operating losses (NOLs)
- 3) Remove the one-time sales of natural resources
- 4) Remove passive investment income
- 5) Make allowance for unavoidable corporate overhead costs

The resulting residual is a good measure of the net income generated by active business operations.

Adjustment 1: Sharing of Natural Resource Profits

First, I remove the effects of the complex natural resource revenue sharing mandated by section 7(i) of ANCSA. This section requires that 70% of regional corporation net revenues from natural resources be shared equally (per capita) among all regional and village corporations.

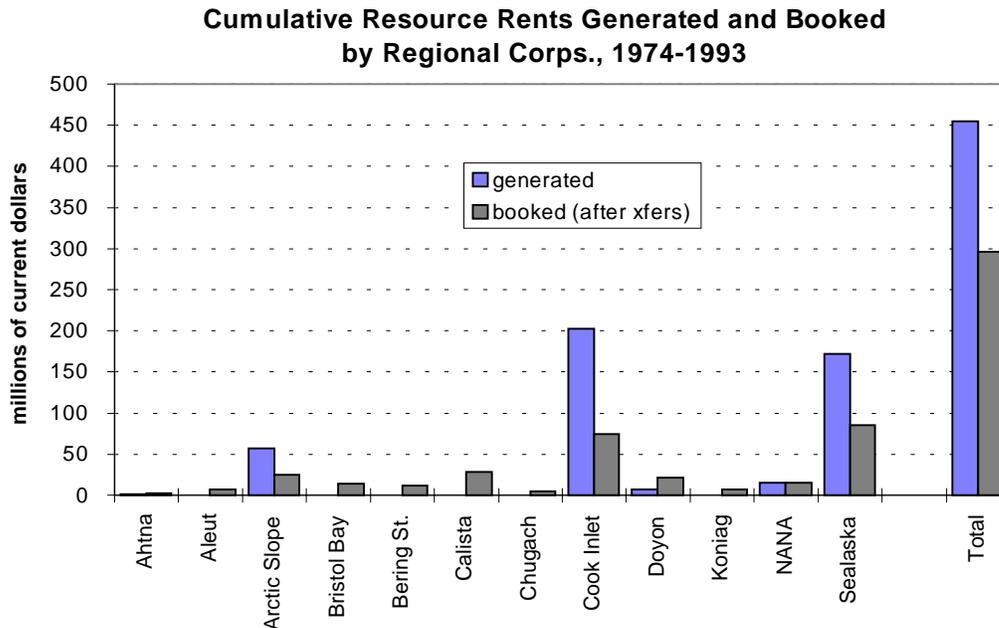
Between 1976 and 1993, about \$455 million in shareable revenues was generated. Of this, \$160 million was shared among all regional corps, and another \$160 went to village corporations. Figure 4 summarizes this activity. For each corporation two bars are shown. The left bar shows resource rents generated in the region. The right bar shows net income put on the books. The difference between the two bars is transfers *to* other regions and to all villages. The rightmost bars of the figure show that when transfers between regional corporations are netted out, there was \$455 million generated, of which \$159 million was transferred to villages. The rest ended up as reported net income on the regional corporations’ books.

Figure 4 shows the marked disparities in resource endowments: CIRI and Arctic Slope have oil and gas, and Sealaska has prime Southeast Alaska timber. These three

⁸See Appendix for details of the accounting model.

resource-rich groups generated almost all the resource rents, and shared a significant amount of the wealth with other regions and with all village corporations. For many village corporations this shared resource wealth has constituted their only consistent revenue stream.

Figure 4



With the *transfers* of net resource revenues removed, (as well as income taxes -- which were minimal) I have an income concept called pre-tax, pre-sharing net income generated within each region. This is a good measure of the total wealth generated by corporate activities in that region.

Adjustment 2: Remove Sales of Tax Net Operating Losses (NOLs)

By the mid-1980s, many Native corporations had lost money, some with spectacular speed and vigor. Two regional corporations and several villages went through chapter 11 bankruptcy. A more widespread financial crisis was averted in 1986 when Alaska’s senior senator secured, by voice vote, a tax preference for the sole benefit of the ANCSA corporations.⁹ Under this law the ANCSA corporations became the only legal sellers of taxable operating losses, and they were able to generate huge paper losses by alleging steep declines in the value of natural resources between the time of conveyance and the time of sale. Since these assets were carried on their books at zero value, there were no book losses associated with the NOLs.

⁹The amendment became section 1804(e)(4) of the tax Reform Act of 1986.

The total amount of revenue from NOL sales booked through 1993 by all regional corps. was about \$410 million.¹⁰ In addition I have counted up at least \$500 million additional NOL sales by *village* corporations, bringing the known total to well over \$1 billion. The money probably saved Bering Straits and Chugach from chapter 7 bankruptcy and essentially recapitalized many regional and village corporations.

Table 2 summarizes this activity. Sealaska, Cook Inlet, and Doyon made the most money by generating huge paper losses related to timber, fossil fuels, and asbestos, respectively. The recapitalization ratio in column (5) of the table compares the amount of NOL sales to the amount of initial ANCSA cash after adjusting for inflation.

**Table 2:
Summary of NOL Sales by Regional Corporations**

	(1)	(2)	(3)	(4)	(5)=(4)/(3)
	total		total	total	
	nominal NOL	NOL sales	real NOL	real	
	proceeds	proceeds	proceeds	ANCSA	recapital-
	1986-93	per	1986-93	cash	ization
	\$ million	shareholder	million '93\$	million '93\$	ratio
Ahtna	4.9	4,440	5.9	11.9	0.50
Aleut	3.1	940	3.7	35.5	0.10
Arctic Slope	2.5	669	3.0	41.2	0.07
Bristol Bay	19.2	3,697	23.0	66.0	0.35
Bering Straits	35.3	5,695	41.9	71.3	0.59
Calista	17.9	1,346	21.9	146.7	0.15
Chugach Natives	33.0	15,668	43.3	20.5	2.11
Cook Inlet	96.9	14,792	112.1	67.1	1.67
Doyon	76.6	8,454	93.1	103.2	0.90
Koniag	16.9	4,539	20.2	36.4	0.55
NANA	2.7	540	3.3	53.0	0.06
Sealaska	107.7	6,859	131.4	178.9	0.73
Total	416.8	5,561	502.9	831.8	0.60

Adjustment 3: Remove Natural Resource Asset Sales.

The second income component I remove is the “net revenue” from the one-time sales of natural resource assets. I am able to take advantage of the fact that these net revenues (or “rents”) must be reported for revenue-sharing purposes; otherwise the task of estimating them would be hopeless.

Adjustment 4: Remove Passive Investment Income

The third component that is easily isolated is income from passive financial investments in stocks and bonds.

¹⁰An additional \$121 million was recognized in 1994 by Arctic Slope but not included in this analysis.

Adjustment 5: Allowance for Unavoidable Overhead

Finally, I make allowance for the unavoidable burdens of land management and shareholder relations that fall on the corporations regardless of their business activities. I call these expenses “unavoidable overhead” and assume them to vary between about \$1 and \$3 million per year, depending on a corporation’s number of shareholders and land holdings.

2.5 Results of the Adjustments

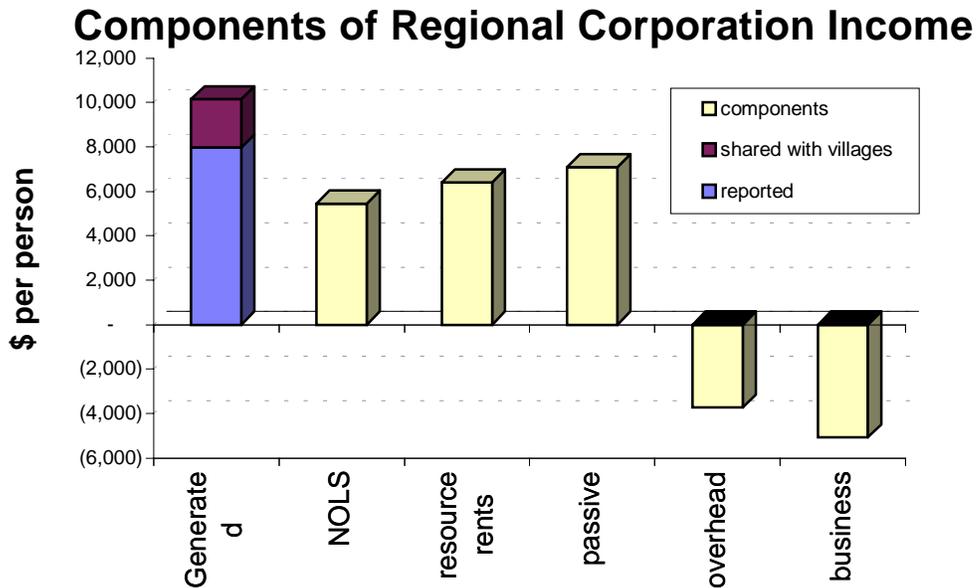
When all of these identifiable components of net income are accounted for, the remaining residual is a good estimate of net income from active business operations. Table 3 and Figure 5 restate the condensed balance sheet introduced in Figure 3, showing these components of income. It is important to remember that if one believes my allocations of expenses to “unavoidable overhead” are too high, the amount for estimated business losses would rise accordingly.

Table 3

Regional Corporations Concise Financial History				
			Total	dollars
		symbol	\$ million	per Capita
	Shareholder Equity Start of 1973		0	4
plus:	ANCSA Cash Inflow		440	5,870
plus:	Other Capital Inflow		273	3,641
plus:	Accounting Net Income	NI	596	7,956
	composed of:			0
	Net NOL Sales Proceeds	($R_{nol}-C_{nol}$)	408	5,450
	+ Natural Resource Rents	($R_{nr}-C_{nr}$)	480	6,408
	+ Passive Investment Income	(R_p-C_p)	532	7,101
	+ Business Operations Income (Loss)	($R_{bus}-C_{bus}$)	(380)	(5,074)
	- Unavoidable Overhead	F	(280)	(3,738)
	=Pre-tax, pre-sharing net income	NIGEN	760	10,147
	- Net 7i Transfers to villages	Tr	(159)	(2,126)
	- Taxes	t	(5)	(64)
	=Reported Net Income (Loss)	NI	596	7,956
	Total Sources of Wealth		1,309	17,467
less:	Dividends Paid		(243)	(3,249)
plus:	Adjustments to Retained Earnings		14	190
=	1993 Shareholder Equity		1,080	14,408

note: “symbol” column refers to accounting model reported in appendix.

Figure 5



This decomposition paints a far different picture than the constantly increasing revenues and assets shown above. It shows that ANCSA corporations survived financially on sales of resource endowments, windfall tax preferences, and market returns on prudent financial investments in the world capital market. They lost more than 80% of the amount of the ANCSA cash settlement in active business operations.

Adjusted Returns on Equity

Table 4 shows how these adjustments to net income affect the return on equity. Once again, the average conceals great variation across regions. When returns on equity are recomputed after excluding first NOL sales and then (in addition) natural resource rents, the changes move some corporations from positive to negative profits. The overall ROE for the group drops from 5.4% (based on reported net income before sharing and taxes) to 2% when NOL sales are excluded, and to minus 3% when resource rents are also excluded. I call this final figure *nonwindfall ROE*. Note that this final ROE figure is based on both passive investment income and active business income (losses). In this framework it is not possible to compute a defensible return on equity figure for business operations alone.¹¹

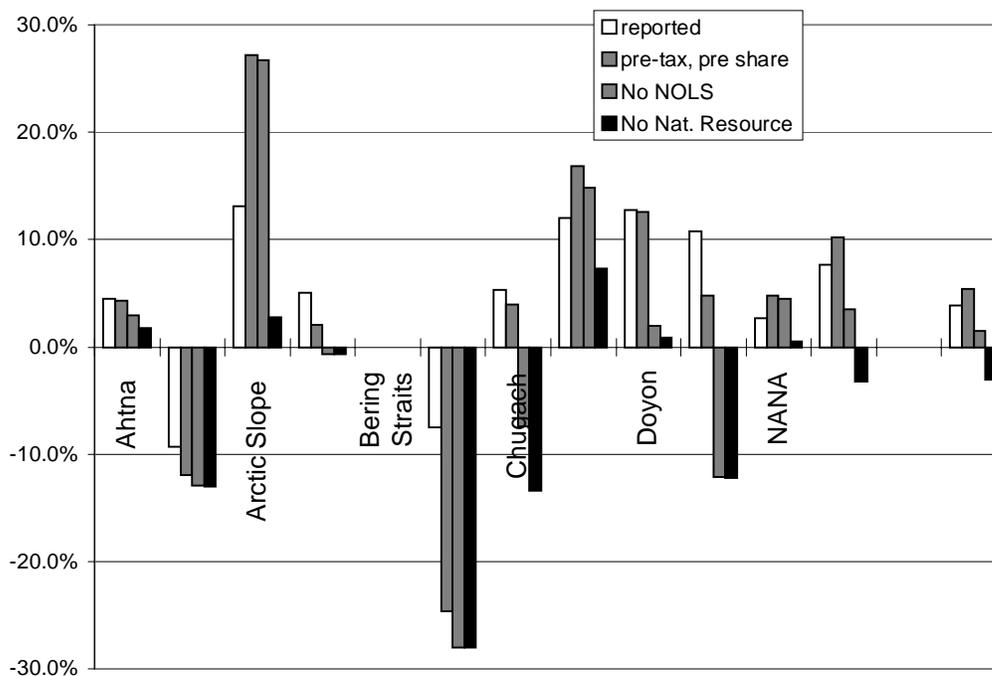
Table 4: How Adjustments Affect ROE

¹¹The numerator of the calculation (net income) has already been computed, but it is not possible to allocate the shareholders' equity among the assets supporting passive and active investments without making ad hoc assumptions about the capital structure underlying each particular asset.

	Cumulative Real \$93 per capita Dividends	Real per capita book equity at 1993	Average Return on Equity, 1976-93			
			Reported	pre-tax Generated	Excluding NOLs	Excluding resource rents
Ahtna	3,269	21,965	4.5%	4.3%	2.9%	1.8%
Aleut	661	4,282	-9.3%	-11.9%	-13.0%	-13.0%
Arctic Slope	4,918	25,170	13.1%	27.2%	26.7%	2.8%
Bristol Bay	2,554	9,788	5.0%	2.1%	-0.6%	-0.7%
Bering Straits	166	4,693	-40.7%	-48.7%	-63.0%	-66.9%
Calista	65	668	-7.5%	-24.6%	-28.0%	-28.0%
Chugach Natives	847	(1,180)	5.3%	4.0%	-7.4%	-13.4%
Cook Inlet	16,952	66,453	12.0%	16.8%	14.9%	7.3%
Doyon	2,603	15,573	12.8%	12.6%	1.9%	0.8%
Koniag	0	6,215	10.7%	4.8%	-12.1%	-12.2%
NANA	3,770	10,017	2.7%	4.8%	4.5%	0.5%
Sealaska	5,366	13,489	7.7%	10.2%	3.5%	-3.2%
Overall (weighted)	3,721	14,412	3.9%	5.4%	1.5%	-3.0%

Figure 6: Adjusted Returns on Equity

ROE -- Adjusted

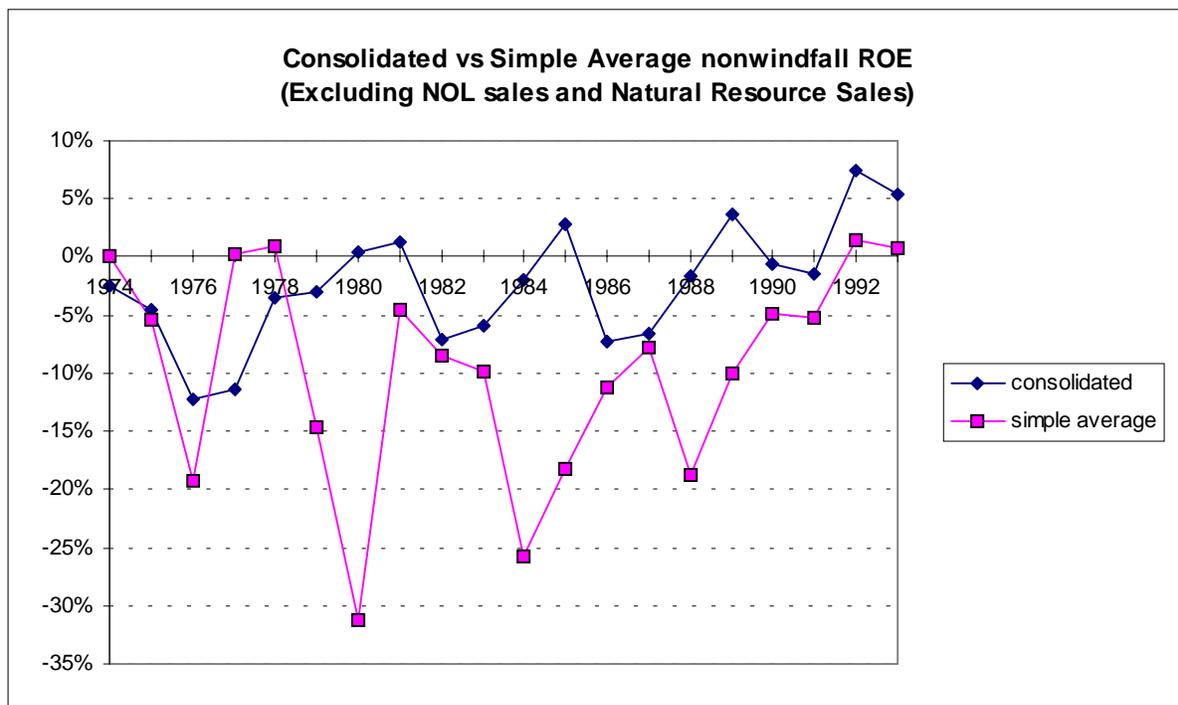


2.6 Learning over Time

Economists such as Lucas (1988) have emphasized the possible importance of learning by doing as a source of rapid economic growth. Given the initial lack of business experience among Alaska Natives,¹² we might expect to see rapid learning from early mistakes. A simple regression of nonwindfall ROE on time produces a statistically significant positive trend suggesting that for the regional corporations as a group, ROE improved at an average rate of 0.44 percentage points per year ($t=2.42$). However, this apparent improvement is largely due to the use of a consolidated ROE figure that weights the performance of each corporation by the amount of its equity. Over time, successful corporations grow and laggards shrink. Eventually, the consolidated performance of the group is heavily dominated by the successful.

Figure 7 shows the effect of substituting the simple average of the 12 ROE values for the consolidated (weighted) value. While there seems to be a steady improvement in consolidated ROE, no such trend is apparent in the simple average. The regression of simple average ROE on time confirms this: the trend is weakly positive (0.3% percentage points per year) but not significant ($t=0.89$).

Figure 7



A final question is whether the last two years in the sample (1992-93) represent a statistical blip or a lasting change in performance. Again, for the consolidated return, the years 1992-93 are statistically significantly different (t-stat on dummy variable for

¹²???Add cite to Hensley Quote in AK Business Monthly about no experience.

92-93= 2.2), but for the regression using the simple average they are not ($t=1.65$). Only time will tell whether the changes are permanent.

3. Sources of Variation Among Corporations

3.1 Financial Performance by Economic Sector

Although it is clear that the regional corporations as a group lost money in their combined business operations, the question remains whether they were able to make money in particular economic sectors. For example, Calista lost a lot of money through the Sheraton hotel, while Bristol Bay perhaps broke even with its investment in the Hilton¹³ It also seems that very few investments in the fishing industry were profitable. And several observers have commented to me that the only place the regional corporations made money was by working for the North Slope oil industry.

In contrast to these theories about which economic sectors are profitable, another school of thought holds that what really matters is the management team. Under this logic, some corporations (like CIRI) could make money in any sector, while others (like Bering Straits) lost money no matter what they did.

To shed light on these questions I conducted additional statistical analysis of performance by economic sector. I classified each corporation's assets for each year into the following five economic sectors:

Passive Financial. This sector includes investments in broad portfolios of stocks and bonds, as well as long-term interest-bearing notes receivable. There is an unfortunate gray zone that arises in the numerous cases where physical business assets were sold on payment terms, and were thus converted to a note receivable. In many cases these assets had been losing money, and in some cases the new buyer was similarly unable to make them perform, thus defaulting on the associated debt. For the most part, however, the notes from these asset sales paid interest at competitive rates, and thus performed similarly to low-grade bonds purchased through the market.

Oil Sector. The Oil sector includes existing oil operations dependent on the flow of oil from the large and profitable Prudhoe Bay field. The sector includes such activities as contract drilling, oilfield services, running the electric power plant or the sewage plant at Prudhoe Bay, security services along the pipeline, and pipeline or construction camp catering. It does not include speculative investment in unproved leases or investment in infrastructure to serve speculative demand in an unexplored area. These ventures would be coded as "statewide."

Statewide Sector. The business ventures coded as statewide span a wide range of industries that included everything from mobile home sales to dog food manufacturing.

¹³BBNC recently sold the Anchorage Hilton Buildings to Hilton Hotels, the company that had been managing the property.

They are distinguished from the "local" sector by the geographic dispersion of demand. For example, a fish processing venture confined to one plant in one town is still a statewide venture, because the product is sold into external markets. Heavily represented statewide industries include construction, real estate, fish processing, active logging (value added by cutting, sorting, and shipping trees), and tourism (hotels). Also included is speculative entry into unproved oil and gas operations, e.g., a venture not dependent on the cash flow generated by North Slope oil. Generally, construction was coded as a statewide business.

Local Sector. The local sector is distinguished by the local and largely private sources of demand. It would include such ventures as renting apartments or offices, retail trade, or strictly local tourism services, such as a small hotel in a village. Competition in this sector is minimal in most cases, but the truly local market is also limited by the small size of the local economy in most areas of Alaska.

Local Public Works. I created a separate sector called local public works to reflect construction and other projects of the native-controlled regional government of the North Slope Borough. Throughout the study period, the Borough controlled large amounts of wealth due to its property taxing authority over the North Slope oil fields. Much of this wealth was channeled into expensive construction projects built by the Arctic Slope Regional Corporation.

The Analysis. With these data, I used interactive dummy variable regressions to relate overall return on equity (excluding NOL sales and resource rents) to the asset allocation fractions for each sector:

$$\pi_{it} = \beta_1 (\text{PASSIVE}_{it}) + \beta_2 (\text{OIL}_{it}) + \beta_3 (\text{STATEWIDE}_{it}) + \beta_4 (\text{LOCAL}_{it}) + \beta_5 (\text{PUBWORKS}_{it})$$

where

π_{it} = nonwindfall return on equity for corporation i in year t

PASSIVE_{it} = fraction of corporation i 's assets in passive investments in year t

OIL_{it} = fraction in North Slope oil industry-related business

STATEWIDE_{it} = fraction in non-oil active business with statewide or out-of-state demand

LOCAL_{it} = fraction in business serving local (subregional markets)

PUBWORKS_{it} = fraction in local public works (applies to ASRC only)

and

$$\text{PASSIVE}_{it} + \text{OIL}_{it} + \text{STATEWIDE}_{it} + \text{LOCAL}_{it} + \text{PUBWORKS}_{it} \equiv 1$$

Using this setup, the estimated coefficients β_1 , β_2 , etc. are the estimated rates of return to investment in each sector. The following simple example may clarify the approach. Suppose that there are only two investments available: (1) Stocks and Bonds earn 10%, and (2) The fish processing industry earns zero. If a native corporation puts all its money into stocks and bonds it will earn 10% as an overall rate of return. If it puts all its

money into fish processing it will earn zero as an overall rate of return. But what if it splits the money, half an half, between these two investments? Half the invested capital earns 10%, and half earns zero. On average, the invested capital earns 5%, the average of 10 and 0.

In a nutshell, my analysis of investment returns by sector is a more complex version of this example. I use statistical procedures to attribute the overall profitability of each corporation for each year to the pattern of investments in place at the start of that year.

Results. The results of this analysis are shown in Table 5: The estimated annual rate of return from passive financial investment in stocks and bonds between 1973 and 1993 was 6.7%. The estimated return to oil industry investment was 0%, but this figure is not very precise. Most important is the return to statewide investment: this is estimated at *minus* 26.7% and the estimate is quite precise. Somewhat surprisingly, the return to local investments is positive 21.5%, which is slightly higher than the estimated return from stocks and bonds. But this estimate, like that for the oil sector, is not precise. Finally, the coefficient on local public works confirms that ASRC made a handsome return on its construction activities tied to the North Slope Borough.

The bottom panel of the table shows the returns to active business expressed as differential returns over or (under) that from passive investing. The Z-statistics on these differential coefficients tell us whether returns to the active sectors are significantly different from the return to passive investment. For example, the return to the OIL sector is 6.8 percentage points lower than that from passive investing, and this *difference* is statistically significant at the 5% level.¹⁴

¹⁴The critical value of Z for significance at the 5% level is 1.96

Table 5:
Estimated Rates of Return from Investment in Five Sectors

Average Rates of Return on Equity to Native Regional Corporations by Economic Sector, excluding Management Effects			
Sector	Estimated Rate of Return	standard error of coefficient	Z- statistic
Passive Investment	6.7%	0.013	5.18
Active Investment in:			
Oil	-0.1%	-0.028	0.05
Statewide Non-Oil	-20.0%	-0.016	12.47
Local	21.5%	0.068	3.15
Local Public Works	59.2%	0.148	3.99
Differential returns (above or below passive investment)			
Oil	-6.8%	0.035	-1.95
Statewide Non-Oil	-26.7%	0.024	-10.97
Local	14.8%	0.069	2.14
Local Public Works	52.6%	0.145	3.62

notes: Z-statistic is analogous to standard t-statistic
N=204 (12 corporations x 17 years)
estimated by pooled GLS with correction for groupwise
heteroskedasticity and cross-section correlation.
dataset rbuslin7.dta

From these results three conclusions are reasonable:

- 1) The analysis strongly suggests that on average, active business investment in the general Alaska economy (the “statewide sector”) was an economic disaster for the regional corporations.
- 2) The analysis casts doubt on the widespread view that the only way to make money is in the oil sector, while local business in rural Alaska is a sure loser. The estimates suggest that, on average, the regional corporations lost money in oil as well as in the rest of the economy, but actually made money in strictly local business.
- 3) The analysis confirms that passive investment in stocks and bonds contributed a “reasonable” positive rate of return -- about 7% on average.

3.2 Management Effects

Clearly, some corporations did better than others *in spite of* their broad investment choices. The simplest way to isolate these management effects statistically is to allow each corporation to earn a different estimated rate of return on its statewide investments. The results of this “fixed effects” regression are shown in Table 6:. These

results show three things. First, it is reassuring that the signs and magnitudes of the coefficients on all sectors are generally the same as they were in the simpler model. This suggests that the different sectors are not simply serving as proxies for particular corporations. Second, almost all the coefficients on statewide investment are negative, corroborating the idea that it was generally very hard to make money in this sector. Only Bristol Bay and Cook Inlet show estimated positive returns, and of these two only CIRI's coefficient is significantly different from zero. Third, the wide variation among the coefficients suggests that there were in fact important differences in performance due to management.

Table 6:

Different Rates of Return in the Statewide Sector

Average Rates of Return on Equity to Native Regional Corporations by Economic Sector, with Different Returns on Statewide Investment to Each Corporation			
Sector	Estimated Annual Rate of Return	standard error	Z- statistic
Passive Investment	4.7%	0.013	3.607
Oil	-3.6%	-0.038	0.950
Local	35.3%	0.080	4.390
Local Public Works	208.5%	0.281	7.415
Statewide Non-oil Investment:			
Ahtna	-3.5%	-0.067	0.528
Aleut	-23.4%	-0.058	4.011
Arctic Slope	-269.3%	-0.464	5.807
Bering Straits	-131.1%	-0.250	5.252
Bristol Bay	1.7%	0.034	0.494
Calista	-33.9%	-0.091	3.743
Chugach	-54.7%	-0.107	5.106
Cook Inlet	8.4%	0.028	3.048
Doyon	-72.2%	-0.146	4.957
Koniag	-65.3%	-0.102	6.374
Nana	-8.6%	-0.086	1.001
Sealaska	-10.7%	-0.033	3.268
Average return on Statewide:	-55.2%	-0.051	10.918

notes: Z-statistic is analogous to standard t-statistic
N=204 (12 corporations x 17 years)
estimated by pooled GLS with correction for groupwise
heteroskedasticity and cross-section correlation.
dataset rbuslin7.dta

The variation in management effects can be highlighted by expressing each corporation's estimated rate of return to statewide investment as a difference from the group average of -55%¹⁵. The associated Z-statistics indicate whether or not a corporation earned statewide sector returns significantly different from the group

¹⁵This estimate differs from the -26% figure estimated in the first model (Table 5:) because the data are weighted differently when twelve separate coefficients are estimated.

average.¹⁶ These estimates are shown in Table 7. Cook Inlet, Bristol Bay, and Ahtna show particularly positive differential performance relative to peers.

Table 7 : Rates of Return with Differential Management Effects Isolated

Average Rates of Return on Equity to Native Regional Corporations by Economic Sector, with Different Returns on Statewide Investment Expressed as Differences from the Group Average			
Sector	Estimated Annual Rate of Return	standard error	Z- statistic
Passive Investment	4.7%	0.013	3.607
Oil	-3.6%	-0.038	0.950
Statewide (Non-oil) Average	-55.2%	-0.051	10.918
Local	35.3%	0.080	4.390
Local Public Works	208.5%	0.281	7.415
Individual Statewide Returns expressed as differences from Average:			
Ahtna	51.7%	0.070	7.417
Aleut	31.8%	0.070	4.517
Arctic Slope	-214.0%	-0.422	5.077
Bering Straits	-75.9%	-0.239	3.175
Bristol Bay	56.9%	0.057	9.988
Calista	21.3%	0.095	2.236
Chugach	0.5%	0.117	0.041
Cook Inlet	63.6%	0.059	10.724
Doyon	-17.0%	-0.150	1.133
Koniag	-10.1%	-0.089	1.135
Nana	46.6%	0.089	5.217
Sealaska	44.5%	0.062	7.221

notes: Z-statistic is analogous to standard t-statistic
N=204 (12 corporations x 17 years)
estimated by pooled GLS with correction for groupwise
heteroskedasticity and cross-section correlation.

3.3 Joint Venture Effects

Although management expertise may have been scarce among Native corporation leaders, it could be purchased in the marketplace. This could be done most straightforwardly by simply hiring outside managers, and this strategy was in fact used extensively. Another way to quickly gain access to management and production expertise is to enter into a joint venture with an established firm. I explore the use of this strategy in this section. Simple economic theory suggests that Native Corporations

¹⁶A Z-statistic greater than 1.96 indicates a coefficient that is [statistically] significantly different from the average at the 5% level.

should be buying (“importing”) scarce management inputs and selling (“exporting”) their relatively abundant capital and land. The widespread occurrence of joint venture activities shows anecdotally that this strategy was in fact adopted.

Joint Venture participation data

The following variables were coded from the accounting data to capture the participation of an ANCSA corporation as a minority participant in a JV with a non-native firm:

JV_OIL (oil sector)
JV_STATE (statewide sector)
JV_LOCAL (local sector)
JV_PUB (local public works (ASRC only))

For each of the four active business sectors, these variables represent the fraction of total corporate assets invested in a joint venture with a non-native majority partner. When these variables are added to the model already presented, the coefficients represent additional differential returns in each sector to the use of the JV organizational form, over and above the return to that sector from “wholly Native managed” activities.

In addition to these allocations of assets to minority-stake JVs with non-Native partners, I also consider (1) JVs that are strictly *internal* to the group of ANCSA firms and (2) JVs that are majority-owned by the Native corporation.

The variable JV_INT is coded as the fraction of total corporate assets allocated to *internal* joint ventures within the ANCSA Native corporation community. These should *not* produce the possible gains from using “outside” management. These ventures in fact may have the worst of all possible attributes, combining a common pool of seizable rents or at-risk capital resources with no clear management responsibility for failure, no external market in tradeable shares, and (perhaps) no external discipline from the bond markets. In this environment we should not be surprised to see lax management or even organized rent-seeking by all parties.

The variable JV_LIAB is a proxy for the share of assets invested in JVs where the Native Corporation exercises *majority* ownership and/or significant management control. Majority participation could be characterized as purchasing technical expertise while retaining management authority. The accounting data indicate the presence of this majority ownership by listing the minority partner’s stake as a liability on the balance sheet. Since this minority stake is always less than 50%, I use the amount listed as a proxy for (lower bound) the Native corporation’s majority share.

Joint Venture Effects: Results

The simplest JV model attempts to substitute structural management behavior (the nature and extent of JV activity) for idiosyncratic management fixed effects. Hence it amounts to an add-on of JV effects to the initial asset allocation model reported in Table 5:. Table 8 shows the results from this model.

Table 8:

Average Rates of Return on Equity to Native Regional Corporations by Economic Sector, excluding Firm-Specific Management Effects but Including Effects of Joint Venture Participation				
			standard	
		Estimated	error of	Z-
	Sector	Rate of Return	Return	statistic
	Passive Investment	4.0%	0.013	3.14
<i>Differential</i> Return above (below) return on passive to 100% Native-Owned Active Investment in:				
	Oil	-22.4%	0.053	-4.26
	Statewide Non-Oil	-21.2%	0.030	-7.07
	Local	29.5%	0.086	3.44
	Local Public Works	56.6%	0.156	3.62
<i>Additional</i> Return from minority-stake Joint Venture Investments with non-ANCSA partners in specific sectors: (additional to passive + sector differential)				
	Oil (JV_OIL)	34.0%	0.091	3.73
	Statewide (JV_STATE)	-42.2%	0.155	-2.72
	Local (JV_LOCAL)	315.1%	1.452	2.17
Additional return to Internal and majority-stake JVs: (additional to <i>any</i> sector return):				
	Internal JV (JV_INT)	-24.4%	0.166	-1.47
	Majority-owned (JV_LIAB)	82.4%	0.137	6.00
notes:	Z-statistic is analogous to standard t-statistic			
	N=204 (12 corporations x 17 years)			
	estimated by pooled GLS with correction for groupwise			
	heteroskedasticity and cross-section correlation.			
	dataset rbuslin7.dta			

These coefficients should be interpreted as follows. Everyone earns 4.0% on passive investment. The differential return to statewide investment is -21% if it is wholly Native-owned. On top of that, there is an *additional* differential return of -42% on statewide operations that are joint ventures with non-Native external majority partners.

For JV_INT and JV_LIAB, the interpretation is slightly different, because these activities cut across all sectors. The differential return of -24% to JV_INT, for example, would be over and above the return to whatever sector the particular activity was in.

Two results are somewhat puzzling. First is the large and negative estimate (-42%) of the differential return to joint ventures in the Statewide sector. Since participation in a JV is voluntary the extra return from doing so should not be persistently negative. Further investigation of the data suggests that the coefficient on JV_STATE is picking up the poor performance of the Bering Straits corporation. The values of JV_STATE are especially high for Bering Straits -- they tried lots of joint ventures and failed badly at most. If this is the problem, we should expect the coefficient on JV_STATE to change dramatically when management fixed effects are put back in the model.

The second puzzle is the very high (82%) estimated return to majority-owned ventures. Again, there appears to be an omitted variable problem: The variable JV_LIAB turns out to be highly correlated with one corporation's oil drilling business, and so reflects the idiosyncratic results of that particular venture.

Overall, these results suggest that the strong firm-specific fixed effects cannot be explained by the different patterns of joint venture participation. Hence the final specification re-introduces the firm-specific fixed effects while retaining the JV investment effects. The results from this regression are shown in Table 9.

The coefficient on JV_STATE resolves itself as a positive differential when that variable does not have to proxy for Bering Straits management. The estimated -38.8% return on 100% Native-owned investments in the oil industry (OIL) was almost as bad as STATEWIDE activities, but structured participation through a minority-stake JV improved the return by 16%. Only the one majority-owned enterprise (Doyon Drilling) seems to have provided a healthy positive return.

Although not statistically significant, the negative differential to all-Native JVs (JV_INT) reflects the Natives' poor results with their own bank and shipping companies and other internal Native consortia.

Table 9

Average Rates of Return on Equity to Native Regional Corporations by Economic Sector, with Different Returns on Statewide Investment to Each Corporation, and Joint Venture Effects				
		Estimated		
Sector		Annual Rate of Return	standard error	Z- statistic
Passive Investment		5.2%	0.013	3.918
Oil (100% Native-owned)		-38.8%	-0.061	6.342
Local (100% Native-owned)		29.2%	0.089	3.272
Local Public Works (100% Native-owned)		200.2%	0.326	6.146
Statewide Non-oil, 100% Native-owned:				
	Ahtna	-16.2%	-0.067	2.417
	Aleut	-37.1%	-0.056	6.592
	Arctic Slope	-220.6%	-0.512	4.307
	Bering Straits	-125.0%	-0.245	5.099
	Bristol Bay	1.8%	0.034	0.545
	Calista	-45.5%	-0.099	4.603
	Chugach	-45.5%	-0.101	4.496
	Cook Inlet	5.3%	0.027	1.930
	Doyon	-83.3%	-0.144	5.780
	Koniag	-72.8%	-0.110	6.636
	Nana	32.3%	0.103	3.141
	Sealaska	-10.7%	-0.033	3.207
	[Average return on Statewide:]	-51.4%	-0.057	8.952
<i>Additional</i> Return from minority-stake Joint Venture Investments with non-ANCSA partners in specific sectors: (additional to specific sector returns)				
	Oil (JV_OIL)	16.0%	0.092	1.73
	Statewide (JV_STATE)	36.5%	0.133	2.74
	Local (JV_LOCAL)	588.4%	1.405	4.19
Additional return to Internal and majority-stake JVs: (additional to <i>any</i> sector return):				
	Internal JV (JV_INT)	-23.3%	0.182	-1.27
	Majority-Stake (JV_LIAB)	123.9%	0.144	8.62
notes:	Z-statistic is analogous to standard t-statistic			
	N=204 (12 corporations x 17 years)			
	estimated by pooled GLS with correction for groupwise heteroskedasticity and cross-section correlation.			
	dataset rbuslin7.dta			

The individual returns on statewide investment can be re-stated as an average and differences therefrom; the results can be seen to be roughly the same as those without JV effects shown above in Table 7. Again, the Z-statistics on these coefficients provide

tests of the hypotheses that each corporation's fixed management effects are statistically different from the average of all.

Table 10

Average Rates of Return on Equity to Native Regional Corporations by Economic Sector, with Different Returns on Statewide Investment Expressed as Differences from the Group Average (Model includes Joint Venture Effects, not Reported in this Table)				
		Estimated		
Sector		Annual Rate of Return	standard error	Z- statistic
Passive Investment		5.2%	0.013	3.918
Oil (100% Native-owned)		-38.8%	-0.061	6.342
Local (100% Native-owned)		29.2%	0.089	3.272
Local Public Works (100% Native-owned)		200.2%	0.326	6.146
Statewide Non-oil (100% Native-owned):		-51.4%	-0.057	8.952
Individual Statewide Returns expressed as differences from Average:				
	Ahtna	35.2%	0.066	5.365
	Aleut	14.3%	0.072	1.995
	Arctic Slope	-169.1%	-0.465	3.635
	Bering Straits	-73.5%	-0.234	3.145
	Bristol Bay	53.3%	0.060	8.852
	Calista	6.0%	0.111	0.537
	Chugach	6.0%	0.111	0.538
	Cook Inlet	56.7%	0.063	9.033
	Doyon	-31.9%	-0.139	2.285
	Koniag	-21.3%	-0.099	2.152
	Nana	83.7%	0.102	8.177
	Sealaska	40.7%	0.064	6.326
notes:	Z-statistic is analogous to standard t-statistic			
	N=204 (12 corporations x 17 years)			
	estimated by pooled GLS with correction for groupwise			
	heteroskedasticity and cross-section correlation.			

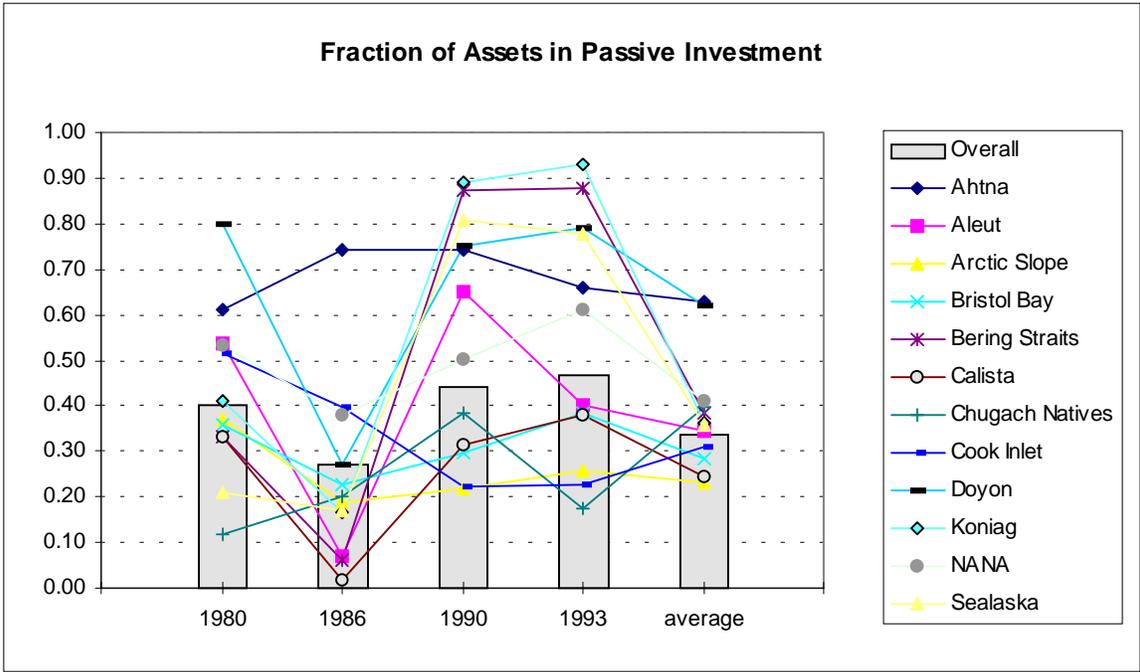
JV Effects: Discussion

With management fixed effects included in the regression, the estimated differential returns to joint ventures are all of the expected sign -- positive when scarce management was being brought in and negative when a pool of appropriable assets was created within the ANCSA community. This model confirms the continued importance of specific management effects even when asset allocation and JV participation are controlled for.

3.4 Changes in Asset Allocation Over Time

Clearly some corporations did very poorly while others performed respectably. There is some evidence that the mid-1980s were a definite low point for the regional corporations. The 1986 recession that battered Alaska as a result of low oil prices no doubt contributed to this pattern. The NOL sales offered new life to several. Since this recapitalization, several corporations have set up dedicated trust funds modeled after Alaska’s Permanent Fund, a diversified oil wealth savings account. It may be too early to tell, but the evidence on asset allocation indicates that on balance the ANCSA corporations are guarding their cash and proceeding with more caution. Figure 8 shows that the fraction of assets in passive investment hit a low in 1986 and steadily climbed to an all-time high in 1993 as the NOL cash windfalls were kept in liquid form.

Figure 8



4. Distribution of Benefits Among Alaska Natives

This section briefly considers the distribution of the economic benefits of ANCSA among all Alaska Natives. ANCSA as written attempted to achieve equity by conveying equal amounts of money per person and by requiring the aggressive sharing of profits from randomly distributed natural resources. Over time, however, two mechanisms have acted to create persistent and growing disparities in the benefits actually received by individual Alaska Natives. First, wide differences between regions quickly developed and have been exacerbated by policy. Second, the greatest benefits to individual Natives probably went to those fortunate enough to become employees and managers of their corporations, rather than shareholders.

4.1 Differences Among Regions

ANCSA endowed each regional corporation with an equal amount -- about \$6,000 -- of cash per shareholder. The act also recognized the highly unequal distribution of natural resources by mandating the sharing of 70% of resource profits equally among all regional and village corporations. Nonetheless, by the end of 1993 the richest regional corporation had 100 times the per capita shareholder equity of the poorest. How did this happen? Persistent differences in economic performance over 20 years are responsible for much of the gap, but two policy decisions have also played a significant role.

First, Cook Inlet received about \$32,000 per shareholder worth of relatively marketable real estate in lieu of some of its land entitlement. This infusion of capital was more than 5 times what everyone else got as ANCSA cash and was not subject to any sharing requirements. It goes a long way toward explaining CIRI's high absolute levels of net income.

Second, the proceeds from the sales of tax net operating losses (NOLs) were far from equally distributed. As the discussion in section 2.4 above showed, the sharing of actual resource revenue sharing mandated by ANCSA section 7(i) has redistributed large amounts of wealth to poorer regions. But the cash windfalls from the sale of resource-related tax net operating losses (NOLs) were not shared.¹⁷ The resource-rich corporations became substantially richer as a result of this policy decision, while the poor regions gained relatively little.

Figure 9 shows the overall effects of this process. The white bars show per capita shareholder equity as of 1986, just before NOL sales began -- the corporations are ordered from poorest to richest. The cross-hatched bars show how much per capita wealth was added by NOL sales. The general shape of the wealth distribution is unchanged, although it is flattened somewhat at the bottom.

Further analysis of the distribution of wealth among regions is shown in Table 11. This table shows book equity per shareholder in 1986 (column b) and again in 1993 (column g). It also shows (column e) the hypothetical distribution of equity obtained by adding NOL sales to 1986 equity. In each case the corporations are ranked from lowest to highest equity per shareholder. Although there are some shifts in individual rankings, the overall pattern is quite stable. Cook Inlet remains at the top, while a group composed of Aleut, Bering Straits, Calista, and Koniag remains at the bottom.

¹⁷Some village corporations attempted to litigate this issue, but it was settled by additional legislation. [cite ??]

Figure 9

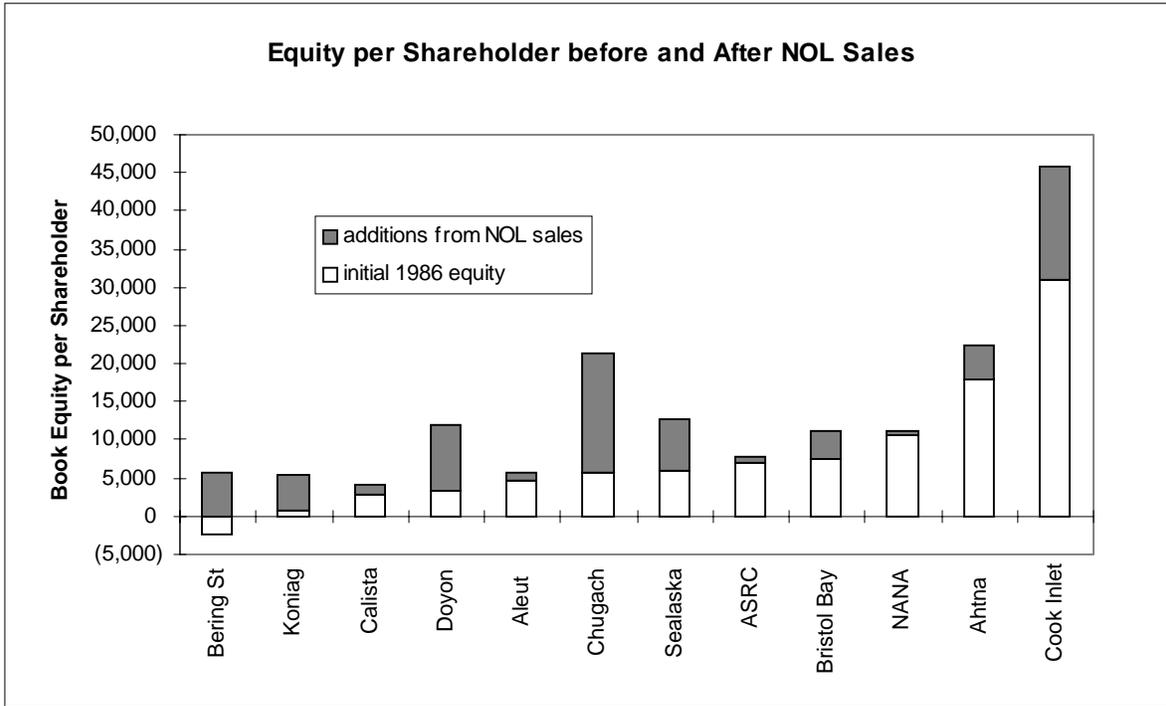


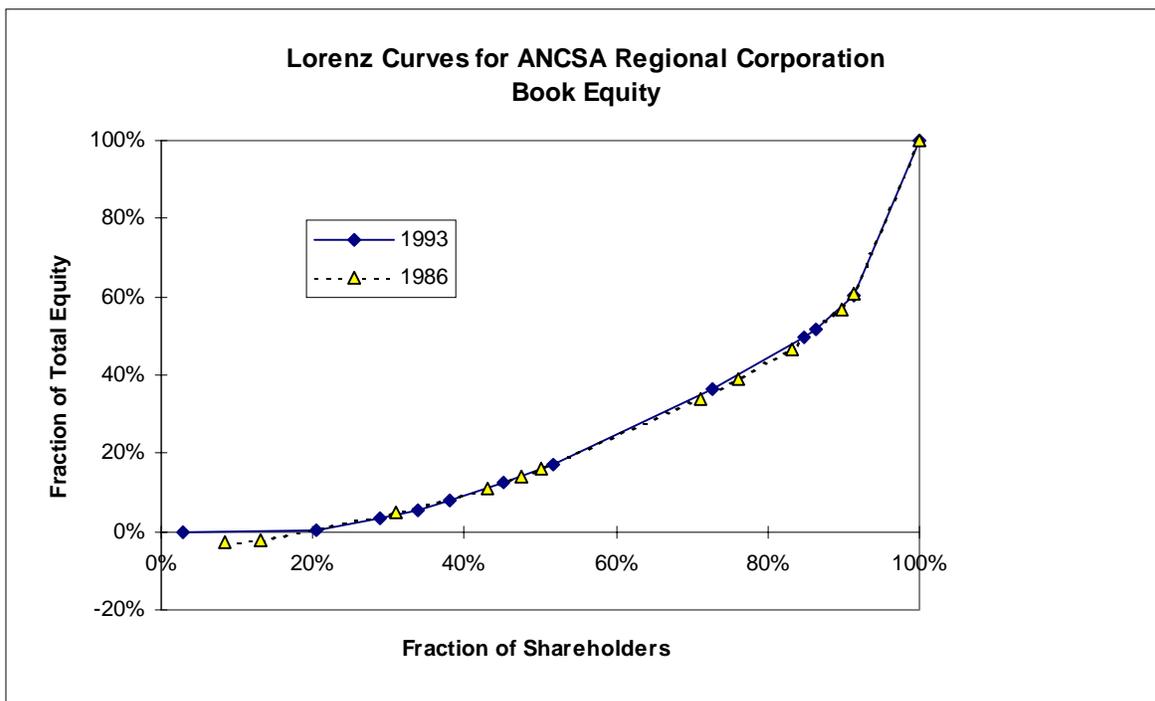
Table 11

Regional Wealth Disparities and NOL Sales

(a)	(b)	(c)	(e)=(b)+(c)	(f)	(g)	
	1986	NOL sales	hypothetical			
	Equity per	proceeds	Post-NOL	1993		
	shareholder	per	Equity per	Equity per		
	shareholder	shareholder	shareholder	shareholder		
Bering St	(2,338)	5,695	Bering St	3,357	Chugach	(1,180)
Koniag	851	4,539	Calista	4,076	Calista	668
Calista	2,730	1,346	Koniag	5,389	Bering St	4,693
Doyon	3,465	8,454	Aleut	5,620	Koniag	6,215
Aleut	4,680	940	ASRC	7,712	Aleut	8,894
Chugach	5,559	15,668	NANA	11,115	Bristol Bay	9,788
Sealaska	5,937	6,859	Bristol Bay	11,155	NANA	10,017
ASRC	7,043	669	Doyon	11,919	Sealaska	13,489
Bristol Bay	7,458	3,697	Sealaska	12,796	Doyon	15,573
NANA	10,575	540	Chugach	21,227	Ahtna	21,965
Ahtna	17,833	4,440	Ahtna	22,272	ASRC	25,170
Cook Inlet	31,012	14,792	Cook Inlet	45,804	Cook Inlet	66,453
unweighted mean	7,900	5,637		13,537		15,145
std. deviation	8,473	4,928		11,356		17,179
coeff of variation	1.07	0.87		0.84		1.13
ratio of max to min	36	29		14		99
skewness coeff.	1.83	1.08		2.06		2.39

Did the NOL windfalls accruing to the wealthy corporations as shown in Figure 9 play a decisive role in promoting the unequal distribution of wealth observed in 1993? The answer seems to be “only partly.” One way of seeing this is to look at Lorenz curves¹⁸ of book equity for 1986 and 1993. These are shown in Figure 10. Only one line appears visible because the two curves lie almost directly on top of each other. This means that the overall distribution of wealth changed hardly at all between 1986 and 1993. For example, in 1986 the poorest 13% of the shareholders had essentially zero percent of the total equity; in 1993 the poorest 20% had less than 1%. At the other end of the scale, in 1986 the richest 17% of the shareholders held 53% of the equity; in 1993 the richest 15% held 51%.

Figure 10



The data on interregional inequality therefore show that the pattern of wealth distribution was established relatively early and seems to have remained remarkably stable over the past decade. Therefore, one way to think about the effects of 7(i) resource revenue sharing and unshared NOL windfalls is that they roughly cancelled each other out.

4.2 Shareholders, Employees, and Managers

One of the bright spots in the regional corporations' history is the success of some in generating employment. At least one (Nana) has historically placed shareholder employment ahead of profits, and has generated hundreds of good jobs.

¹⁸The Lorenz curve is a standard presentation tool in economics. It relates the cumulative percentage of wealth (or income...) to the cumulative percentage of people. A straight line indicates a perfectly equal distribution. The more deeply curved the line, the more unequal the distribution.

There is very little reliable data on employment attributable to native corporations. One reason for this is that many of the jobs are with joint ventures or with subsidiaries of the ANCSA corporate parent. Table 12 shows a snapshot of regional corporation employment from a 1991 survey that elicited relatively consistent data. Even casual inspection of these data shows that there is no strong connection between employment and profitability. More rigorous assessments are limited by the lack of consistent data over time.

Table 12

ANCSA Regional Corporation Estimated Employment in 1991						
	Corporate	Joint			Share-	% of
Corporation	Offices	Ventures	Subsidiaries	Total	holder	shareholders
					Employment	employed
Ahtna	25	250	100	375	55	5%
Aleut	9	13	176	198	5	0%
Arctic Slope	53	247	2,162	2,462	827	22%
Bristol Bay	11	0	300	311	7	0%
Bering Straits	12	0	3	15	9	0%
Calista	n/a	n/a	n/a	n/a	n/a	0%
Chugach	20	75	60	155	39	2%
Cook Inlet	66	434	722	1,222	120	2%
Doyon	24	156	0	180	69	1%
Koniag	7	0	0	0	4	0%
NANA	33	1,408	609	2,050	978	20%
Sealaska (1)	n/a	n/a	n/a	560	n/a	0%
Total	260	2,583	4,132	7,528	2,113	3%
Notes: (1) Sealaska data from December 1988.						

Both Arctic Slope and Nana employed more than 20 percent of their shareholders in 1991, an impressive accomplishment given their remote locations and poorly-developed cash economies. (At this time, the shareholder population included essentially all Alaska Natives in the region over the age of 19 -- roughly equivalent to the labor force. Many children of shareholders were undoubtedly also employed.) Much of Arctic Slope's employment was undoubtedly in its construction-related subsidiaries that performed contract work for the wealthy North Slope Borough. Section 3.1 above showed that these projects (the "local public works" sector) were associated with high rates of return; apparently they generated significant employment as well. Nana's employment is concentrated at the Red Dog zinc mine, which is owned by Nana and operated by Cominco, a Canadian mining company. Nana has worked extremely hard to promote not only shareholder employment but also training for advancement into management.

When wages are paid to people who would otherwise be unemployed,¹⁹ or when the wages paid to an individual exceed the market wage, the amounts so paid are

¹⁹subsistence hunting and fishing is employment, but often requires less than full time effort, leaving people chronically underemployed. Many ANCSA corporations have tried to promote cash employment that complements rather than displaces subsistence employment.

somewhat akin to dividends.²⁰ By employing more than one fifth of all shareholders, Nana and Arctic Slope were able to spread the benefits of employment over a large portion of the population. Indeed, given the traditionally high levels of sharing through family networks, it is not implausible that think that essentially all shareholders benefited from employment in these two regions. In contrast, most other ANCSA corporations offered employment to a very small percentage of the shareholders. Calista is an extreme case: it has more than 13,000 shareholders in an economically distressed area, but only employed perhaps 15 in home office management after the collapse of its hotel investments.

In these other regions where the percentage of shareholders employed was very low, the question is raised about whether large benefits are being channeled to a small segment of the shareholder population, at the expense of larger dividends for the entire group. This question is of course extremely hard to answer. The few people who got ANCSA corporation jobs may have been highly employable, with substantially similar opportunities elsewhere. Too, the employees may have been paid strictly market-level, or even below-market, wages.²¹ It is also critically important whether the employment is generating profits and dividends or losses and erosion of wealth.

Notwithstanding all these caveats, it is instructive to consider the potential disparities between shareholders qua employees and shareholders qua investors. The average cumulative dividend paid out over the 21-year period 1973-1993 was about \$3,800 in 1993 dollars. If the average wage had been even \$20,000, an employee working over that same period would have received \$420,000, or more than 105 times the total dividends.

The contrast is even more striking when dividends are compared to management compensation. I have performed this comparison in a rough sort of way for the Sealaska Corporation. The results are shown in Table 13, which compares dividends to the total compensation of all directors and officers. This group averaged about 29 people during the period FY75 - FY97. A typical Sealaska shareholder received about \$355 per year in dividends, while the average annual compensation for each of the 29 directors and officers was almost \$72,000. Between 1975 and 1987, more than \$19 million was paid to directors and officers while zero was paid out in dividends on a cumulative net income of only \$3.2 million. These types of comparisons, while crude, help explain why some groups shareholders have been so vocal about distributing windfall income from NOL sales as special dividends.

²⁰Economists call these payments *quasirents* .

²¹Karpoff and Rice (1991) argue that ANCSA corporation managers will ask for below-market wages as a way of ???compensating for

Table 13

**Comparison of Directors' and Officers' Compensation to Dividends
for Sealaska Corporation**

Fiscal Year	Ending	Number of Months	Total Officers and Directors Compensation (\$ thousands) (see note below)	Total Dividends to Shareholders (\$ thousands)	Director & Officer Compensation per Person (assuming 29 people) (\$)	Dividends per Shareholder owning 100 Shares (\$)
FY75	6/30/75	12	141	0	4,868	0
FY76	3/31/76	9	99	0	3,414	0
FY77	3/31/77	12	143	0	4,931	0
FY78	3/31/78	12	396	0	13,672	0
FY79	3/31/79	12	585	0	20,182	0
FY79A	12/31/79	9	391	0	13,490	0
FY80	12/31/80	12	2,011	0	69,345	0
FY81	12/31/81	12	2,802	0	96,624	0
FY82	12/31/82	12	2,396	0	82,621	0
FY83	12/31/83	12	4,291	0	147,966	0
FY85	3/31/85	15	2,724	0	93,931	0
FY86	3/31/86	12	3,015	0	103,966	0
FY87	3/31/87	12	2,853	3,156	98,379	200
FY88	3/31/88	12	2,751	4,419	94,862	280
FY89	3/31/89	12	4,208	7,494	145,103	475
FY90	3/31/90	12	4,718	4,922	162,690	312
FY91	3/31/91	12	2,090	37,172	72,069	2,357
FY92	3/31/92	12	2,253	7,882	77,690	500
FY93	3/31/93	12	2,619	3,153	90,310	200
FY94	3/31/94	12	2,060	7,033	71,034	446
FY95	3/31/95	12	1,679	30,806	57,897	1,953
FY96	3/31/96	12	1,573	7,851	54,228	498
FY97	3/31/97	12	1,694	13,635	58,414	865
Total:			47,493	127,523	1,637,683	8,086

Summary:	
Cumulative Total D&O Compensation FY75-FY97:	\$47.5 million
Cumulative D&O Compensation per Person:	\$1,637,683
Cumulative Dividends per Shareholder:	\$8,086
Average D&O Compensation per person per Year:	\$71,986
Average Dividends per Shareholder per year:	\$355

note: D&O compensation for FY 75, FY78-81, and FY96 estimated as 10% of total General and Admin, based on analysis of actual relationship for other yrs.

Of course these comparisons are exceedingly rough, and they are probably in the same range as those of typical U.S. businesses. But ANCSA firms are not typical businesses. At least so far, ANCSA shareholders have not been able to sell their stock. Their only channels for receiving the financial fruits of their land claims settlement have been dividends and jobs. Some shareholders have been understandably frustrated that so

much cash has gone to management while so little has gone to the larger group as dividends.

5. Some Conclusions

5.1 The Past

The major economic and social force in Alaska during the past 25 years has been the rapid development of North Slope Oil. ANCSA was only one part of the social and political response to the changes wrought by oil. The native regional corporations, once heralded as major agents of change, have been and will continue to be buffeted by change.

While the ANCSA regional corporations have become significant sources of economic activity, their financial performance between 1973 and 1993 was generally poor. When windfall transfers, one-time natural resource sales, and passive investments are removed from reported net income flows, more than \$380 million was lost in direct business operations. The pattern of losses persisted over time. Some corporations did better than others, but almost no one made money from active business. Passive investments, natural resource asset sales and a special tax preference provided enough cash to cover these losses, to support corporate overhead, and to generate reported net income of \$596 million between 1973 and 1993. However, after adjusting for inflation, real financial wealth was barely preserved, while some natural resources were depleted.

Further analysis of active business operations by economic sector shows that the losses were concentrated in statewide enterprises outside the oil industry, such as seafood, construction, and hotels. Oil investments produced mixed results. Surprisingly, the best business performance was in local enterprises, where the limited size of the market was clearly observable to all. Minority participation in a joint venture improved the returns somewhat, but wholly native JVs were worse than stand-alone operations. After controlling for the choice of sector and the use of JVs, there are still huge differences in performance among corporations.

ANCSA apportioned the money settlement on an equal per capita basis and required the aggressive sharing of natural resource profits. But these mechanisms were swamped by initial differences in economic success and by the failure to share the proceeds of the cash windfalls from the NOL sales. Too, while shareholder employment has been an economic bright spot, further disparities were created within each regional group by the unequal distribution of cashflows among managers, employees, and nonemployee shareholders.

5.2 The Future

There is some evidence that the regional corporations have learned from their hard times and improved both their asset allocation and their active business performance. This evidence is mixed, however, and only time will tell whether the encouraging signs from 1992-93 are a permanent improvement. At this writing, one corporation (Cook Inlet) is asking shareholders to consider various mechanisms for allowing stock sales. All the rest seem content to continue with stock restrictions in place and land ownership tied to stock ownership. Several have admitted thousands of young people as new shareholders. Most have set up restricted pools of passive investments as “permanent funds” modeled after the State of Alaska’s oil wealth savings account.

The regional corporations have survived a sometimes rocky childhood and are clearly here to stay. They have become significant “economic engines,” with collective assets approaching \$2 billion and revenue approaching \$1 billion per year. However, the average shareholder has not benefitted greatly from this activity. Through 1993, shareholder dividends averaged only about \$155 per person per year. At least during their first 20 years, the ANCSA regional corporations were economic engines that consumed much fuel and produced much heat, but did little to pull the average Alaska Native down the economic tracks. Their challenge now is to become more powerful and more efficient locomotives both by generating more cash and jobs and by channelling more of those benefits to their putative owners, the shareholders.

6. Appendix: An Accounting Model of ANCSA Cashflows

I begin by writing reported net income for a single regional corporation as:

$$NI \equiv R - C - t - Tr \quad (1)$$

where

NI = total reported net income

R = total revenue from corporate activities

C = total reported cost of corporate operations

t = reported taxes

Tr = net transfers of resource rents to villages and other regions

Of these terms, NI, C, and t are reported in annual reports, as well as the quantity (R-Tr). Net transfers out, Tr, can be computed separately (see below). Thus taxes and net transfers out can be added back to (1) to get net cash generated within each region:

$$NIGEN = NI + t + Tr \quad (2)$$

or

$$NIGEN = R - C \quad (2')$$

It is easy to compute NIGEN from (2). The problem is to give empirical content to (2') by attributing the generated net income to the following four types of economic activity:

windfall sales of paper tax net operating losses (*nol*)

natural resource asset sales (*nr*)

passive financial investment (*p*)

business operations (*bus*)

Each type of activity contributes revenue and causes incremental costs. In addition I assume there is some fixed overhead cost F that must be incurred to keep the corporation running and cannot be charged against any of the four cash sources. Thus the right side of (2') can be expanded as:

$$R - C = (R_{nol} + R_{nr} + R_p + R_{bus}) - (C_{nol} + C_{nr} + C_p + C_{bus} + F) \quad (3)$$

Substituting (3) into (2') and rearranging into sources of net cash flow,

$$\begin{aligned} NIGEN = & (R_{nol} - C_{nol}) \\ & + (R_{nr} - C_{nr}) \\ & + (R_p - C_p) \\ & + (R_{bus} - C_{bus}) \\ & - F \end{aligned} \quad (3')$$

The basic problem with directly computing the components of (3') is that revenues and costs for business operations are not reported in an economically meaningful way.²² However, it is possible to compute good estimates of almost all of the *other* terms in (3'). Specifically,

R_{nol}	Gross proceeds from tax loss sales are reported directly.
C_{nol}	I allocate 2% of gross proceeds for attorney's fees and other transactions costs
$(R_{nr} - C_{nr})$	This rental or "net resource revenue" amount is exactly what must be shared according to the law. I obtained these data directly from the corporations.
R_p	Passive investment revenue is reported directly.
C_p	I allocate 2% of gross passive revenue for management fees.

The resulting "residual" measures the combined effect of net cash flow from business operations *and* fixed overhead:

$$(R_{bus} - C_{bus}) - F = NIGEN - (R_{nol} - C_{nol}) - (R_{nr} - C_{nr}) - (R_p - C_p) \quad (4)$$

Note that all the terms on the right side of (4) are measurable. As a final step I estimate the fixed overhead cost F and add it back to both sides (the details are discussed in section 5). This isolates the net cash flow attributable to actual business operations:

$$(R_{bus} - C_{bus}) = NIGEN - (R_{nol} - C_{nol}) - (R_{nr} - C_{nr}) - (R_p - C_p) + F \quad (5)$$

In summary, the approach I take makes use of all reasonably available accounting data to break down reported accounting net income, NI, into economically meaningful components:

NI \equiv	[reported net income
$(R_{bus} - C_{bus})$	[net cash from business operations
+ $(R_p - C_p)$	[net cash from passive investment
+ $(R_{nr} - C_{nr})$	[natural resource rents
+ $(R_{nol} - C_{nol})$	[net cash from windfall tax loss sales
- TR	[net transfers of resource rents to others
- t	[taxes

The Data Sets

I constructed two data sets from primary material. The first covers all twelve regional corporations from their inception in 1973 through 1993. This panel is complete and is, in effect, a census rather than a sample. The second data set consists of more

²²A few annual reports do contain modified income statements by business segment. However even these generally lump all depreciation, interest and administrative costs together. In addition much business activity for ANCSA corporations has been reported as "extraordinary income" or "discontinued operations," which are not properly allocated in the data. The vast majority of the reports do not contain any meaningful allocation of cash flows by line of business.

condensed financial results from 18 villages for sporadic years between 1980 and 1994. This panel is an opportunity sample and is quite incomplete. Village sample coverage is discussed in more detail below.

Coding of the Regional Corporation Accounting Data

Assets. I used the balance sheet and associated notes to classify assets into the following four categories, which are intended to reflect the basic asset allocation problem facing management. In increasing order of risk and asset specificity, these are:

financial capital

joint ventures (minority interests)

natural resource investments (over and above ANCSA land conveyances)

physical (fixed) capital

Classification of Receivables. Receivables often form a significant part of the booked asset base. Accounting practice lumps together trade receivables and financial receivables, which are economically quite different. Short-term trade receivables are non-productive claims on wealth, sometimes matched on the liabilities side by trade payables. Generally, however, they must be financed with working capital and thus constitute part of the firm's asset allocation problem. These items can be quite large, sometimes accounting for more than 20% of the total listed asset base. Other receivables, such as notes receivable, have interest. Using information from the notes to financial statements, I removed financial receivables (such as notes receivable) and classified them as financial capital.

Contributed Capital. ANCSA corporations received the bulk of their contributed capital as the cash portion of the original settlement. These settlement monies were distributed on an equal per-capita basis. However, in several cases there were significant additional sources. Tracking these is important since they represent additional endowments, a primary cause of increased levels of income. The most difficult to handle are those arising from the three regions where the regional corporation merged with its constituent villages during the early 1980s. In these cases the villages brought their contributed capital as well as retained earnings (or deficits) to the regional corporation's balance sheet. By reconstructing the combining balance sheets I was able to adjust for the mergers and assign the resulting equity to its proper sources.

Natural Resource Rents. Tracking natural resource rents is important since they represent windfall proceeds from the sale of conveyed wealth. As with other lines of business, accounting practice allows great flexibility (hence inconsistency among corporations) in reporting revenues and costs, making the determination of rents from the income statement impossible. However, the requirements of section 7(i) of ANCSA for net revenue sharing and the uniform rules for determining them provide a consistent basis for determining rents.²³ Furthermore, these data must be shared among all

²³The so-called "7(i) agreement" is a 120-page set of accounting rules that goes into great detail, especially with regard to the allocation of joint costs and the offset of profits on project A with losses from

corporations and hence they are available for research purposes. I exploit these facts to determine the annual generation and flows of rents as follows.

Each corporation generating net resource revenues must transfer 70% of these revenues to a pool which is then divided up on a per-capita basis. Thus, each regional corporation i receives a constant fraction α_i of the resource rents R_{jt} generated by each corporation j in year t . The sum of all twelve α_i is .35, leaving the other half of the pool to be shared with the village corporations. Thus a single set of observations on receipts r_{ijt} by corporation i from each of the others j suffices to establish the complete pattern of rent generation for that year:

$$R_{jt} = r_{jit} / \alpha_i$$

Since the timing of fiscal years differs among corporations, there is some measurement error noise resulting from imputing generated revenues based on the year of receipt by others.

Other Revenues. I attempted to classify other revenues according to their origin from business operations, joint ventures, or passive financial investment. Due to the vagaries of reporting, business operations revenue is measured too poorly to use directly in analysis. However, the data on passive financial income are distinct.

Expenses. Standard accounting practice does not group expenses by line of business. In particular, business operating expenses are found partly in “cost of sales” items and partly in “general and administrative.” Therefore classification of expenses data is not used directly in the analysis.

project B. It is clear that the parties were acutely aware of the asymmetric incentives that could result if all profits from successful projects were shared while all losses from “dry holes” were absorbed.

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