Portland State University

PDXScholar

Dissertations and Theses

Dissertations and Theses

3-22-1974

The Effectiveness of Induced Location of Manufacturing Industry as a Means of Fostering Sustained Economic Growth in Less Developed Regions of Oregon

Leland F. Smith
Portland State University

Follow this and additional works at: https://pdxscholar.library.pdx.edu/open_access_etds

Part of the [Economic History Commons](#), [Industrial Organization Commons](#), and the [Regional Economics Commons](#)

Let us know how access to this document benefits you.

Recommended Citation

Smith, Leland F., "The Effectiveness of Induced Location of Manufacturing Industry as a Means of Fostering Sustained Economic Growth in Less Developed Regions of Oregon" (1974). *Dissertations and Theses*. Paper 2032.

<https://doi.org/10.15760/etd.2031>

This Thesis is brought to you for free and open access. It has been accepted for inclusion in Dissertations and Theses by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: pdxscholar@pdx.edu.

AN ABSTRACT OF THE THESIS OF Leland F. Smith for the Master of Arts in Economics presented March 22, 1974.

Title: The Effectiveness of Induced Location of Manufacturing Industry
As A Means of Fostering Sustained Economic Growth in Less
Developed Regions of Oregon.

APPROVED BY MEMBERS OF THE THESIS COMMITTEE:

[REDACTED]
Richard B. Halley, Chairman

[REDACTED]
Thomas A. McLean

[REDACTED]
Richard D. Lycan

Giles Burgess

The subject of this thesis was chosen from both a professional and an academic interest in the economic development of Oregon. Prompted by proposals made to the Oregon Legislature to initiate various forms of industrial subsidy programs to disperse economic growth and population away from congested areas, this research effort seeks to provide an evaluative analysis of the effectiveness of subsidy techniques in influencing industrial location and stimulating a sustained growth process in less developed areas.

Research was undertaken in two primary subjects: 1) theory of regional economic development and the effects of subsidies on the growth process; and 2) empirical evidence of the effectiveness of industrial subsidy programs on regional development in other areas. Information was obtained from the following resources:

1) The author's library of reference literature on economic development and the bibliographies contained therein;

2) Professional organizations, particularly the library of the American Industrial Development Council, as well as requests for literature from various members of those organizations;

3) University library resources, including:

- a) Bureaus of Business Research, Bibliography, 1968-1970;
- b) Public Affairs Information Service, 1965-Jan. 3, 1973;
- c) Business Periodicals Index, 1965-1972;
- d) Journal of Economic Articles, 1967-Dec., 1972;
- e) Index to Economic Literature, 1966-1970;
- f) U.S. Library of Congress, National Union Catalog, 1960-1972;
- g) Council of Planning Librarians, Bibliographies;
- h) Colorado University, Public Catalog of Norlin Library holdings;
- i) Colorado Technical Reference Center.

Using information obtained from these and other sources, a method was obtained for defining and measuring the economic and social welfare objectives of a regional development program in Oregon. Geographical patterns of economic health indicators were mapped for the state.

This is followed by an analysis of various types of subsidies and their effects on resource allocation and gross output. It was found that wage subsidies offer optimum benefits for labor-surplus areas with less distortion of capital efficiency than do capital or price subsidies. Justification for subsidies was found to be greatest using social benefits as criteria rather than maximization of economic output.

The influence of industrial subsidies on location decisions is

then examined. Following an analysis of effects of subsidies on the cost structure and profit potential for the firm, financial and tax incentives are separately reviewed in case histories of subsidy programs. It was found that capital investment subsidies have had considerably more location influence than tax subsidies. In any case, however, subsidies were determined to be marginal, rather than decisive, locational factors with more basic economic criteria, such as labor availability and market access, being more influential.

Finally, cost/benefit considerations for subsidy programs in Oregon are reviewed. External effects of industrialization on rural economies are considered, and the growth center concept for maximization of economic gain is examined. Fiscal costs for state and local governments are explored for different types of subsidy programs. The conclusion is reached that programs can be devised which minimize fiscal costs while offering maximum potential economic and social benefits.

THE EFFECTIVENESS OF INDUCED LOCATION OF MANUFACTURING
INDUSTRY AS A MEANS OF FOSTERING SUSTAINED
ECONOMIC GROWTH IN LESS DEVELOPED
REGIONS OF OREGON

by

LELAND F. SMITH

A thesis submitted in partial fulfillment of the
requirements for the degree of

MASTER OF ARTS
in
ECONOMICS

Portland State University
1974

TO THE OFFICE OF GRADUATE STUDIES:

The members of the Committee have approved the
thesis of Leland F. Smith presented March 22, 1974.

[REDACTED]
Richard B. Halley, Chairman

[REDACTED]
Thomas A. McLean

[REDACTED]
Richard D. Lycan/Giles Burgess

APPROVED:

[REDACTED]
Nelson B. Crick, Head
Department of Economics

[REDACTED]
David T. Clark, Dean
Office of Graduate Studies and
Research

TABLE OF CONTENTS

	PAGE
LIST OF TABLES	iv
LIST OF FIGURES	v
CHAPTER	
I INTRODUCTION	1
II OBJECTIVES AND MEASUREMENT OF REGIONAL DEVELOPMENT IN OREGON	5
III TYPES OF SUBSIDIES AND THEIR EFFECTS ON RESOURCE ALLOCATION	26
IV INFLUENCE OF INDUSTRIAL SUBSIDIES ON LOCATION DECISIONS	42
Financial Incentives	46
Tax Incentives	57
V BENEFIT/COST CONSIDERATIONS FOR INDUSTRIAL SUBSIDIES IN OREGON	67
VI CONCLUSION	79
BIBLIOGRAPHY	82
APPENDIX	86

LIST OF TABLES

TABLE		PAGE
I	Per Cent Population Growth in Oregon Counties, 1960 - 1970	15
II	Growth in 20-49 Age Group in Oregon Counties, 1960 - 1970	17
III	Per Capita Income in Oregon Counties, 1969	18
IV	Per Cent Persons Below Poverty Income in Oregon Counties, 1969	18
V	Per Cent Increase in Median Income for Families and Unrelated Individuals, 1959 - 1969	19
VI	Per Cent Growth in Employment in Oregon Counties, 1965 - 1971	20
VII	Per Cent Increase, Value Added by Manufacture, 1963 - 1967	21
VIII	Per Cent Growth in Retail Sales in Oregon Counties, 1963 - 1967	22
IX	Annual Average Total Unemployment Rates by County or Labor Market Areas, 1962 - 1971	23
X	Composite of Ranks	24
XI	Interest Cost Comparison of a Tax-Exempt and Taxable Corporate Financing for a Representative Issue of \$1,000,000 of Twenty-Year Bonds	55
XII	Tax Costs as a Percentage of Costs and Operation For Selected Industries and Dollar Assets	59
XIII	Average Property Tax Rates in Oregon Counties, 1969-70	61

LIST OF FIGURES

FIGURE

PAGE

- 1 Per Cent Population Change in Oregon Counties,
1960 - 1970 16
- 2 General Economic Health of Oregon as Based on
Equal Weighting of Indicators 25
- 3 Effect of Subsidies on Location Decisions 44

CHAPTER I

INTRODUCTION

A desire to alter the patterns of economic activity in the state of Oregon resulted in the creation in June, 1972, of the Oregon Senate Task Force on Economic Development. In creating the Task Force, the Oregon Senate President stated: "Population imbalance between our rural areas and the central valley core, particularly the Tri-County Metropolitan Area, is becoming an increasing threat to both Oregon's economy and its environment." Thus: "... the time has come for the Legislature to put forth a realistic package of incentives which will both induce business away from our heavily populated areas and at the same time give our people in the rural areas an alternative to moving to the cities."¹ With the need and purpose thus defined, the Task Force was charged to study various programs of economic incentives and to make recommendations as to which of these programs might be applied in a coordinated state policy that would encourage industrial development in non-metropolitan parts of Oregon.²

With this action, Oregon has joined with most other states in looking at means to attract industry and to influence its location within the state through the use of special incentives. The incentives

¹Report of the Oregon Senate Task Force on Economic Development to the 57th Legislative Assembly (December, 1972), p. 11.

²Ibid.

that are presently employed in other areas take many different forms and are diverse in their applications and methods of administration. Analyzing the many permutations available under the various legislative programs would be beyond the scope of this study. However, a summary of state programs is provided in an appendix. They generally fall into the three classifications of (1) financial assistance for new or expanding companies, (2) tax credits for new industrial operations, and (3) special services for industrial development.³

The last of these is more of a planning and promotional tool than an inducement to industry. Such programs have become so widespread that they are more normally expected services rather than special inducements. They include the data research services of state development agencies, site location searches, various forms of technical assistance and a variety of other services by state and local agencies. State development agencies also work with local development corporations and communities within the state to help them build programs to attract industries.

As this kind of development assistance is presently available in Oregon through the Economic Development Division, this paper will be addressed to the direct subsidization proposals being considered, specifically financial and tax incentives to firms locating new facilities in designated areas of underdevelopment.

The analysis will be directed toward the economic efficiency of

³ Illustrations showing the various state programs in these three categories are included in the appendix. Data are from the 1972 Site Selection Handbook, Vol. I (Atlanta: Conway Research, Inc., 1972). Various other references are included in the bibliography which also define and analyze these programs.

the methods considered to achieve the assumed objectives of such programs, principally that the induced location of certain industrial activities will produce the stimulus for sustained growth in the beneficiary areas and that the resulting altered growth patterns will reduce income inequalities and stabilize local tax bases.⁴ Thus, the expenditure of public funds or the foregoing of tax revenues to influence the location of an industrial plant is justified in terms of the long-run economic returns that will be generated through the process of sustained growth.⁵

The validity of this assumption will be assessed by an examination of the applicable principles of economic efficiency in terms of costs and benefits, and by reviewing incentive programs which have been applied in other areas and analyzing their results. While the scope of such a review must necessarily be limited, there is a growing body of literature which gives evaluative analyses of the effectiveness of incentive programs in the United States, Canada and some European nations which can be used to support some general conclusions on the subject.

This study, then, will undertake to examine the criteria by which regional economic development can be measured, to analyze the types of subsidies which might be offered, and to describe how such programs actually work to attract and disperse economic activity to designated locations. Finally, the effectiveness and social costs of industrial

⁴ Kenneth J. Crepas and Richard A. Stevenson, "Are Industrial Aid Bonds Fulfilling Their Intended Purpose?", Financial Analysts Journal, Vol. XXIV (November-December, 1968), p. 106.

⁵ Industrial Aid Financing (New York: Goodbody & Co., 1965), pp. 33-34.

* subsidization for regional development will be considered.

CHAPTER II

OBJECTIVES AND MEASUREMENT OF REGIONAL DEVELOPMENT IN OREGON

The programs being considered in this paper have the common purpose of influencing the location of new industrial activities. Inducing a firm to build a plant in a less-developed area, however, is not sufficient for assuming that a sustained economic growth process has been stimulated. This chapter will examine the regional development process, in terms of both economic and social benefit criteria, citing data for Oregon which relates to evidence of intra-regional disparities. This examination will provide a framework for estimating the results for Oregon of a development dispersal program, as well as comparing those results in terms of similar national, state and local objectives.

Since some basis for evaluating regional development needs to be established, a definition of the process which offers measurable criteria will be helpful to our analysis. Such a definition is offered by Krutilla, who states that:

Regional development has been defined as a process resulting in a secular rise in regional output or real income. Increasing regional output and income implies both expansion of the region's productive capacity and growth of effective demand for the region's output. Both conditions are necessary and combined will represent a sufficient condition for regional development.⁶

⁶John V. Krutilla, "Criteria for Evaluating Regional Development Programs," in Regional Development and Planning, ed. by John Friedmann and William Alonso (Cambridge: M.I.T. Press, 1964), p. 605.

Krutilla's definition lends itself to the economic objective of an industrial incentive program which intends to expand the productive capacity of a region by attracting new industrial facilities, thus increasing regional output and raising income levels. By including a demand function in his definition, Krutilla recognizes that expanding regional productive capacity also requires expanding demand for the region's products and that the region itself can become a larger customer for its own products by altering its industrial structure.

A problem immediately arises, however, in the determination of just what is defined as a "region." Any policy which seeks to redirect industrial activities from one area to another will have an impact beyond what can be measured in the immediate area of new investment. It has been a criticism of industrial subsidy programs that the gains they produce in one area are offset by equal or larger losses when results are measured on a broader scale. A review of programs in Canada, for example, found that the development policies carried out by provincial governments to raise growth rates in the poorer regions may also be incompatible with federal policies which are designed to increase the total national growth rate.⁷ The basis for this argument is that such programs tend to misallocate resources nationally by shifting investment and production from more to less economically justifiable locations.⁸

Since this paper is considering matters pertaining to government

⁷Richard Hopkinson, "Government Financial Assistance for Industrial Development in Canada," The Conference Board Record, V (April, 1968), pp. 20-23.

⁸Richard E. Low, "A Refinement of Local Industrial Subsidy Techniques: Comment," Mississippi Valley Journal, IV (Spring, 1969), p. 78.

policy decisions in Oregon, a purely self-interest attitude might regard the state boundaries as delineating the region. State policies, then, would ignore external effects upon areas outside the state boundaries. Instead, the objective might be to expand the output and raise income levels for the state of Oregon regardless of the consequences of such policies on other areas.

That kind of policy, however, could not ignore the aggregate effects of altering the intra-regional industrial structure. Thus, if applying industrial subsidies only to specified areas produced a shift of resources to less efficient uses, resulting in local gains but an aggregate decline in output and incomes for the state as a whole, then efforts to improve local economies might conflict with overall goals for the state.

The problem of defining the region for measuring development gains, then, becomes very important. If limited geographical areas within the state are defined as regions, it might be possible to accomplish sectorial development objectives but only at the expense of broader state interests. An optimum might be attained, however, if development of sub-areas within the state were achieved with a corollary rise in overall output and incomes at the state and national levels.

Krutilla's definition of regional development, rooted in economic efficiency, presents us with a major concern over how the results of development policies are to be measured. The question of optimality of efficiency in resource allocation will be discussed in greater detail in the next chapter where it can be considered in terms of specific types of subsidies. For the present, it will be considered sufficient to note its importance in defining the geographical area in which

results will be measured and judged.

Output and incomes are not the only criteria by which development programs need be measured, however. Various kinds of social benefits can also apply. In assessing the justification for reallocating capital resources, Richardson finds that the social arguments are generally stronger than economic arguments, particularly if we assume a national policy of maximizing output and further assume that firms will find their most efficient locations through free market forces.⁹ Among the possible social benefits cited by Richardson are the utilization of unemployed labor, the widening of locational preferences and the reductions of diseconomies in congested areas. Richardson also cites a possible economic benefit to existing firms from creation of external economies and agglomeration effects.

Referring again to the report of the Oregon Senate Task Force on Economic Development, cited in the last chapter, there is considerable similarity between Richardson's social benefit considerations and the reasons given to justify a subsidy program in Oregon. To measure the results of a subsidy program, then, the social benefit considerations would appear to offer criteria equally valid to purely economic considerations. It would rest with the State to define the acceptable level of trade-offs between social benefits and economic costs, or between local versus statewide development objectives. To some degree, such decisions will be affected by the relative efficiencies of various types of subsidy programs, and these will be examined in the next chapter.

However, the social benefit argument depends upon the assumption

⁹Harry W. Richardson, Regional Economics (New York: Praeger, 1969), pp. 386-428.

that there are, in fact, certain disparities which could be corrected by use of a subsidy program to disperse economic activities within the state. In order to assess the need for, and potential benefits of, any State programs to encourage the dispersal of population and economic growth in Oregon, some preliminary recognition should be given to the existing geographic patterns of major economic indicators within the state. Fortunately, a model for doing this was developed in 1960 for New York State by a team of researchers from Syracuse University.¹⁰ Among the conclusions stated in their report is that: "The procedures employed in this analysis of New York State could be applied to any part of the United States, and theoretically at least, to any part of the world."¹¹ On this basis, their model is herein applied, with modifications, to Oregon.

Beginning with the recognition that no single indicator is sufficient to measure either the level or trend of economic health, the model uses a composite of nine indicators which the authors felt were significant. Counties were used as the statistical unit because of the wide variety of economic data available. The nine indicators used in their analysis were as follows:

Per Capita Income, 1958. By implication, the higher the per capita income, the better the economic health. This indicator measures the relative levels of economic health between counties.

Increase in Per Capita Income, 1950-1957. The implication is that

¹⁰ John H. Thompson, Sydney C. Sufrin, Peter R. Gould, and Marion A. Buck, "Toward A Geography of Economic Health: The Case of New York State," in Regional Development and Planning, op. cit., pp. 187-206.

¹¹ Ibid., p. 206.

the greater the increase in per capita income, the better the economic health. This is a trend indicator so the geographical pattern would not necessarily conform to that shown by income levels.

Average Unemployment, 1949-1958. Lower unemployment levels would imply better economic health. This is also useful as a separate item for analysis as unemployment is the indicator most widely used to identify economic distress.

Per Cent Growth of Total Employment, 1947-1956. This trend indicator implies that the higher the growth rate, the better the economic health.

Per Cent Growth of Population, 1950-1956. Higher population growth rates generally imply a trend toward better economic health. Except for the suburbanization phenomena, it is not likely that large population gains would occur in any area that does not provide economic support. Declines in population would be expected to reflect limited or declining employment opportunities.

Per Cent Population in 20-49 Year Age Group, 1950. This is essentially the working force age group, so larger percentages would reflect higher levels of economic health.

Per Cent Increase in Value Added by Manufacture, 1947-1954. It is implied by this trend indicator that the greater the increase, the better the economic health.

Per Cent Growth in Retail Sales, 1948-1958. Retail sales growth is implied to show a trend in economic health.

Increase in Annual Average Weekly Wage and Salary Earnings, 1950-1958. This trend indicator implies a direct relationship between the size of the increase and the economic health of the statistical unit.

It will be noted that these nine indicators measure both levels and trends of economic health. Their composite, then, gives a geographic pattern which reflects both static and dynamic elements in the state's economy.

This study proceeded to give the rank order of counties by each indicator, then to sum the ranks and give a new rank order based on an equal-weighting composite. The result was divided into quintiles which were graphically recorded on a state map showing county boundaries.

This map, labeled "General Economic Health (as based on equal weighting)," provided a visual pattern of economic health in the state of New York.

In applying this model to Oregon, certain problems emerged with the data. Statistics on unemployment, for example, are generally available for counties except where the Oregon State Employment Division uses the "Labor Market Area" concept. Under that concept, the Division uses a single statistic for combinations of Marion and Polk counties; Sherman and Wasco counties; Multnomah, Clackamas and Washington counties combined with Clark County, Washington; and Malheur County combined with Payette and Washington counties in Idaho. In those instances, the single labor market area rate of unemployment was used for each Oregon county within that area. It would be expected that using this multi-county average would produce different results than if each county had been measured separately. However, since county boundaries are arbitrary and the purpose of this report is to identify general economic patterns, the result of using the labor market area concept in these few instances should not appreciably alter the validity of this indicator of economic health.

A greater problem occurred with the value added data. Because of the small number of manufacturing establishments in several counties, data were withheld from publication for seven counties to avoid disclosure for individual firms. In those cases, the rank order composites were based on eight indicators, rather than nine, and weighted accordingly. It should be further realized, however, that where the manufacturing base is small or concentrated into single industries, as is the case in much of Oregon, then this indicator is subject to wide fluxuations from relatively small absolute changes. Since the ultimate purpose of this analysis is to prepare the groundwork for programs aimed at dispersing manufacturing employment, however, this indicator was retained as significant for that purpose.

Finally, the increase in annual average weekly wage and salary earnings proved simply to not be available. However, the 1970 Census of Population provided a useful measure of economic health which was not available when the New York model was developed. This measure was the percentage of persons earning below the poverty level of income in 1969. This seemed suitably significant to substitute it for the missing indicator based on earnings.

Using more current data, then, the following indicators were utilized in determining the geographic pattern of economic health in Oregon:

1. Per Cent Population Growth, 1960-1970.
2. Per Cent Growth in 20-49 Age Group, 1960-1970.
3. Per Capita Income, 1969.
4. Per Cent of Persons Below Poverty Level of Income, 1969.
5. Per Cent Increase in Median Income for Families and Unrelated Individuals, 1959-1969.

6. Per Cent Growth in Employment, 1965-1971.
7. Per Cent Increase in Value Added by Manufacture, 1963-1967.
8. Per Cent Growth in Retail Sales, 1963-1967.
9. Average Total Unemployment Rate, 1962-1971.

On the basis of the county rankings for each indicator, the composite was drawn and mapped by quartiles. The result is the map showing the General Economic Health for Oregon as Based on Equal Weighting of Indicators (Figure 1).

The patterns produced by this model were predictable in several instances but also presented a few surprises. Of the nine counties in the first quartile, six are in the upper Willamette Valley, as expected. The other three, however, are located in central and eastern Oregon. Deschutes, Harney and Union counties generally ranked in the upper half of all indicators and showed sufficient strength in one or more categories to achieve that first quartile ranking.

In the second quartile, four of the nine counties lie in the Willamette Valley, placing all of the counties in this valley in the upper half. The other counties in the second quartile include Jackson and Klamath, in southern Oregon; Clatsop, in northwest Oregon; and Crook and Umatilla in the eastern part of the state.

Counties in the third quartile show uneven geographic distribution, as do those in the fourth. While counties in central and eastern Oregon are often regarded as most in need of economic stimulation, coastal counties also generally show lower levels of economic health. It is also worth noting that the presence of a regional urban center within a county does not necessarily lead to higher levels of economic health than exists in counties which are entirely rural in character. Thus,

Douglas County, which contains the urban center of Roseburg, ranked in the third quartile and Josephine County, where Grants Pass is located, ranked in the fourth.

The data included in the tables provide the basis for much more thorough discussion on the relative problems of Oregon counties and are included for that purpose. It would be worth exploring, for example, whether Harney County's low unemployment rate was due to sufficient opportunities to meet the demand or, instead, to a known lack of opportunities which cause unemployed persons to move away or drop out of the labor force. In Jackson and Josephine counties, relatively high levels of population growth coupled with poorer performance in the income indicators might warrant examination into the types of people moving into southern Oregon; e.g., if a disproportionate share of the increase is caused by in-migration of low-income retirees, then how does this affect the need for additional employment opportunities?

Other indicators could also be added and measured to provide knowledge on subjects of specific interest; e.g., assessed valuations, tax revenues, and general expenditures of counties to measure the economic health of local governments. The usefulness of such indicators may depend upon certain assumptions and value judgements, however, so they should be analyzed carefully. For the purposes of this paper, the establishment of the rank order and mapping based upon the modified New York model has been deemed sufficient.

With this geographic portrayal of the general economic health of Oregon, efforts can now follow to explore means of altering the established economic patterns through State-directed programs aimed at dispersion of economic opportunities and population growth.

TABLE I
PER CENT POPULATION GROWTH IN OREGON
COUNTIES, 1960 - 1970

<u>RANK</u>	<u>COUNTY</u>	<u>1970</u>	<u>1960</u>	<u>CHANGE</u>	<u>PER CENT CHANGE</u>
34	BAKER	14,919	17,295	-2,376	-13.7
3	BENTON	53,776	39,165	14,611	37.4
2	CLACKAMAS	166,088	113,038	53,050	46.9
21	CLATSOP	28,473	27,380	1,093	4.0
7	COLUMBIA	28,790	22,379	6,411	28.6
22	COOS	56,515	54,955	1,560	2.8
17	CROOK	9,985	9,430	555	5.9
28	CURRY	13,006	13,983	-977	-7.0
5	DESCHUTES	30,442	23,100	7,342	31.8
19	DOUGLAS	71,743	68,458	3,285	4.8
35	GILLIAM	2,342	3,069	-727	-23.6
30	GRANT	6,996	7,726	-730	-9.5
14	HARNEY	7,215	6,744	471	7.0
26	HOOD RIVER	13,187	13,395	-208	-1.7
8	JACKSON	94,533	73,962	20,571	27.8
12	JEFFERSON	8,548	7,130	1,418	19.9
13	JOSEPHINE	35,746	29,917	5,829	19.5
18	KLAMATH	50,021	47,475	2,546	5.4
31	LAKE	6,343	7,158	-815	-11.8
6	LANE	213,358	162,890	50,468	31.0
20	LINCOLN	25,755	24,635	1,120	4.5
11	LINN	71,914	58,867	13,047	22.2
23	MALHEUR	23,169	22,764	405	1.8
9	MARION	151,309	120,888	30,421	25.2
29	MORROW	4,465	4,871	-406	-8.3
16	MULTNOMAH	556,667	522,813	33,854	6.5
4	POLK	35,349	26,523	8,826	33.2
33	SHERMAN	2,139	2,446	-307	-12.5
27	TILLAMOOK	17,930	18,955	-1,025	-5.4
24	UMATILLA	44,923	44,352	571	1.3
15	UNION	19,377	18,180	1,197	6.6
32	WALLOWA	6,247	7,102	-855	-12.1
25	WASCO	20,133	20,205	-72	-0.4
1	WASHINGTON	157,920	92,237	65,683	71.2
36	WHEELER	1,849	2,722	-873	-32.1
10	YAMHILL	40,213	32,478	7,735	23.8
State of Oregon		2,091,385	1,768,687	322,698	18.2

Source: U.S. Department of Commerce, Bureau of the Census, Census of Population: 1970 (Washington: U.S. Government Printing Office), PC(1)-C39. Changes calculated by the author.

FIGURE 1

% Population Change 1960-1970

OREGON

TABLE II
GROWTH IN 20-49 AGE GROUP IN OREGON COUNTIES
1960 - 1970

<u>RANK</u>	<u>COUNTY</u>	<u>1970</u>	<u>1960</u>	<u>CHANGE</u>	<u>% CHANGE</u>
34	BAKER	4,695	6,045	-1,350	-22.3
3	BENTON	23,906	16,429	7,477	45.5
2	CLACKAMAS	62,014	40,938	21,076	51.5
24	CLATSOP	9,202	9,625	-423	-4.4
7	COLUMBIA	10,034	7,586	2,448	32.3
22	COOS	20,299	21,197	-898	-4.2
18	CROOK	3,504	3,521	-17	-0.5
33	CURRY	4,332	5,448	-1,116	-20.5
8	DESCHUTES	10,650	8,277	2,373	28.7
19	DOUGLAS	25,548	25,778	-230	-0.9
35	GILLIAM	819	1,216	-397	-32.6
30	GRANT	2,384	2,849	-465	-16.3
16	HARNEY	2,699	2,631	68	2.6
28	HOOD RIVER	4,347	4,708	-361	-7.7
9	JACKSON	33,664	26,647	7,017	26.3
12	JEFFERSON	3,049	2,740	309	11.6
13	JOSEPHINE	11,224	10,158	1,066	10.5
17	KLAMATH	19,007	18,767	240	1.3
32	LAKE	2,181	2,741	-560	-20.4
6	LANE	83,869	63,151	20,718	32.8
25	LINCOLN	7,918	8,396	-478	-5.7
11	LINN	25,785	21,321	4,464	20.9
23	MALHEUR	7,504	7,839	-335	-4.3
4	MARION	61,495	42,613	18,882	44.4
20	MORROW	1,431	1,727	-296	-1.7
15	MULTNOMAH	205,727	192,317	13,410	7.0
5	POLK	12,695	9,353	3,342	35.7
27	SHERMAN	864	930	-66	-7.1
29	TILLAMOOK	5,696	6,617	-921	-13.9
21	UMATILLA	15,522	15,993	-471	-2.9
14	UNION	6,786	6,337	449	7.1
31	WALLOWA	2,051	2,549	-498	-19.5
26	WASCO	6,915	7,434	-519	-7.0
1	WASHINGTON	62,723	34,051	28,672	84.3
36	WHEELER	619	1,027	-408	-39.7
10	YAMHILL	13,443	10,741	2,702	25.1

Source: U.S. Department of Commerce, Bureau of the Census, Census of Population: 1970 (Washington: U.S. Government Printing Office), PC(1)-C39. Changes calculated by the author.

TABLE III

PER CAPITA INCOME IN OREGON
COUNTIES, 1969

<u>RANK</u>	<u>COUNTY</u>	<u>INCOME</u>
34	BAKER	\$2,585
5	BENTON	3,096
3	CLACKAMAS	3,423
4	CLATSOP	3,150
17	COLUMBIA	2,868
10	COOS	2,999
25	CROOK	2,749
8	CURRY	3,022
9	DESCHUTES	3,000
23	DOUGLAS	2,761
29	GILLIAM	2,625
33	GRANT	2,600
18	HARNEY	2,856
13	HOOD RIVER	2,887
14	JACKSON	2,884
30	JEFFERSON	2,613
31	JOSEPHINE	2,609
11	KLAMATH	2,912
28	LAKE	2,628
7	LANE	3,045
12	LINCOLN	2,897
26	LINN	2,719
36	MALHEUR	2,377
19	MARION	2,847
6	MORROW	3,071
2	MULTNOMAH	3,547
16	POLK	2,870
27	SHERMAN	2,638
20	TILLAMOOK	2,843
22	UMATILLA	2,795
21	UNION	2,813
32	WALLOWA	2,604
15	WASCO	2,877
1	WASHINGTON	3,723
35	WHEELER	2,578
24	YAMHILL	2,754

State of Oregon: 3,163

TABLE IV

PER CENT PERSONS BELOW POVERTY
INCOME IN OREGON COUNTIES, 1969

<u>RANK</u>	<u>PERCENTAGE</u>
34	16.7
28*	14.8
2	8.3
25	13.6
7*	11.0
5	10.3
7*	11.0
22*	13.3
15	11.9
22*	13.3
3	8.9
18	12.8
4	9.2
27	13.8
17	12.6
28*	14.8
35	16.8
16	12.4
31	15.0
9*	11.1
28*	14.8
13	11.4
36	20.1
19*	13.0
14	11.5
12	11.3
26	13.7
32	15.2
24	13.4
21	13.1
6	10.8
33	15.7
9*	11.1
1	6.3
9*	11.1
19*	13.0

11.5

Note*: Where percentages were equal, the same rankings were given.

Source: U.S. Department of Commerce, Bureau of the Census, Census of Population: 1970 (Washington: U.S. Government Printing Office), PC(1)-C39.

TABLE V

PER CENT INCREASE IN MEDIAN INCOME FOR FAMILIES
AND UNRELATED INDIVIDUALS, 1959 - 1969

<u>RANK</u>	<u>COUNTY</u>	<u>1969</u>	<u>1959</u>	<u>CHANGE</u>	<u>% CHANGE</u>
30	BAKER	\$6,228	\$4,517	\$1,711	37.9
36	BENTON	3,722	3,635	87	2.4
3	CLACKAMAS	9,409	5,532	3,877	70.0
15	CLATSOP	6,633	4,523	2,110	46.6
1	COLUMBIA	8,260	4,709	3,551	75.4
12	COOS	8,010	5,334	2,676	50.2
25	CROOK	7,289	5,197	2,092	40.3
31	CURRY	7,563	5,506	2,057	37.3
11	DESCHUTES	7,666	5,068	2,598	51.3
17	DOUGLAS	7,730	5,299	2,431	45.9
4	GILLIAM	7,451	4,425	3,026	68.4
24	GRANT	7,007	4,976	2,031	40.8
6	HARNEY	7,429	4,554	2,875	63.2
21	HOOD RIVER	7,195	4,976	2,219	44.6
28	JACKSON	6,918	4,982	1,936	38.9
19	JEFFERSON	7,507	5,175	2,332	45.0
32	JOSEPHINE	6,118	4,543	1,575	34.7
26	KLAMATH	7,202	5,140	2,062	40.2
33	LAKE	6,993	5,391	1,602	29.7
27	LANE	7,309	5,227	2,082	39.8
29	LINCOLN	6,244	4,513	1,731	38.4
8	LINN	7,902	5,051	2,851	56.4
18	MALHEUR	5,960	4,083	1,877	45.9
9	MARION	7,250	4,646	2,604	56.2
13	MORROW	7,160	4,823	2,337	48.3
20	MULTNOMAH	7,527	5,205	2,322	44.7
22	POLK	6,539	4,544	1,995	44.0
35	SHERMAN	6,947	5,636	1,311	23.3
16	TILLAMOOK	6,946	4,756	2,190	46.1
23	UMATILLA	7,251	5,092	2,159	42.4
7	UNION	6,720	4,200	2,520	60.0
14	WALLOWA	6,915	4,402	2,513	47.1
10	WASCO	8,001	5,223	2,778	53.2
2	WASHINGTON	10,083	5,863	4,220	72.2
34	WHEELER	6,373	5,161	1,212	23.5
4	YAMHILL	6,577	3,935	2,642	67.2

Source: U.S. Department of Commerce, Bureau of the Census, Census of Population: 1970 (Washington: U.S. Government Printing Office), PC(1)-39. Changes calculated by the author.

TABLE VI

PER CENT GROWTH IN EMPLOYMENT IN OREGON COUNTIES, 1965 - 1971

<u>RANK</u>	<u>COUNTY</u>	<u>1971</u>	<u>1965</u>	<u>CHANGE</u>	<u>% CHANGE</u>
17	BAKER	2,691	2,320	371	16.0
7	BENTON	8,948	6,891	2,057	29.8
2	CLACKAMAS	24,083	16,752	7,331	43.7
23	CLATSOP	6,429	5,940	489	8.2
19	COLUMBIA	3,823	3,382	441	13.1
24	COOS	13,958	12,883	1,075	8.1
4	CROOK	2,630	1,878	752	40.0
30	CURRY	2,829	2,904	-75	-2.5
6	DESCHUTES	7,054	5,160	1,894	36.8
29	DOUGLAS	16,195	16,587	-392	-2.4
35	GILLIAM	304	789	-485	-61.4
8	GRANT	1,082	841	241	28.7
27	HARNEY	1,492	1,494	-2	-0.1
21	HOOD RIVER	2,658	2,368	290	12.2
11	JACKSON	20,422	16,677	3,745	22.5
34	JEFFERSON	1,376	1,667	-291	-17.4
25	JOSEPHINE	6,197	5,926	271	4.6
16	KLAMATH	10,523	8,888	1,635	18.4
33	LAKE	920	1,070	-150	-14.0
22	LANE	50,214	46,099	4,115	8.9
28	LINCOLN	4,867	4,979	-112	-2.3
12	LINN	17,530	14,348	3,182	22.2
14	MALHEUR	5,420	4,475	945	21.1
13	MARION	29,060	23,892	5,168	21.6
9	MORROW	438	345	93	26.9
15	MULTNOMAH	227,100	188,776	38,324	20.3
18	POLK	4,784	4,144	640	15.4
36	SHERMAN	172	506*	-334	-66.0
20	TILLAMOOK	3,312	2,945	367	12.5
10	UMATILLA	8,478	6,845	1,633	23.9
3	UNION	3,817	2,705	1,112	41.1
31	WALLOWA	646	698	-52	-7.4
26	WASCO	3,848	3,794	54	1.4
1	WASHINGTON	28,076	18,451	9,625	52.2
32	WHEELER	283	325	-42	-12.9
5	YAMHILL	7,441	5,320	2,121	40.0

Note*: 1964 employment is shown, as 1965 employment was substantially inflated by construction projects.

Source: U.S. Department of Commerce, Bureau of the Census, County Business Patterns: 1965 and 1971 (Washington: U.S. Government Printing Office).

TABLE VII

PER CENT INCREASE, VALUE ADDED BY MANUFACTURE, 1963 - 1967
(Thousands of Dollars)

<u>RANK</u>	<u>COUNTY</u>	<u>1967</u>	<u>1963</u>	<u>CHANGE</u>	<u>% CHANGE</u>
8	BAKER	9,000	6,400	2,600	40.6
16	BENTON	28,400	22,100	6,200	28.0
13	CLACKAMAS	109,900	81,200	28,700	35.4
10	CLATSOP	36,100	26,100	10,000	38.3
22	COLUMBIA	32,500	31,900	600	1.9
20	COOS	79,800	69,200	10,600	15.3
3	CROOK	15,300	8,800	6,500	74.0
23	CURRY	22,200	22,300	-100	-0.5
5	DESCHUTES	20,100	13,500	6,600	48.8
17	DOUGLAS	103,500	83,300	20,200	24.2
-	GILLIAM	D	100	-	-
28	GRANT	2,700	5,200	-2,500	-48.2
-	HARNEY	D	D	-	-
18	HOOD RIVER	13,000	10,900	2,100	19.3
15	JACKSON	77,600	59,800	17,800	29.8
-	JEFFERSON	D	7,600	-	-
19	JOSEPHINE	30,000	25,600	4,400	17.2
11	KLAMATH	36,100	26,200	9,900	37.4
24	LAKE	5,500	6,300	-800	-12.7
21	LANE	208,200	183,600	24,600	13.4
27	LINCOLN	17,700	24,200	-6,500	-26.9
4	LINN	111,900	72,500	39,400	54.4
-	MALHEUR	22,700	D	-	-
14	MARION	89,700	68,500	21,200	30.9
-	MORROW	2,200	D	-	-
9	MULTNOMAH	650,800	470,100	180,700	38.4
25	POLK	31,600	36,600	-5,000	-13.7
-	SHERMAN	Z	D	-	-
6	TILLAMOOK	19,800	13,500	6,300	46.7
7	UMATILLA	35,800	24,800	11,000	44.4
1	UNION	14,600	6,600	8,000	121.2
29	WALLOWA	2,500	5,100	-2,600	-51.0
26	WASCO	23,400	27,900	-4,500	-16.1
2	WASHINGTON	168,200	86,700	81,500	94.1
-	WHEELER	D	D	-	-
12	YAMHILL	25,900	19,100	6,800	35.6

D = Information withheld to avoid disclosure for individual firms.
Z = Less than \$50,000.

Source: U.S. Department of Commerce, Bureau of the Census, Census of Manufactures: 1963 and 1967 (Washington: U.S. Government Printing Office). Calculations by the author.

TABLE VIII

PER CENT GROWTH IN RETAIL SALES IN OREGON COUNTIES, 1963 - 1967
(Thousands of Dollars)

<u>RANK</u>	<u>COUNTY</u>	<u>1967</u>	<u>1963</u>	<u>CHANGE</u>	<u>% CHANGE</u>
1	BAKER	29,788	20,667	9,121	44.1
9	BENTON	64,370	49,185	15,185	30.9
4	CLACKAMAS	167,131	122,227	44,904	36.7
12	CLATSOP	48,580	38,185	10,395	27.2
2	COLUMBIA	29,455	20,833	8,622	41.4
26	COOS	84,837	74,660	10,177	13.6
32	CROOK	11,876	11,849	30	0.3
30	CURRY	17,303	16,911	392	2.3
18	DESCHUTES	53,275	43,861	9,414	21.4
27	DOUGLAS	92,035	82,586	9,449	11.4
31	GILLIAM	5,324	5,218	106	2.0
16	GRANT	10,612	8,502	2,110	24.8
7	HARNEY	12,913	9,692	3,221	33.3
21	HOOD RIVER	22,891	19,377	3,514	18.1
13	JACKSON	152,786	120,645	32,141	26.6
33	JEFFERSON	16,611	16,582	29	0.2
25	JOSEPHINE	55,439	48,586	6,853	14.1
28	KLAMATH	83,549	75,009	8,540	11.4
19	LAKE	13,601	11,299	2,302	20.4
20	LANE	316,281	267,049	49,232	18.4
17	LINCOLN	39,485	31,833	7,652	24.0
10	LINN	99,389	78,056	21,333	27.3
22	MALHEUR	42,556	36,490	6,066	16.6
8	MARION	254,054	191,262	62,792	32.8
34	MORROW	6,803	6,966	-163	-2.3
11	MULTNOMAH	1,161,226	912,442	248,784	27.3
15	POLK	29,718	23,799	5,919	24.9
36	SHERMAN	2,465	2,894	-429	-14.8
23	TILLAMOOK	23,209	19,995	3,214	16.0
14	UMATILLA	83,149	65,952	17,197	26.1
6	UNION	29,881	22,104	7,777	35.2
3	WALLOWA	8,554	6,145	2,409	39.2
24	WASCO	42,927	37,386	5,541	14.8
5	WASHINGTON	187,338	138,617	48,721	35.2
35	WHEELER	1,584	1,814	-230	-12.7
29	YAMHILL	45,906	40,659	5,247	11.3

Source: U.S. Department of Commerce, Bureau of the Census, Census of Business, Retail Trade: 1963 and 1967 (Washington: U.S. Government Printing Office). Calculations by the author.

TABLE IX
ANNUAL AVERAGE TOTAL UNEMPLOYMENT RATES
BY COUNTY OR LABOR MARKET AREAS
1962 - 1971

RANK	COUNTY OR LABOR MAR- KET AREA	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	10-yr. Ave.
8	BAKER	8.6	6.2	5.3	5.0	3.8	4.9	4.8	5.4	7.1	6.4	5.75
2	BENTON	4.5	3.8	4.1	4.0	3.8	4.1	3.7	3.9	4.9	5.2	4.20
17	CLATSOP	7.6	8.0	6.6	5.3	5.1	5.7	5.4	5.4	6.2	7.8	6.31
15	COLUMBIA	7.1	7.1	6.1	5.5	5.2	5.8	5.4	5.4	7.2	7.4	6.22
27	COOS	6.7	6.7	6.9	7.6	6.7	8.0	6.9	7.4	8.2	9.1	7.42
21	CROOK	6.4	6.4	7.0	6.0	6.9	6.6	4.6	6.7	8.4	7.6	6.66
18	CURRY	6.4	6.8	6.7	5.6	5.5	6.0	5.5	7.4	8.1	7.4	6.54
18	DESCHUTES	6.9	6.2	5.9	5.2	5.2	5.6	5.4	5.3	7.2	6.3	6.54
22	DOUGLAS	5.9	5.7	5.0	6.7	7.6	8.9	6.1	6.4	7.9	7.3	6.75
6	GILLIAM	7.4	4.6	4.3	4.5	5.3	6.7	7.9	5.4	5.3	5.6	5.70
8	GRANT	6.8	5.5	7.5	6.2	5.9	5.1	4.8	4.5	6.0	5.6	5.79
1	HARNEY	4.4	3.8	4.1	3.7	2.9	3.2	3.3	3.8	5.2	5.1	3.95
29	HOOD RIVER	9.4	8.1	7.3	7.0	6.6	7.1	7.3	7.0	8.1	8.4	7.63
20	JACKSON	5.6	5.6	5.9	5.8	6.2	7.4	6.3	7.0	8.5	7.6	6.59
16	JEFFERSON	5.7	4.3	5.9	6.0	6.3	7.2	6.4	5.2	8.0	8.0	6.30
31	JOSEPHINE	9.4	8.4	8.2	8.0	8.7	10.3	8.5	10.7	12.2	11.4	9.58
9	KLAMATH	6.9	6.3	6.3	5.7	5.4	6.0	4.7	4.7	6.2	6.4	5.86
28	LAKE	8.2	6.1	7.8	8.1	8.2	8.3	7.0	6.4	8.0	7.0	7.51
7	LANE	5.4	5.4	5.2	4.8	5.4	6.2	5.1	5.6	7.0	7.2	5.73
23	LINCOLN	7.7	6.8	6.8	6.2	6.5	7.0	5.7	6.2	7.9	7.8	6.86
13	LINN	6.6	5.9	5.9	5.3	5.6	6.9	5.3	5.1	7.3	7.4	6.13
5	MALHEUR LMA	6.5	6.6	6.0	4.7	4.3	4.2	5.1	4.5	4.8	6.2	5.29
14	MORROW	7.2	7.1	5.6	6.1	4.6	6.5	4.1	5.7	6.8	7.9	6.16
3	PORTLAND LMA	5.2	4.8	4.6	4.0	3.3	4.0	3.6	3.5	5.6	6.1	4.47
12	SALEM LMA	6.5	6.4	6.6	5.8	5.5	6.2	5.6	5.1	6.6	6.8	6.11
26	SHERMAN - WASCO LMA	8.1	7.0	8.5	6.1	6.3	8.3	7.4	7.1	7.8	7.3	7.39
10	TILLAMOOK	7.1	5.6	5.4	5.1	4.9	4.9	4.9	6.1	7.5	7.2	5.87
11	UMATILLA	6.3	6.7	6.4	5.5	4.1	5.0	4.7	6.9	6.5	7.2	5.93
4	UNION	6.2	5.7	5.0	3.8	4.9	4.0	4.6	4.9	6.8	6.5	5.24
25	WALLOWA	9.9	5.6	8.0	6.8	4.2	5.6	6.4	6.8	7.5	9.5	7.03
24	WHEELER	8.2	7.3	6.2	7.5	6.9	6.8	6.0	6.0	7.5	7.6	7.00
30	YAMHILL	10.1	10.0	9.2	7.9	6.9	7.5	6.5	6.4	9.8	9.8	8.41
State of Oregon:		5.5	5.1	5.0	4.6	4.2	4.8	4.4	4.4	5.9	6.3	5.02

Source: Compiled at the request of the author by the Research and Statistics Department, Oregon Employment Division: July 28, 1972.

TABLE X
COMPOSITE OF RANKS

<u>RANK</u>	<u>COUNTY</u>	<u>QUARTILE</u>	<u>#1</u>	<u>#2</u>	<u>#3</u>	<u>#4</u>	<u>#5</u>	<u>#6</u>	<u>#7</u>	<u>#8</u>	<u>#9</u>
25	BAKER	III	34	34	34	34	30	17	8	1	8
10	BENTON	II	3	3	5	28	36	7	16	9	2
2	CLACKAMAS	I	2	2	3	2	3	2	13	4	3
15	CLATSOP	II	21	24	4	25	15	23	10	12	17
5	COLUMBIA	I	7	7	17	7	1	19	22	2	15
20	COOS	III	22	22	10	5	12	24	20	26	27
16	CROOK	II	17	18	25	7	25	4	3	32	21
31	CURRY	IV	28	33	8	22	31	30	23	30	18
4	DESCHUTES	I	5	8	9	15	11	6	5	18	18
23	DOUGLAS	III	19	19	23	22	17	29	17	27	22
26	GILLIAM	III	35	35	29	3	4	35	-	31	6
23	GRANT	III	30	30	33	18	24	8	28	16	8
7	HARNEY	I	14	16	18	4	6	27	-	7	1
28	HOOD RIVER	IV	26	28	13	27	21	21	18	21	29
12	JACKSON	II	8	9	14	17	28	11	15	13	20
29	JEFFERSON	IV	12	12	30	28	19	34	-	33	16
32	JOSEPHINE	IV	13	13	31	35	32	25	19	25	31
16	KLAMATH	II	18	17	11	16	26	16	11	28	9
34	LAKE	IV	31	32	28	31	33	33	24	19	28
11	LANE	II	6	6	7	9	27	22	21	20	7
30	LINCOLN	IV	20	25	12	28	29	28	27	17	23
9	LINN	I	11	11	26	13	8	12	4	10	13
27	MALHEUR	III	23	23	36	36	18	14	-	22	5
8	MARION	I	9	4	19	19	9	13	14	8	12
19	MORROW	III	29	20	6	14	13	9	-	34	14
6	MULTNOMAH	I	16	15	2	12	20	15	9	11	3
13	POLK	II	4	5	16	26	22	18	25	15	12
36	SHERMAN	IV	33	27	27	32	35	36	-	36	26
21	TILLAMOOK	III	27	29	20	24	16	20	6	23	10
18	UMATILLA	II	24	21	22	21	23	10	7	14	11
3	UNION	I	15	14	21	6	7	3	1	6	4
33	WALLOWA	IV	32	31	32	33	14	31	29	3	25
22	WASCO	III	25	26	15	9	10	26	26	24	26
1	WASHINGTON	I	1	1	1	1	2	1	2	5	3
35	WHEELER	IV	36	36	35	9	34	32	-	35	24
13	YAMHILL	II	10	10	24	19	4	5	12	29	30

1. % Population Growth, 1960 - 1970.
2. % Growth in 20-49 Age Group, 1960 - 1970.
3. Per Capita Income, 1969.
4. % Persons Below Poverty Level of Income, 1969.
5. % Increase in Median Income, Families & Unrelated Individuals, 1959 - 1969.
6. % Growth in Employment, 1965 - 1971.
7. % Increase, Value Added by Manufacture, 1963 - 1967.
8. % Growth in Retail Sales, 1963 - 1967.
9. Average Total Unemployment Rates, 1962 - 1971.

FIGURE 2

GENERAL ECONOMIC HEALTH
OF
OREGON
AS BASED ON EQUAL WEIGHTING
OF INDICATORS

CHAPTER III

TYPES OF SUBSIDIES AND THEIR EFFECTS ON RESOURCE ALLOCATION

With this preliminary analysis of the economic and social benefits that might be sought for Oregon through an industrial subsidy program, we can now consider what types of subsidies might be employed and attempt to evaluate their effects. For illustrative purposes, an analysis cited by Richardson will be useful.¹²

The model he examines was developed by G. H. Borts to show the relative advantages of three different kinds of subsidy: labor, capital and prices. The model measures the cost of a subsidy as a social cost, defined as the output foregone by diverting capital from its most productive use, rather than a monetary cost which is simply a transfer. The aim is to consider the most efficient short-run method of securing full employment within a region by comparing the social rate of return from the three types of subsidy. The model assumes an inelastic supply curve for labor, treating it as a fixed resource, and a perfectly elastic supply curve for capital, which makes this the variable factor.

The model also assumes that the marginal revenue product of labor in the region's competitive industry declines due to a decrease in the price of that industry's output, but that wages are rigid and fail to decline to an equilibrium level. This causes the industry to leave the region, which then becomes characterized by a discrepancy between the

¹²Richardson, op. cit., pp. 405-409.

private and social costs of labor. The private cost is the fixed wage, while the social cost is the productivity of labor in the industry in competitive equilibrium.

Borts considers three forms of intervention to alleviate this discrepancy: 1) a wage subsidy, whereby the government subsidizes employers the difference between the old and new marginal product of labor; 2) a capital subsidy, with which employers are paid the difference between the competitive rate of return on investment and the return earned after the price decline (through low interest loans, tax relief or cheap site and factory rents); and 3) a price subsidy, where the industry's output is subsidized by payment of the difference between the old and the new price of output.

The analysis estimates the social rate of return from each of these policies. Since it was assumed that industry would leave the region without subsidies, then the social return to the subsidy is the full output of that industry. The cost to the subsidy is the output lost by transferring mobile capital resources into the industry, measured by the output sacrificed in other uses with a higher productivity of capital (opportunity cost).

Borts concludes that the wage subsidy is the best of the three policies in terms of social return. Seeking full employment as the objective, a direct wage subsidy encourages maximum utilization of the labor resource by decreasing the direct labor cost to the industry. The higher the elasticity of substitution between labor and capital, the greater the returns from this policy, as industry will be encouraged to employ more labor in relation to its capital expenditures. This would always be true except in the case where a fixed labor-capital ratio

exists and the percentage decline in output price is greater than the share paid to labor.

If capital subsidies are used, their effect is to increase the capital-labor ratio in order to increase the marginal physical output of labor. The price decline would then be offset by this increase in the marginal physical output of labor while the marginal revenue product of labor remains unchanged. This allows the industry to pay the original wage while earning the original rate of return to its own capital investment. This, in effect, would result in the same social return as the wage subsidy but at the higher cost of transferring more capital out of other, more productive uses.

With price subsidies, both initial output and capital are left unchanged. This also will permit the industry to retain its original employment level. It does so, however, through an implied artificial rise in the value productivity of capital created by subsidizing the price of output. Again, the capital resource is over valued, resulting in higher social costs due to the transfer of capital from more productive uses.

It would appear that one of the primary determinants of the effectiveness of these three policy alternatives is the substitutability of labor and capital. If a fixed ratio exists, then capital and price subsidies become relatively more attractive. But as the substitutability of labor for capital increases, then the wage subsidy will produce a higher return by withdrawing less capital from other uses. This will result in a higher level of total output for the region.

While this type of analysis is somewhat theoretical, especially in terms of the practical alternatives available to public agencies,

it does produce some useful insights into how different types of subsidies will vary in their effects on regional development. In particular, it shows that there is more to consider than the employment and output gained by the subsidized plants.

While the Borts model may be limited in its applicability to Oregon because of its structural assumptions, some comparisons can still be made. For example, the assumption of a price decline for the region's industrial output can be compared to the historical situation of agriculture where there has been a price decline relative to other industries. That condition, along with the increased substitutability of capital for labor in agriculture and a rising marginal revenue product of capital over labor, would create a situation very comparable to that described by Borts. If we can also assume imperfect mobility of labor in the agricultural areas, then the effect would be a reduction in income levels along with rising unemployment. As seen in the last chapter, this is the condition that prevails in much of rural Oregon.

The industrial subsidy programs being prescribed to correct Oregon's imbalances would generally fall into the category of capital subsidies. It is assumed that by the vehicle of expanding regional productive capacity and output, the variety of economic and social goals, such as population shifts and employment of surplus labor, can be achieved. As mentioned earlier, however, such policies will have an effect on resource allocations and there is some question as to whether an efficient allocation can be achieved which will produce the desired objectives. This problem will now be examined in greater detail.

As stated earlier, a major problem in the resource allocation question relates to the geographical area in which the benefits of the

subsidy program are measured. One criticism of such programs is that by influencing a firm to locate in one place rather than another, there is no real net gain in output to compensate for the public investment and economic shocks caused by competitive bidding for the plant. According to this hypothesis, a plant will be built for a specific production capacity, determined by the nature of the market and the firm's competitive position in that market, so regardless of where it is built the output will be the same. Under this hypothesis, industrial subsidy programs have been referred to as the "zero-sum game".

The type of criticism expressed in the zero-sum hypothesis results from broadening the scope of analysis from the local level to a more regional or national overview. The complaint lodged against community efforts to attract industry through financial and tax inducements is that the practice is self-defeating in the sense that it induces other communities to do likewise. The alleged result of this rivalry is that one community's gain is offset by another's loss.

This zero-sum concept is also modified somewhat by the claim that the loss of a plant to one community, with its resultant effects of throwing people out of work and decreasing income flows, is too great a price to pay for some other community to gain a new plant. Therefore, whether we are considering new plants or relocations, the concept of industrial subsidies is viewed as producing either zero or negative results when considered in a broad perspective.

This criticism, if it is valid, could have an important bearing on policy decisions in Oregon. Even if a purely self-interest policy should be adopted, so that the negative effects of industrial subsidies in other areas of the country are ignored, there would exist the

possibility that other states would adopt a similar course and induce Oregon firms to leave the state. The summary of programs given in the appendix indicates that this is already being done by most other states, however. Still, there might also exist the possibility that a local subsidy program in Oregon would produce the effect of relocating firms within the state, in which case the State government would have to consider both the positive and negative effects of those programs. The subject then becomes a serious consideration in assessing the political, as well as the economic and social, implications of subsidy programs.

The zero-sum concept, and its criticisms, was described by the example of a case history which occurred in 1961. According to one report,¹³ the management of the Norge Division of the Borg-Warner Corporation in Muskegan, Michigan, suddenly announced plans to close its plant there. No advance notice was given to the plant's 1400 workers, who had spent an average of 15 years working for the company. Almost 900 of these workers were over 40 years old, while 235 were over 55 years of age--an age group which normally has great difficulty finding new jobs.

At the same time this announcement was made in Muskegan, which was already designated a labor surplus area, the same firm--Norge Division of Borg-Warner--announced that it would build a new manufacturing plant at Greenwood, Arkansas, 700 miles away. The new, \$7.5 million facility would be financed by the proceeds from the sale of tax-free

¹³ Frank L. Fernback, "Subsidized Plant Migration," American Federationist, Vol. 73, July, 1966, pp. 8-12.

municipal bonds. The report soundly condemned this and all other forms of subsidized plant migration.

The report failed to consider any reasons why the plant at Muskegan was being closed or to explore any reasons why the firm was relocating its facility. It assumed that the cost advantages of the subsidy were the only determining factor.

Nonetheless, this kind of example warrants a further look into the net effects of the induced location of industry. Even where subsidies are used to attract new plants rather than relocations, the criticism that a plant gained in one area is offset by that plant not being gained in another area is worthy of consideration.

An examination into this question is provided by Rinehart and Laird.¹⁴ They based their analysis on the assumption that full-employment communities will make less use of industrial subsidies than will depressed communities with labor surpluses. State programs which seek to shift industrial investment to depressed areas would normally fit such an assumption. The effect of the subsidies, then will be to increase the net flow of capital into the labor-surplus (capital-scarce) regions. More capital will become available in the region than would otherwise be the case as new firms and branch plants are attracted. This means that for the region as a whole, the competition for industry does not have a cancelling-out effect, even if it may appear to do so for individual communities within the region.

The study also considers some of the justification criteria

¹⁴ J. R. Rinehart and W. E. Laird, "Community Inducements to Industry and the Zero-Sum Game," Scottish Journal of Political Economy, Vol. 19, (February, 1972), 73-90.

mentioned by Richardson, including the possibility that on a regional level the shift in capital flows may leave overall levels of employment and income unchanged, but finds that: ". . . the benign zero-sum outcome allows a broader range of choice for individual preferences regarding location and life-style and in that respect promotes an increase in social welfare."¹⁵

Another relevant finding, from the aspect of state policies and goals, is that an increased capital inflow into underemployment regions may slow the forced migration into the larger urban centers and thereby promote an overall pattern of resource allocation which will make the interrelated problems of congestion and pollution more amenable to solution. These last two considerations were among the specific goals stated in the justification for a subsidy program in Oregon by the Senate Task Force on Economic Development.

By looking at the problem in this manner, and assuming that subsidies are, in fact, used to promote capital flows to areas of need, it would appear that industrial inducements do produce a net overall gain, at least in terms of their social benefits. Thus, the zero-sum hypothesis, that one plant cancels out another, can be questioned. However, there is still the economic question of whether the industrial subsidy program would result in reallocation of resources to less efficient uses, thereby lowering overall levels of output. This question is compounded by the further argument that the new, subsidized firm will compete for inputs locally to the degree that its subsidies enable it to flourish. Even where local unemployment is considerable before the new plant is

¹⁵ Ibid, p. 81.

attracted, already employed resources will be used to some degree and even the use of formerly unemployed factors of production will affect the price of factors employed by other firms.¹⁶

This criticism has been extended to include the theory that the misallocation of resources resulting from subsidizing industrial locations in depressed areas actually leads to a net decrease in the economic level of the region. The basis of this argument is that resources are less productive in the depressed areas, which is why they are characterized by higher unemployment in the first place.

Peter Drucker makes this point when he criticizes Britain's policies of subsidizing industrial migration to less developed areas. He states that:

The depressed areas policy in Great Britain dates back to the twenties. In all that time it has not restored to economic health one single 'depressed area.' But it has effectively penalized the shift of labor to areas of higher productivity, higher wages and better jobs. It has thereby slowed growth in the healthy regions. Yet whenever it is realized that the 'depressed areas' are still depressed, the budget goes up. That the Swedes, faced with a similar problem, actually got rid of their 'depressed areas' by subsidizing migration of labor out of them rather than, as the British do, migration of inefficient industry into them, is well known in England. But it has made no impression on government or public in Britain.¹⁷

This pessimistic view is limited, of course, by his reference to "inefficient" industries. If the subsidies represent an offset against other higher cost factors attendant to the location, then the concept of inefficiency cannot be assumed. The next chapter will review the types of companies most frequently attracted by industrial subsidies and, at least in the American case studies, document that they cannot normally

¹⁷Peter Drucker, The Age of Discontinuity (New York: Harper & Row, 1969), p. 228

be classified as inefficient.

There is another reason, also, why the British experience is not valid for estimating resource allocation effects from subsidy programs in the United States. While British programs provide positive incentives for industrial locations to depressed areas, including the construction of low-cost facilities, their system supplements this with disincentives for location in developed areas. The primary disincentive is the requirement that firms obtain an Industrial Development Certificate (IDC) as a precondition to their being permitted to establish a new facility. By denying issuance of an IDC in a developed area, the Board of Trade can force the firm to either abandon its plans or locate in an inefficient area.¹⁸

The result of this program has been less than satisfactory for the firms as well as for the depressed regions. According to the Board of Trade:

. . . it is reasonable to suppose that the large majority of firms which have gone to an unemployment area as tenants of Board of Trade factories, or with financial assistance, would not have done so had they been able to get an IDC in the place of their choice. No doubt firms urgently needing finance would be ready to set up on a development district in return for financial assistance, but these are in general not the firms that are likely to give continuing employment.¹⁹

It would appear that attaching disincentives to a subsidy program creates justifiable criticism of both the effectiveness of the program and its impact upon the efficiency of resource allocation. Even the social benefits of such a program might be negated if the result is the

¹⁸ Wesley C. Ballaine, "British Experience in Influencing Location of Industry," Western Economic Journal, Vol. IV (Summer, 1966), 237-46.

¹⁹ The Policy and Practice of the British Government for Dealing With Local Unemployment (London: Board of Trade, 1960), p. 12.

inefficient location of marginal firms which fail to give permanent employment.²⁰

Rather than considering generalizations about resource allocations, it would be better to review the type of subsidy employed and surrounding economic conditions in determining the resource allocation effects in a particular subsidy situation. Regarding the labor resource, for example, different effects are shown for situations where the labor is mobile versus those where it is immobile. In Gray's analysis of these situations, he observed that:

With respect to community financed subsidies to industry, the following can generally be concluded:

1. If labor is immobile with respect to wages, employment and real income in the economy as a whole will be expanded in a manner consistent with the requirements for optimum resource allocation regardless of the financing techniques employed by the community.

2. If labor is mobile with respect to wages, employment and income will rise, but the spatial distribution of resources will be inconsistent with the requirements for optimum resource allocation.²¹

Gray further maintains that while workers shift locations in order to obtain employment, the greatest part of structural unemployment in the United States consists of wage-immobile workers--redundant farmers and women in areas of low female labor force participation rates. Thus, he says that: " . . . it is conceivable that the majority of industrial

²⁰ An example would be a case in Roseburg, Oregon, where a local development corporation was established to sell stock to finance a mobile home manufacturing plant. The plant closed after less than two years operation, leaving the local stockholders to carry the costs of the empty facility and returning unemployment to a high level.

²¹ Ralph Gray, "Industrial Development Subsidies and Efficiency in Resource Allocation," National Tax Journal, Vol. 17, (June, 1964), 170.

development subsidies--past, present and future--have improved overall resource allocation."²²

Gray recognizes that a subsidy program could also be used to encourage outmigration as a means to overcome rigidities in labor immobility. He points out, however, that there are economic and social costs attached to this, also. He claims that the poverty and resulting social problems of migrants from the nation's labor-surplus areas are carried with them when they relocate into a labor-scarce area. This has the effect of increasing the costs of providing social overhead in the urban areas.

These considerations are discussed by Morss in a different manner.²³ He acknowledges Gray's argument but says that the competitive market for new plants is similar to the competitive market for labor resources. Thus, in a competitive subsidy situation, the plant will locate where it has the highest value to the subsidizing community. This will produce a net benefit regardless of whether the labor moves with the plant or is recruited from the local ranks of unemployment.

There is also reason to doubt the assumption that subsidized alterations in resource allocations means moving away from an optimum free market condition. Cumberland and Van Beek observed that there are many economic and non-economic barriers which prevent the free flow of resources whether subsidization is practiced or not.²⁴ The discriminate

²²Ibid, p. 171

²³Elliott R. Morss, "The Potentials of Competitive Subsidization," Land Economics, Vol. 63 (May, 1966), pp. 161-169.

²⁴J. H. Cumberland and Frits Van Beek, "Regional Economic Development Objectives and Subsidization of Local Industry," Land Economics, Vol. 63 (August, 1967), p. 257.

use of subsidies may act to remove these barriers. In any case, they conclude, it would be difficult to support the contention that an "optimal" allocation will occur if subsidies are not employed.

Richardson makes the same point. He observes that technological changes, variations in factor costs, etc., will tend to alter the average cost relationships between various locations over time. He states that: "Location decisions based on present data and/or on assumptions that the present can be extrapolated into the future will be unlikely to maximize profits in the long run."²⁵ He therefore concludes that:

. . . it is unlikely that many firms will make sophisticated calculations in conjunction with crystal-gazing. It is much more probable that firms, in full recognition of future changes in spatial costs and prices and the difficulties of measuring external economies, will not go to extreme lengths to find the most profitable location, but instead will opt for a location that seems viable in the long run and rely on increasing efficiency in other respects to raise their profitability.²⁶

So the concept of a single, optimum location is not always applied when siting new plants. Richardson recognizes that "natural" locations are not always the most efficient and that technical efficiencies can make a variety of locations nearly identical in average costs. This is particularly true when certain factor resources are immobile so that optimum efficiencies are not attained. In this case, there may be as much case for subsidizing movement of capital into a region as for subsidizing movement of labor out of it. The test of efficiency would be to determine whether the marginal revenue product of the immobile

²⁵ Richardson, op. cit., p. 92.

²⁶ Ibid

resource (labor) is greater than the marginal revenue product of the mobile resource (capital) in the alternative use from which it is diverted. Richardson introduces this concept of opportunity cost as a principal criterion for judging subsidy policies.

Richardson also suggests as a criterion that relocations of firms should be evaluated in terms of future income growth in both the exporting and receiving regions and in terms of demonstration effects and the generation of external economies rather than simply in terms of the number of jobs created and their cost. Applying these criteria will determine if, on net balance, a capital subsidy policy can be justified in economic terms.

The question of efficiency in resource allocation does not necessarily depend upon an assumption of optimality under free market conditions, however. There is a presumption in subsidy programs that the subsidy will induce a firm to locate in an area where it otherwise would not go. Therefore, a reallocation would occur regardless of whether the freely chosen location would be an optimum. So the argument just proposed would affect the degree of efficiency alterations, but not necessarily the substance of the criticisms.

Again, this question can be viewed from different perspectives. We have already seen that the resource allocation question produces different results when viewed at the national (general) level versus the local (specific) situation, and that in some cases it may even be possible to show that there is a conflict of interest at these two levels.

Within the local area there are also some problems that need to be considered, in addition to those already mentioned. For example, some regional development programs seek as their objective the shift of

industry from urban to rural places that are characterized by an agricultural economy. This is one of the stated objectives of the Oregon proposals. Yet the location of industry in such an area will have the two adverse effects of increasing wages and land costs for the farmer. One study of this situation²⁷ cited it as a serious problem for the small farmer. It noted that farmers often rely on seasonal and part-time workers who may become unavailable as full-time factory jobs are created. While the overall productivity of labor in the area may be increased, it is done so at the expense of an important sector of the rural economy.

This question of altering resource allocations, then, is a complex one from the standpoint of state development policy. There are many externalities involved when shifts are made. This is true, however, whether those shifts are induced by subsidies or occur without them. There are also external effects of leaving a depressed area to decline even further. It is reasonable to assume, however, that companies using subsidies will have to be convinced that there are underemployed resources available which can be used productively. Where this is the case, the effect of the subsidy must be to increase the overall efficiency of those resources, at least on the local level. It may be that those resources could be even more productive if moved to another area, but this also involves costs. Each situation, then, must be reviewed in detail to determine the optimum policy in terms of overall objectives.

The preceding analysis has indicated that the types of subsidies employed in an industrial inducement program will have varying effects

²⁷ John T. Scott, Jr., "Economic Impact of Industrialization on Rural Areas," Illinois Business Review, Vol. 25, No. 8 (September, 1968). pp. 6-8.

upon the measured results of the program, primarily because of the different ways they alter resource allocations. The efficiency question in reallocating resources has also been examined. There are, however, two additional factors that will have a major bearing on the results of the program; the economic characteristics of the region, and the types of firms subsidized. These factors will be analyzed in the last chapter when an examination is made into the possible results that can be expected from a subsidy program in Oregon. Before this is done, though, some useful preliminary information can be developed by looking at empirical data on how subsidy programs actually have worked in other areas. This will be the subject of the next chapter.

CHAPTER IV

INFLUENCE OF INDUSTRIAL SUBSIDIES ON LOCATION DECISIONS

The question of whether or not industrial incentives can alter geographical patterns of economic activity would be moot if such devices lacked influence upon the primary investment decisions of companies seeking new plant sites. The wide use of incentives, supported by an extensive body of surveys and evaluations, suggests that a significant degree of influence does exist. However, that influence varies by the type of incentive used and the prevalence of other criteria in the investment decision. Analysis of these considerations will be presented in this chapter.

Before the empirical evidence is given, however, it will be useful to discuss some theoretical concepts of industrial location and how subsidies function to alter the location decision of a firm. This will help to put such incentives into perspective with other location criteria.

An analysis of optimal location theory and the influence of subsidies is given by Richardson.²⁸ In general terms, the optimal geographic location for a firm will be where the combined factor inputs in the production and marketing processes will produce the lowest costs per unit of product sold in the market. Since it would be improbable that the lowest costs for all factors would be found in a single location, the search for the optimal location necessarily requires weighing higher

²⁸ Richardson, op. cit., p. 92.

costs for some factors versus lower costs for others at a variety of possible locations. An area with low labor costs, for example, might have high transportation costs for delivered raw materials or finished goods shipped to market; or low raw material costs may be associated with high costs for land and capital.

For each of the possible locations surveyed, these factor costs will combine to produce an average cost per unit of projected output. When all of these individual average costs are charted, the result is an average cost curve which covers the entire range of alternative locations. The low point on this U-shaped curve will identify the optimal location in terms of lowest average cost.

To a firm in a competitive industry, where the price per unit of product sold is fixed by the market, the location offering the lowest average cost will also offer maximum profits (assuming average revenues are greater than average costs). So the average cost determination establishes the location for a firm motivated by profit maximization.

While computer analysis makes such determination possible, the result is a static model rather than one which predicts average costs over the life of the plant. As previously noted, long-term efficiency considerations will modify the lowest-average-cost determination to some degree. This qualification, then, will tend to reduce the probability that the firm will find only one site which will satisfy its locational requirements. Theoretically, any site within the range of profitability where average costs are lower than average revenues may be considered by the firm which is seeking profit maximization. Excluded from consideration, however, will be those locations outside the range where profits would be made.

In this framework, it can be seen how incentives work to influence the locational decision of the firm. Richardson's diagram,²⁹ modified slightly and reproduced here as Figure 3, shows the U-shaped average cost curve for the range of possible locations, measured spatially, along with the horizontal average revenue curve which is fixed by the market for all locations. The least cost location is identified as Z, while Mx and My represent the spatial limits to profitability.

FIGURE 3

The effect of the subsidy, whether it is offered as a tax reduction, a capital cost advantage or some other form of direct cost subsidy, is to reduce average costs, thus broadening the spatial range of profitable locations. By applying the subsidy discriminately to areas which would not normally be able to attract industry, it becomes possible to extend the boundaries of the margin of profitability to include those

²⁹ Ibid., p. 66.

areas.

The example shown on the diagram assumes a graduated subsidy program, with no subsidies offered at the optimum location and increased incentives becoming available as the firm departs farther from that optimum. In this case, rather than the average cost curve being shifted downward to widen its spatial limits of profitable operations, the entire shape of the curve is altered. The spatial limits of profitability are widened, but the average costs at the optimum location remain the same. The new limits to profitability now become Mx' and My' .

This simplified model can be directly applied to the three types of subsidies analyzed in the last chapter. There it was assumed that average costs remained constant but that prices declined. This would have the effect of lowering the average revenue line and narrowing the spatial range of profitable operations.

By providing a wage or capital subsidy, the average cost curve for the firm would be shifted downward to return to the original spatial relationship, only at lower cost and price levels. The difference between actual average costs and the average costs for the firm would be the direct cost of the subsidy.

In the case of a price subsidy, average costs would remain the same but the revenue line would be shifted upward again to its original level, with the difference between the market price and the revenue received by the firm being the direct cost of the subsidy.

The most common form of subsidies, and those which will be specifically analyzed in this chapter, are financial incentives and tax reductions. Both of these act to lower the average costs for the firm

and would therefore affect the location decision in a way similar to that outlined above for wage and capital subsidies.

Richardson also includes an example of how the reverse of subsidies, disincentives, can be used to deflect new firms away from areas where new growth may be undesirable. This could be done through the imposition of a special tax which would raise average costs in those areas to a level above the average revenue line. Firms would then have to locate outside that area in order to make a profit. One obvious problem with this alternative is that the range of profitable operations for a firm might easily extend across state or regional boundaries and such disincentives, employed within the confines of a single state, might easily have the effect of deflecting firms to profitable locations in other states rather than to depressed areas within the state imposing the disincentives. Since we are looking at policy alternatives at the single state level, that type of program does not appear to offer practical consideration.

This analysis shows some of the theoretical implications of subsidy policies on plant location decisions. We can now look at empirical evidence to assess the effectiveness of such policies where they have been applied in regional development programs. Specifically, we will look at the most common forms of industrial subsidies; financial incentives and tax inducements.

FINANCIAL INCENTIVES

On the basis of published surveys, a direct correlation can be established fairly easily between financial incentives to industry and

new plant locations. Such incentives can take various forms, including the financing of plant and equipment with tax-exempt bonds, or direct cash grants. In any case, the effect is to lower capital costs for the firm locating in a designated area.

Programs in Canada present some of the best-documented case histories of the effects of financial incentives. Operating under the Regional Development Incentives Act, defined as: "An Act to provide incentives for the development of productive employment opportunities in regions of Canada determined to require special measures to facilitate economic expansion and social adjustment,"³⁰ the Canadian Department of Regional Economic Expansion has authorized or undertaken numerous studies to measure the effectiveness of industrial incentive programs in that country. Created by an Act of Parliament, the Regional Development Incentives Act became effective July 1, 1969, to create new job opportunities in regions of high unemployment or slow economic growth. It replaced earlier programs of a similar nature under the Area Development Act. Administered through the provincial governments, the plan offers no tax reductions but instead provides generous capital incentives to industry for manufacturers establishing, expanding or modernizing plants in the designated regions. Up to \$12 million per plant is available in cash grants based on capital investment in the operation, the number of jobs created and the specific location. All manufacturing and most kinds of processing firms are eligible, excluding those engaged in initial processing in a resource-based industry, such as oil refining,

³⁰ Regional Development Incentives Act, 1968-1969, c. 56 (Ottawa: Queen's Printer For Canada, 1969).

pulp and newsprint.³¹

One of the most thorough studies authorized under this program comes from the southern Georgian Bay region in Ontario, where an A.D.A. incentives plan was carefully scrutinized during its first two years of operation.³² From the commencement of the incentives program in August, 1965, until the time of a questionnaire survey in August, 1967, thirty-one plants in the region reported that they had made use of the program. Of these, eighteen were entirely new to the area and cited the incentives program as their primary reason for locating there. The study showed that a little over \$7 million had been granted to these firms by the end of 1968.

Direct and indirect investment generated by this program came to more than \$80 million, with the new factories accounting for \$77 million of this. It is estimated that employment grew in the area by 27.3 percent because of this new investment, which was an increase of over 5,000 jobs. Payrolls increased in excess of \$20 million and local tax revenues grew by about \$1 million. To cite the study:

In more general terms, it (the program) effectively revolutionized almost every aspect of the economic life of the southern Georgian Bay Region, raising it from a lightly industrialized, primary producing area with little hope for growth, to a potentially fast developing industrial region geared to the booming Ontario economy.³³

This endorsement was tempered, however, by some other facts brought out in the study. One was that the area was beginning to

³¹ Ibid.

³² M.H. Yeates and P.E. Lloyd, Impact of Industrial Incentives: Southern Georgian Bay Region, Ontario (Ottawa: Policy Planning Branch, Department of Energy, Mines and Resources, 1968).

³³ Ibid., p. 25.

experience the spread effects of growth in the Toronto area and the incentives program served as a stimulus to accelerate that spread, which seems to contradict the prior statement that the area had "little hope for growth." It was also noted that a recently-completed new highway, connecting the area with Toronto, attracted the majority of the new plants. This provided a benefit of reducing transport costs and providing easier access to a major market and freight interchange. Presumably, the program would have been less successful without this additional asset. In concluding its evaluation, the study states that: ". . . the designated area was something of a special case and by no means the epitome of a depressed region. This must be clearly borne in mind in gauging the reasons for the success of the program."³⁴

Studies of successful programs in other areas of Canada generally make the same kinds of qualifications. A Nova Scotia survey³⁵ included 80 companies which had built new facilities in the 1963-1967 period, 45 of which had received financial incentives from the provincial assistance program. The total capital investment of the assisted firms was \$194 million, versus \$22 million for the 35 non-assisted firms. The survey showed that the assisted plants created direct employment of 1554 people, plus an additional 1682 jobs through backward and forward linkages, and 2005 more through multiplier effects, for a total of 5242 jobs.

Of the 45 companies receiving assistance, 19 said that the influence of the incentives program had been sufficient to affect their location

³⁴Ibid., p. 65

³⁵Robert L. Comeau, A Study of the Impact of the Area Development Agency Program in Nova Scotia (Halifax: Dalhousie University, 1969).

choice. A larger number, however, felt that the program had exercised some influence on their development plans, either speeding up the planned development or encouraging the firm to enlarge its plans.

When viewed in context with other investment criteria, however, this study also concluded that the inducements affected only the marginal choices and that there were other prime factors in the location decisions. It states: "All in all, the 'natural' conditions: raw material, markets, labour and transportation appear to be the most important factors determining choice of locations."³⁶

A third Canadian study also confirms this conclusion.³⁷ After reviewing the success of the regional incentives program in attracting new investment to northwestern Ontario, the study states that:

The establishment of new, or the expansion of existing industry, depends upon two preconditions: (1) an initial demand for a resource from the region to start the development process, a demand emanating, usually, from outside the region; and (2) a population 'watershed' large enough to sustain the growth process once started.

These examples from Canada would indicate that financial incentives can influence companies to locate in less developed regions but only if certain other factors are available which can contribute to efficient operation. This conclusion is also made in many studies of similar programs at the federal and state levels in the United States.

One American report released in 1970, for example, evaluated the influence of 42 programs of federal assistance to reallocate the geo-

³⁶Ibid., p. 136.

³⁷The Northwest Ontario Regional Development Program (Ottawa: Department of Treasury and Economics, Regional Development Branch, 1969).

graphical distribution of industrial activity.³⁸ These programs encompassed a wide range of activities, including business loans, grants for the development of infrastructure, and manpower programs. Among the conclusions of this report was that:

The fundamental requirements of the American economic system; natural resources, labor, capital and markets, are influenced to some extent by more than forty federal programs which provide assistance to public agencies, private institutions and individuals. But the geographic impacts of these programs, in the aggregate, are modest: They are largely confined to accelerating pre-existing trends toward economic concentration in metropolitan areas or to curbing slightly prevailing trends of economic decline.³⁹

Several reasons were given for this limited influence, particularly that: "Broad economic forces and locational decisions of the private sector are the major determinants of geographic distribution (regional-local) of economic development and growth."

In analyzing individual programs, however, the study found that: "Aid to business investments--including loan guarantees, subsidized loans, subsidized plant and equipment--has the greatest and most immediate effect of stimulating additional economic development."⁴⁰

It should be noted that part of the limited influence of federal programs was ascribed to administrative difficulties. The report also charged that many programs were conducted without a clearly defined objective.

Another report which looked at dispersion of industry as a national policy was conducted by the Fantus Company. In its overall assessment,

³⁸Federal Activities Affecting Location of Economic Development, prepared for the U.S. Department of Commerce by the Center for Political Research, 1970.

³⁹Ibid., p. I-1.

⁴⁰Ibid.

the report stated:

Basically, it has to be remembered that the business executive entrusted with plant location decisions will continue to seek a site which so combines all locational factors as to give the lowest cost per unit of output. . . . And in many instances, he will be interested in incentive industrial financing programs provided that these do not make him sacrifice or compromise his locational objectives.⁴¹

On the national level, then, the influence of financial incentives on business investment decisions would appear to be positive only where other required conditions exist.

Perhaps of greater interest for state policy considerations, however, will be a review of other state programs in the United States. Moving from national policy to state programs, though, involves a change in emphasis. Where national efforts are primarily aimed at encouraging business investment in areas of high unemployment, most state programs, in the past, have been operated with less regard to geographic distribution to areas of need within the state. State programs for financial assistance primarily increase available credit or lower costs through subsidized interest rates to firms locating anywhere within the state. Such programs, then, create a high degree of competition between states with limited regard for altering development patterns or dispersing growth to non-metropolitan areas.

In fact, the multiplicity of location factors discussed above has largely resulted in state financial incentive programs being used to further concentrate economic activities. The competitive nature of such programs has encouraged state agencies to apply their incentives in

⁴¹ Fantus Company, How Much Can We Influence The Growth of Industry in Rural Areas, prepared for the U.S. Department of Agriculture, (October, 1970), pp. 36-37.

locations which can offer the variety of location requisites which form the principal basis for investment decisions.

The Fantus report, previously cited, mentions the example of Kentucky which found that it could measurably increase its overall state growth rate by obtaining a larger share of national industrial growth. The state accomplished this by: " . . . concentrating on those location opportunities for which the greatest advantage to industry could be demonstrated."⁴²

When state financial incentives are used in this manner, it is relatively easy to correlate the incentives with new plant investment by the use of empirical evidence. It is more difficult, however, to draw conclusions from that correlation as to the strength of the incentives program in the final location decision when weighed against other factors. A firm, for example, may consider a new plant location in any one of several states offering industrial revenue bonds. While the final decision may be made on the basis of some other criterion, the availability of revenue bonds to build the plant would be cited as a causal factor regardless of which state finally received the investment.

While it is easy to overstate the importance of financial incentives as a causal factor in investment decisions, there is evidence that their existence does contribute to the location of industry between states. Part of the reason for this lies in the nature of the companies that use such incentives and the expectations of those firms. A study of industrial bond financing in Alabama revealed that whereas 65 percent of the firms using this form of assistance in Alabama had considered

⁴² Ibid., p. 33.

alternative locations in other states, only 47 percent of the firms using conventional financing did so.⁴³ This implies that assisted companies investigated a larger number of plant locations and may have been seeking the "best deal."

In doing so; however, the industrial bonds were considered very important. Of the 54 firms in the survey that had used them, 38 ranked this factor no lower than third in order of importance among all location factors, making it the most frequently mentioned of all factors. In analyzing this finding, the study states:

Considering that about one-sixth of all new plants and plant expansions in Alabama have been financed with industrial bonds, it would appear that such bonds are a decisive marginal factor for as many as 10 percent of the firms locating plant facilities in Alabama. This is a relatively small proportion of the total number of firms, but from the standpoint of capital investment, and employment, their influence is scarcely 'inconsequential'.⁴⁴

The study reinforces this last statement by revealing that the 38 firms which gave a high ranking to industrial bonds had invested about \$318,052,000 in manufacturing facilities and had an associated employment of 7,293 persons. This translates into an average investment of \$43,500 in plant facilities per job created--an investment figure substantially above the United States average at that time (1963) of \$21,500.

This finding, if generally supported in other areas, would indicate that financial incentives are most important to firms in capital intensive industries. This would seem logical since for these firms

⁴³A. A. Thompson, "Business Experience With Industrial Aid Bonds as a Source of External Financing: Some Empirical Evidence," California Management Review (Winter, 1970), p. 30.

⁴⁴Ibid., p. 31.

the differential costs of financing plant and equipment at varying interest rate levels would be significantly more important than for a company with relatively low capital requirements. A brief exercise will show how a firm can realize substantial cost reductions through the lower interest rates available from tax-exempt bond financing.

TABLE XI

INTEREST COST COMPARISON OF A TAX-EXEMPT AND TAXABLE CORPORATE FINANCING FOR A REPRESENTATIVE ISSUE OF \$1,000,000 OF TWENTY-YEAR BONDS.

<u>Year</u>	<u>Bonds Outstanding</u>	<u>Principal Amortization</u>	<u>Interest at Tax Exempt Rate of 5½%</u>	<u>Interest at Fully Taxed Corporate Rate of 7½%</u>
1	\$1,000,000	\$ 0	\$ 55,000	\$ 75,000
2	1,000,000	0	55,000	75,000
3	1,000,000	0	55,000	75,000
4	1,000,000	0	55,000	75,000
5	1,000,000	62,500	55,000	75,000
6	937,500	62,500	51,563	70,313
7	875,000	62,500	48,125	65,625
8	812,500	62,500	44,688	60,938
9	750,000	62,500	41,250	56,250
10	687,500	62,500	37,813	51,563
11	625,000	62,500	34,375	46,875
12	562,500	62,500	30,938	42,188
13	500,000	62,500	27,500	37,500
14	437,500	62,500	24,063	32,813
15	375,000	62,500	20,625	28,125
16	312,500	62,500	17,188	23,438
17	250,000	62,500	13,750	18,750
18	187,500	62,500	10,313	14,063
19	125,000	62,500	6,875	9,375
20	62,500	62,500	<u>3,438</u>	<u>4,688</u>
Total interest costs:			\$687,504	\$937,504

Table XI shows the "Interest Cost Comparison of Tax-Exempt and Taxable Corporate Financing for a Representative Issue of \$1,000,000 of Twenty-Year Bonds." During the first four years of the financing there is no principal payment. The million dollars are then repaid in

sixteen equal payments, with the first payment starting at the end of the fifth year. A representative tax exempt rate such as might apply to industrial revenue bonds for a better credit rating is given here as $5\frac{1}{2}$ percent. At this rate, a corporation reimbursing a public agency for actual financial costs will pay a total interest cost of \$687,504 over the life of the loan. A representative taxable rate for the same corporation borrowing in the private market is given as $7\frac{1}{2}$ percent (prime interest rates have increased since these calculations were made), making the interest cost total \$937,504 over the life of the loan. Financing a project by fully-taxed corporate bonds, instead of utilizing industrial revenue bonds, will result in \$250,000 more expense, which is 36.4% higher than with the other method. Obviously, for a capital intensive firm this can mean a significant cost difference.

In spite of this possible importance of financial incentives, the Alabama study previously cited also stressed the need for other basic requirements. It concluded by saying that:

Nevertheless, the response pattern indicates that collateral influences such as market access, available labor, and suitable plant sites must be present in sufficient degree. In other words, unless alternative plant sites are reasonably comparable in terms of conventional location factors, the cost-saving features of industrial bond financing will be insufficient to cause a shift away from a site where industrial bond financing may not be available.⁴⁵

The example of Alabama is supported by surveys in other geographical regions. One such survey reviewed state financial incentive programs in fifteen states, primarily in the New England region. Overall, state loan programs evoked a highly favorable response with 59

⁴⁵ Ibid.

percent of respondents saying that this had influenced their location decision. Subsidized interest rate programs in Pennsylvania and New York produced questionnaire responses of 77 percent and 72 percent, respectively, claiming such subsidies had 'very much' or 'much' influence on their investment decisions.⁴⁶ Here again it was stated that the firms had also satisfied themselves as to the availability of other necessary factors.

On the basis of published surveys and studies, then, financial incentives of various types would appear to offer promise as a tool for attracting industries to states where they may not otherwise locate. In seeking optimality in the location decision, however, the investor will still require that other economic conditions be satisfied. So state financial inducements must be regarded as a marginal influence rather than constituting a primary factor. Nonetheless, that marginal influence is positive for a state desiring to attract new industry, and attracting industry to the state, or encouraging expansion within the state, is a necessary requisite to influencing its location within the state.

TAX INCENTIVES

Tax concessions of various kinds are another widely-used form of industrial location incentive. The property tax is most commonly used for the incentive, although other taxes might also be used. The effect of a tax reduction or complete removal is similar to that of a wage or capital subsidy in that it lowers the average costs for the firm. As in

⁴⁶ G. W. Sazama, "State Industrial Development Loans: A General Analysis," Land Economics 46:171-80 (May, 1970).

the case of subsidized capital expenditures, there have been many surveys and studies which have attempted to determine the effect of taxes in influencing industrial firms to locate in an area where they might otherwise not go. Their conclusions produce mixed results.

The importance of tax rates, when viewed as differentials between localities, is generally minimized as a location factor. The principal reason for this is that the differential costs of other factors such as labor and transportation are usually greater between different areas than are the differential costs of taxes. While the total costs of the taxes must be considered as an important part of the costs of doing business, only the differentials are important in comparing the relative costs of taxes in various locations.

A 1960 study⁴⁷ showed taxes ranked thirteenth on a list of location factors in a survey of 272 firms which had built plants in Kentucky, Tennessee and Mississippi. Only 32 firms out of the 272 indicated that the tax structure influenced their choice of location and only seven of these listed it as of primary importance.

A Colorado study produced similar results.⁴⁸ The findings were based on 253 usable returns from manufacturing firms which were questioned as to their reasons for locating in Colorado. Taxes ranked twenty-seventh out of the thirty items listed with only 12.7 percent of the firms indicating any consideration had been given to Colorado's

⁴⁷ Thomas Bergin, "Are Subsidies Worthwhile?" Industrial Development (July, 1960), pp. 77-78.

⁴⁸ W.E. Morgan, "The Effects of State and Local Tax and Financial Inducements on Industrial Location" (unpublished Ph.D. dissertation, University of Colorado, 1964).

state and local taxes in making their location decisions. This position is summarized by the statement that:

If all other factors could be assumed equal, it follows that differences in taxes would influence locational decisions. But other factors push in various ways and are often bigger than tax costs. In most studies based on the interview technique, industrialists tend to agree that taxes are a secondary consideration in location choice.⁴⁹

The conclusions reached by these studies can be more easily understood by reviewing applicable statistical data. For example, it is possible to obtain data which show that taxes are a relatively small percentage of total business costs. Helen A. Cameron, in her article "Property Taxation as a Location Factor," used figures from the 1963 Corporate Income Tax Returns to show tax costs as a percentage of costs and operation for selected industries and dollar assets.⁵⁰ Using her format, but changing the data to show statistical calculations from the 1969 corporate tax returns, the following table is obtained:

TABLE XII

TAX COSTS AS A PERCENTAGE OF COSTS AND OPERATION FOR SELECTED INDUSTRIES AND DOLLAR ASSETS - (ASSETS IN \$1,000's)

<u>INDUSTRIES</u>	<u>TO</u> <u>50</u>	<u>500 TO</u> <u>1,000</u>	<u>5,000 TO</u> <u>10,000</u>	<u>50,000 TO</u> <u>100,000</u>	<u>250,000</u> <u>UP</u>
Printing & Publishing	4.2	4.3	3.7	3.9	3.6
Leather & Leather Prod.	4.4	2.9	3.2	3.4	2.7
Primary Metals	3.0	3.7	3.1	2.7	4.0
Fabricated Metals	4.7	3.5	3.4	3.2	3.6
Machinery (except elec.)	5.0	3.6	3.9	3.8	5.1
Electrical Equipment	3.9	3.2	3.1	3.3	3.8
Trans. Equip. (except auto)	2.8	2.3	2.7	3.0	3.1
Motor Vehicles	5.4	2.9	3.2	4.3	5.5

⁴⁹ Richard W. Poole, "An Approach for Evaluating the Impact of State-Local Taxes on Industrial Location" New Mexico Business Vol. 23, (June, 1970), p. 8.

⁵⁰ Helen A. Cameron, "Property Taxation as a Location Factor," Bulletin of Business Research, Ohio State University, (April, 1969), p.1.

Data from federal corporation income tax returns show all deductible taxes in one figure and this was used to determine the percentage of total operating costs. However, that tax figure includes "ordinary state and local taxes paid or accrued during the year; social security and payroll taxes; unemployment insurance taxes; and business license and privilege taxes." Because of this wide variety of taxes included, the calculations overstate the significance of property taxes as a business expense.

Looking at property tax differentials, then, we are considering a percentage of a relatively small business cost item. An examination of the differential property tax rates in Oregon will give some indication of how wide the variations are in this state.

Table XIII shows that the spread between the highest and lowest property tax rates in Oregon in 1969-1970 amounted to \$18.83 per \$1,000 of true cash value. That spread, however, occurred between two counties which both ranked poorly in the indicators of economic health: the highest, Hood River County, ranked 28, and the lowest, Wallowa County, ranked 33 out of the 36 counties. The margin between the rapidly-growing Willamette Valley counties and the poorer areas of central and eastern Oregon was less than the margin between the two extremes.

The comparison of rank in tax rates with rank in economic health indicators was made because of another consideration important to policy decisions. That is, how much can a local area afford to forego in tax revenues in order to provide tax incentives to industry. This will be considered in more detail in the next chapter when fiscal costs are reviewed, but it can be pointed out here that there is often an inverse relationship between tax rates and the need for economic improvements.

TABLE XIII

AVERAGE PROPERTY TAX RATES IN OREGON COUNTIES, 1969-1970⁵¹

COUNTY	AVERAGE TAX RATES IN DOLLARS PER \$1,000 T.C.V.	RANK IN TAX RATES	RANK IN COMPOSITE OF ECONOMIC HEALTH INDICATORS
Baker	14.86	35	25
Benton	26.31	7	10
Clackamas	26.59	5	2
Clatsop	22.53	15	15
Columbia	22.10	16	5
Coos	25.36	9	20
Crook	18.86	25	16
Curry	19.72	22	31
Deschutes	26.45	6	4
Douglas	17.49	28	23
Gilliam	16.51	31	26
Grant	21.40	18	23
Harney	24.01	13	7
Hood River	30.14	1	28
Jackson	22.83	14	12
Jefferson	17.47	29	29
Josephine	19.33	23	32
Klamath	17.02	30	16
Lake	15.09	34	34
Lane	27.90	3	11
Lincoln	17.71	27	30
Linn	21.09	19	9
Malheur	20.03	21	27
Marion	24.22	12	8
Morrow	18.87	24	19
Multnomah	29.31	2	6
Polk	24.51	11	13
Sherman	15.53	32	36
Tillamook	18.15	26	21
Umatilla	25.50	8	18
Union	20.83	20	3
Wallowa	11.31	36	33
Wasco	21.99	17	22
Washington	27.01	4	1
Wheeler	15.43	33	35
Yamhill	24.97	10	13
State Average	24.81		

⁵¹ Oregon Division of Economic Development, District Facts (Salem: Oregon Printing Office, 1972).

Many of the counties that show the poorest levels of economic health also have among the lowest property tax rates in the state. In addition to the policy implications this involves, it also reconfirms that low tax rates are not necessarily an inducement to industrial location since industry has established a pattern of locating in areas where tax rates are relatively higher.

Assigning tax considerations to a secondary role, however, is not sufficient to discredit the potential usefulness of tax credits in regional development programs. With the acceptance that taxes play only a marginal role in business investment decisions, there are still some facets of that role that have implications for policy and planning by state development agencies.

One of these relates to the "tax climate," or the structure of taxation. One of the more thorough studies of the effects of taxation on industrial location addressed itself to this question.⁵² It found that the "tax image" of a state or locality is an important variable in industrial location decisions. In making up this tax image, certain features of state and local tax structures were considered as 'favorable' or 'unfavorable'. Of primary importance was the concept of a broad-based tax structure which divided the tax burden between industry and other revenue sources. The level of property taxes and income taxes determined whether a tax structure was favorable or unfavorable, while inventory taxes and personal property taxes were generally regarded as unfavorable in all cases.

⁵² A Report of the Committee on Intergovernmental Fiscal Relations: Property Taxation and Interstate Competition for Industry, Proceedings of the National Tax Association (1967), p. 336

Property taxes were considered favorable if the state has: (1) relatively moderate assessments or tax rates; (2) certain property tax exemptions, particularly no personal property or inventory taxes; and (3) fair or uniform assessment administration. Conversely, a state would have an unfavorable property tax image due to: (1) "high" property taxes; (2) personal property or inventory taxes; or (3) inequities in property assessments.

This study confirmed the secondary importance of taxes among other location factors but still gave taxes a significant role. In regard to property taxes, it states that:

In the industrial location decision process, property tax differentials have little, if any, wide regional influence. In this selection process, most respondents viewed property taxes as being more important in the state of 'narrowing the choice to a few communities' or in 'selecting the final site'. This assumes a reasonable similarity in other more important economic costs: proximity to materials and markets as well as labor and land costs.⁵³

Another extensive study of this subject found similar results. State-Local Taxation and Industrial Location has been termed "one of the most comprehensive summaries of taxation materials related to industrial plant location ever done."⁵⁴ It also finds that taxes are of relatively low importance in the selection of a location for new industrial plants, when measured between regions. It states that:

Between distant states, tax differentials appear to exercise little plant location influence. The plant locator will ordinarily select the region on the basis of economic rather than tax factors. At this first stage in the selection process, accessibility to markets and materials, the character of

⁵³ Ibid., p. 337.

⁵⁴ Franklin Jones, "Taxation and Industrial Location," New Mexico Business Vol 23 (June, 1970), p. 1.

transportation facilities and the size of the labor cost differentials stand out as the more important locational factors.⁵⁵

However, the study goes on to say that: "Within a state and more particularly within a metropolitan area significant local property tax rate variations can and do become swing factors in plant location decisions."

So far, then, we can conclude that taxes can affect plant location decisions by virtue of the "image" they create through their structure, and at the local level through differentials that may exist when most other costs are fairly well equalized. There are some additional tax considerations which affect location decisions, though. For instance, there is evidence that growth and changes in taxes are more significant than tax levels.⁵⁶ One study summed the importance of this consideration by saying that: "A stable tax structure is evidence of a stable state or community, and economic stability has an allure that no tax break can ever outshine."⁵⁷

From these examples, it would seem that states and municipalities should be more concerned about devising broad-based and stable tax structures than with concessions. It appears doubtful that the forgiving of taxes would be sufficient to compensate for higher costs for other factors. Where other factor costs are equalized, a sound tax structure may be the best inducement.

⁵⁵Cited by Cameron, op. cit., p. 1.

⁵⁶Thomas F. Hady, "Tax Structure and Regional Economic Growth: A Comment," Journal of Regional Science Vol. 9, No. 2 (August, 1969), 325-6.

⁵⁷Jones, op. cit., p. 4.

The relationship between taxes and industrial location needs to be periodically re-examined, however, as there is evidence that tax differentials may become more important in the future. As was observed by Floyd:

Further investigation of industrial costs in various geographical regions reveals that certain types of costs are becoming more uniform among industrial sites. For example, competitive factors and the development of more efficient financial institutions are tending to equalize capital expenses among locations all over the nation. In addition, trade union activity and other factors are exerting similar influences on labor costs. Nevertheless, tax costs still continue to vary among locations because of differences in governmental policies and economic conditions among both state and local governments. The fact that tax cost data are usually available to manufacturers, whereas other cost information may not be available, tends to give additional importance to tax differentials in locational problems. ⁵⁸

This might be even more true if taxes should rise as a percentage of business costs. Using the corporate income tax data previously cited, it was found that taxes rose from 3.4 percent of deductible business costs in 1963 to 3.6 percent, on the average, in 1969.

It is unfortunate that more empirical evidence does not exist regarding the influence of tax concessions versus tax costs. ⁵⁹ Poole and others have established a correlation between location and tax costs, although it appears minor, but there is very little evidence to show that plant locations have depended upon or been strongly influenced by tax concessions per se. Where they have been offered they have been used, of course, but this does not establish a causal relationship. Nonetheless, the ability of tax costs to affect marginal location

⁵⁸ Joe Summers Floyd, Effects of Taxation on Industrial Location, (Chapel Hill: University of North Carolina Press, 1952), p. 23.

⁵⁹ Poole, op. cit., p. 6.

decisions once the general area has been selected infers that tax concessions may be a useful tool for influencing the location of industry within local areas. No dramatic results should be expected, however.

CHAPTER V

BENEFIT/COST CONSIDERATIONS FOR INDUSTRIAL SUBSIDIES IN OREGON

The previous chapters have examined the objectives of a development subsidy program, the types of subsidies that might be employed along with their respective effects on resource allocations, and the influence of subsidies on industrial location decisions. Throughout the analysis, considerations which specifically related to Oregon have been mentioned. In this chapter, we will review some additional factors which influence the effectiveness of subsidy programs on regional economic development, particularly as they might apply to Oregon, as well as examining some of the fiscal implications of subsidy policies.

Earlier in this study it was mentioned that the economic structure of the region will have a major bearing on the effectiveness of a subsidy program. A report prepared for the Office of Regional Economic Development in 1966 analyzed this condition.⁶⁰ In looking at the short-run economic and fiscal impacts of a new autonomous enterprise in an area, it establishes a hypothetical plant profile and traces the income flows through two models, one for a "large" area and one for a "small" area. The large area was one that could supply most of the specialized products needed by the manufacturer, along with more generalized needs such as office supplies, maintenance materials and business services.

⁶⁰ Industrial Location as a Factor in Regional Economic Development, prepared for the Office of Regional Economic Development by Management & Economics Research, Inc. (August, 1966).

In the small area, however, many of these products and services had to be purchased from outside the area.

Obviously, more of the income flows could be retained and recirculated in the larger area. The models used produced an income multiplier of 1.8 in the large area, versus only 1.3 in the smaller area.

The long-run impacts were equally variable. In assessing this aspect of the growth process, the study states:

Whether or not a new plant will act as a catalyst in the growth process to bring about a change in the economy out of proportion to the short-run stimulus will depend on the way the new plant interacts with other activities in the area and on other circumstances. Thus, two areas experiencing similar short-run impacts could have very different long-run impacts. Only a detailed study of conditions in each area will yield reasonable hypotheses about the dynamic impact of plant location.⁶¹

A study of industrial subsidization in West Virginia confirmed this statement. It estimated that the income multiplier of new industrial plants in that state would range between 1.8 and 2.8, "depending upon the industry considered" and its location within the state.⁶²

Richardson also recognizes this condition. He states that:

If a region suffers from unfavorable input-output access for most activities, an influx of new industrial plants will not solve its problems for the new industry will tend to assimilate the depression characteristics of the region as a whole. If out-migration is rejected for a region of this kind, its problems would have to be handled by much more extensive measures--such as rebuilding its infrastructure, stimulating its adaptability to change, and investment in input-output access improvement.⁶³

Obviously, then, simply moving in new industries cannot be consid-

⁶¹Ibid., p. 46.

⁶²The Contribution of Local Subsidies to the Economic Development of West Virginia, 1956-1966, West Virginia Center for Appalachian Studies and Development, West Virginia University (January, 1969).

⁶³Richardson, op. cit., p. 400.

ered as a universal panacea for solving the economic problems of all depressed regions. To attempt to assess the benefits of a regional subsidy program in Oregon would first require detailed analysis of the regional economic structure to attempt to measure the potential efficiencies of various locations.

If such an analysis were performed, it would have implications for State policy. Some authors have suggested that efforts aimed at creating employment opportunities for rural workers concentrate upon locating those jobs in smaller urban centers within commuting distance of the target areas, rather than within the target areas themselves, as a means of creating a larger number of employment opportunities. In that way, the social objectives of the subsidy program might be more easily attained without large investments in overhead costs and without the risk of creating a permanent subsidy situation due to inefficiencies of the economic structure in the more remote locations.⁶⁴

Such a policy would follow the "growth center" concept, whereby those areas within the region which have the greatest potential for development are singled out for assistance. As those areas develop, externalities resulting from their economic growth enable surrounding areas to receive beneficial spread effects.

This kind of policy was advocated in one of the Canadian studies, previously cited. In recommending future action, the study states:

One of the major elements of a regional development programme for Northwestern Ontario will be a concerted effort to induce industry to locate in those places where there is the greatest

⁶⁴"Rural Industrialization and Other Employment-Generating Activities," American Journal of Agricultural Economics, Vol. 52(5) (Dec., 1970) pp. 734-735.

potential for success and which have the capability of influencing the economic well-being of the region at large. Growth points are necessarily urban places, or places which are accessible to a population sufficiently large to sustain the economic growth process. In Northwestern Ontario the major criterion for growth point selection is accessibility--accessibility to resources, to major markets and to other places in the region.⁶⁵

Concentrating on growth centers appears to produce the highest economic return for an area, primarily because of the higher multiplier effects. The Canadian study cited, for example, showed very significant secondary and tertiary employment and income effects generated by induced primary investment in the growth centers.

This does not mean, however, that investment in isolated areas will not provide local benefits. This can be demonstrated by another comprehensive study which involved five small communities in Kentucky.⁶⁶ The major criteria used in selecting the study towns were that they were located outside SMSA's, that they had small populations (between 1,000 and 5,000), and that at least one new manufacturing plant employing at least 100 people had been established in the community during the study period of 1958-1963. Other selection criteria were used to ensure that no major economic development other than the new manufacturing activity had occurred during the study period and that adequate data on the effects of the new plants were available. Towns tied to the economies of neighboring larger cities were eliminated from consideration.

The five rural towns selected for the study ranged in population from 1,125 to 4,813, and the economies of the counties in which they were located were dominated by agriculture, with manufacturing accounting

⁶⁵The Northwest Ontario Regional Development Program, op. cit., p.58.

⁶⁶Charles B. Garrison, "New Industry in Rural Areas: The Local Economic Impact", Tennessee Survey of Business Vol. 6 (April, 1971).

for only six percent of the study counties' basic incomes in 1958. The communities were also characterized by low incomes. Per capita incomes of the five counties in 1958 ranged from \$596 (29 percent of the national average), to \$995 (still less than 50 percent of the national figure).

The composition of basic income was changed substantially by the location of the new manufacturing plants during the 1958-1963 period. In 1963, the percent of the five counties' basic incomes attributable to manufacturing had risen to 12.1, and 52.9 percent of the manufacturing income was generated by the new plants. In terms of employment, manufacturing increased its share of basic jobs from 7.8 percent in 1958 (767 of 9,803) to 19.4 percent in 1963 (2,075 of 10,688).

It can be observed that there was very little growth in secondary and tertiary employment. There was also virtually no population growth. This was attributed to a high degree of underemployment prevalent in the five counties which resulted in workers shifting to the higher-paying manufacturing jobs. The major effect, then, was an increase in the marginal revenue product of labor, producing an income effect that was directly beneficial to the residents of the study area.

Which policy, or combination, should be undertaken in Oregon will primarily depend upon determination of objectives. A policy which is directed toward growth centers would appear to have greater probability of attracting new industries to the region as growth centers can provide more easily the various economic factors which have already been identified as being more important in the location process than subsidies. Growth centers also offer greater opportunities for expansion of secondary and tertiary employment, thus accelerating the growth process and inducing population shifts. If growth centers are not the focal point

of State policy, however, benefits of industrial subsidization can still be realized for the residents of rural areas.

As a corollary to the problem of differences in regional economic structure, not all types of industrial firms will produce similar stimuli to sustained growth. For this reason, Richardson suggests the importance of selective inducements rather than blanket, indiscriminate aid to all types of firms and all industries. He says that industries which give rise to substantial intra-regional factor receipts and the products of which exhibit high income elasticities of demand may deserve preferential treatment on the grounds that they increase effective demand as well as employ underutilized resources.⁶⁷

Studies of industrial inducement programs in the United States, however, generally indicate that they are not used for inefficient industries. While selection criteria for subsidy recipients vary between states, on overall balance the results appear to be positive.

One criticism levied against subsidization programs is that they attract only low-quality companies which will stay in the area only as long as their subsidy makes it profitable to do so.⁶⁸ A corollary contention is that the types of firms most sensitive to financial inducement programs are generally those which are labor intensive rather than capital intensive, which produce a low dollar value per worker and which generally pay low wages.⁶⁹ If those criticisms were valid, it is doubtful

⁶⁷ Richardson, op. cit., pp. 402-403.

⁶⁸ Marsom B. Pratt, "A Banker Views Subsidies and Inducements," Industrial Development, (March, 1963), pp. 5-7.

⁶⁹ Morgan, op. cit., p. 152

that attracting such industries will lead to substantial long-run industrial improvement.

Studies of the actual use of subsidies do not support these conclusions, however. In the Alabama survey, cited by Thompson,⁷⁰ it was found that 38 firms using industrial bonds and placing them high on the list of locational determinants included 15 of the 19 "nationally-known" firms which responded to the questionnaire. As was also pointed out earlier, those firms invested more than twice the national average capital per worker.

In fact, the very nature of industrial subsidies makes them more conducive to use by capital-intensive firms than as labor subsidies. This fact should be recognized by State agencies because of its implications. If Oregon adopts a capital subsidy program, it should anticipate that its major use will come from firms with high capital requirements. Using the Alabama survey as a guide, Oregon might expect to have to subsidize an average investment per job created about twice the national average. A policy aimed at keeping the costs of subsidization proportionately low would have the effect of defeating the purpose of capital subsidies.

Trying to assess the potential benefits for Oregon from the adoption of an industrial subsidization program, then, will depend upon the objectives of the policy and the methods employed. Once defined development objectives have been established, an economic base analysis will provide information as to the number of primary jobs and level of induced income that need to be generated to accomplish those objectives.

⁷⁰Thompson, op. cit.

Different areas can then be compared for their potentials and development strategy can concentrate upon locations where there is the greatest promise of accomplishing the objectives. It must be recognized, however, that different results will be produced in different areas and from different methods.

Fiscal Costs

The financial costs to government resulting from subsidy programs will also vary according to the methods used. Loan guarantees, for example, involve practically no direct costs, other than administrative, unless the firm being subsidized should default. At the same time, loan guarantees are not one of the more successful forms of inducements so their return, even for the small costs involved, may be marginal. It must be considered also that governmental agencies generally have large borrowing requirements to finance their own projects and rely upon their credit positions to ensure low interest rates. Lack of discrimination in underwriting industrial loans could jeopardize this position.

The granting of direct loans has similar implications attached to it. In this case, however, a direct transfer of public funds is involved. These funds can be obtained either from revenue sources, such as taxes, or from borrowing. Borrowing offers the advantage of attracting mobile capital from outside the area and deepening the capital base. Again, however, it may limit the borrowing power of the state to finance other projects or increase the costs of those projects by increasing interest costs.

Direct loans are often made by a governmental agency from general tax revenues or the sale of tax exempt bonds. An analysis of both types

of loans was made by Sazama, who used the bond-financed program of New York and the tax-financed program of Pennsylvania as models, and compared them with programs in other states which relied on borrowing.⁷¹

He concluded that on the whole, state loans have a positive net benefit by inducing a net increase in state income. Accordingly, he stated that more tax revenue would be induced than foregone.

However, in looking at the alternative types of loans, he decided that a program financed by borrowing would be definitely superior to a direct loan program financed by taxation. When a program is financed by borrowing, the repayment of loan principal can be used to amortize the state debts originally incurred. Interest and fees would usually be sufficient to cover operating costs and losses. A tax-financed program, on the other hand, would not be self-financing until there were sufficient loan repayments to cover new loan disbursements. If the annual loan volume were held constant, this would require a period of years equal to the average term of loans outstanding.

Other studies of tax-financed loans or tax exempt revenue bonds seem to support the contention that the overall results are positive, at least on the state and local level. In assessing the Alabama program, for example, Thompson estimated that industrial revenue bonds had attracted roughly 60 firms and 17,000 jobs to the state during the 1958-1968 period. Without these jobs, he estimated that Alabama residents would annually lose an estimated \$100 million in wage and salary income, ignoring completely any multiplier effects. Per capita incomes would be one to two percent lower. He further estimates that state and local tax

⁷¹Sazama, op. cit.

revenues are between \$4-5 million greater because of the increased investment and income. He places the cost to the U.S. Treasury at \$18 million on \$785,697,000 of tax-exempt bonds, but indicates significant recovery of much of this loss from the added taxable incomes.⁷²

Much more detailed analysis is possible regarding the fiscal effects of tax supported loans but, on balance, it would appear that they produce net benefits.

It is hard to find supportive evidence for tax concessions, however. Most such concessions have been related to the property tax where the direct impact is felt most strongly by the local governments that have to provide the services needed by new industry. Hale has observed that:

Numerous studies suggest that where tax exemptions are granted to local industry, the public service requirements of the industry may force increases in taxes if the quality of public services is to be maintained. However, in many depressed areas what is often required is an improvement in public services. This, of course, means that local taxes must increase for the non-subsidized portion of the community and that the subsidy cost is much greater than the amount of revenue foregone by not taxing the subsidized plant.⁷³

This consideration has direct relevance for Oregon when it is remembered that those counties which appear most in need of development already have some of the lowest property tax rates in the state.

This view also becomes significant when it is remembered that tax concessions will be used, when they are available, regardless of whether they are crucial to the investment decision. A Louisiana study of 609

⁷²Thompson, op. cit.

⁷³Carl W. Hale, "The Optimality of Local Subsidies in Regional Development Programs: Reply," Quarterly Review of Economics and Business Vol. 10 (August, 1970), 88-9.

property tax exemptions involving about \$355 million in new plant and equipment makes this point.⁷⁴ A survey found that only one plant, representing a \$25 million investment, would have been lost if the tax exemptions had not been available. To gain this one plant, in effect, the state and local governments lost \$51.4 million over a 10-year period.

Here again, however, the structure of the program and the externalities involved should be considered. If a state program is designed to shift population and resources away from high tax cost areas to regions where incremental tax costs are lower, there may be an offsetting benefit. An example is given in a study of Washington State's highway costs which found underutilization of highways in the sparsely populated areas and congestion in the areas of population concentration. The report estimated that if 15 percent of the new population growth could be shifted to the sparsely settled areas, there would be an annual savings by 1985 of \$50 million by reducing the need for highway expenditures.⁷⁵

While this kind of approach might partially justify the initial foregoing of taxes to accomplish long-term tax savings, it does not negate the earlier conclusions that there are less-cost ways to reach the same end.

Another consideration to the question of fiscal impact relates to the type of firms being subsidized. Kee makes the observation that

⁷⁴William L. Henderson, "Are Industrial Tax Concessions Necessary?", Arizona Review of Business and Public Administration, XIV (Feb., 1965), 8.

⁷⁵Final Report on How Industrial Decentralization Could Affect Washington State Highway Costs (Richland, Wash.: Battelle Memorial Institute, October, 1968).

some firms provide more local revenues while demanding fewer local services than others.⁷⁶ An example would be the firm that hires primarily secondary wage earners, thus creating little additional demand for housing and utility requirements.

The view on fiscal effects of subsidized industry, then, is complex. When looked at from a cost-benefit position, there are many variables associated with the type of subsidy, the level of government considered, the economic structure of the region and the type of firm. By looking at all these variables, however, it should be possible to find an optimum program which does produce a net benefit, at least for local government, for inducing new industrial investment to depressed areas.

CHAPTER VI

CONCLUSION

This study has reviewed several aspects of the efficacy of induced industrial investment as a means of stimulating economic development in depressed areas. Its purpose was to hopefully provide information useful to the State of Oregon as it considers adopting an incentives program.

In considering the justifications for such a program, it was found that considerable imbalance exists in the degree of economic health prevailing throughout the state. Population changes alone, which showed one-third of Oregon's counties losing population between 1960 and 1970, might be sufficient to warrant interest in redirecting growth patterns. But of greater significance are the disparities in incomes, unemployment, population of labor-force age, etc., which give evidence that certain parts of the state are progressively becoming poorer in relation to other areas, particularly the Willamette Valley. If it can be assumed that the State has a legitimate function in trying to help its citizens achieve equity in economic opportunities, then there may be a role for State action in trying to disperse industrial investment to areas of economic distress. In terms of effects on gross state output and efficiency in resource allocation, however, it was shown that there are costs involved in shifting resources to areas of lower productivity and that the principal benefits of an industrial dispersion program may be social rather than economic.

From the research done on this study, it became apparent that various forms of subsidies can affect industrial location in different ways, but that the effects are only marginal and incentives will only be useful where other conditions for economic efficiency exist. As this finding was virtually unanimous in all the cases reviewed, it can be assumed that it would also be true in Oregon. Incentives, then, will not replace other economic factors in company location decisions. As a prerequisite to efforts to shift industries to distressed areas, analysis should be made of the economic resources available in those areas with a view toward determining their potential for efficiency in production. It may be found that other types of public investment may be necessary, such as in highways, training programs and utilities, before subsidies could become effective.

It was also found that financial incentives are generally more effective than tax concessions. This would probably be especially true in Oregon, where it was found that those counties most in need of economic improvement presently show among the lowest tax rates in the state and could least afford to forego tax revenues.

Next, the possible benefits of an industrial subsidy were reviewed according to two additional variables: the economic structure of the region, and the types of firms subsidized. In this regard, the possibility of concentrating efforts on established growth centers, where the preconditions for economic efficiency already exist, was considered as a means of maximizing economic returns to subsidies. It was also shown that the potential users of a subsidy program tend to be firms in capital-intensive industries, leading to the conclusion that large capital subsidies might be required to produce any significant benefits

on labor force absorption.

Finally, the fiscal costs of an inducement program were examined. It was found that there are important variables which determine the fiscal impact of incentive programs on state and local governments but that by proper consideration of those variables a program can be formulated which produces positive fiscal benefits.

In conclusion, it can be stated that incentive programs can only influence the location of industry, not determine it. Most firms will still prefer to locate where there are inherent economic advantages, and this usually means the metropolitan areas. Where the alternatives exist, however, an incentive program may tip the balance in favor of a smaller community in a depressed area. Considering the geographical imbalances in the Oregon economy, using incentives as a means to disperse economic and population growth would appear to offer potential benefits.

A SELECTED BIBLIOGRAPHY

Books

- Axworthy, Lloyd, and Gillies, James M., ed. The City: Canada's Prospects, Canada's Problems. Toronto: Butterworth & Co., 1973.
- Drucker, Peter. The Age of Discontinuity. New York: Harper & Row, 1969.
- Floyd, Joe Summers. Effects of Taxation on Industrial Location. Chapel Hills: University of North Carolina Press, 1952.
- Friedmann, John, and Alonso, William, ed. Regional Development and Planning. Cambridge: M.I.T. Press, 1964.
- Industrial Aid Financing. New York: Goodbody & Co., 1965.
- Nourse, Hugh O. Regional Economics. New York: McGraw Hill, 1968.
- Richardson, Harry W. Regional Economics. New York: Praeger, 1969.

Articles

- Ballaine, Wesley C. "British Experience in Influencing Location of Industry." Western Economic Journal, IV (Summer, 1966), 237-46.
- Bergin, Thomas. "Are Subsidies Worthwhile?" Industrial Development, July, 1960, pp. 77-8.
- Cameron, Helen A. "Property Taxation as a Location Factor." Bulletin of Business Research, Center for Business and Economic Research, Ohio State University, Vol. XLIV, No. 4 (April, 1969).
- Crepas, Kenneth J. and Stevenson, Richard A. "Are Industrial Aid Bonds Fulfilling Their Intended Purpose?" Financial Analysts Journal, XXIV (Nov./Dec., 1968), 105-9.
- Cumberland, J. H. and Van Beek, Frits. "Regional Economic Development Objectives and Subsidization of Local Industry." Land Economics, XLIII (August, 1967), 253-64.
- Fernback, Frank L. "Subsidized Plant Migration." American Federationist, July, 1966, pp. 6-12.

- Garrison, Charles B. "New Industry in Rural Areas: The Local Economic Impact." Tennessee Survey of Business, VI (April, 1971), 3-6.
- Gray, Ralph. "Industrial Development Subsidies and Efficiency in Resource Allocation." National Tax Journal, XVII (June, 1964), 164-172.
- Hady, Thomas F. "Tax Structure and Regional Economic Growth: A Comment." Journal of Regional Science, IX, No. 2 (August, 1969), 325-6.
- Hale, Carl W. "The Optimality of Local Subsidies in Regional Development Programs: Reply." Quarterly Review of Economics and Business, X (August, 1970), 88-9.
- Henderson, William L. "Are Industrial Tax Concessions Necessary?" Arizona Review of Business and Public Administration, XIV, No. 2 (February, 1965), 6-9.
- Hopkinson, Richard. "Government Financial Assistance for Industrial Development in Canada." The Conference Board Record, V (April, 1968), 22-3.
- Jones, Franklin. "Taxation and Industrial Location." New Mexico Business, XXIII (June, 1970), 1-4.
- Kee, Woo Sik. "Industrial Development and Its Impact on Local Finance." Quarterly Review of Economics and Business, VIII, No. 2 (Summer, 1968), 19-24.
- Low, Richard E. "A Refinement of Local Industrial Subsidy Techniques: Comment." Mississippi Valley Journal, IV (Spring, 1969), 78-81.
- Morss, Elliott R. "The Potentials of Competitive Subsidization." Land Economics, XLII (May, 1966), 161-9.
- Poole, Richard W. "An Approach for Evaluating the Impact of State-Local Taxes on Industrial Location." New Mexico Business, XXIII (June, 1970), 5-11.
- Pratt, Marsom B. "A Banker Views Subsidies and Inducements." Industrial Development, March, 1963, pp. 5-7.
- Rinehart, J. R. and Laird, W. E. "Community Inducements to Industry and the Zero-Sum Game." Scottish Journal of Political Economy, XIX (February, 1972), 73-90.
- "Rural Industrialization and Other Employment-Generating Activities." American Journal of Agricultural Economics, LII, No. 5 (December, 1970), 734-5.
- Sazama, G. W. "State Industrial Development Loans: A General Analysis." Land Economics, XLVI, (May, 1970), 171-80.

Scott, John T., Jr. "Economic Impact of Industrialization on Rural Areas." Illinois Business Review, XXV, No. 8 (September, 1968), 6-8.

Site Selection Handbook, Vol. 1 Atlanta: Conway Research, 1972.

Thompson, A.A. "Business Experience With Industrial Aid Bonds as a Source of External Financing: Some Empirical Evidence." California Management Review, Winter, 1970, pp. 25-37.

Reports and Government Documents

Battelle Memorial Institute. Final Report on How Industrial Decentralization Could Affect Washington State Highway Costs. Richland, Washington, October, 1968.

Center for Political Research. Federal Activities Affecting Location of Economic Development. Report to the U.S. Dept. of Commerce, Washington, D.C., 1970.

Comeau, Robert L. A Study of the Impact of the Area Development Agency Program in Nova Scotia. Halifax: Dalhousie University, 1969.

Department of Treasury and Economics, Regional Development Branch. The Northwest Ontario Regional Development Program. Ottawa, October, 1969.

Fantus Company. How Much Can We Influence the Growth of Industry in Rural Areas? Report to the U.S. Dept. of Agriculture. Washington, D. C., October, 1970.

Lloyd, P. E. and Yeates, M. H. Impact of Industrial Incentives: Southern Georgian Bay Region, Ontario. Report to the Policy Planning Branch, Dept. of Energy, Mines and Resources. Ottawa, 1968.

London Board of Trade. The Policy and Practice of the British Government for Dealing with Local Unemployment. London: The London Board of Trade, 1960.

Management & Economics Research, Inc. Industrial Location as a Factor in Regional Economic Development. Report to the Office of Regional Economic Development, Washington, D. C., August, 1966.

Morgan, W. E. "The Effects of State and Local Tax and Financial Inducements on Industrial Location." Unpublished Ph.D. dissertation, University of Colorado, 1964.

National Tax Association, Committee on Intergovernmental Fiscal Relations. "Property Taxation and Interstate Competition for Industry. Proceedings of the Sixtieth Annual Conference on Taxation (1967)", Washington, D.C., 1967, pp. 308-79.

Regional Development Incentives Act, Ottawa: Queen's Printer for Canada, 1969.

Report of the Senate Task Force on Economic Development to the 57th Legislative Assembly. Salem: State of Oregon Press, 1972.

West Virginia Center for Appalachian Studies and Development. The Contribution of Local Subsidies to the Economic Development of West Virginia, 1956-1966. Report to the Office of Regional Economic Development, Washington, D.C., August, 1966.

APPENDIX

TAX INCENTIVES FOR INDUSTRY

OTHER LAWS

	Corporate Income Tax Exemption	Personal Income Tax Exemption	Excise Tax Exemption	Tax Exemption or Mitigation in Land Capital Improvements	Tax Exemption or Mitigation on Equipment, Machinery	Inventory Tax Exemption on Goods in Transit (Freight)	Tax Exemption on Manufacturers' Inventories	Sales/Use Tax Exemption on New Equipment	Tax Exemption on Raw Materials Used in Manufacturing	Tax Credits for Use of Recycled State Products	Tax Stabilization Agreements for Specified Industries	Tax Exemption to Encourage Research and Development	Accelerated Depreciation of Industrial Equipment	State Right-to-Work Law	State Minimum Wage Law	State Fair Employment Practice Code	Statewide Uniform Property Tax Evaluation Law	Statewide Air Pollution Control Law	Statewide Water Pollution Control Law	Statewide Industrial Waste Abatement Law
Alabama	•		•	•	•	•	•	•	•					•	•	•	•	•	•	•
Alaska																				
Arizona		•			•	•	•	•	•				•	•	•	•	•	•	•	•
Arkansas																				
California						•	•	•	•				•	•	•	•	•	•	•	•
Colorado						•	•	•	•											
Connecticut	• 20				•	•	•	•	•											
Delaware			• 22		•	•	•	•	•											
Florida		• 23			•	•	•	•	•											
Georgia					•	•	•	•	•											
Hawaii		•	•		•	•	•	•	•											
Idaho					•	•	•	•	•											
Illinois					•	•	•	•	•											
Indiana	•				•	•	•	•	•											•
Iowa	• 26				• 25	•	• 25	•	•				• 24	•	•	•	•	•	•	•
Kansas				• 27	• 27	•	•	•	•											
Kentucky				• 28	• 28	•	•	•	•											
Louisiana	• 29, 31			• 29	• 29	•	•	•	•	• 31			• 30							
Maine					• 33	•	•	•	•											
Maryland				• 35	•	•	•	•	•											
Massachusetts	• 32	•		•	•	•	•	•	•											•
Michigan	•	•		•	•	•	•	•	•											•
Minnesota	•			• 10	• 11	• 11	• 21	•	•			•								•
Mississippi		•		•	•	•	•	•	•				• 24	•						
Missouri	•	•			•	•	•	•	•											
Montana				•	•	•	•	•	•											
Nebraska					•	•	• 11	•	•											
Nevada	• 23	• 21			•	•	•	•	•											
New Hampshire		• 23		•	•	•	•	•	•				• 38							
New Jersey		• 10			•	•	•	•	•											• 31
New Mexico					•	•	•	•	•											
New York	• 14, 15	• 34		• 11	• 13	• 11	• 13	•	• 14			• 33	• 36							•
North Carolina					•	•	•	•	•											
North Dakota	•		•		•	•	•	•	•											
Ohio	• 21	• 21			•	•	•	•	•											
Oklahoma	•	•			•	•	•	•	•											
Oregon	• 36		• 46	• 46	•	•	•	•	•											
Pennsylvania		•	•	• 24	• 24	•	•	•	•			•								
Rhode Island				•	•	•	•	•	•											
South Carolina				•	•	•	•	•	•											
South Dakota	•	•	•		•	•	•	•	•											
Tennessee				• 24	• 24	•	•	•	•	• 27										
Texas	• 23	• 23		• 36	• 36	•	•	•	•											
Utah							•	•	•											
Vermont																				
Virginia							•	•	• 17				• 30							
Washington							•	•	• 21											
West Virginia	•		•				•	•	•											
Wisconsin						•	• 31	•	•											
Wyoming	• 25	• 21	•			•	•	•	•											
STATE TOTALS	19	19	9	15	22	40	29	25	40	2	3	5	17	19	37	38	40	50	50	9

- job incentive credit. Under the Job Incentive program, real property tax exemption is a local option.
- 15 - Permitted for electric generation and transmission facilities.
- 16 - Allows 30% reduction in assessed valuation on business inventories for fiscal years 1970-71 and 1971-72 thereafter. 15% unless changed by Legislature before end of 1971-72 fiscal year. Business inventories include raw materials used in manufacturing.
- 17 - Exemption allowed on certain types of equipment, including rail freight cars, certain material, and vessels of more than 1,000 tons burden.
- 18 - Law allows reduction in taxes but not exemption. Goods in transit are assessed at 5%.
- 19 - Inventories and raw materials were assessed at 15% in 1970 but assessment will be reduced to 10% in 1972.
- 20 - Corporate income tax credit is allowed only for cost of pollution control equipment.
- 21 - Sales tax exemption applies to raw materials consumed in the process of manufacture or which become a part of

- the finished product.
- 22 - Delaware does not collect excise tax.
- 23 - Nevada, Ohio, Texas and Wyoming do not tax corporate or personal income. Florida and New Hampshire do not tax personal income.
- 24 - Raw materials are assessed at 25%, while most other tangible personal property is assessed at 100%.
- 25 - First \$2,700 of assessed taxable value of personal property is exempt.
- 26 - 50% of federal tax paid is exempt.
- 27 - Applicable to Industrial Revenue Bond property only. 10-year exemption is allowed.
- 28 - Applicable at local level only.
- 29 - Applicable under tax equalization law only.
- 30 - Exemption applicable to capital improvements only.
- 31 - Credit allowed for use of natural gas - 1¢ per 1,000 cu ft. Credit applicable against any tax owed to the state or to any political subdivision.
- 32 - Companies investing in new plant, machinery and equip-

- ment receive a 1% credit against the amount subject to state corporate income tax.
- 33 - The Maine Port Authority is authorized to establish Foreign Trade Zones, though none has been established yet.
- 34 - Allowed except for sales use tax when purchased for use in an ingredient of tangible personal property for sale.
- 35 - Exemption may be applicable at county or local level.
- 36 - Taxed at 2% instead of usual 4%.
- 37 - R&D equipment is classed as manufacturers' machinery and equipment and as such is eligible for tax exemptions.
- 38 - Allowable depreciation is similar to that allowed under federal income tax laws.
- 39 - State does not collect sales use tax.
- 40 - New Jersey citizens employed in New York not exempt.
- 41 - Applicable to goods stored in bonded warehouses.
- 42 - Raw materials which become an ingredient or component part of tangible personal property manufactured for ultimate retail sales are exempt from sales use tax.
- 43 - Personal tangible and intangible property not subject to ad valorem taxes.

FINANCIAL ASSISTANCE FOR INDUSTRY

	State Sponsored Industrial Development Authority	Privately Sponsored Development Credit Corporation	State Authority or Agency Revenue Bond Financing	State Authority or Agency General Obligation Bond Financing	City and/or County Revenue Bond Financing	City and/or County General Obligation Bond Financing	State Loans for Building Construction	State Loans for Equipment, Machinery	City and/or County Loans for Building Construction	City and/or County Loans for Equipment, Machinery	State Loan Guarantees for Building Construction	State Loan Guarantees for Equipment, Machinery	City and/or County Loan Guarantees for Building Construction	City and/or County Loan Guarantees for Equipment, Machinery	State Financing Aid for Existing Plant Expansions	State Matching Funds for City and/or County Industrial Training Programs	State Incentive for Establishing Industrial Plants in Areas of High Unemployment	City and/or County Incentive for Establishing Industrial Plants in Areas of High Unemployment
Alabama	1	2			3	4									5			
Alaska	6				7	8									9			
Arizona	10	11			12	13			14									
Arkansas	15	16			17	18												
California	19	20			21	22												
Colorado	23	24			25	26												
Connecticut	27	28			29	30												
Delaware	31	32			33	34												
Florida	35	36			37	38												
Georgia	39	40			41	42												
Hawaii	43	44			45	46												
Idaho	47	48			49	50												
Illinois	51	52			53	54												
Indiana	55	56			57	58												
Iowa	59	60			61	62												
Kansas	63	64			65	66												
Kentucky	67	68			69	70												
Louisiana	71	72			73	74												
Maine	75	76			77	78												
Maryland	79	80			81	82												
Massachusetts	83	84			85	86												
Michigan	87	88			89	90												
Minnesota	91	92			93	94												
Mississippi	95	96			97	98												
Missouri	99	100			101	102												
Montana	103	104			105	106												
Nebraska	107	108			109	110												
Nevada	111	112			113	114												
New Hampshire	115	116			117	118												
New Jersey	119	120			121	122												
New Mexico	123	124			125	126												
New York	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144
North Carolina	145	146			147	148												
North Dakota	149	150			151	152												
Ohio	153	154			155	156												
Oklahoma	157	158			159	160												
Oregon	161	162			163	164												
Pennsylvania	165	166			167	168												
Rhode Island	169	170			171	172												
South Carolina	173	174			175	176												
South Dakota	177	178			179	180												
Tennessee	181	182			183	184												
Texas	185	186			187	188												
Utah	189	190			191	192												
Vermont	193	194			195	196												
Virginia	197	198			199	200												
Washington	201	202			203	204												
West Virginia	205	206			207	208												
Wisconsin	209	210			211	212												
Wyoming	213	214			215	216												
STATE TOTALS	30	38	16	5	43	14	15	11	6	6	11	9	0	0	25	7	9	4

1—Permitted only in specified municipalities.

2—State allows city or county to offer financial aid for existing plant expansions. In Louisiana, state financing is directly involved only in the case of those port authorities whose obligations are backed by the full faith and credit of the state.

3—Activity limited to Anchorage Port Authority in Alaska, to Port Authority in Georgia and to port districts in Oregon. In Washington, Port Districts are municipal corporations operating under special state enabling legislation and are the only public bodies authorized to issue either revenue or general obligations bonds to finance industrial developments.

4—State-sponsored but privately operated non-profit Regional Job Development Corporations may be established in low-income areas to provide loans to small businesses.

5—Availability of a state guarantee of loans from privately operated non-profit Regional Job Development Corporations serving low-income areas.

6—Authorized but none is active.

7—Privately sponsored development credit corporation is being organized.

8—Loans limited to plants for processing, marketing, distributing and storing agricultural products, and for finishing and/or manufacturing containers, materials and supplies used in the marketing of agricultural products.

9—Limited to EDA designated areas.

10—New York Job Development Authority has power to issue non-guaranteed bonds. New York Urban Development Corporation and local industrial development agencies have power to issue such bonds.

11—New York State Urban Development Corporation only.

12—The Urban Development Guarantee Fund of New York is empowered to guarantee up to 80 percent of a loan by a lending institution to a qualified business.

13—Loans apply to residential construction only.

14—Under the New York Job Incentive program, a corporate franchise or unincorporated business tax credit is allowed to firms locating, expanding or improving facilities in areas of high unemployment. To be eligible, a business must be located in a low-income section of a city of 50,000 or more population or in a low-income rural county. The firm must create or retain at least five jobs and provide an approved training program. In addition, the largest share of the facility's volume of business must be from outside the area in which it is located, as in manufacturing or wholesaling. The credit is given for up to 10 years. The 1% tax credit described in footnote 14 may be taken instead of the

SPECIAL SERVICES FOR INDUSTRIAL DEVELOPMENT

	State Financed Speculative Building	City and/or County Financed Speculative Building	State Provides Free Land for Industry	Cities and/or Counties Provide Free Land for Industry	State-Owned Industrial Park Sites	City and/or County-Owned Industrial Park Sites	State Funds for City and/or County Development-Related Public Works Projects	State Funds for City and/or County Master Plans	State Funds for City and/or County Recreational Projects	State Funds for Private Recreational Projects	State Program to Promote Research and Development	State Program to Increase Export of Products	University R & D Facilities Available to Industry	State and/or Universities Conduct Feasibility Studies to Attract or Assist New Industry	State Recruiting, Screening or Interviewing Employees	State Supported Training of Industrial Employees	State Re-Training of Industrial Employees	State Supported Training of "Hard-Core" Unemployed	State Incentive to Industry to Train "Hard-Core" Unemployed	State Help in Bidding on Federal Procurement Contracts	State Science and/or Technology Advisory Council
Alabama																					
Alaska																					
Arizona																					
Arkansas																					
California				57																	
Colorado				60																	
Connecticut																					
Delaware								5													
Florida																					
Georgia														57							
Hawaii																					
Idaho																					
Illinois																					
Indiana																					
Iowa																					
Kansas																					
Kentucky																					
Louisiana																					
Maine				61										57							
Maryland										62											
Massachusetts																					
Michigan																					
Minnesota																					
Mississippi				63																	
Missouri																					
Montana																64					
Nebraska		70		70																	
Nevada																					
New Hampshire																					
New Jersey																					
New Mexico																					
New York																			65		
North Carolina																					
North Dakota																					
Ohio																					
Oklahoma																					
Oregon																					
Pennsylvania																					
Rhode Island																					
South Carolina				66																	
South Dakota				67																	
Tennessee							68	69													
Texas																					
Utah																					
Vermont																					
Virginia		71				72	73														
Washington																					
West Virginia																					
Wisconsin																					
Wyoming																					
STATE TOTALS	3	12	0	12	6	45	24	28	30	7	30	41	46	48	50	49	46	28	15	27	46

44 - New equipment is allowed a preferential rate of 1-4 with a maximum tax of \$80 per article.

45 - Leaf tobacco is allowed an exemption of 50% of tax rate, bales of cotton, 50% and peanuts, 20%.

46 - Tax credits allowed to manufacturers and processors for property taxes paid on goods in process.

47 - Tax credit allowed for use of products of state tax.

48 - Exemption allowed while facility is under construction only.

49 - Exempt from sales, use tax, but not from business capital tax.

50 - Applies only to air and water pollution control equipment.

51 - 50% credit allowed.

52 - State-wide law administered locally.

53 - Note abatement codes recommended by state for adoption by municipalities.

54 - A tax credit equal to 1% of qualified capital invested in new production facilities may be applied against a business corporate franchise, unincorporated business income or personal income tax liability. The tax credit is restricted to investment in buildings, equipment and facilities which have

a useful life of at least four years and are used in many facturing, processing, assembling, refining, mining, agricultural or commercial fishing. New research and development facilities may elect this option in place of the write off described in footnote 55. A particular investment is not eligible for both the investment credit and either state tax incentive. Corporate franchise taxpayers will continue to be required to pay a minimum tax of \$125 annually. Any credit remaining may be carried forward to subsequent years.

55 - Costs paid or incurred in taxable years by incorporated or unincorporated businesses for new R&D facilities for industrial waste treatment facilities and/or for air pollution control facilities may be deducted as current expenses from net income for tax purposes. The 1% credit described in footnote 54 may be taken in lieu of this credit.

56 - Seven year annihilation or deannihilation exemption.

57 - A few cities and counties will lease land they own at nominal rates.

58 - Limited to technical assistance.

59 - Facilities available on a contractual basis.

60 - Available to industry on a contract and/or consulting basis.

61 - City-owned land only. Cities may not purchase land for purposes of providing free land for industry.

62 - Highway Commission will build first two miles of road into new areas.

63 - Activity limited to certain units.

64 - State supplies 75% of cost of administering programs, no reimbursement to trainees.

65 - Provided only in rare instances.

66 - Tennessee supplies matching funds for sub-metropolitan areas.

67 - Carried out through local development corporations.

68 - Applicable to industrial access roads.

69 - Port facilities only.

70 - Cities and counties are authorized to use mill levy for purposes of industrial development. Speculative buildings and free land have been provided in some instances.