IMPORT SUBSTITUTION:
ALASKA'S PROSPECTS AND POLICIES

A PLAN OF STUDY

PREPARED BY:
THE INSTITUTE OF SOCIAL AND ECONOMIC RESEARCH

IN ASSOCIATION WITH:
THE ALASKA CENTER FOR INTERNATIONAL BUSINESS

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INTRODUCTION

One result of Alaska's economic recession is a renewed commitment to expand and diversify the state's economy. In his first State of the State address Governor Cowper enunciated import substitution as one of his administration's top priorities. His goal, and the overall objective of this study, is to identify those goods and services which are presently purchased outside of Alaska that might be competitively produced by Alaska businesses, but are not; to find out why they are not; and to discern what the state could do to encourage local production of goods and services currently imported.

Import substitution has already been an important element of Alaska's economic growth. It has been estimated that as much as seventeen percent of employment growth between 1970 and 1979 was attributable to import substitution activity. Similarly, during the rapid expansion of the state's economy in the first half of this decade an even larger percentage of the growth was likely to have been based on import substitution. Indeed, there is some concern that the state's support sector may be overexpanded. If this is the case a consequence may be structural adjustment that could impede future import substitution activity in some sectors. Nonetheless, import substitution has been and will likely be an important source of economic opportunity.

In general, import substitution will occur if it is possible to produce a good or service (of given quality and quantity) in the local market at a cost less than or equal to the non-local cost of production plus cost of delivery to the local market. Thus, any assessment of import substitution potential must consider present and expected future determinants of both local production costs and non-Alaska production and delivery costs. Costs of producing in Alaska are generally determined by factor input prices, market size, available technology, and the governmental/institutional legal-regulatory structure within which Alaska business functions.

Similar parameters also determine production and delivery costs of non-Alaska producers. In this case, delivered prices can provide a first approximation of costs if the goods are sold in a competitive market. If the market is not competitive then delivered price is not necessarily an indicator of the import substitution threshold price and non-Alaska production costs would need to be considered directly. Furthermore, it is important to consider whether or not changing national or international conditions will have impacts on the comparative advantage of Alaska producers in the future. For example, changes in national factor markets, technological change, and foreign exchange rate changes could all have a potential impact on Alaska competitiveness.

Two other considerations need to be addressed in the assessment of import substitution potential in Alaska. First, while aggregate economic activity (and market size) has declined there are sectors which continue to grow and have prospects for further expansion. Thus, the assessment of import substitution potential needs to be carried out with as much disaggregation of economic activity as possible.

Secondly, the decline in economic activity in Alaska has also had a significant impact on Alaska factor markets and factor prices. For example, some Alaska wage rates have declined, both in absolute terms and relative to U. S. wage rates. The price of industrial and commercial space has also declined substantially, as well. These changes in input prices may have a major impact on the potential for import substitution. Hence, analysis of comparative factor prices, and projected changes, is necessary.

In summary, the specific objectives of the study are to identify present and future prospects for import substitution and to identify policies and practices that impact on opportunities for import substitution. The study is organized around three major components.

DESCRIPTION OF THE STUDY ELEMENTS

1. Determination of Import Substitution Activity

This component of the study reviews growth and change in the structure and composition of support sector activity in relation to basic sector activity, both in the long run and cyclically. The import substitution component is identified, and major factors contributing to changes in import substitution activity are identified.

The study will analyze the Alaska experience over the 1970-79, 1980-85, and 1985 - present periods, and look at both aggregate and detailed SIC level activity. National Functional Economic Area (FEA) data will also be analyzed for a selected set of FEA's, with the express purpose of identifying long run changes in the structure and composition of support sector activity in response to changes in the economic base.

As a corollary part of this part of the study, relative factor prices will also be analyzed. Particular emphasis will be placed on relative changes in Alaska and selected national labor markets, and other cost changes that may have impacted on Alaska competitiveness.

This segment of the study will accomplish three objectives. First, insight into the general determinants of the import substitution process will be obtained, which in turn will provide a basis for projecting future import substitution activity. Secondly, the detailed industry analysis will identify those industries that provide the greatest opportunity for import substitution opportunities. Where possible, specific import substitution opportunities will be noted. Thirdly, policy implications of the analysis will be developed.

2. The Alaska Petroleum Industry and Import Substitution Opportunities

Because the petroleum industry has been a significant force in the Alaska economy since statehood it has been singled out for special analysis. Rapid growth of the industry in response to Prudhoe Bay and subsequent discoveries should have resulted in both structural change and the opportunity for import substitution activities in petroleum sector support industries. For example, development of the Kenai-Cook Inlet crude oil and natural gas resources resulted in the provision of a number of locally provided goods and services that were imported from the "lower 48" in the early phase of development. Included were such items as wholesaling of petroleum industry supplies and equipment, marine transport services, steel fabrication, underwater construction, well logging, etc.

The analysis of structural change and identification of petroleum industry related import substitution opportunities will be conducted in three phases: structural change analysis, comparative advantage analysis, and industry specific interviews.

The structural change analysis will review input-output tables of the U.S. and selected oil and gas based regions to determine forward and backward linkage effects that might be anticipated with growth and maturation of the Alaska oil and gas industry. In turn, these linkages will identify the most likely areas in which oil and gas industry import substitution opportunities lie.

Whether or not potential structural change and import substitution activities occur depends in part on the comparative advantage of the producing region, or on the structure of relative costs of production. In the second part of the analysis, relative labor costs, and where possible other input costs, will be compared for Alaska and for competing regions for those oil and gas related industries in which import substitution might occur.

The third part of the analysis will be composed of direct interviews with selected Alaska oil and gas related industries in which import substitution opportunities have been identified. The purpose of the interviews is twofold. First, industry perceptions of identified import substitution opportunities will be assessed and omitted import substitution opportunities will be sought. Second, industry will be asked to identify laws, regulations, and policies that either impede or enhance opportunities for import substitution.

The analysis of the petroleum industry is intended to accomplish three objectives: 1) The description of structural change in oil and gas related industries that can be anticipated in response to growth and maturation of the petroleum industry; 2) The identification of import substitution opportunities in oil and gas related industries, and; 3) review of laws, regulations, and policies that may enhance or impede the process of import substitution in petroleum related industries.

3. Import Substitution and Policy

This part of the study addresses the specific issue of the identification and assessment of policy tools specifically designed to enhance the process of import substitution. The analysis will address several related issues, including: what policy tools or approaches are available to state or local government that may change the "market equation" and allow import substitution to occur; what approaches have been tried elsewhere; what are the potential costs and benefits with pursuing specific policy choices; and, what are the probable distributions of benefits and losses?

This part of the study is divided into three parts. First, recent developments in location theory, business climate indices, and the efforts of various state and municipal entities to promote import substitution activity will be reviewed. The review will encompass work done by the Council of State Governments, the League of Cities, the National Association of State Legislatures, and other groups.

The second segment of the policy analysis will incorporate findings on the <u>Determinants of Import Substitution</u> and <u>Petroleum Industry</u> analyses to assess those determinants of import substitution which are most likely to be affected by the use of policy tools. The effectiveness and distributional implications of each potential policy will be analyzed.

The third part of this study will specifically address the issue of policies that would affect the vulnerability of existing import substitution activity relative to enhancing new import substitution activity.

WORK PROGRAM

Each of the study elements will be carried out in two phases. The first phase will review available knowledge and provide a "first pass" assessment of preliminary project findings. In each case the "first pass" assessment will be completed by the end of March. This assessment will also provide the basis on which the direction and level of specificity for the remainder of the study is determined. Phase two of the overall study will be completed by June 30, 1988.

I. Determinants of Import Substitution Activity

A. Analysis of selected Functional Economic Areas to determine changes in the structure and composition of the support sector in response to maturation and decline of the basic sector.

Goldsmith and Huskey
Phase 1. 0.25 months
Phase 2. 0.5 months

Research Associate
Phase 1. 0.25 months
Phase 2. 0.5 months

B. Analysis of the growth of the Alaska economy for the 1970-79, 1980-85, and 1986-present, and the identification and assessment of determinants of import substitution in Alaska.

Goldsmith and Huskey
Phase 1. 0.5 months
Phase 2. 0.25 months

Research Associate
Phase 1. 0.5 months
Phase 2. 0.25 months

C. Disaggregate analysis of Alaska industry growth, at the 3 or 4 digit SIC level, to determine specific industries in which import substitution is most likely to occur.

Goldsmith and Huskey
Phase 1. 0.25 months
Phase 2. 0.75 months

Research Associate
Phase 1. 0.25 months
Phase 2. 1.0 months

D. Review and analysis of changes in relative factor factor costs, and implications for future import substitution activity.

Tuck
Phase 1. 0.25 months
Phase 2. 0.0 months

Research Associate
Phase 1. 0.25 months
Phase 2. 0.0 months

E. Summary and Conclusions

Goldsmith and Huskey
Phase 2. 0.25 months

II. The Alaska Petroleum Industry and Import Substitution Opportunities

A. Analysis of potential structural change in petroleum related industries in response to growth and maturation of the oil and gas industry, and identification of import substitution potential.

Tuck
Phase 1. 0.25 months
Phase 2. 0.25 months

Research Associate
Phase 2. 0.25 months

B. Assessment of relative factor costs and implications for import substitution in petroleum related industries.

Tuck
Phase 2. 0.25 months

Research Associate
Phase 2. 0.25 months

C. Industry interviews

Tuck
Phase 1. 0.25 months

Research Associate
Phase 2. 0.75 months

D. Summary and Conclusions

Tuck
Phase 2. 0.25 months

III. Import Substitution and Policy

A. Review of existing literature on import substitution and policy tools.

Lehr
Phase 1. 0.5 months
Phase 2. 0.0 months

Research Associate
Phase 1. 0.5 months
Phase 2. 0.0 months

B. Incorporation of findings from study elements (I) and (II) and evaluation of alternative policy tools.

Lehr
Phase 1. 0.25 months
Phase 2. 0.375 months

Research Associate
Phase 1. 0.25 months
Phase 2. 0.5 months

C. Policy alternatives and the preservation of existing import substitution activity.

Lehr
Phase 1. 0.0 months
Phase 2. 0.25 months

Research Associate
Phase 1. 0.0 months
Phase 2. 0.25 months

D. Summary and Conclusions

Lehr
Phase 2. 0.125 months

IV. Executive Summary

Huskey
Phase 2. 0.25 months

IMPORT SUBSTITUTION STUDY

ESTIMATE OF COSTS

Personnel:

Name	Rate	Months	Salary	Lv&Bens	Labor Total	
Goldsmith	32.82	1.50	8533	4475	13008	
Tuck	31.70	1.50	8242	4322	12564	
Lehr	24.18	1.50	6287	3297	9584	
Huskey	27.55	1.50	7163	2242	9405	
Rsch Assoc	15.00	8.00	20800	9497	30297	
Sec/Clerical	14.66	1.00	2541	1160	3701	
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Travel		2000
Services		
Report Printing (Draft & Final)	5000	
Long distance charges	1000	
Computer time	1000	

		7000
Commodities		
I/O Tapes and Software		2500

Total Project Cost Estimate		90059