

ALASKA DEVELOPMENT AND CHANGE: 1950--1980

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Alaska's development over the past two decades and the prospects for the 1970s have been accompanied by great change both in the levels of gross regional product and population and in their nature and composition. The rapid pace of this process and its geographic separation from the rest of the United States and its political separation from other northern territories affords an opportunity to study it in depth and in broad context. Such analysis is timely for Alaska as it enters yet another transition stage in its history and has some relevance to understanding the process in other northern territories and even the general phenomena of development and change. The present analysis, however, can only be limited to an introductory overview in terms of easily identifiable key forces and the end results of the process. This will be applied to speculation as to the immediate future of the 1970s.

Forces of Development and Change

Alaska's economic development has not followed any stage-theory of development such as analogies with the westward course of the United States and Canadian frontiers or as presented in W.W. Rostow's once fashionable "non-Communist manifesto."¹ The

Alaska process has been paced and shaped by the interaction of technology (primarily transportation) and geography, the current petroleum development being a contemporary and dramatic illustration. The "discovery" of Arctic oil and gas resources was not made at Prudhoe Bay in 1968. Their existence was probably always common local knowledge and was recognized nationally by the turn of the century. The rapidly growing demand for new petroleum reserves drew private oil companies to the North Slope (the local name for Alaska's arctic region fronting on the Arctic Ocean) in the 1920s, and their exploration and staking plans inspired the withdrawal of 25 million acres of land as the Naval Petroleum Reserve No. 4 in 1923 to earmark part of the resource for national defense emergency use. The federal government continued a geological reconnaissance and initiated development programs in the 1950s, but private interest was diverted from the region by the Oklahoma and Texas discoveries more advantageously located and suited to development with existing relatively primitive technology. Since the 1920s, the technological development of both transportation and drilling have advanced to the point wherein considering alternatives geographic factors have been significantly minimized and the development contemplated in the 1920s is now resuming.

The earlier exploitation of gold, copper, and fisheries (primarily salmon and halibut) were made possible by technological innovation on a heroic scale for that time which overcame the cost

barriers of remoteness. Alaska's development as a defense outpost in the 1940s and 1950s again was a product of technological-geographic interaction with an appropriate time lag for bureaucratic inertia and conservatism. President Lincoln's Secretary of State, William Seward, in promoting the purchase of Alaska from Russia in 1867, was keenly aware of the global significance of Alaska and the Great Circle shipping route across the North Pacific, but his insights were not shared widely. Despite the preaching of the early prophets of the Air Age, the application of the technological innovations of air travel and transport to Seward's original vision were not undertaken until the Japanese invasion of Alaska in World War II. Without the subsequent development of military and commercial aviation, it is doubtful that the economic and political development of post-war Alaska would have been experience as it was.

The course of Alaska development since the mid-century mark has been further influenced by political changes which were the product of conflicts of interest and differential effects of development upon social groups and upon human development and public welfare. The statehood movement, which culminated in the granting of full statehood to Alaska in 1959, for example, was the result of conflict between resident and nonresident interests. The process of exploiting Alaska's gold, copper, and fisheries resources required heavy capital investment and large markets for disposal of products which could only be provided from outside sources. Economic

development followed traditional colonial lines in ignoring local interests and in being specialized and ruthlessly exploitive. Within the public sector, the national conservation movements of the turn of the century and the public lands scandals of the opening decades of the present century gave a strong preservationist bent to later federal policy in relation to disposal and use of Alaska's land and resources. In 1958, the last year of Alaska's territorial status, 99.6 percent of the land area was still in federal ownership and control, 25.3 percent was in federal reserve status, and the fisheries and other marine resources were under federal management. This combination of private and public absentee control constantly thwarted resident development and settlement aspirations.

Alaska's national defense development, based upon the technological/geographic interaction described above, provided the catalyst which raised this conflict from being merely a static example of the traditional colonial versus metropolitan syndrome into an effective grass-roots political movement. The military establishment caused a relatively rapid growth in resident population, creating an effective demand for increased resident self-determination. Statehood resulted, and this shifted the balance from national toward resident ownership and control of land and resources, and by decentralizing political power, shaped the objectives of economic development by resident and well as nonresident interests.

Alaska's past one-hundred years or so have been marked by dramatic booms (and busts), and it has enjoyed a rapid initial and steady long-run growth during the past three decades, but the descendants of Alaska's aboriginal inhabitants had a low level of participation in the process and its economic and social benefits and suffered loss of lands and resources essential to traditional ways of life. Organized protest to this was weak, sporadic, and ethnically and geographically divided. This changed in the mid-1960s when a combination of major development forces (a proposed use of the atomic bombs to develop a deep-water port in the arctic, the Rampart Canyon hydroelectric project on the upper Yukon River, and the arctic oil boom) brought into being regional protective associations which then united under the Alaska Federation of Natives.²

This was the first effective statewide Native (Eskimo, Aleut, Indian) political movement and had immediate payoffs in greater participation in development planning and employment and the passage by the U.S. Congress in December 1971 of the "Alaska Native Claims Settlement Act" (Public Law 92-203, 92nd Congress), a piece of unfinished business left pending for the more than one-hundred years during which Alaska's Natives had no effective political voice. The effectiveness of the political movement has already had significant impacts on the shape of general economic development and the implementation of the land settlement act promises to have profound and as yet imperfectly understood future impacts.

The lowering of the legal voting age to 18 years appears to be generating another political revolution as youth takes over the management of moribund political party machinery. But this is a national phenomena rather than an indigenous Alaskan one.

Just as Alaska's turn of the century development coincided with the full flowering of the national conservation movement under the inspired leadership of Theodore Roosevelt, Gifford Pinchot, and others, the Alaska developments of the 1960s coincided with national concern over the crisis in outdoor recreation and, on the threshold of the 1970s, the crisis of the environment. The giant projects of the Atomic Energy Commission, the Corps of Engineers, and the petroleum industry were excellent examples of what Lewis Mumford has termed "technological exhibitionism" (i.e., technology run wild). Their very size and fanfare dramatically focused upon Alaska the attention of national organizations concerned with preservation of wilderness and the quality of the environment. These forces have played a part in decisions to abandon major public development projects in the north, have contributed to the delay in issuance of a permit for construction of a trans-Alaska pipeline from Prudhoe Bay to Valdez, and thwarted plans to construct a large pulp mill and timber complex in southeast Alaska. These forces have not only modified but for the future will put limits on the course of Alaska development and growth.

Measurement of Development and Change

Alaska's national and international significance has been as an "exporter" of military defense and natural resource products. It is not possible to present an analysis of this in the form of a complete gross regional product calculus, but a summing up of the defense expenditures and key resource products values does provide a means of plotting the process and noting its changing nature. Table 1 presents annual data on Department of Defense expenditures on its Alaska programs (military and civilian payrolls, construction and procurement) and the estimated value of major Alaska natural resource production for the period 1950-1970 with projections for 1975 and 1980. Between 1950 and 1954, spending by the Department of Defense in Alaska averaged \$412.9 million annually, reaching a peak of \$512.9 for 1953. With the completion of the basic defense facilities and Department personnel reductions due to technological changes from a 1955 peak of 59,000 (members of the Armed Forces and civilian employees) to 41,500 in 1960 and 35,200 in 1970, defense expenditures during the 1960s averaged \$314.5 million annually (in current unadjusted dollars).³

An opposite trend was experienced by the value of major natural resource products, rising in relative importance from one-fifth the amount of defense expenditures in 1953 to more than twice that amount in 1970, and with the prospect that by 1980 the value of natural resource products will be eight times defense expenditures.

The cause of this basic shift of the Alaska economy from a dominantly defense production to natural resources production is primarily due to the expansion of crude petroleum and natural gas production values (the considerable value added by manufacturing is not published because of the small number of firms involved) from nothing in the 1950s to \$287 million in 1971, the rise in fisheries from \$100.2 million in 1950 to \$213.9 million in 1970 due to diversification, and forest products from \$6.1 million in 1950 to \$108 million in 1970 due to establishment of wood pulp production to meet Japanese market demands primarily. The oil and gas production is from the Kenai Peninsula Cook Inlet fields, but the future will be increasingly from Prudhoe Bay and other North Slope fields.

The statistics presented in Table 1 are suited to presenting the total national and international importance of Alaska as a source of products and defense service, but can be misleading as a means of measuring and analyzing the resident Alaska economy. Much of the construction and procurement expenditures that go into the production of these values are made outside the state of Alaska, corporate profits are heavily nonresident in the ultimate benefit, etc. The Alaska economy can be best represented and analyzed in terms of population and employed work force statistics. Table 2 summarizes the annual estimates by the Alaska Department of Labor and U.S. Bureau of the Census (1950-1970) for military personnel and resident civilians and presents the major components of change.

This series indicates that the spectacular upsurge in population between the 1940 and 1950 census enumerations continued into the early 1950s, after which the rate of increase began to decline (in two years, there was an absolute decline). Military movements played the dominant role in generating marked immigrations between 1950 and 1953 and outmigrations between 1956 and 1960. The Alaska earthquake of 1964 and its reconstruction aftermath account for much of the fluctuation in migration between 1964 and 1967, and the North Slope oil boom and related activities account for the final upsurge of in-migration in 1969. Indications are that 1971 and 1972 may show some net decline as North Slope development slows. Natural net increase rose sharply during the first half of the 1950s, in part because of the growing population base, but primarily as a reflection of the increasing effectiveness of public health programs in reducing the tragically high Native death rates. Subsequent declines reflect a leveling off of reduced death rates and a decline in birth rates.

Annual data on employed work force by economic components and industrial classification give a good representation of the structure of the Alaska economy and its shifts over time (Table 3). Trends in both the defense and commodity producing components of the economy were discussed above. The rise in employment in commodity producing industries between 1950 and 1969 has been modest for two decades of development. The 1950 level of 13,900 was not exceeded

until 1967. Contributions to the significant rises since and those projected to 1980 come from the oil and gas and the construction industries, but the employment growth rates fall far below those for the corresponding value data because much of the petroleum industry is capital-intensive.

Distributive industries and nondefense government employment grew most dynamically and caused continual change in the structure of the total economy from 1959 to 1969. Distributive industries (transportation, communication, public utilities, wholesale and retail trade, finance, insurance, real estate, and services) are generally considered support activities for commodity producing industries and serve the total population. Part of this can be accounted for by the transfer of essentially civilian functions from the Department of Defense to private firms. But there are more fundamental general explanations. In a developed and stable economy, it can be assumed that the relative position of these industries in the total employment pattern is fairly constant. During past periods of slow growth or stagnation, this was also true of Alaska's employment patterns. Since 1958, however, the Alaska economy has been in a period of growth and change in industrial composition, with distributive industries' employment increasing both absolutely and relative to population and total employment. Part of this is, in a sense, a "catching up" of this component of the economy with developments that have taken place in the more

basic components at an earlier period (in Alaska's case, the defense build-up of the earlier 1950s). Further, since the mid-1950s, the urbanization of Alaska's population has continued at accelerating rates, accompanied by declines in rural population. Urban populations are more heavily dependent on distributive industries than are rural populations. Growth in tourism is evidenced by continuous and significant increase in travel to and from Alaska and the high demand for space on cruise ships, the Alaska ferry system, and airlines during the summer. This impact was also registered in distributive industries. Finally, since the early 1950s, there has been a continuous shifting of headquarters functions in Alaska's private industry from Seattle and other outside places to Anchorage and other urban centers in Alaska. This was first noticed immediately after World War II in the increase in wholesale trade employment relative to retail trade employment. It is now most evident in the evolution of the Alaska petroleum industry, which has a larger administrative and support service work force based in the state than have any of Alaska's past major industries.

Federal government employment in Alaska has always been abnormally high relative to population and total employment. In part, this is because of a number of special programs associated with managing the huge acreage of public domain lands in Alaska (approximately half of all lands owned by the federal government is located in Alaska), the relatively large number of indigenous

peoples who are nominally wards of the federal government (approximately one-fifth of Alaska's total population), and the basic transportation and communications functions performed by federal agencies that are private responsibilities elsewhere (Alaska Communications System, Alaska Railroad, etc.). The largest single factor contributing to the high level of federal employment, however, is Alaska's importance to national defense. Besides its obvious direct effect on employment, the defense establishment also increases federal involvement in transportation, communications, and public works.

State and local government employment increases following the granting of statehood reflect transfer of certain functions from the federal government and increased revenues available to these levels of government from federal grant sources, natural resource royalties, and lease bonuses and rising income tax receipts.

A comparison of population and employment data indicates the importance of basic employment as a determinant of total population. With appropriate leads and lags, the annual net migration figures for the 1950s and 1960s have almost equaled in absolute amount the annual net changes in Department of Defense and construction employment. The net increase in employment in these two categories of 18,200 between 1950 and 1951 and 11,300 between 1951 and 1952, for example, were accompanied by net civilian and military

in-migrations of 23,000 and 28,200 persons. Subsequent declines (with minor fluctuations) in the employment of the years following were accompanied by first declines in the number of annual in-migrants and then by net out-migrations. The net drop of defense and construction of 14,200 between 1957 and 1958, for example, was reflected in a net out-migration during 1958 of 21,300. These extreme fluctuations did not continue during the 1960s, but the parallel movements did continue on a more modest scale with aberrations attributable to the Great Alaska Earthquake of 1964 and its aftermath. From 1967 on employment in oil and gas mining (exploration, development, production) on the North Slope could be added to defense and construction to maintain the relative equality of corresponding net migration.

This comparison of population and employment movements illustrates a fundamental characteristic of development in Alaska and in other underdeveloped areas. The initial short-run employment impact of these basic developments exceeds the long-run employment of continuing production or operation. Workers to fill employment in the first phase of development and facility construction are imported for the most part because the occupations required tend to be highly specialized and the period is short (about three-to-five years in both petroleum and defense establishment). On the other hand, the distributive or support industry employment which this initial development brought into being is a continuing long-run

source of resident employment. The build-up of these sources of employment, however, lags considerably behind the creation of the demand because it takes place in that part of the economy which reacts to unplanned or unregulated market forces. The lesson of the past two decades which should be applied to the decade of the 1970s is that the long-run benefits to residents from new developments are not to be realized by the traditional attempts to enforce local hire requirements during the boom, but in devising ways and means of accelerating the catching up of the larger distributive sector with the newly created demands.

The Future Outlook

Table 4 is a translation of a number of analyses of anticipated future developments for the decade ahead into employment by industrial classification. The most immediate source of increased employment will be the construction of a pipeline from Prudhoe Bay to Valdez on the Gulf of Alaska or through and across Alaska into Canada, connecting with the existing and planned continental pipeline systems. The estimates in Table 4 are based upon the latest available employment schedules of the consortium of oil companies presently planning the construction of this facility. It is assumed construction will commence in 1973 and be substantially completed by the end of 1975. Petroleum will be replacing defense as the key dynamic force of Alaska's development during the 1970s, and in a sense it will present similar characteristics. The scale

of expenditures will be of a comparable magnitude; for example, the main transportation facility of a 48-inch pipeline across Alaska or through Canada is estimated at \$3 billion or more. The pattern will repeat the defense build-up with initial mining and construction booms as exploration and development are carried out and transportation and production facilities are constructed, followed by a period of greatly reduced employment and resident income as production flows from the developed fields. This boom-bust pattern is comparable to that experienced during the 1950s as the construction of defense facilities was accomplished, followed by the plateau of lower employment and income associated with manning the facilities and only periodically modifying them. The development will likewise be sensitive to international forces, as was the case with national defense. The petroleum industry that has come to Alaska is international rather than national in its essential nature. One of the "big three" on the North Slope is the United States subsidiary of British Petroleum, and possible markets for the production include Japan and other Pacific areas as well as domestic.

North Slope production will continue beyond 1980 with a downturn and possible final phasing out by the opening of the next century. Exploration will continue in other regions of Alaska, but not at the level of those on the North Slope. It is anticipated that the Bristol Bay provinces may be developed and in production by the start of the 1980s. The present petrochemical industrial complex on

the Kenai Peninsula will continue to expand its production, drawing upon crude oil and natural gas from other parts of Alaska as the local resources are drawn down. These operations will have only a minor employment effect. Forest products development has been set back by court action of environmental and conservationist groups, but it is anticipated that development will be resumed before the decade is out. If sustained-yield practices are adhered to, however, the development ceiling in these resources will soon be reached. Fisheries undoubtedly will stabilize, and there should be significant new mineral production (iron, copper, fluoride, tin, and tungsten) by the end of the decade. State and local government employment will continue to rise as population increases, the state land selection program brings more land resources under state control, the implementation of the Native land settlement expands regional developments, and revenues continue to grow.

These are the traditional economic factors. There are others to be considered in speculating on Alaska's future. The experience of the decades of the fifties and sixties has seen the proliferation, diversification, and modification of the underlying forces of development and change. The role of international forces in Alaska's natural resource development and exploitation has greatly complicated the former simple single-line domestic U.S. colonial exploitation. These purely economic nonresident forces no longer operate in a local political vacuum, furthermore, and must

accommodate the changes in the political environment wrought by the creation of Alaska as a "sovereign" State of the Union and the emergence of the Native Alaskan population as an effective political force. Finally, the relatively simple conservationism of the turn of the century, with emphasis upon preservation of resources or recreational values, has been replaced by the more complex new conservationism of environmental protection. Alaska sometimes appears today as a battleground between the giants of technological exhibitionism and conservation, the old apostles of unlimited progress and those of the new gospel of survival through limited growth in the contemporary struggle for the mind and spirit of the Nation. This undoubtedly is a passing phenomena, but the passing has left its mark in the form of a critical reevaluation of the goals of Alaska development and their broadening to include more than simple economic objectives.

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ENDNOTES

¹The historical analysis I have used elsewhere of three "Alaskas" (Native Alaska, Colonial Alaska, Military Alaska) is not a stage theory but a theory of major development strands that are woven together in different natural resources and environmental contexts to form the general pattern (not stage) of development at any given historical period. Any chronological analysis is based upon relative dominance of one strand over others. Alaska statehood introduces a new strand in the process. See G.W. Rogers, The Future of Alaska: The Economic Consequences of Statehood (The Johns Hopkins Press, Baltimore: 1962, 1969), pp. 60-104.

²See G.W. Rogers, "Alaska's Native Population as an Emerging Political Force," Inter Nord, March 1968, No. 10, pp. 148-150.

³George W. Rogers, "Alaska's Economy in the 1960s," Alaska Review of Business and Economic Conditions, ISEGR, Dec. 1970, Vol. VII, No. 6, Table 1.