

**An Interprovincial Input-Output Model
Version III**

**Economic Development Analysis Division
Department of Regional Economic Expansion**

May, 1976

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PREFACE

This research project, which began in December of 1974, was motivated by several factors. The first was a desire to link an occupational matrix of employment by industry and province to the previously constructed interprovincial input-output (I/O) table (see item 7 in the References). Secondly, during 1974 the Structural Analysis Division of Statistics Canada began to disaggregate the 1966 national I/O table by province. With this information, it became possible to make substantial improvements to the previously constructed interprovincial I/O table. Thirdly, experience with the previous I/O table, in connection with several research projects, revealed several major deficiencies; the level of industry aggregation to only sixteen reduced the usefulness of the table and the method by which the table was constructed provided almost no flexibility for selective updating or for impact analysis. It was thus decided to construct a new interprovincial I/O table eliminating some of these deficiencies and to link the occupational matrix to this new table.

This paper reports on the first phase of this research work - construction of the revised table; the second phase of the project - linking of the occupational matrix to this I/O table - is in progress and will be reported upon in a subsequent document.

I am indebted to many people for their contributions in the form of support, cooperation, time, data and advice.

First, I would like to thank my immediate supervisors at DREE, David Husband and Elizabeth Bond for making personnel and other resources available for this research work. Second, I wish to thank those who have worked closely with me on this project: Marie Burrows who patiently did almost all

the programming and data processing; and Margaruite Turner who did much statistical analysis and along with Suzanne Simard contributed significantly to the second phase of the research, i.e., linking of the occupational matrix to the table. Third, I wish to thank Rob Hoffman, Craig Gaston and Bob Algie of the Structural Analysis Division of Statistics Canada for their cooperation, invaluable advice, and the data they provided, which made this project possible.

In addition, I wish to express my gratitude to Andrew Robertson, Dave Boulter and other former members of the DREE Economic Analysis Division for their previous work on interprovincial shipments of primary commodities; also to Peter Appleton for making available his data on interprovincial shipments of agricultural products.

There are many other people who have contributed to the project; programmers from our Computer Services Division and numerous persons at Statistics Canada who have supplied data and advice in specific areas. Lack of specific mention in no way lessens the measure of my thanks for their assistance.

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REFERENCES

- 1) Chenery, H.B. and Clark, P.G., "Interindustry Economics", New York; Wiley, 1959
- 2) Isard, W. et al, "Methods of Regional Analysis", New York; Technology Press and Wiley, 1960; Chapter 8
- 3) Levitt, K., "The Input-Output Structure of the Atlantic Provinces, 1965", Statistics Canada Catalogue No. 15-503E, Volume 1, 1975
- 4) Miernyk, W.H., "Elements of Input-Output Analysis", New York; Random House, 1965
- 5) Statistics Canada, "The Input-Output Structure of the Canadian Economy, 1961", Catalogue No. 15-501, Volume I
- 6) Zuker, R.C., and Wilson, M. "An Analysis of Interprovincial Income and Employment Leakages using an Interprovincial Input-Output Model", DREE Working Paper, July, 1974
- 7) Zuker, R.C. and Simard, S. "Construction and Impact Results of a Revised Interprovincial Input-Output Table", DREE Working Paper, November, 1974

DISCUSSION

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AN INTERPROVINCIAL INPUT-OUTPUT MODEL :

VERSION III



Economic Development Analysis Division,
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1. FRAMEWORK AND CONSTRUCTION OF THE INTERPROVINCIAL INPUT-OUTPUT TABLE^{1/}

This chapter of the report is divided into two parts. Part 1.1 describes the structure and characteristics of the interprovincial input-output (I/O) table. A discussion and documentation of the methodology and data used to construct the table is presented in Part 1.2, which is divided into four sections. Section 1.2.1 provides an overview of the methodology and assumptions. Section 1.2.2 presents the mathematical formulation corresponding to the verbal overview in Section 1.2.1. Section 1.2.3 discusses certain aspects of the methodology, and Section 1.2.4 documents the data sources and manipulations required to create the sub-tables from which the interprovincial I/O table is constructed.

^{1/} See items 1-5 in the References for background information on input-output analysis and the rectangular system used for the Canadian National and the Atlantic Provinces input-output tables.

1.1 THE STRUCTURE OF THE TABLE

Figure 1.1 provides a schema of the final form of the interprovincial interindustry I/O table. As will be explained in the Data Sources and Manipulations Section, all the sub-tables required to construct this table are available in separate form. This structure allows for both selective updating of the table as more current information becomes available in specific areas, and several formulations for performing impact analysis.

As shown in Figure 1.1 the table consists of 340 rows and 340 columns with each corresponding row and column representing a specific industry (or the personal sector) in a given province. The entry in each cell of the table is the value of purchases by the industry represented in the column from the industry represented in the row per dollar of output (sales value) of the column industry.

The elements in the 34th row for each province represent the sum of the values of wages and salaries and net income of unincorporated business (this sum will hereafter be referred to as "Personal Income") per dollar of output of the column industry. (It is assumed in the construction of the table, that wages and salaries and unincorporated business income are received only in the province in which the industry resides).

The elements in the 34th column for each province are the value of purchases from the row industries per dollar of personal income in that province. By including rows and columns for the personal sectors in each of the provinces (i.e., by "closing" the table for personal income), personal income received in the form of wages and salaries and unincorporated business income will create additional demands

for goods and services produced by the industries in the table. Thus the impact results derived from the table will include income arising through the Keynesian income-consumption multiplier effect.

Referring to Figure 1.1 again, each sub-matrix along the diagonal represents the flows of goods and services (per dollar of output of the purchasing or column industry) between industries and the personal sector within a province. The off-diagonal sub-matrices represent the flows of goods and services from the industries in one supplying (row) province to industries and the personal sector in another receiving (column) province.

Table 1.1 presents a list of the provinces as they are ordered in the table (along both rows and columns). Table 1.2 presents a list of industries and the personal sector as they are ordered within each province (row and column-wise).^{1/}

^{1/} For example, the 171st row and column in the table represents the Agriculture Industry in Ontario

1-34	for industries and personal sector in	NFLD
35-68	" " " " " "	" P.E.I.
69-102	" " " " " "	" N.S.
103-136	" " " " " "	" N.B.
137-170	" " " " " "	" QUE.
171	" Agriculture industry in Ontario	

TABLE 1.1

ORDER OF PROVINCES

PROVINCES

<u>NO.</u>	<u>NAME</u>
1	Newfoundland
2	Prince Edward Island
3	Nova Scotia
4	New Brunswick
5	Quebec
6	Ontario
7	Manitoba
8	Saskatchewan
9	Alberta
10	British Columbia

TABLE 1.2

LIST OF 34 "INDUSTRIES"^{1/}

(33 Industries and Personal Sector)

<u>NO.</u>	<u>NAME</u>
<u>PRIMARY INDUSTRIES</u>	
1	Agriculture
2	Forestry
3	Fishing, Hunting and Trapping
4	Mineral Fuel Mines and Wells
5	Mines and Quarries (Excl. Coal and Services Incidental to Mining)
<u>MANUFACTURING INDUSTRIES</u>	
6	Food and Beverages
7	Tobacco Products
8	Rubber and Plastic Products
9	Leather Products
10	Textiles
11	Knitting Mills
12	Clothing
13	Wood Products
14	Furniture and Fixtures
15	Paper and Allied Products
16	Printing, Publishing, and Allied Products
17	Primary Metal Products

^{1/} See Table A1.1 for the correspondence between the I/O Industry Worksheet Numbers and the 33 industry aggregation above.

See Statistics Canada Catalogue No. 15-501, Volume I, pages 168-175 for the correspondence between the I/O Industry Worksheet Numbers and the 1960 Standard Industrial Codes.

TABLE 1.2 (cont'd)

<u>NO.</u>	<u>NAME</u>
<u>MANUFACTURING INDUSTRIES (cont'd)</u>	
18	Metal Fabricating (Excl. Machinery and Transportation Equipment)
19	Machinery (Excl. Electrical)
20	Transportation Equipment
21	Electrical Products
22	Non-Metallic Mineral Products
23	Petroleum and Coal Products
24	Chemical and Chemical Products
25	Misc. Manufacturing
<u>CONSTRUCTION AND SERVICE INDUSTRIES</u>	
26	Construction
27	Transportation and Storage
28	Electric Power, Gas, and Water Utilities
29	Wholesale and Retail Trade
30	Finance, Insurance, and Real Estate
31	Communications, and Personal and Business Services (Incl. Services Incidental to Mining)
32	Dummy Industry (Misc. Operating Costs)
33	Private Health and Education Services, and Private and Public Hospitals
<u>PERSONAL SECTOR</u>	
34	Wages, Salaries, and Net Income of Unincorporated Business

1.2 CONSTRUCTION OF THE TABLE

1.2.1 OVERVIEW OF METHODOLOGY AND ASSUMPTIONS

Both the industries and the personal sector in each province are viewed as sources of demand for commodities. (Other final demand categories are not included in the table, but can be specified exogenously for the purpose of impact analysis). Each industry in a province requires commodities as inputs to production, while the personal sector purchases commodities for consumption.

The term "commodity" referred to above has a broader connotation than purely physical commodities. It refers also to services, such as transportation, financial services, and labour. A list of the 86 commodity categories used in construction of the table is given in Table 1.3 .

In I/O analysis, it is a standard assumption that, for each industry, the value of each commodity required per dollar of output is constant. Similarly, it is assumed that the value of purchases of each commodity per dollar of personal income is constant.

The supply pattern for each commodity demanded in a province must be specified. It is assumed that for each commodity, the supply pattern is the same for all sources of demand, (i.e., all industries and the personal sector), within a given province. This is known as the Moses-Chenery Assumption.

For each province, the proportion of demand for each commodity which is supplied from imports from abroad is eliminated as this will have no effect on domestic production and income. The remaining proportion, which is supplied from domestic sources, is then distributed over industries by province. This allocation is done in two stages.

TABLE 1.3

LIST OF 86 COMMODITIES AND CORRESPONDENCE
TO NATIONAL 96 INPUT-OUTPUT COMMODITY CLASSIFICATION^{1/}

<u>NO.</u>	<u>NAME</u>	<u>NATIONAL 96 INPUT-OUTPUT COMMODITY CLASSIFICATION</u>
<u>PRIMARY COMMODITIES</u>		
1	Grain	00100
2	Other Agricultural Products	00200
3	Forest Products	00300
4	Fishing & Trapping Products	00400
5	Crude Petroleum	00500
6	Natural Gas	00600
7	Sulphur	00700
8	Coal	00800
9	Iron Ore	00900
10	Asbestos	01000
11	Other Minerals (excl. Services Incidental to Mining)	01100 excl. 05100*
<u>MANUFACTURED COMMODITIES</u>		
12	Meat Products	01200
13	Dairy Products	01300
14	Fish Products	01400
15	Feed	01500
16	Flour & Wheat	01600
17	Other Grain Mill Products	01700
18	Bakery Products	01800

^{1/} See Table A1.2 for the correspondence between the 96 and the Detailed National I/O Commodity Classifications.

* Detailed National I/O Commodity No. (See Table A1.2)

TABLE 1.3 (cont'd)

<u>NO.</u>	<u>NAME</u>	<u>NATIONAL 96 INPUT-OUTPUT COMMODITY CLASSIFICATION</u>
<u>MANUFACTURED COMMODITIES (cont'd)</u>		
19	Soft Drinks	01900
20	Other Food Products	02000
21	Alcoholic Beverages	02100
22	Tobacco	02200
23	Tires & Tubes	02300
24	Other Rubber Products	02400
25	Leather Products	02500
26	Yarns & Man-made Fibres	02600
27	Fabrics	02700
28	Textile Products	02800
29	Clothing	02900
30	Lumber & Plywood	03000
31	Wood Products	03100
32	Furniture & Fixtures	03200
33	Pulp	03400
34	Newsprint	03500
35	Other Paper Stock	03600
36	Industrial Paper Products	03700
37	Household Paper Products	03800
38	Printed Matter	03900
39	Iron & Steel Products	04020
40	Aluminum Products	04100
41	Copper & Copper Alloy Products	04200
42	Nickel Products	04300
43	Other Non-ferrous Metal Products	04400

TABLE 1.3 (cont'd)

<u>NO.</u>	<u>NAME</u>	<u>NATIONAL 96 INPUT-OUTPUT COMMODITY CLASSIFICATION</u>
<u>MANUFACTURED COMMODITIES (cont'd)</u>		
44	Metal Fabricated Products	04500
45	Agricultural Machinery	04600
46	Other Industrial Machinery	04700
47	Motor Vehicles	04800
48	Motor Vehicle Parts	04900
49	Other Transport Equipment	05000
50	Appliances	05100
51	Other Electrical Equipment	05200
52	Cement & Concrete Products	05300
53	Other Non-Metallic Min. Products	05400
54	Fuels & Petroleum	05500
55	Other Petroleum & Coal Products	05600
56	Industrial Chemicals	05700
57	Fertilizers	05800
58	Pharmaceuticals	05900
59	Other Chemical Products	06000
60	Scientific Equipment	06100
61	Plastic Products	06200
62	Other Manufactured Products	06300
<u>CONSTRUCTION AND SERVICE COMMODITIES</u>		
63	Residential Dwellings	06400
64	Non-Residential Buildings	06500
65	Roads, Highways & Airstrips	06600
66	Gas & Oil Facilities	06700

TABLE 1.3 (cont'd)

<u>NO.</u>	<u>NAME</u>	<u>NATIONAL 96 INPUT-OUTPUT COMMODITY CLASSIFICATION</u>
<u>CONSTRUCTION AND SERVICE COMMODITIES (cont'd)</u>		
67	Dams & Irrigation Projects	06800
68	RR, Telephone & Telegraph Installations	06900
69	Other Engineering Structures	07000
70	Repair Construction	07100
71	Transportation Services	07200
72	Transportation Margins	07300
73	Communication	07400
74	Electric Power	07500
75	Gas & Pipeline Margins	07600
76	Other Utilities	07700
77	Wholesale Trade	07800
78	Retail Trade	07900
79	Finance, Ins., & Real Estate (Excl. Gov't Royalties on Natural Resources)	08000 excl. 61100*
80	Imputed Rent	08100
81	Personal Services (Excl. Health, Education, and Hospital Services)	08200 excl. 61200*, 61300*, 61400*
82	Business Services	08300
83	Dummy (Misc. Operating Costs)	08400
84	Services Incidental to Mining	05100*
85	Private Health and Education Services and Private and Public Hospital Services	61200*, 61300*, 61400*
86	Labour Services	09200, 09400

* Detailed National I/O Commodity No. (See Table A1.2)

First, for each commodity, it is assumed that the proportion of domestic supply provided by a given industry at the national level is equal to the proportion of domestic production of that commodity produced by that industry. For example, if 90% of domestically produced sulphur is supplied by the Petroleum and Gas industry and 10% by the Industrial Chemicals industry, then it is assumed that the domestic supply of sulphur (for domestic use) is provided by these two industries in the given proportions.

Secondly, the proportion of a commodity supplied by a given industry at the national level is distributed over that industry at the provincial level. The provincial supply pattern (i.e., the proportions supplied by that industry in each of the provinces) chosen for this distribution for a given commodity and industry combination is dependent upon the characteristics of the industry and commodity and the data available for interprovincial shipments of the commodity and/or industry. Referring again to the case of sulphur, we have data on interprovincial shipments of that commodity from the mineral sector and, therefore, use this supply pattern for sulphur produced by the Petroleum and Gas industry. For the sulphur produced by the Industrial Chemicals industry, we use data on the interprovincial shipments of that manufacturing industry as an estimate of the interprovincial supply pattern for the sulphur produced by that industry. For a given commodity and industry combination, the supply pattern will, of course, generally differ for each demanding province, as reflected by the data on interprovincial shipments.

1.2.2 MATHEMATICAL FORMULATION

Figure 1.2 shows how the I/O table ("A" Matrix) in Figure 1.1 was conceptually partitioned for the purpose of its construction. The table is divided by columns into ten sub-matrices, one for the industries and the personal sector in each province as demanders or purchasers of goods and services from all of the industries in all of the provinces.

Figure 1.3 presents a schematic diagram showing how each of these sub-matrices, A^p , for province "p" as demander, is constructed from other data matrices.

The provincial use matrix, B^p , contains the values of each commodity (row) required as input per dollar of output of each of the industries (column) and the commodity expenditure pattern per dollar of personal income in province "p". It is also called a "Technology" matrix in "Value" terms, as it represents requirements or expenditures for commodities, regardless of source of supply.

The diagonal matrix of provincial domestic commodity supply coefficients, $(I - \hat{u})^p$, contains the proportions of provincial demand for each commodity which are satisfied from domestic producers, rather than from foreign sources.

The matrix product, $(I - \hat{u})^p B^p$, the use matrix adjusted for commodity imports (not shown in Figure 1.3), yields the value of each commodity (rows) which is supplied from domestic sources to each industry per dollar of output and to the personal sector per dollar of income (columns) in province "p".

The interprovincial commodity supply coefficient matrix for province "p" as demander, S^p , gives for each of the

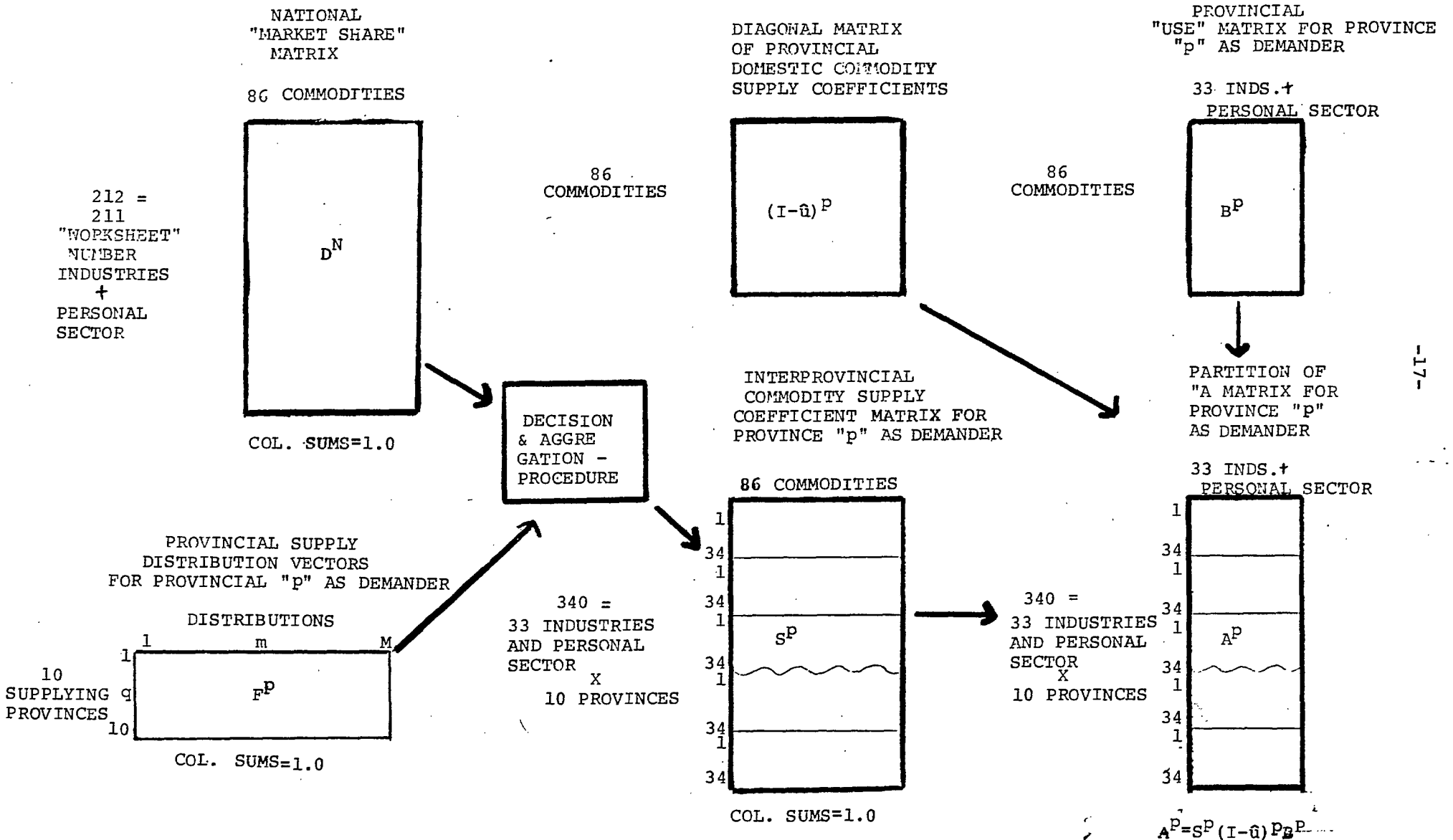
FIGURE 1.2

CONSTRUCTION OF INPUT-OUTPUT TABLE ("A MATRIX")

PART A: PARTITION OF "A MATRIX" (OF FIGURE 1.1)

	A^1 340 INDS X 34 INDS PROV 1	A^2 PROV 2	A^3 PROV 3	A^P 340 INDS X 34 INDS PROV "P"	A^{10} PROV 10
PROV 1	34 INDS X 34 INDS	34 INDS X 34 INDS			34 INDS X 34 INDS
PROV 2	34 INDS X 34 INDS				
PROV 3					
PROV "P"				34 INDS X 34 INDS	
PROV 10	34 INDS X 34 INDS				34 INDS X 34 INDS

TABLE A1.3
 CONSTRUCTION OF INPUT-OUTPUT TABLE ("A MATRIX")
 PART B: METHOD OF CONSTRUCTION OF PARTITIONED MATRICES (A^P)
 (ALL MATRICES IN COEFFICIENT FORM)



commodities (columns), the proportion of domestic supply to province "p", which originates from each industry in each of the provinces (rows).

The matrix product, $S^P(I - \hat{u})^P B^P$, yields the matrix A^P containing the value of purchases by the industries and the personal sector in province "p", per dollar of output or personal income (columns), from each of the industries in all of the provinces (rows).

Each S^P matrix, one for each province "p" as demander is constructed from two other matrices, D^N and F^P , together with a decision and aggregation procedure.

D^N is the market share matrix from the national I/O table. Each element in this table is the proportion of domestic production of a given commodity (column) which is produced by a given industry (row). This matrix consists of 86 columns, for the commodity categories, and 212 rows, for the 211 national I/O worksheet industries and the personal sector.

The matrix F^P , of provincial supply distribution vectors for province "p" as demander, is the repository of all the interprovincial flow data (for province "p" as receiver), on either an industry or commodity basis, in our possession. Each column in this matrix contains, for some industry or some commodity, the proportions of total domestic supply to province "p", which are provided from each of the ten provinces as suppliers.

The decision procedure is a set of rules which specifies, for each commodity and industry in matrix D^N , (non-zero entries only) the supply vector in matrix F^P to be used in order to allocate the supply from the industry at the

national level to that industry at the provincial level. That is, each entry in matrix D^N is distributed, by row, over ten entries using one of the column vectors in matrix F^P . There is then one row for each of the 212 worksheet number industries in each province. The 212 industries in each province are then aggregated to the 34 industries used in the interprovincial table to produce the matrix S^P .

A numerical example for two industries, two commodities and two provinces is presented in Appendix 3.1 to demonstrate how the sub-tables in Figure 1.3 are constructed.

1.2.3 A DISCUSSION OF CERTAIN ASPECTS OF THE METHODOLOGY

1.2.3.1 SOME DISTORTIONS INTRODUCED IN CONSTRUCTION OF THE TABLE

Users of the table should be aware of the nature of the distortions which are introduced into the table due to the interaction of the market share assumption and the level of commodity aggregation.

The market share assumption states that the proportions of a commodity supplied by industries is invariant with respect to the industry demanding that commodity. Even at the detailed commodity level, this assumption may be unrealistic for many commodities. As an example, consider the detailed commodity "Service Incidental to Mining". Suppose this commodity is produced partially by the Services Incidental to Mining industry and partially by the Petroleum and Gas industry and, further, that this commodity is demanded by the Petroleum and Gas industry and by other mining industries. Now it is likely that the value of this commodity produced by the Petroleum and Gas industry is entirely consumed by that industry and that, therefore, none is consumed by other mining industries. Thus other mining industries would obtain their supply of this commodity from the Services Incidental to Mining industry only, while the Petroleum and Gas industry would be supplied with this commodity from its own production and possibly partially from the Services Incidental to Mining industry. The industry market share for this commodity would therefore vary depending on the demanding industry.

This problem could be eliminated by either disaggregating the Services Incidental to Mining commodity so that there are two commodities, one for each producing industry, or by aggregating the two producing industries. In general,

the problem can be solved by either disaggregating commodities or aggregating industries to the point where each commodity is produced entirely by one industry.

The aggregation of detailed commodities to the commodity categories used in the table compounds this distortion further. The pattern of demand for detailed commodities within a commodity category will vary depending on the demanding industry. For example, consider the commodity category, Other Minerals, which contains both metallic and non-metallic detailed commodities (See commodity category no. 01100 in Table A1.2). While both metallic and non-metallic processing industries would require this commodity category as an input for production, the metallic processing industries would require mostly the metallic detailed commodities, while the non-metallic processing industries would demand mainly the non-metallic detailed commodities. Since each detailed commodity will have a different industry market share pattern, the industry market share of the commodity category will vary with the pattern of demand for detailed commodities within the commodity category. But with the application of the market share assumption to the aggregated commodity category, the pattern of industry supply will not vary with the pattern of detailed commodity demand within the commodity category.

The problem is further complicated in an inter-regional framework. Each detailed commodity or industry will have a different interregional shipment pattern. Therefore, the pattern of interregional supply for a commodity category will vary with the pattern of demand for detailed commodities within the commodity category. The application of the market share assumption to the aggregated commodity category prevents this variation from being exhibited in construction of the table.

There is reason to believe, however, that the re-aggregation of industries to 33 categories from 211 in the aggregation procedure has the effect of substantially reducing these distortions, since the probability that a commodity category is produced almost entirely by an aggregated industry increases markedly.

Given the data available in the sub-tables, it is mathematically possible to construct an I/O table for 211 industries for each province. However, for the reasons noted above, it is likely that the distortions introduced at this level of detail would be very great; accordingly users are cautioned against working with such tables.

1.2.3.2 A COMPARISON BETWEEN THE METHODOLOGY USED AND THE
BALANCED TABLE METHOD

It should be noted from the previous discussion that the table is constructed entirely in coefficient form. That is, each row or column in the sub-tables is converted from dollar values to percentage terms. No attempt was made to construct a balanced table for a given year.

A balanced table would satisfy the following conditions:

Supply Conditions

1) The total value of output of each provincial industry is equal to the total value of commodities produced by that industry.

2) After adjustments for inventory changes, the total output of a commodity by each provincial industry is equal to the total value of its shipments of that commodity to the provinces and territories and to export markets.

Demand Condition

1) The total demand for each commodity, for intermediate and final demand (excluding exports), in each province is equal to the total supply from all provinces and from imports.

The table developed here is constructed by satisfying the demand condition for industries and the personal sector. First, the demand for a commodity in a province is distributed between domestic sources of supply and imports. Domestic supply is then distributed among industries at the national level. The supply from an industry at the national level is then distributed over that industry at the provincial level.

No attempt is made to determine whether the resulting shipment patterns satisfy the supply conditions specified above.

Although the balanced table method is more conceptually satisfying, it requires much more data - for example, a disaggregation of national final demand for each commodity by province and imports by province of destination. Since such data is not available, a variety of assumptions - similar in nature to those made in this paper - and an algorithm would be required to estimate interprovincial commodity shipments, which would satisfy the balancing conditions. Such an exercise would require a much greater expenditure of time and resources; but, given the variety of assumptions which would still be required, this procedure does not guarantee a table which would more accurately reflect reality than the method used here.

While the method used here possesses conceptual disadvantages compared to the balanced method, it has several advantages in practice. First, as noted, it requires less data to construct a table. Second, because the table is constructed in modular fashion and in coefficient form, data from different years can be utilized, both within and between the various sub-tables. Since data from different years have been used to develop the table it can be termed a "Temporal Hybrid". (Conceptually, it represents the structure of the economy over a period of years, rather than over one year). Furthermore, the table can be selectively updated as current information becomes available. For example, current data on the input structure of an industry can be selectively introduced into the use tables. Thus, the methodology allows much greater flexibility for impact analysis.

In contrast, the basic objective of the balanced table method is to construct a table for a given year. While interprovincial flow data from other years can be used for construction of the table, inconsistencies with the supply-demand balances of the tabular year may result. Because the balanced table is supposed to represent a given year, in theory, updating is not really meaningful. In practice, selective updating - for example, of the input structure of an industry - is very difficult, as supply-demand balances must be maintained and the methodology requires that the table be developed interdependently rather than modularly. Thus, a balanced table lacks flexibility for use in impact analysis as it becomes more outdated.

1.2.4 DATA SOURCES AND MANIPULATIONS^{1/}

1.2.4.1 PROVINCIAL USE MATRICES

PROVINCIAL INDUSTRY USE TABLES

An I/O industry "Use" table is a matrix in which each column represents an industry. The elements in a given column are the value of payments for the various commodities purchased by that industry as inputs to production (over some time period, usually one year). The I/O commodities are defined to include payments for non-competitive commodity imports and primary factors, for example, labour services, indirect taxes, and surplus, as well as some minor adjustment items (See commodity categories 08600-09500 in Table A1.2). Thus, the total of all commodity payments by an industry - the column total - is equal to the total value of industry output. The primary factor inputs, other than wages and salaries and net income of unincorporated business, are not used to construct the interprovincial I/O table, but they are required in order to estimate the income impact results (See Chapter 2 of this paper).

Most of the work performed for the construction of these tables was undertaken by the Structural Analysis Division

^{1/} The following tables will be referred to frequently in the discussion:

Table 1.2 - List of 34 "Industries"

Table 1.3 - List of 86 Commodities

Table A1.1 - Allocation of 211 Worksheet Industries to 33 Industries

Table A1.2 - Correspondence between detailed National Input-Output Commodities and 96 Input-Output Commodity Categories.

of Statistics Canada. Each of the industry input vectors in the 1966 national I/O table was disaggregated by province. This work was performed at the detailed industry and commodity levels (See Tables A1.1 and A1.2). For many industries, it was not possible to disaggregate some of the commodity inputs from the national level to the provincial level based on existing data. In these cases a statistical procedure was used to disaggregate these commodities by province. The mathematical formulation for this procedure is given in Appendix 3.2 . The detailed commodities were then aggregated to the 96 commodity classification and the tables received were of dimension 211 (industries) by 96 (commodities).

The following adjustments were made to these tables for incorporation into the interprovincial I/O table.

Industry (Column) Adjustments

1) The pulp and paper industries (See industry sequence nos. 72-76 in Table A1.1) were aggregated under industry 72 in the provincial tables received from Statistics Canada. Similarly, the iron and steel industries (sequence nos. 82-88) were aggregated under industry 82. These aggregations did not present a problem as each of these industry groups were aggregated in forming the 33 industries in the interprovincial table.

2) Certain industries considered national - for example, interregional transport industries and wholesaling - were not disaggregated by province in the Statistics Canada tables. However, for our purposes, these industries were disaggregated by province on a provincial wages and salaries basis under the assumption that the national commodity input structure applied in each province.

3) The dummy industries (See industry sequence nos. 203-211 in Table A1.1) were also not disaggregated by province in the Statistics Canada tables. These industries together form industry 32 in the interprovincial table. By assuming that these industries were distributed by province according to the same pattern, and that the national commodity input structures of each of the industries could be applied to each province, it was possible to add these industries together in the national table, and use the aggregated commodity input structure in coefficient form for industry 32 in each provincial use table.

4) The national final demand vector, Government Current Expenditures on Hospitals, was disaggregated by province and added to the Private Hospital industry (See industry sequence no. 191 in Table A1.1). This approach was taken, because it was possible to partially "close" the interprovincial table for public hospital expenditures. This is explained further under the next section, Provincial Personal Expenditure Vectors.

Commodity (Row) Adjustments

The following adjustments were made in order to change from the 96 to the 86 commodity category classification.

5) The Pulp and Paper and Iron and Steel Dummy commodities (See commodity category nos. 03300 and 04010 in Table A1.2) were eliminated from the table. These commodities are outputs and inputs of sequential stages of production within integrated operations of one establishment. By combining the various stages of production (See adjustment (1) above), these intermediate commodities disappear.

6) The detailed commodity, Services Incidental to Mining (See detailed commodity no. 05100 in Table A1.2), was removed from the commodity category, Other Minerals, and a separate commodity category (no. 84) was created. This procedure was followed because Services Incidental to Mining are mainly an input to mining industries, while Other Minerals are outputs and, thus, their supply and demand patterns differ.

7) The detailed commodity, Government Royalties on Natural Resources, (See detailed commodity no. 61100 in Table A1.2), was removed from the commodity category, Finance, Insurance and Real Estate, and added to the commodity, Indirect Commodity Taxes (See commodity category 08900 in Table A1.2) which is one of the primary factor inputs. Statistics Canada treats royalties as a rent, while in this study they are regarded as a tax.

8) The detailed commodities, Education, Health, and Hospital Services (See detailed commodity nos. 61200, 61300, and 61400 in Table A1.2), were removed from the commodity category, Personal Services, and a separate commodity category (no. 85), produced by the Health, Education, and Hospital industry (industry no. 33), was created in the interprovincial table.

9) The two primary commodities, Wages and Salaries, and Net Income of Unincorporated Business (See commodity category nos. 09200 and 09400 in Table A1.2) were aggregated to form commodity category no. 86 in the interprovincial table.

The resulting tables, one for each province, were then aggregated across columns to the 33 industries, and the elements in each column were divided by the column totals (rows for the primary factor and adjustment commodities were deleted).

to create the first 33 columns (each consisting of 86 rows for the commodity categories) of the provincial use matrices shown in Figure 1.3 . 1/ 2/

-
- 1/ As noted previously under adjustment no. 3, the column, in coefficient form, derived from the aggregation of the Dummy industries in the national table, was used for the Dummy industry, no. 32, in each provincial use table.
- 2/ For some of the provincial industries, at the 33 industry level of aggregation, the value of subsidies or losses (negative surplus) was sufficiently large so that the sum of the nine primary factor and adjustment commodities was negative. Thus, the sum of the coefficients for the 86 commodity categories was greater than unity. In these cases, the negative subsidy or surplus amounts were not included in the industry total output for the purpose of calculating the commodity input coefficients.

This modification was made for the following industries:

<u>Province</u>	<u>Industry No.</u>	<u>Item Eliminated From Total</u>
P.E.I.	17	Surplus
P.E.I.	18	Surplus
N.S.	4	Subsidies
N.S.	9	Surplus
N.B.	9	Surplus
MAN.	8	Surplus

PROVINCIAL PERSONAL EXPENDITURE VECTORS

To completely close an I/O table for household income and expenditures, income from the following sources should at least be included:

- i) wages and salaries,
- ii) net income of unincorporated business,
- iii) investment income, and
- iv) personal transfers from governments.

Item (iv), personal transfers from governments, cannot be included in an I/O table unless detailed information on government revenues by source and expenditures are known. The necessary data are not available in the national I/O table and it would require substantial effort to construct this information^{1/}.

Item (iii), investment income, cannot be included in an interprovincial table unless investment income flows from industries by province to persons by province are known. Thus, in terms of what is feasible, we deal only with personal income derived from wages and salaries and net income of unincorporated business and attempt to estimate the pattern of expenditures from this income in each province^{2/}.

1/ In contrast this information is available in the 1965 Atlantic region I/O tables - see item (3) of the references.

2/ Data on supplementary labour income do exist and could thus be included as a source of personal income, and it often is in other I/O tables. However, as most of this income is not respent in the short-run, it should not be included; accordingly, we have excluded it in the table constructed in this paper.

Consumer expenditures in the national I/O table are divided into 40 categories (See Table A1.3). Each category is represented by a column vector of expenditures on the input-output commodities. While each of these vectors has been disaggregated by province several problems arise with using these data for our study. First the data are based on retail sales and, therefore, include tourism expenditure. Thus, for example, consumer expenditures exceed personal income in P.E.I. Second, consumer expenditures include (according to National Accounts definitions) expenditures by universities.

Thus, it was decided to use the Family Expenditure Pattern Survey for 1969 (Statistics Canada catalogue no. 62-536, Volume II, Regions) for the estimation of the provincial person expenditure vectors in the interprovincial I/O table. This survey presents personal expenditures for the five regions in about 950 categories and for each province in about 20 major categories.

The following procedure was employed:

A correspondence table between the 950 categories of expenditures in the survey and the 40 categories in the I/O table were constructed. This correspondence resulted in 33 expenditure categories (See Table A1.3). The pattern of expenditures over these 33 categories in each province was then determined based on the survey. For provinces for which detailed expenditure categories were not given in the survey, the regional pattern of expenditures on detailed categories within a major category was applied to the major category value for each of the provinces within that region.

The proportion of total expenditure in each of the 33 categories was then allocated over the I/O commodities

(after adjustment from the 96 to the 86 commodity category) using the commodity expenditure coefficients from the national I/O consumer expenditure vectors. These 33 category vectors were then added to create one vector of personal expenditures for the 86 input-output commodities in coefficient form for each province. These vectors formed the 34th column in each of the provincial Use tables.

On the basis of the Family Expenditure Survey data, it was possible to estimate personal expenditures on health, and public and private hospital services, both directly and indirectly through insurance plans. Thus, it became possible to "close" the interprovincial table for public hospitals, partially - for that portion financed by persons, through direct payments or insurance plans, but not through general government revenues or employer contributions.

1.2.4.2 PROVINCIAL DOMESTIC COMMODITY SUPPLY COEFFICIENTS

A provincial commodity import coefficient - U_C^P for commodity "c" and province "p" - is defined as the proportion of provincial demand, both intermediate and final (excluding exports), for that commodity, which is satisfied from foreign sources. A provincial domestic commodity supply coefficient is the difference between unity and the commodity import coefficient.

The estimation of provincial import coefficients is extremely difficult. Imports by province - the numerator - are available only on a clearance, and not a destination basis. The estimation of total provincial commodity demand - the denominator - requires an estimate of final demand for each commodity by province, in addition to intermediate demand (which is available from the provincial use tables). Such estimates are very difficult to make especially for government expenditures.

Given the above problems, the provincial commodity import coefficients were estimated as follows:

For the commodities, coal, oil, natural gas, pulp, and electric power (See Table 1.3) it was possible to estimate provincial import coefficients either from Statistics Canada catalogues or from other analyses^{1/}.

^{1/} For coal, oil, natural gas, and electric power, the provincial import coefficients were estimated from information in Statistics Canada catalogue nos. 26-206, 26-213, and 57-202, and averaged for the years 1968-1970. The provincial import coefficients for pulp were estimated from 1966 national and provincial I/O data.

For all other commodities, the import coefficients for each province were the same as the national import coefficient from the 1966 national I/O table^{1/}. Clearly, this procedure leaves much to be desired as there are likely major variations between provinces in the import proportion for many commodities. The estimation of provincial commodity import coefficients remains one of the major constraints to constructing a more accurate interprovincial I/O table.

^{1/} The import coefficient was estimated as follows:

$$\frac{(\text{Imports} - \text{Re-exports})}{(\text{Total Intermediate Demand} + \text{Consumer Expenditure Demand} + \text{Investment Demand} + \text{Government Current Expenditure Demand})}$$

1.2.4.3 NATIONAL MARKET SHARE MATRIX

An I/O "Make" matrix is a table with each row representing an industry and each column representing a commodity. The entry in each cell is the value of the commodity in the column produced by the industry in the row (over some time period, usually one year). The row totals are the total output of each of the industries, and the column totals are the total output of each of the commodities.

When the entries in each column are divided by the column total, the resulting table is called a "Market Share" matrix. Each element in this matrix is the proportion of the total output of the commodity in the column produced by the industry in the row.

The make table was provided by Statistics Canada from the 1966 national input-output table. It consisted of 211 rows (industries) and 85 column (commodities). These 85 commodities exclude the 11 primary factor and adjustment commodities in the 96 commodity classification (See commodity categories 08500-09500 in Table A1.3).

The following adjustments, corresponding to those made to the use tables, were made to this table for constructing the interprovincial table:

Industry (Row) Adjustments

1) The pulp and paper industries (industry sequence nos. 72-76 in Table A1.1) were aggregated under industry 72; similarly the iron and steel industries (industry sequence nos. 82-88) were aggregated under industry 82.

Commodity (Column) Adjustments

2) The Pulp and Paper and Iron and Steel Dummy commodities (See commodity nos. 03300 and 04010 in Table A1.2) were eliminated from the table.

3) The detailed commodity, Services Incidental to Mining (commodity no. 05100), was removed from the commodity category, Other Minerals, and a separate commodity no. 84 was created.

4) The detailed commodity, Government Royalties on Natural Resources (commodity no. 61100), was removed from the commodity category, Finance, Insurance, and Real Estate, and eliminated from the table.

5) The detailed commodities, Education, Health and Hospital Services (commodity nos. 61200, 61300, 61400) were removed from the commodity category, Personal Services, and aggregated under a separate commodity, no. 85.

6) The value of total public hospital expenditures (the column total for hospital expenditures from the national final demand vector) was added to this commodity (no. 85) under the hospital industry (industry sequence no. 191).

The elements in each column of the resulting table (of 211 industries and 85 commodities) were divided by the column totals (the total commodity output values). The resulting market share matrix, in coefficient form, was then augmented by a 212th row (for the personal sector) and an 86th column (for the commodity labour services). The entry where this row and column intersect was set equal to unity, indicating that all labour services are produced by

the personal sector. All other elements in this row and column were set equal to zero. The resulting table is matrix D^N in Figure 1.3 .

1.2.4.4 PROVINCIAL SUPPLY DISTRIBUTION VECTORS

As discussed previously, each column in the F^D matrices (one matrix for each province "p" as demander), represents, for some commodity or industry, the proportion of supply from domestic sources, which is provided from each of the provinces to the province "p".

A typical column in this matrix would be derived in the following manner:

Suppose we have a table of interprovincial flows in dollars (for some year, or average of several years) of a given industry "k" as shown schematically in Table A of Figure 1.4 . Suppose also that this industry will be represented by some column vector number, say "m", in the F^D matrices in Figure 1.3 . The elements in each column in Table A are divided by the column totals yielding Table B of Figure 1.4 . Each column in this table is the pattern of supply (for that industry) from each of the provinces to the province "p" in that column as demander. Each column of this table is then entered in the designated column number "m" of the supply distribution matrix F^D , for the appropriate demanding province "p".

Table A2.1 presents detailed information on the nature and sources of data for each column in the supply distribution matrices.

SAMPLE TABLES OF INTERPROVINCIAL SHIPMENTS FOR INDUSTRY "k"

TABLE A: DOLLAR VALUES

RECEIVING PROVINCE

SUPPLYING PROVINCE	RECEIVING PROVINCE										Y & NWT	EXPORTS	TOTAL SHIPMENTS	
	1	2	3	4	5	6	7	8	9	10				
1 NFLD	G_k^{11}	G_k^{12}												
2 PEI		G_k^{22}												
3 NS														
4 NB														
5 QUE					G_k^{56}									
6 ONT														
7 MAN														
8 SASK														
9 ALTA										$G_k^{9,10}$				
10 BC								$G_k^{10,9}$		$G_k^{10,10}$				
TOTAL RECEIPTS FROM PROVINCIAL SOURCES	G_k^{-1}	G_k^{-2}			G_k^{-6}			G_k^{-9}		G_k^{-10}				

TABLE B: COEFFICIENT FORM $(g_k^{qp} = G_k^{qp} / G_k^{-p})$

1 NFLD	g_k^{11}	g_k^{12}												
2 PEI		g_k^{22}												
3 NS														
4 NB														
5 QUE					g_k^{56}									
6 ONT														
7 MAN														
8 SASK														
9 ALTA										$g_k^{9,10}$				
10 BC								$g_k^{10,9}$		$g_k^{10,10}$				
TOTAL RECEIPTS FROM PROVINCIAL SOURCES	1.00	1.00			1.00			1.00		1.00				

1.2.4.5 DECISION AND AGGREGATION PROCEDURE

The decision procedure is a set of rules which specifies, for each non-zero entry in the national market share matrix, the provincial supply distribution column vector in the F^P matrices to be chosen in order to allocate supply from an industry at the national to the provincial level.

For the purpose of specifying such decision rules, the national market share matrix was conceptually divided into nine sub-matrices by dividing both the commodities and industries into the following three groups:

- 1) Primary - industry nos. 1-15
 - commodity nos. 1-11
- 2) Manufacturing - industry nos. 16-156
 - commodity nos. 12-62
- 3) Construction, - industry nos. 157-212
 Service, and - commodity nos. 63-86
 Labour

For each of the nine sub-matrices, a general decision rule was specified as shown in Table 1.4 . (It should be noted that the distribution numbers used for the provincial supply distribution vectors are, to a great extent, those corresponding to the commodity or industry sequence numbers in the national market share matrix.)

A number of exceptions to these general rules were also specified. To some extent these exceptions were required due to the lack of correspondence between the distribution and the commodity or industry sequence numbers, but in most cases they were invoked due to the nature of the commodity and/or industry. These exceptions are given in Table A2.2 of Appendix 2.

TABLE 1.4

GENERAL DECISION RULES FOR SELECTION OF
PROVINCIAL SUPPLY DISTRIBUTION VECTORS

<u>SUB-MATRIX No.</u>	<u>COMMODITY (Sequence No.j)</u>	<u>INDUSTRY (Sequence No.i)</u>	<u>DISTRIBUTION No. (Sequence No.m)</u>
1	Primary	Primary	m = j
2	Primary	Manufacturing	m = i
3	Primary	Service	160-own province supply
4	Manufactured	Primary	160-own province supply
5	Manufactured	Manufacturing	m = i
6	Manufactured	Service	160-own province supply
7	Service	Primary	160-own province supply
8	Service	Manufacturing	m = i
9	Service	Service	160-own province supply

It should be noted that by far the major proportion of commodities of a certain type is produced by industries of the corresponding type (e.g., manufacturing industries are the major producers of manufactured commodities, etc.) and thus, that the decision rules used for sub-matrices 1, 5 and 9 will have the major influence on the pattern of interprovincial flows.

As a result of the decision procedure, the national market share matrix is expanded to 2120 rows, one row for each of the 211 industries and the personal sector in each province. Each set of provincial industries is then aggregated to the 34 industries of the interprovincial table, to form the S^P matrix in Figure 1.3.

There are ten such S^P matrices, one for each demanding province, each constructed using the supply distribution matrix, F^P , for that province.

2. IMPACT ANALYSIS

This chapter of the report is divided into three parts. The first is a general discussion of I/O impact analysis. The second describes the general industry impact results from the interprovincial I/O table and explains how they are derived. Certain characteristics of these results are discussed briefly at the end of this part. The third part explains how the I/O table together with the sub-tables can be used, with modifications if data are available, for project impact analysis.

2.1 INPUT-OUTPUT IMPACT ANALYSIS: A DISCUSSION

Input-output impact analysis can be used to estimate the effect of a change in (the demand for) the output of one sector of the economy on the output levels of other sectors and on the levels of total income, personal income and employment^{1/}.

An implicit assumption in impact analysis is that the initial increase in output or demand is exogenous, i.e., it is not a substitution of expansion in one part of the economy at the expense of a contraction elsewhere.

In Keynesian theory an exogenous increase in income will have an induced or multiplier effect. By including rows and columns for personal income in the input-output table (i.e., "closing", the table for personal income) the I/O impact results include this induced income effect. However, Keynesian multiplier analysis is generally applied at an aggregate level; that is, the Keynesian multiplier is a weighted-average for the economy as a whole. Using I/O impact analysis, the income induced by a change in output in each of the industries represented in the table can be estimated separately. In general, the values of income induced

^{1/} The results from the present research do not include employment impacts. However, a second stage of research presently underway is concerned with the construction of a table of the occupational structure of employment by industry and province. This table can then be linked to the input-output table and can be used to estimate both the level and occupational structure of changes in employment resulting from changes in the output levels of each of the industries.

will vary by industry. In addition, I/O impact analysis provides estimates of the effect of a change in output of one industry on the output levels of all other industries. Furthermore, the interprovincial I/O table constructed in this study provides estimates of the effect of a change in output of some industry in one province on the output levels of the industries, and on total and personal income in each of the provinces.

Using the induced personal income estimates, it is possible to estimate personal income multipliers (of the Keynesian type) for each of the provincial industries. The domestic personal income multiplier for a provincial industry is the total personal income in the nation induced by an increase in the output of that industry, divided by the direct personal income payments (i.e., wages, salaries and net income of unincorporated business) resulting from the expansion of that industry. Similarly, the provincial personal income multiplier is the personal income induced in the province in which the industry expands divided by the direct personal income payments of the expanding industry.

In general, as long as there is interprovincial trade the provincial multipliers will be less than the national figures. That is, not all induced personal income will be retained in the province in which the industry expansion occurs, but some will "leak" out to other provinces. It is generally found that these income leakages are higher the less economically developed the province. In fact, the two concepts are often viewed synonymously; the less developed the provincial economy, the greater the leakages are likely to be.

2.2. INDUSTRY IMPACT RESULTS

The industry impact results are calculated using the I/O impact table and the coefficients for primary factors and personal income from the provincial use tables.

2.2.1 THE INPUT-OUTPUT IMPACT TABLE

The impact table^{1/} is a matrix of the same dimensions as the I/O table. Each row or column in the impact table represents the same industry or personal sector as the corresponding row or column in the I/O table.

Each column in the impact table provides information on the effects of a change in one dollar of output (or income) of the provincial industry (or the personal sector) represented by that column. Since the I/O model is linear, the effect of a change of any dollar value in the output of a provincial industry or personal sector is determined by multiplying the corresponding column in the impact table by that dollar value.

Each entry in a given column in the impact table is the change in the value of output (or income) in the provincial industry (or in the personal sector) represented in the row, induced by a change of one dollar in the output (or personal income) of the provincial industry (or personal sector) represented in the column.

^{1/} If A is the input-output table, then the impact table is $(I - A)^{-1}$

2.2.2 DIRECT TOTAL (PRIMARY FACTOR) AND PERSONAL INCOME COEFFICIENTS

The direct primary factor payments of an industry are the sum of the payments for commodity categories 08600-09500 in Table A1.2 . The payments for these factors represent the direct contribution to value-added or gross domestic product of the industry. The direct factor input coefficient is the direct contribution to gross domestic income per dollar of industry output. These coefficients are obtained from the provincial use tables and are presented for each industry (and the personal sector) in each province in Table 2.1 .

The direct personal income coefficient for an industry is the value of direct personal income payments (consisting of wages, salaries and net income of unincorporated business according to our definition) per dollar of industry output. They are the input coefficients for commodity no. 86 in the use tables and they are presented in Table 2.2 .

The direct personal income coefficient will generally be less than the direct primary factor input coefficient for an industry, as the total primary factors include other payments such as commodity taxes, surplus, etc., as well as personal income. (Personal income payments could exceed total primary factors if subsidies were sufficiently large or the industry experienced a large loss).

TABLE 2.1

DIRECT PRIMARY FACTOR INPUT COEFFICIENTS
OF PROVINCIAL INDUSTRIES

INDUSTRY	PROVINCE									
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
1. AGRICULTURE	0.6879	0.5008	0.5122	0.4709	0.4860	0.5386	0.6514	0.7715	0.6929	0.5740
2. FORESTRY	0.5724	0.7416	0.5873	0.6366	0.7003	0.6538	0.9218	0.4867	0.5755	0.5223
3. FISHING, ETC.	0.5512	0.5384	0.6250	0.5282	0.6538	0.7547	0.7332	0.7863	0.8429	0.5814
4. FUEL MINES & WELLS	0.0000	0.0000	0.1793	0.0048	0.0000	0.7780	0.7543	0.7508	0.7749	0.7559
5. MINES & QUARRIES	0.4953	0.7273	0.6834	0.7391	0.6567	0.6945	0.7910	0.7165	0.6176	0.7238
6. FOOD & BEVERAGES	0.3584	0.2366	0.2895	0.2896	0.2731	0.2903	0.2255	0.2278	0.1932	0.2806
7. TOBACCO PRODUCTS	0.0000	0.0000	0.0000	0.0000	0.3727	0.2151	0.0000	0.0000	0.0000	0.0000
8. RUBBER & PLASTICS	0.0000	0.0000	0.0000	0.0000	0.4378	0.4462	0.4432	0.0000	0.3468	0.6273
9. LEATHER PRODUCTS	0.4657	0.5684	0.3547	0.2674	0.3946	0.3763	0.2997	0.3000	0.3024	0.4280
10. TEXTILES	0.4464	0.1607	0.4395	0.4211	0.3752	0.3574	0.2304	0.3682	0.3743	0.3887
11. KNITTING MILLS	0.5976	0.0000	0.4004	0.3201	0.3626	0.3890	0.3815	0.0000	0.3957	0.4365
12. CLOTHING	0.4404	0.0000	0.3541	0.5588	0.3644	0.4281	0.3539	0.3548	0.3781	0.4281
13. FOOD PRODUCTS	0.3960	0.5764	0.3973	0.3564	0.3868	0.4109	0.4793	0.4050	0.3989	0.3789
14. FURNITURE & FIXTURES	0.6667	0.7391	0.4416	0.3893	0.4462	0.4529	0.4025	0.4221	0.4294	0.4569
15. PAPER & ALLIED PRODS.	0.4901	0.5000	0.4575	0.3810	0.4321	0.4208	0.4035	0.3771	0.4004	0.4429
16. PRINTING, ETC.	0.6217	0.5820	0.5946	0.5958	0.5300	0.5448	0.5449	0.6009	0.5574	0.5726
17. PRIMARY METAL PRODS.	0.5451	0.6316	0.6383	0.4957	0.2147	0.3367	0.1718	0.2046	0.2842	0.4216
18. METAL FABRICATING	0.3899	0.2599	0.4009	0.4843	0.4491	0.4355	0.4299	0.3806	0.4194	0.4590
19. MACHINERY	0.5266	0.4061	0.5707	0.5635	0.4218	0.4506	0.3343	0.4473	0.4240	0.4117
20. TRANSPORTATION EQUIPMENT	0.4473	0.4447	0.4524	0.5362	0.4346	0.2847	0.4719	0.4429	0.4192	0.4902
21. ELECTRICAL PRODUCTS	0.0000	0.0000	0.3620	0.3539	0.4387	0.4134	0.3850	0.2678	0.3493	0.4355
22. NON-METALLIC MINERALS	0.4507	0.5735	0.4790	0.5353	0.5005	0.4837	0.4865	0.4489	0.5196	0.5030
23. PETROLEUM AND COAL PRODS.	0.1772	0.0000	0.1375	0.0795	0.1111	0.1321	0.1196	0.1303	0.1378	0.1174
24. CHEMICAL PRODUCTS	0.4363	0.1695	0.3715	0.3211	0.4253	0.3963	0.3277	0.2912	0.4753	0.3819
25. MISC. MANUFACTURING	0.5361	0.5495	0.4905	0.5003	0.4676	0.4860	0.6077	0.4947	0.5272	0.5713
26. CONSTRUCTION	0.4529	0.3826	0.4411	0.4488	0.5154	0.4997	0.3862	0.3494	0.4081	0.4708
27. TRANSPORTATION & STORAGE	0.6425	0.6217	0.6442	0.6581	0.6507	0.6648	0.6766	0.6441	0.7008	0.6654
28. UTILITIES	0.8660	0.7048	0.6839	0.7495	0.8949	0.8357	0.9062	0.8440	0.8485	0.8164
29. WHOLESALE & RETAIL	0.6648	0.9342	0.6684	0.6938	0.6625	0.6822	0.6899	0.6533	0.6575	0.6831
30. FINANCE, INS. & R.E.	0.8105	0.7685	0.7745	0.7602	0.7559	0.7793	0.7948	0.7925	0.7661	0.7742
31. COMMUNICATIONS & SERVICES	0.6880	0.5955	0.6760	0.6704	0.6814	0.6944	0.6693	0.6134	0.6806	0.7087
32. MISC. OPERATION COSTS	0.0891	0.0891	0.0891	0.0891	0.0891	0.0891	0.0891	0.0891	0.0891	0.0891
33. HEALTH, EDUCATION & HOSP.	0.7830	0.7737	0.7366	0.7628	0.7479	0.7329	0.7440	0.7555	0.7390	0.7411
34. PERSONAL SECTOR	0.0918	0.0935	0.0887	0.0894	0.0809	0.0809	0.0815	0.0852	0.0809	0.0794

TABLE 2.2

DIRECT PERSONAL INCOME COEFFICIENTS
OF PROVINCIAL INDUSTRIES

INDUSTRY	PROVINCE									
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
1 AGRICULTURE	0.4385	0.3768	0.3442	0.3219	0.4019	0.4073	0.4507	0.5845	0.5659	0.4738
2 FORESTRY	0.5295	0.6148	0.4018	0.4321	0.5085	0.4398	0.8100	0.2795	0.3813	0.2637
3 FISHING, ETC.	0.4123	0.3064	0.5483	0.4047	0.5528	0.6383	0.6188	0.5878	0.7719	0.4434
4 FUEL MINES & QUARRIES	0.0000	0.0000	0.6043	0.4164	0.0000	0.1733	0.0354	0.0412	0.1071	0.0979
5 FOOD & BEVERAGE PRODUCTS	0.1940	0.2727	0.2895	0.1899	0.2436	0.2841	0.2958	0.1473	0.2713	0.2275
6 TOBACCO PRODUCTS	0.2344	0.1378	0.1844	0.1555	0.1497	0.1551	0.1462	0.1391	0.1160	0.1625
7 RUBBER & PLASTICS	0.0000	0.0000	0.0000	0.0000	0.1784	0.0744	0.0000	0.0000	0.0000	0.0000
8 LEATHER PRODUCTS	0.0000	0.0000	0.0000	0.0000	0.2829	0.2599	0.5227	0.0000	0.1750	0.0000
9 TEXTILES	0.4353	0.2982	0.4107	0.4126	0.3332	0.3135	0.2315	0.0000	0.2196	0.3317
10 KNITTING MILLS	0.2500	0.1313	0.2358	0.2503	0.2500	0.2459	0.1670	0.2531	0.2324	0.2947
11 CLOTHING	0.5244	0.0000	0.2759	0.2244	0.2436	0.2746	0.2764	0.0000	0.2054	0.3092
12 FOOD PRODUCTS	0.3577	0.0000	0.2578	0.4865	0.2878	0.3569	0.2688	0.2938	0.2856	0.3092
13 FURNITURE & FIXTURES	0.3139	0.4688	0.3015	0.2507	0.2792	0.3013	0.3159	0.2828	0.2696	0.2691
14 PAPER & ALLIED PRODS.	0.6008	0.7391	0.3842	0.2694	0.3217	0.3323	0.3023	0.3131	0.3132	0.3431
15 PRINTING, ETC.	0.3012	0.1852	0.2454	0.2002	0.2262	0.2382	0.1825	0.2413	0.1712	0.1987
16 PETROCHEMICAL PRODS.	0.4675	0.3825	0.4227	0.4487	0.3393	0.4052	0.3935	0.4577	0.3891	0.4185
17 METAL FABRICATING	0.3456	0.7368	0.3250	0.2856	0.1686	0.1935	0.1169	0.1122	0.1802	0.2109
18 MACHINERY	0.2691	0.2736	0.2978	0.3305	0.2990	0.2819	0.2876	0.2420	0.2671	0.3024
19 TRANSPORTATION EQUIPMENT	0.4813	0.2657	0.5281	0.4700	0.2873	0.2713	0.2132	0.3341	0.2832	0.2855
20 ELECTRICAL PRODUCTS	0.2931	0.3892	0.3061	0.4200	0.3159	0.1883	0.3655	0.3322	0.2607	0.3740
21 NON-METALLIC MINERALS	0.0000	0.0000	0.2552	0.2359	0.2990	0.2820	0.2140	0.1004	0.1486	0.2681
22 PETROLEUM AND COAL PRODS.	0.3216	0.3934	0.2381	0.2662	0.2530	0.2736	0.2104	0.1889	0.2253	0.2382
23 CHEMICAL PRODUCTS	0.0386	0.0000	0.0492	0.0334	0.0562	0.0562	0.0646	0.0689	0.0637	0.0589
24 MISC. MANUFACTURING	0.1833	0.0612	0.1723	0.1294	0.2396	0.1900	0.1594	0.1248	0.1659	0.1837
25 CONSTRUCTION	0.3435	0.2626	0.3299	0.3528	0.3085	0.2983	0.4734	0.3538	0.3591	0.4114
26 TRANSPORTATION & STORAGE	0.3148	0.2228	0.2966	0.3074	0.3925	0.3743	0.2330	0.1944	0.2711	0.3388
27 UTILITIES	0.4145	0.4153	0.4104	0.4347	0.4083	0.3826	0.4126	0.3360	0.3269	0.3747
28 WHOLESALE & RETAIL	0.1517	0.1797	0.1741	0.1677	0.2362	0.2203	0.2339	0.1584	0.1596	0.1410
29 FINANCE, INS. & RE	0.4703	0.4337	0.4795	0.5187	0.4670	0.4949	0.5045	0.4574	0.4601	0.4962
30 COMMUNICATIONS & SERVICES	0.2431	0.2024	0.2566	0.2423	0.2946	0.2923	0.3007	0.2735	0.2551	0.2659
31 MISC. OPERATION COSTS	0.4980	0.4064	0.4394	0.4240	0.4747	0.4873	0.4679	0.4065	0.4986	0.5092
32 HEALTH, EDUCATION & HUSP.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
33 PERSONAL SECTOR	0.7126	0.7056	0.6633	0.6916	0.6742	0.6608	0.6740	0.6857	0.6677	0.6736
34	0.0166	0.0189	0.0184	0.0185	0.0158	0.0162	0.0167	0.0189	0.0175	0.0160

2.2.3 INDUCED DOMESTIC TOTAL INCOME

Referring again to the impact table, only a portion of the induced outputs are net contributions to total income, namely the fraction of the industry output which is a direct payment to primary factors. Thus, if each entry in a given row and column is multiplied by the primary factor input coefficient of the row industry (as given in Table 2.1), the product is the net contribution to total income by the industry in the row induced by a change of one dollar in the output of the column industry. The sum of such products over all the rows for any given column is thus the total domestic income induced by a change of one dollar in the output of the industry represented in the column^{1/}. The results of the impact analysis for total domestic income induced by an increase of \$100 in the output of each industry and personal income in each of the provinces is presented in Table 2.3 .

^{1/} In the case of the total domestic income induced by an increase of one dollar in personal income in a given province, the sum of these products over all rows in the personal income column yields the indirect and induced income only; it does not include the initial direct one dollar increase in personal income in that province. Thus in these cases, the sum of the products must be augmented by one dollar to obtain the total induced domestic income.

TABLE 2.3

DOMESTIC TOTAL INCOME INDUCED BY A \$100 INCREASE IN
INDUSTRY OUTPUT AND PERSONAL INCOME BY PROVINCE

INDUSTRY	PROVINCE									
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
1. AGRICULTURE	157.36	151.68	149.29	143.69	158.11	157.30	157.38	168.70	160.33	162.45
2. FORESTRY	169.82	180.28	150.91	159.20	164.58	159.23	188.82	148.15	154.86	145.10
3. FISHING, ETC.	149.88	137.31	161.73	147.91	162.88	170.74	170.84	166.90	183.35	152.76
4. FUEL MINES & WELLS	0.00	0.00	114.00	153.26	0.00	126.96	113.18	112.91	119.42	119.38
5. MINES & QUARRIES	133.46	138.61	138.14	120.09	135.55	138.22	136.97	122.68	138.10	130.80
6. FOOD & BEVERAGES	142.72	138.61	140.58	123.26	135.97	139.03	144.82	148.28	144.28	134.15
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	140.90	138.30	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	130.22	124.73	137.34	0.00	111.46	153.16
9. LEATHER PRODUCTS	158.94	148.40	145.82	140.75	148.90	147.97	141.26	112.42	144.41	146.84
10. TEXTILES	129.13	102.40	112.66	102.12	122.92	126.29	120.75	127.28	123.40	132.62
11. KNITTING MILLS	152.92	0.00	129.60	120.15	126.51	129.84	128.01	0.00	124.96	129.78
12. CLOTHING	151.38	0.00	135.53	149.24	130.52	136.97	137.85	144.70	141.56	147.31
13. APPAREL PRODUCTS	155.83	166.68	155.65	155.45	156.28	155.03	148.91	149.36	147.14	152.25
14. FURNITURE & FIXTURES	169.08	187.31	149.08	138.10	145.82	144.86	140.52	138.68	138.82	144.96
15. PAPER & ALLIED PRODS.	154.87	124.97	144.76	142.37	143.48	142.00	137.20	144.22	133.97	138.20
16. PRINTING, ETC.	164.41	156.75	159.21	161.62	157.73	157.87	157.25	162.30	154.88	157.71
17. PRIMARY METAL PRODS.	144.69	168.81	138.69	134.84	121.73	123.81	123.07	121.26	128.44	121.24
18. METAL FABRICATING	137.65	124.21	138.41	142.40	139.09	136.72	137.46	131.42	134.25	138.05
19. MACHINERY	158.15	125.13	160.70	155.06	135.03	129.74	124.20	136.02	131.37	136.35
20. TRANSPORTATION EQUIPMENT	142.96	143.66	134.27	148.05	134.56	103.82	136.76	139.26	131.67	135.17
21. ELECTRICAL PRODUCTS	0.00	0.00	133.61	130.04	138.94	136.53	129.21	117.66	119.97	134.44
22. NON-METALLIC MINERALS	153.53	153.12	134.02	141.19	137.66	138.53	136.49	135.10	135.42	137.61
23. PETROLEUM AND COAL PRODS.	61.32	0.00	50.51	36.54	45.88	122.15	123.12	124.41	123.66	123.60
24. CHEMICAL PRODUCTS	125.39	108.66	125.77	120.09	132.89	127.29	123.02	114.30	120.55	122.61
25. MISC. MANUFACTURING	142.77	145.63	137.65	143.03	140.26	136.18	134.16	139.12	140.45	146.80
26. CONSTRUCTION	146.84	137.66	143.10	144.33	152.33	150.32	138.54	134.60	140.95	147.03
27. TRANSPORTATION & STORAGE	156.25	157.43	153.28	155.64	152.94	150.50	154.46	145.30	142.78	150.41
28. UTILITIES	119.42	122.87	127.88	124.05	128.00	125.31	128.31	121.32	121.94	121.20
29. WHOLESALE & RETAIL	163.23	160.18	162.09	163.30	162.20	163.48	165.22	161.30	159.43	163.20
30. FINANCE, INS. & R.F.	134.53	132.81	135.88	135.04	141.85	139.84	139.83	136.66	135.17	137.04
31. COMMUNICATIONS & SERVICES	162.17	158.63	157.34	155.66	161.70	161.80	161.80	156.95	162.70	163.54
32. MISC. OPERATION COSTS	131.29	130.40	129.63	130.39	129.93	129.40	130.94	127.53	126.70	129.54
33. HEALTH, EDUCATION & HOSP.	183.20	183.55	176.98	179.68	178.45	176.13	178.42	179.58	175.81	177.66
34. PERSONAL SECTOR	209.82	211.18	206.67	207.13	207.38	205.10	206.37	207.85	204.22	205.11

2.2.4 INDUCED DOMESTIC PERSONAL INCOME

As is the case with induced total income, only a portion of each of the induced outputs in the impact table is a net contribution to personal income. In each case, that portion is the fraction of industry output which is a direct payment to personal income.

The product of the induced output in a given row and column of the impact table and the direct personal income coefficient of the row industry (as given in Table 2.2) is the net contribution to personal income by the row industry induced by a change of one dollar in the output of the column industry. The sum of these products over all rows in a given column is the total domestic personal income induced by an increase of one dollar of the output of the industry represented in the column^{1/}.

It can be shown that for any column which represents an industry (but not a personal sector) the sum of such products over the rows in that column is equal to the sum of the entries in the ten personal income rows in that column of the impact table. For a personal income column, however, the sum of the entries in the ten personal income rows is equal to the total direct, indirect and induced domestic income, but (as noted in the previous footnote) the sum of

^{1/} In this case also (see the footnote to Section 2.2.3), the sum of these products for a personal income column yields the direct and induced personal income only, but does not include the direct increase of one dollar. Thus, for these columns the sum of products must be augmented by one dollar to obtain the total induced domestic personal income.

the products in the column is equal only to the indirect and induced personal income (i.e., the sum of the ten entries less unity).

The domestic personal income induced by an increase of \$100 in the output of each of the industries and in personal income in each of the provinces is given in Table 2.4 .

TABLE 2.4

DOMESTIC PERSONAL INCOME INDUCED BY A \$100 INCREASE IN
INDUSTRY OUTPUT AND PERSONAL INCOME BY PROVINCE

INDUSTRY	PROVINCE									
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
1. AGRICULTURE	92.27	92.47	89.15	85.10	102.21	97.89	94.26	105.15	97.83	104.05
2. FORESTRY	109.76	119.98	94.86	85.64	104.13	95.84	133.10	80.43	90.10	76.65
3. FISHING, ETC.	93.85	76.63	110.09	94.54	110.47	115.60	115.48	105.32	129.70	97.29
4. FUEL MINES & WELLS	0.00	0.00	111.09	90.93	0.00	23.69	23.69	23.08	32.86	33.40
5. MINES & QUARRIES	63.76	52.33	66.79	46.39	62.63	65.58	60.79	46.64	66.37	53.84
6. FOOD & BEVERAGES	84.14	79.57	84.36	69.48	79.17	79.64	86.20	87.45	84.89	78.22
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	75.84	76.56	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	76.30	69.86	102.46	0.00	57.68	101.07
9. LEATHER PRODUCTS	109.33	96.73	103.97	102.78	97.54	94.67	87.38	45.61	86.21	92.58
10. TEXTILES	72.80	62.60	61.76	56.65	73.58	75.90	74.54	74.49	69.37	81.56
11. KNITTING MILLS	104.16	0.00	78.10	72.38	76.32	79.28	78.57	0.00	74.14	77.34
12. CLOTHING	98.44	0.00	81.39	100.69	89.10	89.47	86.02	88.30	86.83	92.24
13. WOOD PRODUCTS	98.06	108.07	96.81	94.77	97.21	95.66	87.93	87.14	85.91	88.43
14. FURNITURE & FIXTURES	116.80	135.62	97.76	83.42	89.72	89.54	87.10	83.75	84.22	84.62
15. PAPER & ALLIED PRODS.	90.55	57.49	79.44	74.71	79.43	79.00	70.82	79.67	66.32	69.07
16. PRINTING, ETC.	102.13	91.33	92.60	100.62	97.45	93.02	95.66	99.39	91.25	95.28
17. PRIMARY METAL PRODS.	82.87	129.64	82.28	74.64	62.25	66.80	61.08	52.54	68.62	60.05
18. METAL FABRICATING	79.92	79.94	82.42	83.95	81.59	79.47	80.21	73.51	76.19	74.83
19. MACHINERY	106.45	72.33	108.88	49.34	80.95	74.19	71.56	82.31	76.95	79.61
20. TRANSPORTATION EQUIPMENT	85.81	93.72	80.00	93.95	82.99	61.36	86.63	84.48	73.95	84.57
21. ELECTRICAL PRODUCTS	0.00	0.00	80.00	76.18	82.66	81.49	70.95	58.03	60.92	75.96
22. NON-METALLIC MINERALS	91.76	80.50	73.31	73.54	72.99	75.94	66.44	63.68	64.93	69.05
23. PETROLEUM AND COAL PRODS.	26.31	0.00	24.44	18.22	25.65	43.94	42.24	43.70	45.18	45.44
24. CHEMICAL PRODUCTS	22.26	51.20	64.44	57.22	73.28	65.88	63.66	55.48	55.00	60.72
25. MISC MANUFACTURING	88.08	82.08	81.00	86.66	82.69	78.94	97.96	82.38	81.96	84.11
26. CONSTRUCTION	88.05	77.83	85.00	86.66	90.15	93.80	78.94	73.35	81.87	88.65
27. TRANSPORTATION & STORAGE	92.16	94.04	90.00	93.33	90.27	84.08	88.42	72.62	70.52	82.40
28. UTILITIES	32.69	46.19	55.66	44.44	44.44	45.83	43.67	34.34	34.57	34.60
29. WHOLESALE & RETAIL	33.49	44.74	49.99	44.73	49.56	101.09	102.48	95.34	94.80	100.36
30. FINANCE, INS. & R.E.	53.49	51.50	57.00	55.55	66.00	63.29	62.63	56.94	56.29	58.73
31. COMMUNICATIONS & SERVICES	72.64	71.33	71.00	72.00	99.49	99.49	98.82	91.53	99.91	101.00
32. MISC. OPERATION COSTS	97.63	94.86	91.00	91.00	72.74	70.57	71.97	65.81	65.52	69.91
33. HEALTH, EDUCATION & HOSP.	127.98	127.48	127.00	127.00	124.75	122.33	124.12	123.05	120.75	123.08
34. PERSONAL SECTOR	158.48	156.71	157.00	157.00	158.67	156.87	157.53	156.19	154.83	155.96

2.2.5 DOMESTIC PERSONAL INCOME MULTIPLIERS

If the domestic personal income induced by a change in output of one dollar of each provincial industry (the figures in Table 2.4 divided by 100) is divided by the direct personal income coefficient for that industry (as given in Table 2.2) the result is the domestic personal income multiplier for that industry. A multiplier for the provincial personal sectors is not comparable to the industry multipliers as in this case the total direct personal income payment is the initial increase itself.

The domestic personal income multipliers for each of the provincial industries are presented in Table 2.5 . These multipliers are useful for project impact analysis. If the direct change in personal income resulting from a contemplated change in the output of some provincial industry is known, then the total induced domestic personal income resulting from that change can be estimated using the multiplier.

The possible lack of correlation between the induced domestic personal income estimates in Table 2.4 and the multipliers in Table 2.5 should be noted. Equal expansions in the output of two industries may induce identical values of domestic personal income but the multipliers may vary, because the direct personal income coefficients for the industries may differ.

Corresponding multipliers for domestic total income can be calculated using the data in Tables 2.1 and 2.3 .

TABLE 2.5

DOMESTIC PERSONAL INCOME MULTIPLIERS
OF PROVINCIAL INDUSTRIES

INDUSTRY	PROVINCE									
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
1. AGRICULTURE	.10	.45	.20	.20	.20	.20	.20	.20	.20	.20
2. FORESTRY	.07	.11	.11	.11	.11	.11	.11	.11	.11	.11
3. FISHING, ETC.	.28	.35	.35	.35	.35	.35	.35	.35	.35	.35
4. FUEL MINES & WELLS	.28	.50	.50	.50	.50	.50	.50	.50	.50	.50
5. MINES & QUARRIES	.29	.31	.31	.31	.31	.31	.31	.31	.31	.31
6. FOOD & BEVERAGES	.58	.71	.71	.71	.71	.71	.71	.71	.71	.71
7. TOBACCO PRODUCTS	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
8. RUBBER & PLASTICS	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
9. LEATHER PRODUCTS	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
10. TEXTILES	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
11. KNITTING MILLS	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
12. CLOTHING	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
13. SHOE PRODUCTS	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
14. FURNITURE & FIXTURES	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
15. PAPER & ALLIED PRODS.	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
16. PRINTING, ETC.	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
17. PRIMARY METAL PRODS.	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
18. METAL FABRICATING	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
19. MACHINERY	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
20. TRANSPORTATION EQUIPMENT	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
21. ELECTRICAL PRODUCTS	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
22. NON-METALLIC MINERALS	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
23. PETROLEUM AND COAL PRODS.	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
24. CHEMICAL PRODUCTS	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
25. MISC. MANUFACTURING	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
26. CONSTRUCTION	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
27. TRANSPORTATION & STORAGE	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
28. UTILITIES	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
29. WHOLESALE & RETAIL	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
30. FINANCE, INS. & R.E.	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
31. COMMUNICATIONS & SERVICES	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
32. MISC. OPERATION COSTS	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
33. HEALTH, EDUCATION & HOSP.	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60

2.2.6 TOTAL INCOME INDUCED IN PROVINCE OF IMPACT

If the products of induced outputs and direct primary factor input coefficients are added within a given column over (the rows for) the industries and the personal sector in each province separately, then the results are the values of total income induced in each of the provinces as a result of an increase of one dollar in the output of the industry represented in that column. One of these provinces will be the province of impact, i.e., the province in which the expanding industry is located^{1/}. These results, for total induced income in the province of impact resulting from an expansion of \$100 in the output of each industry and in personal income in that province, are given in Table 2.6 .

^{1/} As noted previously, for a column representing the personal sector in a given province, the sum of the products over (the rows for) the industries and the personal sector in that province must be increased by unity to include the direct increase in personal income in that province of impact.

TABLE 2.6

TOTAL INCOME IN PROVINCE OF IMPACT INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUT AND PERSONAL INCOME BY PROVINCE

INDUSTRY	PROVINCE									
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
1. AGRICULTURE	111.68	99.46	103.06	100.59	129.49	141.11	123.15	135.51	133.22	128.81
2. FORESTRY	127.63	138.31	118.39	123.42	144.96	144.62	154.96	109.55	124.17	121.78
3. FISHING, ETC.	98.64	95.43	119.34	103.06	139.52	154.55	131.82	130.24	150.64	118.78
4. FUEL MINES & WELLS	0.00	0.00	78.63	120.06	0.00	121.49	103.60	102.58	109.35	109.29
5. MINES & QUARRIES	99.95	110.62	108.98	106.07	120.20	129.10	116.90	102.01	114.36	113.69
6. FOOD & BEVERAGES	88.25	84.19	88.46	75.73	100.14	118.84	90.48	107.72	111.44	95.74
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	101.21	114.36	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	103.34	107.41	90.38	0.00	73.43	115.44
9. LEATHER PRODUCTS	81.38	68.01	85.15	68.43	114.56	123.55	81.74	68.35	98.04	96.32
10. TEXTILES	75.49	32.20	74.22	72.11	97.00	102.52	58.38	71.54	78.22	83.40
11. KNITTING MILLS	91.92	0.00	72.88	57.73	98.13	104.21	70.34	0.00	70.93	81.31
12. CLOTHING	97.45	0.00	79.78	98.00	104.87	111.62	83.20	94.44	85.15	101.33
13. WOOD PRODUCTS	102.15	107.77	102.20	105.64	128.42	128.25	95.99	89.18	97.76	126.97
14. FURNITURE & FIXTURES	112.10	124.57	91.47	81.29	115.97	123.01	83.94	82.87	89.59	104.33
15. PAPER & ALLIED PRODS.	113.21	91.55	97.54	97.65	119.12	116.98	80.93	76.63	89.58	113.31
16. PRINTING, ETC.	110.54	104.28	112.99	118.40	130.55	134.60	107.68	110.60	108.62	124.72
17. PRIMARY METAL PRODS.	99.27	115.46	115.94	80.42	86.48	108.35	89.51	51.13	72.33	97.08
18. METAL FABRICATING	75.92	60.25	81.44	84.75	103.18	120.85	85.74	68.20	83.44	97.69
19. MACHINERY	92.20	71.00	109.62	106.88	101.20	116.03	74.15	84.46	86.56	92.69
20. TRANSPORTATION EQUIPMENT	84.35	82.51	84.91	95.90	104.85	91.24	92.11	81.83	84.18	98.13
21. ELECTRICAL PRODUCTS	0.00	0.00	65.05	68.99	106.12	118.85	78.70	53.02	71.23	95.00
22. NON-METALLIC MINERALS	104.68	102.05	101.41	108.08	116.40	124.27	104.81	98.59	105.81	112.90
23. PETROLEUM AND COAL PRODS.	45.68	0.00	37.87	27.46	38.76	51.83	36.68	42.65	104.13	73.03
24. CHEMICAL PRODUCTS	79.34	40.81	82.94	78.34	105.54	109.79	74.09	54.03	94.57	94.73
25. MISC. MANUFACTURING	93.10	101.48	89.30	94.75	112.09	119.59	110.52	91.49	102.59	113.39
26. CONSTRUCTION	89.34	73.55	92.33	93.78	123.20	132.34	89.27	80.08	96.30	110.47
27. TRANSPORTATION & STORAGE	118.29	118.65	121.93	122.62	134.84	138.13	124.41	118.64	122.29	127.21
28. UTILITIES	105.92	99.04	108.63	107.47	121.90	120.33	115.63	110.04	112.51	111.50
29. WHOLESALE & RETAIL	123.73	121.69	128.17	131.50	142.83	150.81	134.07	130.01	133.53	137.91
30. FINANCE, INS. & R.E.	113.35	111.23	116.38	116.79	129.45	132.56	121.28	117.85	119.42	122.09
31. COMMUNICATIONS & SERVICES	119.06	116.29	121.51	121.62	139.84	148.55	128.51	122.61	133.67	135.62
32. MISC. OPERATION COSTS	77.13	75.43	81.52	82.27	101.75	113.51	87.66	81.62	87.42	93.09
33. HEALTH, EDUCATION & HOSP.	135.37	136.67	136.03	138.57	155.36	161.41	141.94	141.44	143.38	146.16
34. PERSONAL SECTOR	160.48	163.52	165.20	165.77	184.10	190.49	170.66	170.31	172.76	174.10

2.2.7 PERSONAL INCOME INDUCED IN PROVINCE OF IMPACT

Using the direct personal income coefficients instead of the primary factor input coefficients, the total induced personal income in the province of impact can be calculated for each industry. The results, for personal income induced in the province of impact by an increase of \$100 in the output of each of the industries and in personal income in each of the provinces, are presented in Table 2.7 .

TABLE 2.7

PERSONAL INCOME IN PROVINCE OF IMPACT INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUT AND PERSONAL INCOME BY PROVINCE

INDUSTRY	PROVINCE									
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
1. AGRICULTURE	65.51	63.36	62.50	60.38	85.74	89.36	76.10	87.11	82.12	84.91
2. FORESTRY	85.19	95.64	72.29	75.58	92.83	88.10	114.37	58.98	72.44	63.42
3. FISHING, ETC.	64.29	52.57	45.42	68.19	97.10	106.92	93.76	84.84	110.52	78.11
4. FUEL MINES & WELLS	0.00	0.00	91.36	71.57	0.00	41.25	18.41	17.35	27.00	27.66
5. MINES & QUARRIES	44.48	46.63	50.12	35.14	53.93	60.76	49.76	29.42	52.80	44.03
6. FOOD & BEVERAGES	52.76	48.49	54.02	41.81	58.28	68.38	54.77	64.82	65.74	56.07
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	53.52	63.37	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	61.35	50.31	76.48	0.00	36.10	79.49
9. LEATHER PRODUCTS	61.22	46.18	67.39	62.39	77.11	80.49	52.64	20.16	58.95	62.11
10. TEXTILES	41.37	21.34	39.40	41.10	58.68	62.13	38.24	42.37	43.38	53.66
11. KNITTING MILLS	68.17	0.00	44.60	35.40	59.74	64.34	44.79	0.00	41.39	48.83
12. CLOTHING	64.43	0.00	48.52	70.38	68.13	74.63	53.69	58.96	52.56	64.83
13. FOOD PRODUCTS	66.88	73.54	65.28	65.00	81.06	80.28	57.55	53.22	55.45	73.85
14. FURNITURE & FIXTURES	82.91	99.37	64.18	50.25	72.26	77.15	54.49	51.28	55.45	66.11
15. PAPER & ALLIED PRODS.	66.57	38.66	52.44	52.43	65.54	65.37	40.00	43.28	55.60	55.71
16. PRINTING, ETC.	71.27	61.45	76.17	75.79	81.99	85.22	68.14	71.04	65.70	79.23
17. PRIMARY METAL PRODS.	57.39	99.86	49.15	44.63	43.65	54.49	44.50	23.91	40.20	47.09
18. METAL FABRICATING	46.30	45.28	50.65	52.18	61.25	70.96	51.88	39.24	40.33	57.28
19. MACHINERY	68.16	42.40	79.54	72.21	61.64	66.67	43.78	53.59	51.21	55.98
20. TRANSPORTATION EQUIPMENT	51.28	58.65	51.73	65.26	66.05	64.00	61.18	53.28	47.83	55.36
21. ELECTRICAL PRODUCTS	0.00	0.00	40.64	41.40	64.08	71.55	44.00	23.20	33.06	33.57
22. NON-METALLIC MINERALS	64.11	61.76	52.63	54.24	60.72	68.68	49.70	44.41	48.58	55.38
23. PETROLEUM AND COAL PRODS.	17.38	0.00	17.34	13.67	20.10	25.95	18.49	18.12	34.26	22.53
24. CHEMICAL PRODUCTS	36.37	17.87	40.43	34.31	58.30	57.02	38.02	27.01	38.51	45.44
25. MISC MANUFACTURING	59.50	57.22	53.97	58.77	66.37	69.33	73.35	56.36	60.55	70.47
26. CONSTRUCTION	55.45	41.45	56.03	57.37	79.79	83.93	75.45	43.00	56.40	67.91
27. TRANSPORTATION & STORAGE	70.08	71.79	72.66	74.33	79.91	77.33	72.20	58.03	58.56	69.42
28. UTILITIES	25.66	32.95	44.90	34.71	40.32	42.83	36.80	27.83	28.10	29.19
29. WHOLESALE & RETAIL	75.57	73.53	79.51	83.81	88.44	94.20	85.01	77.76	79.64	85.63
30. FINANCE, INS. & R.E.	41.14	39.06	45.72	44.72	58.97	59.19	52.19	46.32	47.09	50.13
31. COMMUNICATIONS & SERVICES	72.86	69.87	72.27	71.04	87.01	92.19	80.26	72.11	83.50	84.99
32. MISC. OPERATION COSIS	40.99	39.94	43.55	44.68	56.11	61.92	47.58	39.77	42.70	48.99
33. HEALTH, EDUCATION & HOSP.	100.01	100.32	98.79	101.65	111.47	114.24	103.67	101.47	101.77	104.98
34. PERSONAL SECTOR	129.58	131.05	132.97	133.50	145.21	148.79	137.31	134.84	136.25	137.99

2.2.8 PROVINCIAL PERSONAL INCOME MULTIPLIERS

The provincial personal income multiplier for an industry is obtained by dividing the personal income induced in the province of impact per dollar of industry output (the figures in Table 2.7 divided by 100), by the direct personal income coefficient (as given in Table 2.2) for the corresponding industry. As is the case with the domestic personal income multipliers described in Section 2.2.5, a comparable multiplier for changes in personal income is not meaningful. The provincial personal income multipliers for each of the provincial industries is given in Table 2.8 . Corresponding provincial total income multipliers can be computed using the data in Tables 2.1 and 2.6 .

TABLE 2.8

PROVINCIAL PERSONAL INCOME MULTIPLIERS
OF PROVINCIAL INDUSTRIES

INDUSTRY	PROVINCE									
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
1. AGRICULTURE	1.50	1.68	1.82	1.88	2.13	2.19	1.69	1.49	1.62	1.79
2. FORESTRY	1.61	1.56	1.80	1.75	1.83	2.00	1.41	2.11	1.90	2.40
3. FISHING, ETC.	1.56	1.72	1.56	1.68	1.76	1.68	1.52	1.44	1.43	1.76
4. FUEL MINES & WELLS	0.00	0.00	1.51	1.72	0.00	0.38	5.21	4.22	2.55	2.82
5. MINES & QUARRIES	2.29	1.71	1.73	1.85	2.21	2.14	1.68	2.00	2.00	2.94
6. FOOD & BEVERAGES	2.25	3.52	2.93	2.69	3.89	4.41	3.75	4.66	5.00	3.45
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	0.17	0.32	1.46	0.00	0.06	1.52
9. LEATHER PRODUCTS	1.41	1.55	1.64	1.51	2.31	2.57	2.27	0.00	1.88	1.87
10. TEXTILES	1.65	1.63	1.66	1.60	2.35	2.53	2.04	1.67	1.87	1.80
11. KNITTING MILLS	1.30	0.00	1.62	1.58	2.45	2.34	1.62	0.00	1.58	1.68
12. CLOTHING	1.80	0.00	1.88	1.45	2.37	2.09	2.00	2.33	1.84	1.69
13. WOOD PRODUCTS	2.13	1.57	2.17	2.59	2.90	2.66	1.82	2.22	2.13	2.74
14. FURNITURE & FIXTURES	1.38	1.34	1.67	1.87	2.26	2.32	1.80	1.66	1.77	1.93
15. PAPER & ALLIED PRODS.	2.21	2.09	2.14	2.62	2.90	2.74	1.19	1.74	1.45	1.80
16. PRINTING, ETC.	1.52	1.61	1.66	1.69	2.11	2.10	1.73	1.55	1.69	2.00
17. PRIMARY METAL PRODS.	1.66	1.36	1.51	1.56	4.02	3.05	3.81	2.13	2.23	2.23
18. METAL FABRICATING	1.72	1.65	1.70	1.58	2.07	2.52	1.80	1.62	1.81	1.99
19. MACHINERY	1.42	1.59	1.51	1.54	2.15	2.46	2.05	1.50	1.63	1.46
20. TRANSPORTATION EQUIPMENT	1.74	1.51	1.69	1.52	2.09	2.89	1.67	1.50	1.83	1.69
21. ELECTRICAL PRODUCTS	0.00	0.00	1.59	1.75	2.14	2.54	2.01	1.31	2.33	2.00
22. NON-METALLIC MINERALS	1.99	1.57	2.21	2.04	2.40	2.49	2.36	2.35	1.16	2.33
23. PETROLEUM AND COAL PRODS.	4.50	0.00	3.53	3.91	3.57	4.62	2.66	2.63	3.37	4.47
24. CHEMICAL PRODUCTS	1.98	2.92	2.35	2.65	2.43	3.00	2.66	2.16	2.32	2.47
25. MISC. MANUFACTURING	1.51	1.58	1.64	1.67	2.17	2.34	1.56	1.54	1.69	1.71
26. CONSTRUCTION	1.76	1.86	1.89	1.87	2.03	2.24	2.21	2.21	2.08	2.08
27. TRANSPORTATION & STORAGE	1.09	1.73	1.76	1.71	1.96	2.04	1.75	1.73	1.79	1.88
28. UTILITIES	1.65	1.83	2.58	2.07	1.71	1.94	1.57	1.76	1.82	2.07
29. WHOLESALE & RETAIL	1.61	1.67	1.66	1.62	1.89	1.90	1.68	1.70	1.73	1.73
30. FINANCE, INS. & R.E.	1.69	1.76	1.78	1.65	2.00	2.03	1.74	1.69	1.85	1.99
31. COMMUNICATIONS & SERVICES	1.56	1.72	1.64	1.68	1.83	1.89	1.72	1.77	1.67	1.67
32. MISC. OPERATION COSTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33. HEALTH, EDUCATION & HOSP.	1.40	1.42	1.49	1.47	1.65	1.73	1.54	1.48	1.52	1.56

2.2.9 INTERPROVINCIAL FLOWS OF INDUCED PERSONAL INCOME

The difference between the induced domestic personal incomes in Table 2.4 and the corresponding induced personal income in the province of impact in Table 2.7 is the induced personal income which leaks out to other provinces.

The proportion of induced domestic income which is retained in the province of impact will vary depending upon the size of the economy of the province of impact, the characteristics of the expanding industry and the trading relationships between that province and the others. In general, provinces with smaller economies will exhibit higher leakage rates as they are more dependent on imports from other provinces.

Conversely, a province which exports large quantities of goods and services to another province will tend to gain a substantial portion of induced income resulting from the expansion of industries in the latter province. A province which exports little to another province will tend to exhibit only marginal changes in induced income resulting from the expansion of industries in the latter province.

Table A4.1 presents the distribution of induced personal income by province resulting from an expansion of \$100 in the output of each of the industries and the personal sector in each of the provinces. The percentage distribution by province of these induced personal income estimates is given in Table A4.2. Results similar to the above for the distribution of induced total income can be calculated. The pattern of these latter results tend to be very similar to those for personal income, and are thus not presented.

The percentages of induced domestic personal income retained in the province of impact resulting from a change in industry outputs and personal income in each of the provinces can be found in Table A4.2 . These results have been summarized in Table 2.9 for ease of provincial comparisons.

TABLE 2.9

PERCENTAGE OF INDUCED DOMESTIC PERSONAL INCOME RETAINED
IN PROVINCE OF IMPACT FOR INDUSTRIES AND PERSONAL INCOME BY PROVINCE

INDUSTRY	PROVINCE									
	NFLD	PEI	NS	NR	QUE	ONT	MAN	SASK	ALTA	BC
1. AGRICULTURE	71.32	68.52	70.10	70.96	83.89	91.29	80.74	82.84	83.94	81.60
2. FORESTRY	77.62	79.71	76.20	78.21	89.15	91.92	85.93	73.34	80.40	82.74
3. FISHING, ETC.	68.50	68.60	77.59	72.12	87.89	92.49	81.19	80.56	85.21	80.29
4. FUEL MINES & WELLS	0.00	0.00	81.62	78.71	0.00	93.34	77.73	75.19	82.17	82.81
5. MINES & QUARRIES	69.76	74.16	75.04	75.41	86.11	92.64	81.86	72.39	79.56	82.08
6. FOOD & BEVERAGES	62.71	60.94	64.03	60.19	73.62	85.85	63.54	74.12	77.44	71.69
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	70.57	82.77	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	80.40	86.33	74.64	0.00	62.58	78.65
9. LEATHER PRODUCTS	55.99	47.74	64.82	57.36	79.06	84.85	59.89	44.20	68.36	67.10
10. TEXTILES	56.83	33.98	63.79	70.08	79.74	82.17	51.31	56.87	62.53	65.06
11. KNITTING MILLS	65.45	0.00	57.10	48.90	78.27	81.16	57.01	0.00	56.50	62.29
12. CLOTHING	66.80	0.00	59.42	69.90	81.98	83.42	62.42	66.77	60.53	70.29
13. WOOD PRODUCTS	68.20	68.05	67.44	68.59	83.38	83.92	65.45	61.08	66.87	83.51
14. FURNITURE & FIXTURES	71.26	73.27	65.60	60.23	80.94	86.12	62.56	61.97	65.88	73.76
15. PAPER & ALLIED PRODS.	73.52	67.25	65.74	66.61	82.52	82.75	56.49	54.32	63.33	79.97
16. PRINTING, ETC.	69.75	67.31	72.64	75.17	84.12	86.94	71.23	71.47	72.00	83.15
17. PRIMARY METAL PRODS.	69.26	77.03	78.92	60.28	70.13	88.27	72.85	40.85	58.67	78.41
18. METAL FABRICATING	57.93	56.64	61.46	62.16	75.80	89.31	64.69	53.39	63.44	71.75
19. MACHINERY	64.03	58.38	73.35	72.69	76.43	89.86	61.17	65.11	66.55	70.32
20. TRANSPORTATION EQUIPMENT	59.76	62.59	64.55	68.59	79.63	88.65	70.63	61.88	64.68	74.92
21. ELECTRICAL PRODUCTS	0.00	0.00	50.48	54.35	77.52	87.84	60.64	40.06	54.50	70.53
22. NON-METALLIC MINERALS	69.87	69.00	71.64	73.75	83.54	90.22	74.80	69.73	74.81	80.21
23. PETROLEUM AND COAL PRODS.	66.06	0.00	70.73	71.56	83.55	59.07	43.78	41.46	75.83	60.60
24. CHEMICAL PRODUCTS	58.41	34.90	63.08	59.75	79.56	86.55	59.73	46.68	70.01	74.84
25. MISC. MANUFACTURING	67.56	69.71	66.42	67.89	80.91	88.52	75.39	68.41	73.87	79.08
26. CONSTRUCTION	62.55	53.29	65.76	66.27	82.72	89.47	65.18	58.62	68.88	76.61
27. TRANSPORTATION & STORAGE	76.03	76.34	79.85	79.45	88.52	92.69	81.65	79.91	83.04	84.25
28. UTILITIES	76.43	71.33	80.13	77.74	90.45	93.43	84.25	81.06	84.18	84.36
29. WHOLESALE & RETAIL	76.60	76.56	80.07	80.79	88.81	93.24	82.95	81.56	84.01	85.33
30. FINANCE, INS. & R.E.	76.91	75.85	80.13	79.92	89.22	93.61	83.34	81.35	83.66	85.36
31. COMMUNICATIONS & SERVICES	74.62	74.07	77.61	78.04	87.35	92.66	81.21	78.79	83.38	84.14
32. MISC. OPERATION COSTS	56.44	55.57	60.88	61.41	77.62	87.74	66.12	60.43	65.16	70.07
33. HEALTH, EDUCATION & HOSP.	78.15	78.69	80.57	80.90	89.35	93.39	83.52	82.46	84.29	85.29
34. PERSONAL SECTOR	81.77	82.57	84.56	84.62	91.52	94.85	87.16	86.33	88.00	88.48

2.2.10 A DISCUSSION OF CERTAIN ASPECTS OF THE RESULTS

In constructing the I/O table, it was assumed, in most cases, that the demand for service commodities within a province was met from within the same province. (This can be seen by referring to the last three lines of Table 1.4). This assumption was made as there is almost no information available on interregional trade in services. Since interregional trade in services does occur in reality, the effect of this assumption is to increase the proportion of domestic income retained in the province of impact.

By referring to the results in Tables 2.3, 2.4, and 2.5, it can be seen that there is a large degree of variation in the results across provinces. The results in the previous version of the I/O table (see item 7 in the References) exhibited only slight differences across provinces (except for that caused by different provincial import coefficients for energy commodities). The provincial variations in these results arise mainly from the differences in industry technology between provinces which have been introduced into the provincial use matrices in this version of the I/O table.

2.3 PROJECT IMPACT ANALYSIS

The industry impact results are useful for estimating the effect of changes in industry outputs or in various combinations of industry outputs. But in many cases, the information available for a specific project is in the form of commodity rather than industry requirements.

It will now be demonstrated how the interprovincial I/O table together with the sub-tables can be used to estimate the impact of a project in a province where the direct requirements are specified by commodity. It will also be shown how specific information relating to the sources of supply of these direct commodity requirements can be introduced into the analysis to provide more accurate impact results.

The mathematical formula to estimate the induced outputs resulting from a set of commodity demands is as follows:

$$(I-A)^{-1}S^P(I-\hat{U})^P R$$

where R = a vector of commodity demands
(in the 86 commodity categories),

$(I-\hat{U})^P$ = the Diagonal Matrix of Domestic Commodity Supply Coefficients for the province of impact,

S^P = the Interprovincial Commodity Supply Coefficient Matrix for the province of impact.

This formula can be interpreted as follows:

$(I-\hat{U})^P R$ yields a vector of commodity demands from domestic sources. Premultiplication by S^P translates these domestic

commodity demands into a vector of demands for direct outputs of industries by province. Premultiplications by the impact table yields a vector of induced industry outputs and personal incomes by province.

By multiplying each of the induced industry outputs and personal incomes by their corresponding direct personal income coefficients, estimates of induced personal income by province can be obtained. Similarly estimates of induced total incomes by province can be obtained using the direct primary factor coefficients.

The use of the $(I-\hat{u})^P$ matrix as developed in the construction of the interprovincial table assumes that the direct commodity demands for this project will be satisfied from domestic and foreign sources according to the coefficients in the matrix. But from information relating to the project, it may be possible to specify more precise domestic supply coefficients for the direct commodity requirements. These new estimates can be used instead of the existing coefficients in the $(I-\hat{u})^P$ matrix.

Similarly, the use of the S^P matrix assumes that the direct commodities which are required from domestic sources will be supplied from industries by province according to the pattern specified in the S^P matrix. Again, based on information concerning the project, it may be possible to modify the direct supply coefficients by province (and possibly by industries within provinces) for a number of commodities.

The pattern of supply for direct commodity requirements will play a major role in determining the pattern of induced outputs and incomes. Thus by introducing more accurate supply patterns for the direct requirements the project impact results can be estimated with greater accuracy.

APPENDICES

APPENDIX 1

TABLE A1.1

ALLOCATION OF 211 WORKSHEET INDUSTRIES
TO 33 INDUSTRIES IN THE INTERPROVINCIAL I/O TABLE

Seq. No.	Work- sheet No.	Industry Name	33 Industry No.
1	00100	Agriculture	1
2	00200	Forestry	2
3	00300	Fishing, Hunting and Trapping	3
4	00400	Base Metal and Other Metal Mines	5
5	00600	Uranium Mines	5
6	00700	Iron Mines	5
7	00800	Gold Mines	5
8	00900	Coal Mines	4
9	01000	Petroleum and Gas Wells	4
10	01200	Asbestos Mines	5
11	01300	Gypsum Mines	5
12	01400	Salt Mines	5
13	01500	Other Non-Metal Mines	5
14	01600	Quarries and Sand Pits	5
15	01700	Services Incidental to Mining	31
16	01800	Slaughtering and Meat Processors	6
17	01900	Poultry Processors	6
18	02000	Dairy Factories	6
19	02100	Process Cheese Manufacturers	6
20	02200	Fish Products Industry	6
21	02300	Fruit and Vegetable Canners	6
22	02400	Feed Manufacturers	6
23	02500	Flour Mills	6
24	02600	Breakfast Cereal Manufacturers	6
25	02700	Biscuit Manufacturers	6
26	02800	Bakeries	6
27	02900	Confectionery Manufacturers	6
28	03000	Sugar Refineries	6
29	03100	Vegetable Oil Mills	6
30	03200	Miscellaneous Food Industries	6
31	03300	Soft Drink Manufacturers	6
32	03400	Distilleries	6
33	03500	Breweries	6
34	03600	Wineries	6
35	03700	Leaf Tobacco Processing	7
36	03800	Tobacco Products Manufacturers	7
37	03900	Rubber Footwear Manufacturers	8
38	04000	Tire and Tube Manufacturers	8
39	04100	Other Rubber Industries	8
40	04200	Leather Tanneries	9
41	04300	Shoe Factories	9
42	04400	Leather Glove Factories	9
43	04500	Small Leather Goods Manufacturers	9
44	04600	Cotton Yarn and Cloth Mills	10
45	04700	Wool Yarn Mills	10
46	04800	Wool Cloth Mills	10
47	04900	Synthetic Textile Mills	10
48	05000	Fibre Preparing Mills	10

TABLE A1.1 (Cont'd)

Seq. No.	Work- sheet No.	Industry Name	33 Industry No.
49	05100	Thread Mills	10
50	05200	Cordage and Twine Industry	10
51	05300	Narrow Fabric Mills	10
52	05400	Pressed and Punched Felt Mills	10
53	05500	Carpet, Mat and Rug Industry	10
54	05600	Textile Dyeing and Finishing	10
55	05700	Linoleum and Coated Fabrics Industry	10
56	05800	Canvas Products Industry	10
57	05900	Cotton and Jute Bag Industry	10
58	06000	Miscellaneous Textile Industry	10
59	06100	Hosiery Mills	11
60	06200	Other Knitting Mills	11
61	06300	Clothing Industries	12
62	06400	Sawmills	13
63	06500	Veneer and Plywood Mills	13
64	06600	Sash and Door, and Planning Mills	13
65	06700	Wooden Box Factories	13
66	06800	Coffin and Casket Industry	13
67	06900	Miscellaneous Wood Industries	13
68	07000	Household Furniture Industry	14
69	07100	Office Furniture Industry	14
70	07200	Other Furniture Industries	14
71	07300	Electric Lamp and Shade Industry	14
72	07401	Pulp and Paper Dummy Industry	15
73	07410	Wood Pulp	15
74	07420	Paper Producing	15
75	07430	Paper Converting	15
76	07440	Pulp and Paper Other Activities	15
77	07500	Asphalt Roofing Manufacturers	15
78	07600	Paper Box and Bag Manufacturers	15
79	07700	Other Paper Converters	15
80	07800	Printing and Publishing	16
81	07900	Engraving, Stereotyping Industries	16
82	08001	Iron and Steel Dummy Industries	17
83	08010	Coke Ovens	17
84	08020	Sinter Plant and Blast Furnaces	17
85	08030	Steel Mills	17
86	08040	Rolling Mills	17
87	08050	Ferro Alloy Producers	17
88	08060	Iron and Steel Other Activities	17
89	08100	Steel Pipe and Tube Mills	17
90	08200	Iron Foundries	17
91	08310	Aluminum Smelting and Refining	17
92	08320	Other Smelting and Refining	17
93	08400	Aluminum Rolling and Extruding	17
94	08500	Copper and Alloy Rolling	17
95	08600	Metal Casting and Extruding Nes	17
96	08700	Boiler and Plate Works	18

TABLE A1.1 (Cont'd)

Seq. No.	Work- sheet No.	Industry Name	33 Industry No.
97	08800	Fabricated Structure Metal Industry	18
98	08900	Ornamental and Arch. Metal Industry	18
99	09000	Metal Stamp, Press, and Coat. Industry	18
100	09100	Wire and Wire Products Manufacturers	18
101	09200	Hardware Tool and Cutlery Manufacturers	18
102	09300	Heating Equipment Manufacturers	18
103	09400	Machine Shops	18
104	09500	Miscellaneous Metal Fabricating Industry	18
105	09600	Agricultural Implement Industry	19
106	09700	Miscellaneous Machinery and Equipment Mfg.	19
107	09800	Comm. Refrigerator and Air Condition Mfgr.	19
108	09900	Office and Store Machinery Manufacturers	19
109	10000	Aircraft and Parts Manufacturers	20
110	10100	Motor Vehicle Manufacturers	20
111	10200	Truck Body and Trailer Manufacturers	20
112	10300	Motor Vehicle Parts & Access. Mfgrs.	20
113	10400	Railroad Rolling Stock Industries	20
114	10500	Shipbuilding and Repair	20
115	10600	Miscellaneous Transportation Equip. Ind.	20
116	10700	Small Electrical Appliances	21
117	10800	Major Appliances-Electric and Non-Electric	21
118	10900	Radio and Television Receivers	21
119	11000	Communications Equipment Manufacturers	21
120	11100	Manufacturers of Electric Ind. Equipment	21
121	11200	Battery Manufacturers	21
122	11300	Mfgrs. of Electric Wire and Cable	21
123	11400	Mfgrs. of Miscellaneous Electric Products	21
124	11500	Cement Manufacturers	22
125	11600	Lime Manufacturers	22
126	11700	Gypsum Products Manufacturers	22
127	11800	Concrete Products Manufacturers	22
128	11900	Ready Mix Concrete Manufacturers	22
129	12000	Clay Products Manufacturers	22
130	12100	Refractories Manufacturers	22
131	12200	Stone Products Manufacturers	22
132	12300	Mineral Wool Manufacturers	22
133	12400	Asbestos Products Manufacturers	22
134	12500	Glass and Glass Products Manufacturers	22
135	12600	Abrasives Manufacturers	22
136	12700	Other Non-Metallic Products Industries	22
137	12800	Petroleum Refineries	23
138	12900	Other Petroleum and Coal Products Inds.	23
139	13000	Explosives and Ammunition Manufacturers	24
140	13100	Mfgrs. of Mixed Fertilizers	24
141	13200	Mfgrs. of Plastic and Synth. Res.	24
142	13300	Mfgrs. of Pharm. and Medicines	24
143	13400	Paint and Varnish Manufacturers	24
144	13500	Mfgrs. of Soap and Cleaning Comp.	24
145	13600	Mfgrs. of Toilet Preparations	24
146	13700	Mfgrs. of Industrial Chemicals	24
147	13800	Other Chemical Industries	24

TABLE A1.1 (Cont'd)

Seq. No.	Work- sheet No.	Industry Name	33 Industry No.
148	13900	Scient. and Prof. Equipment Mfgs.	25
149	14000	Jewelry and Silverware Manufacturers	25
150	14100	Broom Brush and Mop Industry	25
151	14200	Venetian Blind Manufacturers	25
152	14300	Plastic Fabricators, Nes.	25
153	14400	Sporting Goods and Toy Industry	25
154	14500	Fur Dressing and Dying Industry	25
155	14600	Signs and Displays Industry	25
156	14700	Miscellaneous Manufacturing Industries	25
157	14810	Repair Construction	26
158	14820	Residential Construction	26
159	14830	Non-Residential Construction	26
160	14840	Road Highway Airstrip Construction	26
161	14850	Gas and Oil Facility Construction	26
162	14860	Dams and Irrigation Projects	26
163	14870	Railway, Telephone, Telegraph Constr.	26
164	14880	Other Engineering Construction	26
165	14890	Construction Other Activities	26
166	14900	Air Transport	27
167	15000	Services Incidental to Transportation	27
168	15100	Water Transport	27
169	15200	Railway Transport	27
170	15300	Truck Transport	27
171	15400	Bus Transp. Inter-Urban and Rural	27
172	15500	Urban Transit Systems	27
173	15600	Taxi Cab Operations	27
174	15700	Pipeline Transport	27
175	15800	Highway and Bridge Maintenance	27
176	15900	Storage	27
177	16000	Radio and Television Broadcasting	31
178	16100	Other Communication Industries	31
179	16200	Post Office	31
180	16300	Electric Power	28
181	16400	Gas Distribution	28
182	16500	Water and Other Utilities	28
183	16600	Wholesale Trade	29
184	16700	Retail Trade	29
185	16810	Owner Occupied Dwellings	30
186	16820	Govt. Royalties on Nat. Resources	30
187	16830	Banks and Credit Unions	30
188	16840	Insurance	30
189	16850	Other Fin. Ins. and Real Estate	30
190	16900	Education and Related Services	33
191	17000	Hospitals	33
192	17100	Health Services	33
193	17300	Motion Picture Theatres	31
194	17400	Other Recreational Services	31
195	17500	Professional Services to Business	31
196	17600	Advertising Services	31

TABLE A1.1 (Cont'd)

Seq. No.	Work- sheet No.	Industry Name	33 Industry No.
197	17700	Laundries and Cleaners	31
198	17800	Hotels and Restaurants	31
199	17900	Other Personal Services	31
200	18000	Photography	31
201	18100	Misc. Repair and Maintenance	31
202	18200	Misc. Services to Bus. and Pers.	31
203	18300	Operating Supplies Dummy	32
204	18400	Office Supplies Dummy	32
205	18500	Cafeteria Requ. Dummy	32
206	18600	Transportation Margins Dummy	32
207	18700	Laboratory Supplies Dummy	32
208	18800	Travel and Entertainment Dummy	32
209	18900		-
210	19000	Advertising and Promotion Dummy	32
211	19100	Machinery Repair Services Dummy	32

TABLE A1.2

CORRESPONDENCE BETWEEN DETAILED NATIONAL INPUT-OUTPUT
COMMODITIES AND 96 COMMODITY CATEGORIES

1	00100 GRAIN	
		00700 RICE, UNMILLED
		00800 WHEAT, UNMILLED
		00900 BARLEY, OATS, RYE, CORN, GRAIN, NES
2	00200 OTHER AGRICULTURE	
		00100 CATTLE AND CALVES
		00200 SHEEP AND LAMBS
		00300 HOGS
		00400 POULTRY
		00500 FUR-BEARING ANIMALS
		00600 OTHER LIVE ANIMALS
		01000 MILK, WHOLE, FLUID, UNPROCESSED
		01100 EGGS IN THE SHELL
		01200 HONEY AND BEESWAX
		01300 NUTS, EDIBLE, NOT SHELLED
		01400 FRUITS, FRESH, EX. TROPICAL
		01500 VEGETABLES, FRESH
		01600 HAY, FORAGE, AND STRAW
		01700 SEEDS EX. OIL AND SEED GRADES
		01800 NURSERY STOCK & RELATED MAT.
		01900 OIL SEEDS, NUTS AND KERNELS
		02000 HOPS INC. LUPULIN
		02100 TOBACCO, RAW
		02200 MINK SKINS, RANCH UNDRRESSED
		02300 WOOL IN GREASE
		02400 SERV. INCIDENTAL TO AGRICULTURE
3	00300 FOREST PRODUCTS	
		02500 LOGS AND BOLTS
		02600 POLES, PIT PROPS FENCE-POSTS ETC
		02700 PULPWOOD
		02800 OTHER CRUDE WOOD MATERIALS
		02900 CUSTOM FORESTRY
4	00400 FISHING & TRAPPING PRODUCTS	
		03000 FISH LANDINGS
		03100 FUR SKINS UNDRRESSED EX RANCH
5	00500 CRUDE PETROLEUM	
		03800 CRUDE MINERAL OILS
6	00600 NATURAL GAS	
		03900 NATURAL GAS

TABLE A1.2 (Cont'd)

7	00700 SULPHUR
	04100 SULPHUR, CRUDE & REFINED
8	00800 COAL
	03700 COAL
	04000 OTH. CRUDE BITUMINOUS SUBSTANCES
9	00900 IRON ORE
	03400 IRON ORES & CONCENTRATES
10	01000 ASBESTOS
	04200 ASBESTOS, UNMFG., CRUDE & FIBROUS
11	01100 OTHER MINERALS
	03210 BAUXITE & ALUMINA
	03220 METAL ORES + CONCENTRATES N.E.S.
	03300 RADIO-ACTIVE ORES & CONCENTRATES
	03500 GOLD & PLATINUM ORES & CONCENTRATES
	03600 GOLD & ALLOYS IN PRIMARY FORM
	04300 GYPSUM
	04400 SALT
	04500 PEAT MOSS
	04600 CLAY & OTHER CRUDE REFRACTORY MAT
	04700 NATURAL ABRASIVES & INDUST. DIAMOND
	04800 CRUDE MINERAL NES
	04900 SAND AND GRAVEL
	05000 STONE, CRUDE
	05100 SERVICES INCIDENTAL TO MINING
12	01200 MEAT PRODUCTS
	05200 BEEF, VEAL, MUTT & PORK, FRESH & FROZEN
	05300 HORSE MEAT FRESH, CHILLED, FROZEN
	05400 MEAT, CURED
	05500 MEAT PREP. COOKED NOT CANNED
	05600 MEAT PREP. CANNED
	05700 ANIMAL OILS & FATS & LARD
	05800 MARGERINE, SHORTENING & LIKE PROD
	05900 SAUSAGE CASINGS, NATURAL & SYNTH.
	06000 PRIMARY TANKAGE
	06100 FEEDS OF ANIMAL ORIGIN NES
	06200 HIDES AND SKINS, RAW, NES
	06300 ANIMAL MAT. FOR DRUGS & PERFUME
	06400 CUSTOM MEAT PACKING
	06500 POULTRY, FRESH, CHILLED, FROZEN
	06600 POULTRY, CANNED

TABLE A1.2 (Cont'd)

13	01300 DAIRY PRODUCTS	
		06700 MILK,WHOLE,FLUID,PROCESSED
		06800 CREAM,FRESH
		06900 BUTTER
		07000 CHEESE,CHEDDAR & MILK
		07100 MILK EVAPORATED
		07200 ICE CREAM
		07300 OTHER DAIRY PRODUCTS
		07400 PROCESS CHEESE
		07500 MUSTARD MAYONNAISE
14	01400 FISH PRODUCTS	
		07600 FISH,MARINE OIL&OTHER FISH PROD
15	01500 FEED	
		08700 PRIMARY OR CONCENTRATED FEEDS
		08800 FEED FOR COMMERCIAL LIVESTOCK
		08900 CHOP&SCRATCH FEEDS,HULLS&GROATS
		09000 FEEDS OF VEGETABLE ORIGIN NES
		09100 PET FEEDS
16	01600 FLOUR & WHEAT	
		09200 WHEAT FLOUR
17	01700 OTHER GRAIN MILL PRODUCTS	
		09300 MEAL&FLOUR OF OTHER CEREALS&VEG
		09400 OTHER GRAIN FEEDS,NES
		09500 BREAKFAST CEREAL PRODUCTS
		12300 BREWERS'&DISTILLERS'GRAINS
18	01800 BAKERY PRODUCTS	
		09600 BISCUITS,ICE CREAM CONES,ETC
		09700 BREAD & ROLLS
		09800 OTHER BAKERY PRODUCTS
19	01900 SOFT DRINKS	
		11900 CARBONATED BEV.,SOFT DRINKS

TABLE A1.2 (Cont'd)

20	02000 OTHER FOOD PRODUCTS	
		07700 FRUIT, BERRIES, DRIED, DEHYDRATED
		07800 FRUITS & PREPARATIONS CANNED
		07900 FRUIT CRYSTALLIZED & GLACE
		08000 VEGET. FROZEN, DRIED & PRESERVED
		08100 VEGETABLES & PREPARATIONS CANNED
		08200 SOUPS CANNED
		08300 INFANT & JUNIOR FOODS, CANNED
		08400 PICKLES, RELISHES, OTHER SAUCES
		08500 VINEGAR
		08600 OTHER FOOD PREPARATIONS
		09900 COCOA & CHOCOLATE
		10000 NUTS, KERNELS & SEEDS PREPARED
		10100 CHOCOLATE CONFECTIONERY
		10200 OTHER CONFECTIONERY
		10300 BEET PULP
		10400 SUGAR (SUCROSE) REFINED
		10500 MOLASSES, SUGAR REFINERY PROD.
		10600 OILSEED, MEAL & CAKE
		10700 VEG. OILS & FATS, CRUDE
		10800 CHEM. MODIFIED OILS, FATS & WAXES
		11000 MALT, MALT FLOUR & WHEAT STARCH
		11100 MAPLE SUGAR & SYRUP
		11200 PREPARED CAKE & SIMILAR MIXES
		11300 SOUPS, DRIED & SOUP MIXES & BASES
		11400 COFFEE, ROASTED, GROUND, PREPARED
		11500 TEA
		11600 POTATO CHIPS & SIMILAR PRODUCTS
		11700 MISC. FOOD NES
		11800 SOFT DRINK CONCENTRATES & SYRUPS
21	02100 ALCOHOLIC BEVERAGES	
		12000 ALCOHOLIC BEVERAGES DISTILLED
		12400 ALE BEER, STOUT & PORTER
		12500 GRAPE WINES
22	02200 TOBACCO	
		12600 TOBACCO PROCESSED, UNMANUFACT.
		12700 CIGARETTES
		12800 TOBACCO MFG EX. CIGARETTES
23	02300 TIRES & TUBES	
		13000 TIRES & TUBES, PASSENGER CARS
		13100 TIRES & TUBES, TRUCKS & BUSES
		13200 TIRES & TUBES, AIRPLANES
		13300 TIRES & TUBES, TRACTOR & IMPLEMENT
		13400 TIRES, RETREADING

TABLE A1.2 (Cont'd)

24	02400 OTHER RUBBER PRODUCTS	
		12900 FOOTWEAR, RUBBER AND PLASTIC
		13500 RUBBER COMPOUNDS
		13600 RUBBER BELTS & COATED FABRICS
		13700 RUBBER SHEETING SHOE STOCK ETC
		13800 HOSE & TUBING, MAINLY RUBBER
		13900 RUBBER, PLASTIC FLOORING & TILING
		14000 TIRES, TUBES PNEUMATIC, NES
		14100 RUBBER STATIONERY GOODS
		14200 RUBBER WASTE & SCRAP
		14300 RUBBER END PRODUCTS NES
25	02500 LEATHER PRODUCTS	
		14400 LEATHER
		14500 FOOTWEAR EX. RUBBER & PLASTIC
		14600 LEATHER GLOVES & MITTENS EX SPORT
		14700 LEATHER BELTING, SHOE STOCK
		14800 LUGGAGE
		14900 LEATHER HANDBAGS, WALLETS ETC.
26	02600 YARNS & MAN-MADE FIBRES	
		15000 YARN, COTTON
		15100 YARNS MIX & BLENDED & COTTON WASTE
		15600 YARN OF WOOL AND HAIR
		16000 MAN MADE FIBRES
		16100 POLYAMIDE RESINS (NYLON)
		16200 YARNS & MIXTURE YARNS, FIBRE & GLASS
		16300 TIRE YARNS
		16800 WOOL & FINE ANIMAL HAIR, SPINNING
		17200 YARN & THREAD, OTHER VEG. FIBRES
		18800 VEGETABLE TEXTILE FIBRES NES
27	02700 FABRICS	
		15200 FABRICS, BROAD WOVEN OF COTTON
		15300 TIRE CORD & TIRE FABRICS
		15700 FABRICS, BROAD WOVEN, WOOL, HAIR & MIX
		16400 FABRICS, BROAD WOVEN, FIBRES & YARNS
		16500 FABRICS, BROAD WOVEN, MIX & BLENDS
		16900 BATTS, WADDING, ETC. TEXTILE FIBRES
		17500 NARROW FABRICS
		17600 LACE FABRICS, BOBBINET & NET
		18200 FABRICS, IMPREG. EX. RUBBER-COATED
		18900 FABRICS, FOAM-LAMINATED, QUILTED
		19500 FABRICS, KNITTED & NETTED, ELASTIC
		19600 FABRICS, KNITTED, NES

TABLE A1.2 (Cont'd)

28 02800 TEXTILE PRODUCTS

- 15400 NETS & NETTING
- 15500 BEDSHEETS, BLANKETS, TOWELS & CLOTHS
- 15800 PAPERMAKERS' FELTS
- 15900 WOOLLEN BLANKETS
- 16600 SILK
- 16700 RAGS & WASTE, COTTON & TEXTILE MAT.
- 17000 THREAD, OF COTTON FIBRES
- 17100 THREAD, OF MAN-MADE FIBRES
- 17300 BALER AND BINDER TWINE
- 17400 OTHER CORDAGE, TWINE & ROPE
- 17700 SHOE & SIMILAR LACES
- 17800 CARPET CUSHION FELT
- 17900 FELT, NES
- 18000 CARPETING & FABRIC RUGS, MATS, ETC.
- 18100 TEXTILE DYEING & FINISHING SER.
- 18300 TILING, FLOORING & WALL COVERING
- 18400 AWNINGS, OF CLOTH & PLASTIC
- 18500 TENTS, HAMMOCKS, SLEEP BAGS & SAILS
- 18600 TARPULINS & OTHER COVERS
- 18700 TEXTILE CONTAINERS
- 19000 MISC. TEXTILE FAB. MAT. INC. RAGS
- 19100 SHADES & BLINDS OF COATED FABRICS
- 19200 HOUSEHOLD TEXTILES, NES
- 19300 OTHER TEXTILE END PRODUCTS

29 02900 CLOTHING

- 19400 HOSIERY
- 19700 UNDERWEAR & SLEEPWEAR, KNITTED
- 19800 OUTERWEAR, KNITTED
- 19900 UNDERWEAR, NES
- 20000 SLEEPWEAR, OF WOVEN FABRIC
- 20100 COATS AND RAINCOATS
- 20200 OUTERWEAR, NES
- 20300 HEADWEAR, GLOVES & MITTS EXCL. VAR.
- 20400 APPAREL ACCESSORIES & OTHER MISC.
- 20500 FURS, DRESSED
- 20600 FUR PLATES, MATS AND LININGS
- 20700 FUR GOODS, APPAREL INCL. ART. FUR
- 20800 CUSTOM TAILORING

30 03000 LUMBER & PLYWOOD

- 21000 LUMBER & TIM. SOFT, HARD & EXOTIC SPEC
- 21100 RAILWAY TIES
- 21500 VENEER AND PLYWOOD

TABLE A1.2 (Cont'd)

31	03100 WOOD PRODUCTS	
		20900 PULPWOOD CHIPS
		21200 SHINGLES, LATH, PALES & SPOOL WOOD
		21300 WOOD WASTE
		21400 CUSTOM WOOD WORKING & MILLWORK
		21600 MILLWORK (WOODWORK)
		21700 WOOD FABRICATED MAT. FOR STRUCT.
		21800 PREFAB. BLDGS. & WOOD STRUCTURES
		21900 CONTAINERS, CLOSURES & WOOD PALLETS
		22000 CASKETS, COFFINS & OTHER MORT. GOODS
		22100 MISC. WOOD FABRICATED MATERIALS
		22200 BARRELS & KEGS OF WOOD
		22300 WOOD END PRODUCTS, NES
32	03200 FURNITURE & FIXTURES	
		22400 HOUSEHOLD FURN. INCL. CAMP & LAWN
		22500 OFFICE FURN. & VISIBLE RECORD EQUIP
		22600 SPECIAL PURPOSE FURNITURE
		22700 MISC. FURNITURE AND FIXTURES
		22800 PORTABLE LAMPS RESIDENTIAL TYPE
33	03300 PULP & PAPER DUMMY & INTRA-TRANSFE	
		22920 PULP INTRA TRANSFERS
		23320 TISSUE-SANITARY INTRA TRANSFERS
		23420 WRAPPING PAPER INTRA TRANSFERS
		23520 PAPER BOARD INTRA TRANSFERS.
		64100 PULP & PAPER DUMMY COM.
34	03400 PULP	
		22910 PULP
35	03500 NEWSPRINT	
		23000 NEWSPRINT PAPER
36	03600 OTHER PAPER STOCK	
		23100 OTHER PAPER FOR PRINTING
		23200 FINE PAPER
		23310 TISSUE & SANITARY PAPER
		23410 WRAPPING PAPER
		23510 PAPER BOARD
		23600 BLDG. PAPER, NOT COATED OR IMPREG.

TABLE A1.2 (Cont'd)

- 37 03700 INDUSTRIAL PAPER PRODUCTS
- 23800 CIGARETTE-PAPER BOOKS AND TUBES
 - 23900 VANILLIN
 - 24000 MISC.IND.PAPER MAT;BY PROD&WASTE
 - 24100 BUILDING PAPER,COATED OR IMPREG.
 - 24200 TILES&FLAGSTONES,VINYL-ASBESTOS
 - 24300 PAPER CARTONS,BAGS,CANS&BOTTLES
 - 24400 COATED COVER PAPER&BRISTOL BOARD
 - 24500 CONVERTED PAPER,GUM,WAX OR PRINT
 - 24600 CONVERTED ALUMINUM FOIL
 - 24800 PAPER CONTAINERS,NES
 - 24900 STATIONERY&PAPER OFFICE SUPPLIES
- 38 03800 HOUSEHOLD PAPER PRODUCTS
- 23700 TOWELS, NAPKINS & TOILET PAPER
 - 24700 FACIAL TISSUES,&SANITARY NAPKINS
 - 25000 PAPER END PRODUCTS
- 39 03900 PRINTED MATTER
- 25100 NEWSPAPERS,MAGAZINES&PERIODICALS
 - 25200 BOOKS,PAMPHLETS,MAPS&PICTURES
 - 25300 BANKNOTES,BONDS,DRAFTS ETC
 - 25400 PRINTING NES
 - 25500 CUSTOM PRINT&RELATED PRINT.WORK
 - 25600 NET REVENUE FROM ADVERTISING
 - 25700 SPECIALIZED PUBLISHING SERVICE
 - 25800 PRINTING SERVICES
- 40 04010 IRON & STEEL DUMMY & INTRA-TRANS
- 26020 PIG IRON INTRA TRANSFERS
 - 26040 STEEL INGOTS INTRA TRANSFERS
 - 60120 COKE INTRA TRANSFERS
 - 64200 IRON & STEEL DUMMY COM.

TABLE Al.2 (Cont'd)

40	04020 IRON & STEEL PRODUCTS	
		25900 FERRO-ALLOYS
		26010 PIG IRON
		26030 STEEL INGOTS
		26100 STEEL BLCOMS, BILLETS & SLABS
		26200 STEEL CASTINGS
		26300 STEEL BARS AND RODS
		26400 STEEL PLATES, NOT FABRICATED
		26500 CARBON STEEL FOR PIPES & TUBES
		26600 CARBON STEEL SHEETS NOT COATED
		26700 TINPLATE
		26800 GALVANIZED STEEL SHEET & STRIP
		26900 BEAMS, WIDE FLANGED
		27000 RAILS&RLY TRACK MATERIALS, STEEL
		27300 MECHANICAL STEEL TUBING
		27400 OIL COUNTRY GOODS
		27500 STEEL LINE PIPE, TRANS. NAT. GAS OIL
		27600 STEEL PIPES & TUBES NES
		27700 IRON CASTINGS EXC. PIPE FITTINGS
		27800 CAST&WROUGHT IRON PIPE&FITTINGS
42	04100 ALUMINUM PRODUCTS	
		28300 ALUMINUM&ALUMINUM ALLOYS PRIME.
		29000 ALUMINUM&ALUMINUM ALLOYS, CAST
43	04200 COPPER & COPPER ALLOY PRODUCTS	
		28000 COPPER&COPPER ALLOYS, PRIME. FORMS
		29100 COPPER PROD. CAST, ROLLED&EXTRUDED
		29200 COPPER ALLOY PROD. CAST, ROLL, EXTR
44	04300 NICKEL PRODUCTS	
		27900 NICKEL IN PRIMARY FORMS
		29400 NICKEL&NICKEL ALLOY FAB. MATERIAL
45	04400 OTHER NON-FERROUS METAL PRODUCTS	
		28100 LEAD&LEAD ALLOYS PRIMARY FORMS
		28200 ZINC&ZINC ALLOYS PRIMARY FORMS
		28400 TIN&TIN ALLOYS PRIMARY FORMS
		28500 PRECIOUS METAL&ALLOYS PRIME. FORM
		28600 OTH. NON-FERROUS BASE METALS
		28900 SCRAP&WASTE MATERIALS NES
		29300 LEAD&LEAD ALLOY PROD. CAST, R&E
		29500 TIN&TIN ALLOY FAB. MATERIALS
		29600 ZINC DIE CASTING&OTH. ZINC MAT.
		29700 SOLDERS INC. BLOCK, RODS, WIRE, ETC.

TABLE A1.2 (Cont'd)

46 04500 METAL FABRICATED PRODUCTS

29800 PLATES, STEEL, FABRICATED
29900 TANKS
30000 POWER BOILERS
30100 BOILERS, MARINE TYPE
30200 PACKAGE BOILER UNITS
30300 BASIC STEEL PROD. STRUCT.&MISC.
30400 SCAFFOLDING EQUIP., DEMOUNTABLE
30500 PREFAB. BLDGS&STRUCT., MAINLY MET.
30600 METAL PRODUCTS NES
30700 STEEL SHEET&STRIP COATED OR FAB.
30800 CULVERT PIPE, CORRUGATED METAL
30900 METAL BASIC PROD.&RANGE BOILERS
31000 FURNACE PIPES & FITTINGS ETC.
31100 METAL AWNINGS, ASH CANS, PAILS ETC
31200 COOKING UTENSILS, IRON. BOARDS, ETC
31300 CONTAINERS&BOTTLE CAPS OF METAL
31400 WIRE & WIRE RDPE, OF STEEL
31500 WIRE FENCING, SCREENING&NETTING
31600 CHAIN, EX. AUTO TIRE&POWER TRANS.
31700 RODS, WIRE&ELECTRODES, WELDING
31800 SPRINGS FOR UPHOLSTERY&MISC. VEH.
31900 BOLTS, NUTS, SCREWS, WASHERS ETC.
32000 FASTENERS, CLIPS, THUMB TACKS ETC
32100 HOUSEHOLD EQUIP. MAINLY WIRE FAB.
32200 DISPLAY STANDS
32300 BUILDERS' HARDWARE
32400 FITTINGS, FURN. CABINETS&CASKETS
32500 BASIC HARDWARE, NES
32600 CUTTING&FORMING TOOLS ETC.
32700 BAND&CIRCULAR SAWING MACH&BLADES
32800 EDGE TOOLS, HAND
32900 MECHANICS' MEASURING TOOLS
33000 HAND TOOLS, NES
33100 SCISSORS, SHEARS&MISC. IND. CUTLERY
33200 SAFETY RAZORS AND BLADES
33300 DOMESTIC EQUIPMENT, NES
33400 HEATING EQ, HOT WATER&STEAM ETC.
33500 HEATING EQ, WARM AIR EX. PIPES&ETC
33600 UNIT&WATER TANK HEATERS NON-ELEC
33700 FUEL BURNING EQUIPMENT
33800 COM. APPLIANCES, COOK&WARMING FOOD
33900 CUSTOM METAL WORKING
34000 FORGINGS OF CARBON&ALLOY STEEL
34100 POWDER METALLURGY PRODUCTS
34200 VALVES
34300 PIPE FITTINGS, NOT IRON & STEEL
34400 GAS METERS AND WATER METERS
34500 FIRE FIGHT&TRAFFIC CONTROL EQUIP
34600 TAXI&PARK METERS, BLOCKS&LADDERS
34700 FIREARMS & MILITARY HARDWARE
34800 HAND OPER. KITCHEN&FIREPLACE FIX
34900 COLLAPSIBLE TUBES, METAL

TABLE A1.2 (Cont'd)

47	04600 AGRICULTURAL MACHINERY
	35000 TRACTORS, FARM & GARDEN TYPE
	35100 OTHER AGRICULTURAL MACHINERY
48	04700 OTHER INDUSTRIAL MACHINERY
	35200 MECHANICAL POWER TRANS.EQUIP.
	35300 ENGINES, MARINE & GEN. PURPOSE ETC
	35400 PUMPS, COMPRESSORS & BLOWERS ETC.
	35500 CONVEYORS, ESCAL, ELEV & HOIST MACH
	35600 IND. TRUCKS, TRACTORS, TRAILERS ETC
	35700 FANS, AIR CIRCULATORS & AIR UNITS
	35800 PKG. MACH, LUB. EQ & OTH. MISC. MACH.
	35900 INDUSTRIAL FURNACES, KILNS & OVENS
	36000 MACH. IND. SPECIFIED & SPECIAL PURP.
	36100 POWER DRIVEN HAND TOOLS
	36200 METAL END PRODUCTS, NES
	36300 REFRIG & AIR CON. EQ, EX. HOUSEHOLD
	36400 SCALES & BALANCES
	36500 VENDING MACHINES
	36600 OFFICE MACHINES AND EQUIPMENT
49	04800 MOTOR VEHICLES
	37200 PASSENGER AUTOMOBILES & CHASSIS
	37300 TRUCKS, CHASSIS, TRACTORS, COM.
	37400 BUSES AND CHASSIS
	37500 MILITARY MOTOR VEH, MOTORCYCLES
	37600 TRAILERS, CABIN OR HOUSE TYPE
	37700 OTH. TRAILERS & SEMI-TRAILERS, COM.
50	04900 MOTOR VEHICLE PARTS
	37800 BODIES AND CABS FOR TRUCKS
	37900 MOTOR VEHICLE ENGINES AND PARTS
	38000 AUXILIARY ELECTRIC EQUIPMENT
	38100 MOTOR VEH. ACCESS, PARTS & ASSEMB.
	38200 AUTOMOTIVE HARDWARE, EX. SPRINGS

TABLE A1.2 (Cont'd)

51 05000 OTHER TRANSPORT EQUIPMENT

- 36800 AIRCRAFT, ALL TYPES
- 36900 AIRCRAFT ENGINES
- 37000 SPECIALIZED AIRCRAFT EQUIPMENT
- 37100 MODIFICATIONS, CONVERSIONS, SERV.
- 38300 LOCOMOTIVES, CARS & TENDERS, RLY. SER
- 38400 IND. LOCOMOTIVES & SELF-PROPEL CARS
- 38500 PARTS & ACCESS. FOR RLY. ROLL. STOCK
- 38600 SHIPS & BOATS, MILITARY & COMMERCIAL
- 38700 SUB-ASSEMBLIES, PARTS, ETC. SHIPS
- 38800 SHIP REPAIRS
- 38900 SNOWMOBILES & MISC. NON-MOTOR VEH.
- 39000 PLEASURE & SPORTING CRAFT

52 05100 APPLIANCES

- 39100 SMALL ELEC. APPLIANCES, DOMESTIC
- 39300 REFRIG, FREEZERS & COMB. DOMESTIC
- 39400 GAS RANGES & ELEC. STOVES, DOMESTIC
- 39500 SEWING MACH, DISHWASHERS ETC. DOM
- 39600 TV & RADIO RECEIVING SETS & COMB.
- 39700 RECORD PLAYERS, AMPLIFIERS, ETC

53 05200 OTHER ELECTRICAL EQUIPMENT

- 39200 SPACE HEATER, HEATING STOVES ETC.
- 39800 TEL & TELEG. LINE APPARATUS & EQUIP.
- 39900 RADIO & TV BROADCASTING & TRANS EQ.
- 40000 RADAR EQUIP. & RELATED DEVICES
- 40100 ELEC. TUBES & SEMI-CONDUCTORS ETC.
- 40200 ELECTRONIC EQUIPMENT COMPONENTS
- 40300 INTERIOR SIGNAL, ALARM & CLOCK SYST
- 40400 POLE LINE HARDWARE
- 40500 WELDING MACHINERY & EQUIPMENT
- 40600 MOTORS & GENERATORS, ELEC & TURBINE
- 40700 TRANSFORMERS & CONVERTERS EX. T & T
- 40800 ELEC. EQUIP. INDUSTRIAL, NES
- 40900 BATTERIES
- 41000 WIRE AND CABLE, INSULATED
- 41100 ALUM. WIRE & CABLE, NOT INSULATED
- 41200 ENCLOSED SAFETY SWITCHES ETC.
- 41300 ELEC. LIGHT BULBS & TUBES, ETC
- 41400 ELECTRIC LIGHTING FIXTURES ETC

54 05300 CEMENT & CONCRETE PRODUCTS

- 41500 CEMENT
- 41800 CONCRETE BASIC PRODUCTS
- 41900 SAND LIME BRICKS AND BLOCKS
- 42000 READY-MIX CONCRETE

TABLE A1.2 (Cont'd)

55	05400 OTHER NON-METALLIC MIN. PRODS.
	27200 NAT.&SYN.GRAPHITE&CARBON PROD.
	41600 LIME
	41700 PLASTER&OTH.GYPSUM BASIC PROD.
	42100 BRICKS AND TILES, CLAY
	42200 INSULATORS&ELEC.FITTINGS,PORCELN
	42300 PLUMB.EQ, VITREOUS CHINA,& ETC.
	42400 REFRACTORIES
	42500 NATURAL STONE BASIC PROD,STRUCT.
	42600 STONE,CLAY&CONCRETE END PROD.NES
	42700 MIN.WOOL&THERMAL INSUL.MAT.NES
	42800 ASBESTOS BASIC PRODUCTS
	42900 ASBESTOS-CEMENT PRODUCTS
	43000 PLATE,SHEET,STRUCT&ORNAMNT GLASS
	43100 GLASS WOOL&TUBING&OTH.FAB.GLASS
	43200 GLASS CONTAINERS
	43300 GLASS TABLEWRE&HOUSEWRE,END&NES
	43400 ABRASIVE BASIC PRODUCTS
	43500 NON-METALLIC MIN.BASIC PROD.NES
56	05500 FUELS & PETROLEUM
	43600 AVIATION GASOLINE
	43700 MOTOR GASOLINE
	43800 FUEL OIL
57	05600 OTHER PETROLEUM & COAL PROD.
	27100 COAL TAR
	43900 LUBRICATING OILS AND GREASES
	44000 BENZENE, TOLUENE AND XYLENE
	44100 BUTANE,PROPANE&OTH.LIQ.PET.GAS
	44200 NAPHTHA
	44300 ASPHALT
	44400 PETROL PROD. NES INC. FEEDSTOCKS
	44500 COAL OILS,CREOSOTE,BRIQ&OTH,NES
	60110 COKE
58	05700 INDUSTRIAL CHEMICALS
	10900 NITROGEN FUNCTION COMPOUNDS NES
	12100 NEUTRAL SPIRITS&WINE SPIRITS
	12200 ETHYL ALCOHOL
	28700 ALUMINUM FLUORIDES&SODIUM ALUM.
	28800 INORGANIC BASES&MET.OXIDES,NES
	45100 PLASTIC RESINS&MAT.,NOT SHAPED
	45200 FILM&SHEET, CELLULOSIC PLASTIC
	45300 ETHANOLAMINES
	45400 ETHYLENE GLYCOL, MONO
	45800 GLYCERIN, REFINED

TABLE A1.2 (Cont'd)

46400 CHLDRINE
46500 OXYGEN
46600 PHOSPHORUS
46700 CHEMICAL ELEMENTS, NES
46800 SULPHURIC ACID
46900 CARBON DIOXIDE (GAS AND DRY ICE)
47000 BORIC ACID
47100 INORGANIC ACIDS&OXYGEN COMP.ETC
47200 AMMONIA, ANHYDROUS AND AQUA
47300 CAUSTIC SODA (SOD.HYDROXIDE)DRY
47400 CALCIUM CHLORIDE
47500 SODIUM CHLORATE
47600 ALUMINUM SULPHATE
47700 SODIUM TRIPOLY PHOSPHATE
47800 SODIUM PHOSPHATES, OTHER
47900 SODIUM CARBONATE (SODA ASH)
48000 SODIUM CYANIDE
48100 SODIUM SILICATE
48200 METALLIC SALTS&PEROXYSALTS,NES
48300 INORGANIC CHEMICALS, NES
48400 ETHYLENE
48500 BUTYLENES
48600 BUTADIENE
48700 ACETYLENE
48800 STYRENE MONOMER
48900 CARBON TETRACHLORIDE
49000 VINYLCHLORIDE MONOMER
49100 TRICHLOROETHYLENE
49200 PERCHLOROETHYLENE
49300 CHLOROFLUOROHYDROCARBONS, NES
49400 HYDROCARBONS&THEIR DERIVATIVES
49500 METHYL ALCOHOL
49600 PROPYL AND ISOPROPYL ALCOHOLS
49700 BUTYL AND ISOBUTYL ALCOHOLS
49800 PENTAERYTHRITOL
49900 ALCOHOLS AND THEIR DERIVATIVES
50000 PHENOL
50100 PHENOLS, PHEN. ALCOHOLS&DERIVATVES
50200 ETHERS, ALCOHOL PEROXIDES, ETC .
50300 FORMALDEHYDE
50400 ACETONE
50500 METYL-ETHYL&METYLISOBUTYL KETONE
50600 ALDEHYDE-FUNCTION, KETONE&GUINONE
50700 ACETIC ACID
50800 ACETIC ANHYDRIDE
50900 STEARIC ACID
51000 ADIPIC ACID
51100 PHTHALATES
51200 CITRIC ACIDS
51300 ORGANIC ACIDS, AND DERIVATIVES
51400 HEXAMETHYLENEDIAMINE
51500 SODIUM GLUTAMATE, MONO

TABLE A1.2 (Cont'd)

	51600	GUANIDINES
	51700	ORGANO-INORGANIC COMPOUNDS ETC
	51800	ORGANIC CHEMICALS, NES
	51900	TITANIUM DIOXIDE
	52000	BLACK, ACETYLENE AND CARBON
	52100	PIGMENTS, LAKES & TONERS, PROPER
	52200	PIGMENTS, LAKES & TONERS, NES
	52300	FERTILIZERS&FERTILIZER MAT.NES
	52400	SYNTHETIC RUBBER
	52700	GLYCERINE, CRUDE
	52800	RUBBER&PLASTICS COMPOUNDING AGTS
	52900	CRUDE VEG. MATERIALS & EXTRACTS
	53000	PHTHALIC ANHYDRIDE
59	05800	FERTILIZERS
	45000	FERTILIZERS&FERTILIZER MAT. NES
60	05900	PHARMACEUTICALS
	45500	MEDICINAL & PHARMACEUTICAL PROD.
61	06000	OTHER CHEMICAL PRODUCTS
	44600	EXPLOSIVES, FUSES AND CAPS
	44700	AMMUNITION, NON-MILITARY
	44800	AMMUNITION & ORDNANCE, MILITARY
	44900	PYROTECHNIC ARTICLES & FIREWRKRS
	45600	PAINTS & RELATED PRODUCTS
	45700	VEG. OILS, OTH. THAN CORN OIL, REF.
	45900	DENTIFRICES, ALL KINDS
	46000	SOAPS AND DETERGENTS
	46100	CLEANING & SCOURING POWDERS ETC
	46200	JAVEL WATER
	46300	TOILET PREPARATIONS & COSMETICS
	52500	ANTIFREEZE COMPOUNDS
	52600	ADDITIVES FOR MINERAL OILS, NES
	53100	CROP AND SEED TREATMENTS
	53200	HERBICIDES
	53300	INSECTICIDES&RODENTICIDES, NES
	53400	ADHESIVES
	53500	AUTOMOTIVE CHEM. EX. ANTIFREEZE
	53600	ANTI-ACID ADDITIVES FOR CEMENT
	53700	BOILER CHEMICALS
	53800	COMPOUND CATALYSTS
	53900	METAL WORKING COMPOUNDS
	54000	PRINTING INK
	54100	ROTOGRAVURE INK
	54200	TEXTILE SPECIALTY CHEMICALS
	54300	INDUSTRIAL CHEM&PREPARATIONS, NES
	54400	POLISHES, WAXES, COMPOUNDS & ETC
	54500	OTH. HOUSEHOLD CHEM. SPECIALTIES.
	54600	WAXES, ANIMAL & VEGETABLE, OTHER
	54700	ESSENTIAL OILS, NATURAL OR SYN.
	54800	TANNING MATERIALS AND DYESTUFFS
	54900	MIXTURES AND RESIDUES ETC
	55000	PHOTOGRAPHIC CHEM. PREPARED&PKGD
	55100	EMBALMING CHEM. & PREPARATIONS

TABLE A.1.2 (Cont'd)

- 62 06100 SCIENTIFIC EQUIPMENT
 - 55300 AIRCRAFT&NAUTICAL INSTRUMENTS
 - 55400 LAB&SCIENTIFIC APPARATUS ETC
 - 55500 MISC.MEASURE&CONTROL INSTRUMENTS
 - 55600 MEDICAL&RELATED INSTRUMENTS ETC.
 - 55700 IND.MILITARY&CIVIL DEF.SAFETY EQ
 - 55800 WATCHES,CLOCKS,CHRONOMETERS ETC.
 - 55900 PHOTOGRAPHIC EQ&SUPPL.INCL.FILM

- 63 06200 PLASTIC PRODUCTS
 - 56400 PLASTIC FILM&SHEET,NES&OTH.ETC
 - 56500 PLASTIC CONTAINERS&BOTTLE CAPS
 - 56600 PLASTIC PREFAB.BLDGS&STRUCTURES
 - 56700 PLASTIC HOSE,PAILS&END PROD.NES

- 64 06300 OTHER MANUFACTURED PRODUCTS
 - 56000 JEWELRY,FINDINGS,MET.&GEM STONES
 - 56100 PLATED&SILVERWARE,CUTLERY, ETC.
 - 56200 BROOMS,BRUSHES,MOPS&OTH.CLEAN.EQ
 - 56300 VENETIAN BLINDS ETC.BAMBOO&WOOD
 - 56800 BICYCLES,CHILDREN'S VEH.&PARTS
 - 56900 SPORTING,FISHING&HUNTING EQUIP.
 - 57000 TOYS AND GAME SETS
 - 57100 FUR DRESSING & DYEING SERVICES
 - 57200 SIGNS & ADVERTISING DISPLAYS
 - 57300 CUSTOM WORK, MISCELLANEOUS
 - 57400 ICE
 - 57500 ANIMAL HAIR,FEATHERS,QUILLS,ETC.
 - 57600 MISC.FAB.MAT.INCL.BRISTLES ETC.
 - 57700 OFFICE,DESK&WRITING EQUIP. ETC.
 - 57800 INKS&ERADICATORS,MUCILAGE&PASTE
 - 57900 BUTTONS,NEEDLES,PINS&MISC.NOTION
 - 58000 PHONO RECORDS,ARTIST MAT. ETC.
 - 58100 HOUSEHOLD ORNAMENTAL OBJECTS&ART

- 65 06400 RESIDENTIAL DWELLINGS
 - 58220 RESIDENTIAL CONSTRUCTION

- 66 06500 NON-RESIDENTIAL BUILDINGS
 - 58230 NON-RESIDENTIAL CONSTRUCTION

- 67 06600 ROADS, HIGHWAYS & AIRSTRIPS
 - 58240 ROAD HIGHWAY AIRSTRIP CONST.

TABLE A1.2 (Cont'd)

68	06700 GAS & OIL FACILITIES
	58250 GAS AND OIL FACILITY CONST.
69	06800 DAMS & IRRIGATION PROJECTS
	58260 DAMS AND IRRIGATION PROJECTS
70	06900 RR, TELEPHONE & TELEGRAPH INST.
	58270 RAILWAY TELEPHONE TELEGRAPH CON.
71	07000 OTHER ENGINEERING STRUCTURES
	58280 OTHER ENGINEERING CONSTRUCTION
72	07100 REPAIR CONSTRUCTION
	58210 REPAIR CONSTRUCTION
73	07200 TRANSPORTATION SERVICES
	58300 AIR TRANSPORTATION
	58400 OTHER TRANSPORTATION
	58500 SERV. INCIDENTAL TO TRANSPORT NES
	58600 WATER TRANSPORTATION
	58700 SERV. INCIDENTAL TO WATER TRANS.
	58800 RAILWAY TRANSPORTATION
	58900 TRUCK TRANSPORTATION
	59000 BUS TRANSPORT, INTERURBAN& RURAL
	59100 URBAN TRANSIT
	59200 TAXICAB TRANSPORTATION
	59400 HIGHWAY AND BRIDGE MAINTENANCE
	59500 STORAGE
74	07300 TRANSPORTATION MARGINS
	63400 TRANSPORTATION MARGINS
75	07400 COMMUNICATION
	59600 RADIO & TELEVISION BROADCASTING
	59700 TELEPHONE & TEL. COMMUNICATION
	59800 POSTAL SERVICES
76	07500 ELECTRIC POWER
	59900 ELECTRIC POWER

TABLE A1.2 (Cont.'d)

77	07600 GAS & PIPELINE MARGINS
	59300 PIPELINE TRANSPORTATION
	60000 GAS DISTRIBUTION
78	07700 OTHER UTILITIES
	60200 WATER AND OTHER UTILITIES
79	07800 WHOLESALE TRADE
	60300 WHOLESALING SERVICE
	60400 REPAIR&SERVICE BY WHOLESALE EST.
	60500 RENTAL OF OFFICE EQUIPMENT
80	07900 RETAIL TRADE
	60600 RETAILING SERVICE
	60700 REPAIR & SER. BY RETAIL EST.
81	08000 FINANCE, INS., & REAL ESTATE
	60810 IMPUTED SERVICE, BANKS
	60820 OTH REAL EST (NON-RENT)&FIN.SERV
	60900 INSURANCE & W.C.B.
	61020 CASH RESIDENTIAL RENT
	61030 OTHER RENT
	61100 GOVT.ROYALTIES ON NAT. RESOURCES
82	08100 IMPUTED RENT
	61010 IMPUTED RENT OWNER OCPD. DWEL.
83	08200 PERSONAL SERVICES
	61200 EDUCATION AND RELATED SERVICES
	61300 HOSPITAL SERVICES
	61400 HEALTH SERVICES
	61500 MOTION PICTURE ENTERTAINMENT
	61600 OTHER RECREATIONAL SERVICES
	61900 LAUNDRY,CLEANING&PRESSING SERV.
	62000 ACCOMMODATION SERVICES
	62100 MEALS
	62200 SERV.MARG.ON ALCOHOLIC BEVERAGES
	62300 PERSONAL SERVICES
	62400 PHOTOGRAPHIC SERVICES
	62500 MISC.REPAIR SER.EX BLDGS&DWELL.
	62600 SERVICES TO BLDGS. & DWELLINGS
	62700 OTHER SERV.TO BUSINESSES&PERSONS
	62800 RENTAL OF AUTOMOBILES & TRUCKS
	62900 TRADE ASSOCIATION DUES

TABLE A1.2 (Cont'd)

84	08300 BUSINESS SERVICES	
		36700 RENTAL DATA PROCESSING EQUIP. 61700 SERVICES TO BUSINESS MANAGEMENT 61800 ADVERTISING SERVICES 63000 RENTAL AD MACH&EQ.INCL.CONST.MAC
85	08400 DUMMY	
		63100 SPARE PARTS&MAINT.SUPPL.MACH&EQ. 63200 OFFICE SUPPLIES 63300 CAFETERIA SUPPLIES 63500 LABORATORY EQUIP. AND SUPPLIES 63600 TRAVELLING AND ENTERTAINMENT 63800 ADVERTISING & PROMOTION 63900 PURCHASED REPAIR SER.FOR MACH&EQ
86	08500 NON-COMPETING IMPORTS	
		70100 COTTON RAW & SEMI-PROCESSED 70200 NATURAL RUBBER & ALLIED GUMS 70300 CANE SUGAR , RAW 70400 COCOA BEANS,UNROASTED 70500 GREEN COFFEE 70600 TROPICAL FRUIT
87	08600 BALANCE OF PAYMENTS ADJUSTMENT	
		71000 UNALLOCATED EXPORTS & IMPORTS
88	08700 INCOME & EXPENDITURE ACC'T ADJ.	
89	08800 GOVERNMENT GOODS & SERVICES	
		72000 GOVERNMENT GOODS & SERVICES
90	08900 INDIRECT COMMODITY TAXES	
		72100 INDIRECT COMMODITY TAXES
91	09000 SUBSIDIES	
		72200 SUBSIDIES
92	09100 OTHER INDIRECT TAXES	
		72300 INDIRECT TAXES NON-COMMODITY

TABLE A1.2 (Cont'd)

93	09200 WAGES & SALARIES
	73000 WAGES AND SALARIES
94	09300 SUPPLEMENTARY LABOUR INCOME
	73100 SUPPLEMENTARY LABOUR INCOME
95	09400 NET INCOME OF UNINCORP. BUSINESS
	73200 NET INCOME UNINCORP BUSINESS
96	09500 SURPLUS
	73310 HOUSEHOLD INVESTMENT INCOME
	73320 DEPLETION & MINING WRITE-OFFS
	73330 CAPITAL COST ALLOWANCE
	73340 OTHER SURPLUS
	NOT SPECIFIED
	63700
	64000
	64300
	71100
	72400

TABLE A1.3

CORRESPONDENCE BETWEEN INPUT-OUTPUT CONSUMER
EXPENDITURE AND FAMILY EXPENDITURE CATEGORIES^{1/}

<u>Input-Output Category</u>		<u>Family Expenditure Category</u>
Name	No.	
1. Food and Non-Alcoholic Beverages	1	1, 2, 7
2. Alcoholic Beverages	2	720-741
3. Tobacco	3	710-713
4. Men's and Boy's Clothing	4	
Women's and Children's Clothing	5	320-592
Footwear and Shoe Repair	6	
Jewelry, Watches and Repairs	34	
5. Gross Imputed Rent	7	30-83,94
6. Rent Paid	8	20-21
7. Other Lodging	9	90,91,93
8. Electricity	10	104
9. Gas	11	102-103
10. Other Fuels	12	(100-107) minus (102-104)
11. Furniture, Carpets, Floor Coverings	13	180-203
12. Appliances	14	220-250
13. Semi-Durable Household Furnishings and Supplies	15	210-214; 260-305
14. Non-Durable Household Supplies	16	140-162

^{1/} Input-Output Category No. 40, "Expenditures Abroad", was omitted in the construction of the Provincial Personal Expenditure Vectors.

TABLE A1.3 (Cont'd)

<u>Input-Output Category</u>		<u>Family Expenditure Category</u>
Name	No.	
15. Laundry and Dry Cleaning Services	17	128-131
16. Domestic Services	18	124-127
17. Other Household Services	19	310-312
18. Medical Care	20	
Hospital Care	21	650-702
Other Medical Care	22	
19. Drugs and Sundries	23	703-706
20. New and Used Automobiles	24	750-751
21. Auto Repairs and Parts	25	762-773
22. Gasoline and Grease	26	760-761
23. Other Auto Related Services	27	774-777
24. Purchased Transportation	28	810-834
25. Communications	29	120-123
26. Recreation, Sports and Camping Equipment	30	720-801; 840-871
Recreational Services	32	
27. Book, Magazines, and Stationery	31	880-903
28. Education and Cultural Services*	33	912-916
29. Toilet Articles, Cosmetics, etc.	35	610-634
30. Personal Care Services	36	600-604
31. Expenditures in Restaurants and Hotels	37	3-5,8,9,92
32. Personal Business	38	920-922,924,928
33. Operating Expenditures, Non-Profit Org.	39	925,926,953,954

* 910 and 911 - tuition fees for public education - are omitted as public education is not included in the input-output table.

APPENDIX 2

TABLE A2.1

NATURE AND SOURCES OF DATA FOR THE
PROVINCIAL SUPPLY DISTRIBUTION MATRICES

<u>DISTRIBUTION OR COLUMN NO.</u>	<u>DESCRIPTION OF DATA</u>	<u>YEAR</u>	<u>SOURCE</u>
<u>PRIMARY COMMODITIES</u>			
	<u>COMMODITY NAME</u>	<u>DETAILED COMMODITY NOS. (SEE TABLE A1.2)</u>	
1	Grain	00700-00900 Excl. 00700	1967 Peter Appleton
2	Other Agric.	00100-00600; 01000-02400 Excl. 01200,01300 01600,01700,01800 02000,02200,02300 02400	1967 Peter Appleton, Commodities Included Represents Approx. 90% of Value of Production.
3	Forest Products	02500-02900	1968- 70 Previous DREE Analysis
4	Primary Fish	03000	1965 1965 Atlantic I/O Table for Atlantic Regions; own-province supply assumed for other Provinces.
5	Crude Petroleum	03800	1968- 70 Stats.Can. Cat.# 26-213 and estimations.
6	Natural Gas	03900	1968- 70 Stats.Can. Cat.# 26-213 and estimations
7	Sulphur	04100	1968- 70 Previous DREE ^{1/} Analysis

1/

Adjusted to supply from Mining Industries only.

TABLE A2.1 (Cont'd)

NATURE AND SOURCES OF DATA FOR THE
PROVINCIAL SUPPLY DISTRIBUTION MATRICES

<u>DISTRIBUTION OR COLUMN NO.</u>	<u>DESCRIPTION OF DATA</u>	<u>YEAR</u>	<u>SOURCE</u>
<u>PRIMARY COMMODITIES</u>			
	<u>COMMODITY NAME</u>	<u>DETAILED COMMODITY NOS. (SEE TABLE A1.2)</u>	
8	Coal	03700	1968-70 Stats.Can. Cat.# 26-206 and estimations
9	Iron Ore & Conc.	03400	1968-70 Previous DREE Analysis
10	Asbestos	04200	1968-70 Previous DREE ^{1/} Analysis
11	Metal Ores & Conc.	03210,03220	1968-70 Previous DREE Analysis
12	Radio-Active Ores	03300	1968-70 Previous DREE Analysis
13	Gypsum	04300	1968-70 Previous DREE ^{1/} Analysis
14	Salt	04400	1968-70 Previous DREE ^{1/} Analysis
15	Non-Metal Minerals Excl., Sand, Gravel, Stone	04500-04800	1968-70 Previous DREE Analysis
162	Sand, Gravel, Stone	04900,05000	1968-70 Previous DREE Analysis
164	Gold & Platinum	03500,03600	1968-70 Previous DREE ^{1/} Analysis

^{1/}

Adjusted to supply from Mining Industries only.

TABLE A2.1 (Cont'd)

DISTRIBUTION
OR COLUMN NO.

DESCRIPTION OF DATA
MANUFACTURING INDUSTRIES^{1/}

	INPUT-OUTPUT WORKSHEET NO. (see Table A1.1)	INDUSTRY SEQUENCE NO.	1960 STANDARD INDUSTRIAL CODES
16	01800	16	101
17	01900	17	103
18	02000	18	105
19	02100	19	107
20	02200	20	111
21	02300	21	112
22	02400	22	123
23	02500	23	124
24	02600	24	125 ^{B/}
25	02700	25	128
26	02800	26	129
27	02900	27	131
28	03000	28	133
29	03100	29	135
30	03200	30	139
31	03300	31	141
32	03400	32	143
33	03500	33	145
34	03600	34	147
35	03700	35	151 ^{A/}
36	03800	36	153
37	03900	37	161
38	04000	38	163
39	04100	39	169

^{1/} Source: Destination of Shipments of Manufacturers, 1967, Statistics Canada, Catalogue # 31-504.

^{A/} and ^{B/} See notes at end of Manufacturing Industries.

TABLE A2.1 (Cont'd)DISTRIBUTION
OR COLUMN NO.DESCRIPTION OF DATAMANUFACTURING INDUSTRIES

	<u>INPUT-OUTPUT WORKSHEET NO.</u>	<u>INDUSTRY SEQUENCE NO.</u>	<u>1960 STANDARD INDUSTRIAL CODES</u>
	(see Table A1.1)		
40	04200	40	172
41	04300	41	174
42	04400	42	175
43	04500	43	179 ^{B/}
44	04600	44	183
45	04700	45	193
46	04800	46	197
47	04900	47	201
48	05000	48	211
49	05100	49	212
50	05200	50	213
51	05300	51	214
52	05400	52	215
53	05500	53	216 ^{B/}
54	05600	54	218
55	05700	55	219
56	05800	56	221
57	05900	57	223
58	06000	58	229 ^{B/}
59	06100	59	231
60	06200	60	239
61	06300	61	242 - 249
62	06400	62	251
63	06500	63	252 ^{B/}
64	06600	64	254

^{B/} See notes at end of Manufacturing Industries.

TABLE A2.1 (Cont'd)

DISTRIBUTION
OR COLUMN NO.

DESCRIPTION OF DATA

MANUFACTURING INDUSTRIES

	<u>INPUT-OUTPUT WORKSHEET NO.</u>	<u>INDUSTRY SEQUENCE NO.</u>	<u>1960 STANDARD INDUSTRIAL CODES</u>
	(see Table A1.1)		
65	06700	65	256 ^{B/}
66	06800	66	258
67	06900	67	259
68	07000	68	261
69	07100	69	264
70	07200	70	266 ^{B/}
71	07300	71	268
72	07401	72	271
73	07410	73 ^{1/}	
74	07420	74 ^{1/}	
75	07430	75 ^{1/}	
76	07440	76 ^{1/}	
77	07500	77	272
78	07600	78	273
79	07700	79	274
80	07800	80	286,288,289
81	07900	81	287
82	08001	82	291
83	08010	83 ^{2/}	
84	08020	84 ^{2/}	
85	08030	85 ^{2/}	
86	08040	86 ^{2/}	
87	08050	87 ^{2/}	
88	08060	88 ^{2/}	

^{1/} These distribution numbers are blank and not used, as these worksheet industries have been aggregated with industry worksheet no. 07401 in the interprovincial table.

^{2/} These distribution numbers are blank and not used, as these worksheet industries have been aggregated with industry worksheet no. 08001 in the interprovincial table.

^{B/} See notes at end of Manufacturing Industries.

TABLE A2.1 (Cont'd)

DISTRIBUTION
OR COLUMN NO.

DESCRIPTION OF DATA
MANUFACTURING INDUSTRIES

	<u>INPUT-OUTPUT WORKSHEET NO.</u>	<u>INDUSTRY SEQUENCE NO.</u>	<u>1960 STANDARD INDUSTRIAL CODES</u>
	(see Table A1.1)		
89	08100	89	292
90	08200	90	294
91	08310	91	295 part <u>1/</u>
92	08320	92	295 part <u>1/</u>
93	08400	93	296
94	08500	94	297 ^{B/}
95	08600	95	298
96	08700	96	301
97	08800	97	302
98	08900	98	303
99	09000	99	304
100	09100	100	305
101	09200	101	306
102	09300	102	307
103	09400	103	308
104	09500	104	309
105	09600	105	311
106	09700	106	315
107	09800	107	316 ^{B/}
108	09900	108	318
109	10000	109	321
110	10100	110	323
111	10200	111	324
112	10300	112	325

1/ An attempt was made to disaggregate the interprovincial shipments of this industry for each of the worksheet industries, based on the industry output and commodity demand patterns from the 1966 provincial Use and Make tables.

B/ See notes at end of Manufacturing Industries.

TABLE A2.1 (Cont'd)DISTRIBUTION
OR COLUMN NO.DESCRIPTION OF DATAMANUFACTURING INDUSTRIES

	<u>INPUT-OUTPUT WORKSHEET NO.</u>	<u>INDUSTRY SEQUENCE NO.</u>	<u>1960 STANDARD INDUSTRIAL CODES</u>
	(see Table A1.1)		
113	10400	113	326
114	10500	114	327
115	10600	115	328, 329
116	10700	116	331
117	10800	117	332
118	10900	118	334
119	11000	119	335
120	11100	120	336
121	11200	121	337
122	11300	122	338
123	11400	123	339
124	11500	124	341
125	11600	125	343 ^{B/}
126	11700	126	345
127	11800	127	347
128	11900	128	348
129	12000	129	351
130	12100	130	352
131	12200	131	353 ^{B/}
132	12300	132	354
133	12400	133	455
134	12500	134	356
135	12600	135	357 ^{B/}
136	12700	136	359 ^{A/}
137	12800	137	365
138	12900	138	369

A/ and B/ See notes at end of Manufacturing Industries.

TABLE A2.1 (Cont'd)DISTRIBUTION
OR COLUMN NO.DESCRIPTION OF DATAMANUFACTURING INDUSTRIES

	<u>INPUT-OUTPUT WORKSHEET NO.</u>	<u>INDUSTRY SEQUENCE NO.</u>	<u>1960 STANDARD INDUSTRIAL CODES</u>
	(see Table A1.1)		
139	13000	139	371
140	13100	140	372
141	13200	141	373
142	13300	142	374 ^{B/}
143	13400	143	375
144	13500	144	376
145	13600	145	377
146	13700	146	378
147	13800	147	379
148	13900	148	381
149	14000	149	382
150	14100	150	383
151	14200	151	384 ^{A/}
152	14300	152	385
153	14400	153	393
154	14500	154	395 ^{A/}
155	14600	155	397
156	14700	156	398, 399 ^{B/}

^{A/} For province(s) not receiving domestic shipments in 1967, the closest producing province was assumed as a supplier.

^{B/} For these industries there was production in some provinces in 1967 (according to the shipments data) but not in 1966 (according to the provincial Use tables) or visa versa. The shipments data was adjusted to be consistent with the 1966 production data.

TABLE A2.1 (Cont'd)

DISTRIBUTION
OR COLUMN NO.

DESCRIPTION OF DATA

OTHER CASES

160	Own Province supply								
163	S.I.C. 329, Destination of Shipments of Manufacturers, 1967 (DSM, 1967)								
165	Electric Power, 1968-1970, Statistics Canada, Worksheets								
166	Pulp commodity (detailed commodity no. 03400); Estimated from 1966 provincial Use and Make matrices.								
170	S.I.C. 286, DSM, 1967								
171	<table border="0"> <tr> <td><u>S.I.C.</u></td> <td><u>WEIGHTS</u></td> </tr> <tr> <td>251</td> <td>.7475</td> </tr> <tr> <td>252</td> <td>.2208</td> </tr> <tr> <td>254</td> <td>.0317</td> </tr> </table>	<u>S.I.C.</u>	<u>WEIGHTS</u>	251	.7475	252	.2208	254	.0317
<u>S.I.C.</u>	<u>WEIGHTS</u>								
251	.7475								
252	.2208								
254	.0317								
	DSM, 1967								

TABLE A2.2

EXCEPTION CONDITIONS FOR CHOICE OF
PROVINCIAL SUPPLY DISTRIBUTION VECTORS

<u>COMMODITY</u>	<u>INDUSTRY</u>	<u>DISTRIBUTION</u>
<u>SUBMATRIX 1</u>		
Primary Commodities (1-11) Primary Industries (1-15)		
2	2	160
3	1	160
11	4	11
11	5	12
11	6	9
11	7	164
11	8	8
11	10	10
11	11	13
11	12	14
11	13	15
11	14	162
11	15	160

SUBMATRIX 2

Primary Commodities (1-11)
Manufacturing Industries (16-156)

NO EXCEPTIONS

TABLE A2.2 (Cont'd)

<u>COMMODITY</u>	<u>INDUSTRY</u>	<u>DISTRIBUTION</u>
------------------	-----------------	---------------------

SUBMATRIX 3

Primary Commodities (1-11)
 Service Industries (157-212)

NO EXCEPTIONS

SUBMATRIX 4

Manufactured Commodities (12-62)
 Primary Industries (1-15)

30	2	3
43	7	164
53	13	15
53	14	162
55	8	8
55	9	5
57	13	15

TABLE A2.2 (Cont'd)

<u>COMMODITY</u>	<u>INDUSTRY</u>	<u>DISTRIBUTION</u>
<u>SUBMATRIX 5</u>		
Manufactured Commodities (12-62)		
Manufacturing Industries (16-156)		
33	72	166
24	80	170
35	80	170
36	80	170
45	115	163
46	≠ 96, 101, 102, 104, 105, 106, 107, 108, 109, 117, 118, 120, 123	160
54	82	160
55	82	160
55	91	160
60	≠116, 117, 118, 119, 120, 123, 134, 148	160
<u>SUBMATRIX 6</u>		
Manufactured Commodities (12-62)		
Service Industries (157-212)		
51	178	119
<u>SUBMATRIX 7</u>		
Service Commodities (63-86)		
Primary Industries (1-15)		
77	2	3
77	5	12
77	6	9

TABLE A2.2 (Cont'd)

<u>COMMODITY</u>	<u>INDUSTRY</u>	<u>DISTRIBUTION</u>
<u>SUBMATRIX 7 (Con't)</u>		
77	7	164
77	8	8
77	10	10
77	12	14
77	13	15
77	14	162
82	4	11
82	5	12
82	6	9
82	7	164
82	8	8
82	10	10
82	11	13
82	12	14
82	14	162

SUBMATRIX 8

Service Commodities (63-86)
 Manufacturing Industries (16-156)

71	20	160
74	all non-zero	160
76	all non-zero	160
78	all non-zero	160
79	all non-zero	160
81	all non-zero	160

TABLE A2.2 (Cont'd)

COMMODITY

INDUSTRY

DISTRIBUTION

SUBMATRIX 9

Service Commodities (63-86)
Service Industries (157-212)

74

180

165

APPENDIX 3

A SIMPLE NUMERICAL EXAMPLE OF THE
METHODOLOGY FOR CONSTRUCTING THE
INTERPROVINCIAL I/O TABLE

The following notes describe how the tables in this example are constructed:

1. These are examples of Provincial Use Tables in Coefficient Form for the two provinces.
2. These are examples of diagonal matrices of Provincial Domestic Commodity Supply Coefficients for the two provinces.
3. The Provincial Use Matrices Adjusted for Commodity Imports are obtained by premultiplication of each of the provincial use tables (in (1)) by the diagonal matrix of domestic commodity supply coefficients for that province (in (2)).
4. This is an example of a National Market Share matrix for the two commodities and the two (producing) industries.
5. These are examples of Interprovincial Shipments in Coefficient Form for commodity A and the two industries, corresponding to Table B in Figure 1.4 . Each table can be viewed as consisting of two column vectors of supply coefficients, one for each column province "p" as demander. It is assumed that data for the interprovincial shipments of commodity B are not available.
6. This is an arbitrarily chosen correspondence between commodities and industries, for which interprovincial shipments are available (in (5)), and the distribution numbers used for the Provincial Supply Vectors (in (7)).

7. The tables of Provincial Supply Distribution Vectors for each province "p" as demander are formed by selecting the columns for each province "p" from the tables of Interprovincial Shipments in Coefficient Form (in (5)) and ordering them according to the correspondence table in (6).

8. These Decision Rules are based on judgement as to the best information, on interprovincial shipments of commodities and by industries, to use in distributing the supply of each commodity/industry entry in the National Market Share matrix (in (4)) from the national to the provincial level, in order to create the Interprovincial Commodity Supply Coefficient matrices (in (9)). For example, it is judged that, for commodity A produced by industry 1 in matrix D^N , it is more appropriate to use the interprovincial supply pattern for commodity A (see (5) and (6)) than the supply pattern for industry 1. In the case of commodity B produced by industry 2 in matrix D^N , it is necessary to use the supply pattern for industry 2 (see (5) and (6)) since interprovincial shipments for commodity B are assumed to be unknown (in (5)).

9. Given the decision rules specified in (8), the appropriate distribution vector numbers are used to distribute, for each province as demander, the domestic supply of each commodity from each industry at the national level to the provincial level. The resulting Interprovincial Commodity Supply Coefficient Matrix for each province "p" as demander is a row-wise expansion of the D^N matrix obtained by multiplying each coefficient in matrix D^N , by the appropriate distribution column vector (as specified in the decision rules in (8)) for the demanding province "p".

10. The Partition of the "A" Matrix for each Province "p" as demander, is the product of the S^P , $(I-\hat{G})^P$, and B^P matrices (in that order) for that province.

11. The Interprovincial I/O Matrix is obtained by bringing the partitions (in (10)) together to form one matrix.

1. USE MATRICES IN COEFFICIENT FORM

$$B^P = (B_{Ci}^P)$$

PROVINCE (p=1)

PROVINCE (p=2)

		INDUSTRIES	
		1	2
COMMODITIES	A	.35	.55
	B	.45	.30

		INDUSTRIES	
		1	2
COMMODITIES	A	.37	.58
	B	.47	.32

2. DIAGONAL MATRICES OF PROVINCIAL DOMESTIC COMMODITY SUPPLY COEFFICIENTS

$$(I-\hat{u})^P = \text{diag} (1-u_C^P)$$

PROVINCE (p=1)

PROVINCE (p=2)

COMMODITIES		A	B
	A	.95	0
	B	0	.80

COMMODITIES		A	B
	A	.85	0
	B	0	.80

3. USE MATRICES ADJUSTED FOR
COMMODITY IMPORTS (rounded)

$$(I - \hat{u})^p B^p = \left[(1 - U_c^p) B_{ci}^p \right]$$

PROVINCE (p=1)

PROVINCE (p=2)

		INDUSTRIES	
		1	2
COMMODITIES	A	.33	.52
	B	.36	.24
		.69	.76

		INDUSTRIES	
		1	2
COMMODITIES	A	.31	.49
	B	.38	.26
		.69	.75

4. NATIONAL MARKET SHARE MATRIX

$$D^N = (D_{ic}^N)$$

		COMMODITIES	
		A	B
PRODUCING INDUSTRIES	1	1.00	.25
	2	0.0	.75
		1.00	1.00

8. DECISION RULES

IN MATRIX D^N

<u>COMMODITY (c)</u>	<u>PRODUCING INDUSTRY (i)</u>	<u>▶▶▶ CHOOSE</u> <u>DISTRIBUTION NO. (m)</u>
A	1	1
B	1	2
B	2	3

9. INTERPROVINCIAL COMMODITY SUPPLY COEFFICIENT
MATRIX FOR PROVINCE "p" AS DEMANDER (rounded)

$$S^p = (S_{ic}^{qp}) = (D_{ic}^N \cdot f_m^{qp}) \text{ where } m \text{ is determined by decision rules}$$

DEMANDING PROV. (p=1)

DEMANDING PROV. (p=2)

COMMODITIES

SUPPLYING INDS.		A	B
PROV. 1	1	1.00	.20
	2	0.0	.53
PROV. 2	1	0.0	.05
	2	0.0	.22
		1.00	1.00

COMMODITIES

SUPPLYING INDS.		A	B
PROV. 1	1	.50	.10
	2	0.0	.45
PROV. 2	1	.50	.15
	2	0.0	.30
		1.00	1.00

10. PARTITION OF A MATRIX FOR PROVINCE "p"
AS DEMANDER (rounded)

$$A^p = S^p (I - \hat{u})^p B^p$$

DEMANDING PROV. (p=1)				DEMANDING PROV. (p=2)			
		INDUSTRIES				INDUSTRIES	
SUPPLYING INDS		1	2	SUPPLYING INDS		1	2
PROV. 1	1	.402	.568	PROV. 1	1	.193	.271
	2	.191	.127		2	.171	.117
PROV. 2	1	.018	.012	PROV. 2	1	.212	.284
	2	.079	.053		2	.114	.078
		.690	.760			.690	.750

11. INTERPROVINCIAL I/O MATRIX (A)

$$A = (A^1, A^2)$$

		DEMANDING		INDUSTRIES	
		PROV. 1		PROV. 2	
SUPPLYING INDS.		1	2	1	2
PROV. 1	1	.402	.568	.193	.271
	2	.191	.127	.171	.117
PROV. 2	1	.018	.012	.212	.284
	2	.079	.053	.114	.078

MATHEMATICAL FORMULATION FOR DISTRIBUTION
OF UNALLOCATED COMMODITY INPUTS FROM THE
NATIONAL TO THE PROVINCIAL LEVEL

Consider the case for one industry, and suppose, for simplicity that there are only six commodity inputs. Suppose also that three of these have been distributed from the national to the provincial level using available statistics and the three remaining commodities must be so distributed by the mathematical procedure.

In Table A3.1, the first column of commodity inputs in dollar values for the industry at the national level are available from the national input-output table. The elements in the second column represent the national industry input structure in coefficient form and are obtained by dividing the corresponding element in the first column by the total industry output, O^N .

The third column represents the commodity inputs in dollar values for the industry in some province, "p", and the fourth column, the provincial industry input structure in coefficient form.

It is assumed that O^P and the A_i^P (and thus, the a_i^P) are known from available statistics, and that the B_i^P (and thus, the b_i^P) must be determined using the distribution procedure.

TABLE A3.1

	<u>NATIONAL INPUT STRUCTURE</u>		<u>PROVINCIAL INPUT STRUCTURE</u>	
	<u>\$</u>	<u>COEFFICIENTS</u>	<u>\$</u>	<u>COEFFICIENTS</u>
Distributed Commodities	A_1^N	a_1^N	A_1^P	a_1^P
	A_2^N	a_2^N	A_2^P	a_2^P
	A_3^N	a_3^N	A_3^P	a_3^P
Undistributed Commodities	B_1^N	b_1^N	B_1^P	b_1^P
	B_2^N	b_2^N	B_2^P	b_2^P
	B_3^N	b_3^N	B_3^P	b_3^P
Total Output	O^N	1.00	O^P	1.00

The following mathematical relations hold.

- 1) $\sum_i A_i^N + \sum B_i^N = O^N$
- 2) $A_i^N = a_i^N \cdot O^N$; $B_i^N = b_i^N \cdot O^N$
- 3) $\sum a_i^N + \sum b_i^N = 1$ (From 1 and 2)
- 4) $A_i^P = a_i^P \cdot O^P$; $B_i^P = b_i^P \cdot O^P$
- 5) $\sum_P A_i^P = A_i^N$
- 6) $\sum_P O^P = O^N$

The b_i^P and B_i^P are determined as follows:

- 7) $b_i^P = \frac{(1 - \sum_i a_i^P)}{(1 - \sum_i a_i^N)} \cdot b_i^N$
- 8) $B_i^P = b_i^P \cdot O^P$ (From 4)

The following desirable relations hold as a result of this procedure:

- 9) if $b_i^N = 0$, then $b_i^P = 0$
- 10) i) $\sum_i a_i^P + \sum_i b_i^P = 1$
 ii) $\sum_i A_i^P + \sum_i B_i^P \cdot O^P$
- 11) $\sum_P B_i^P = B_i^N$

Proof of (9): This follows from (7)

Proof of (10 i):

$$\sum_i b_i^P = \frac{(1 - \sum_i a_i^P)}{(1 - \sum_i a_i^N)} \cdot \sum_i b_i^N \quad (\text{From 7})$$

$$= \frac{(1 - \sum_i a_i^P)}{(1 - \sum_i a_i^N)} \cdot (1 - \sum_i a_i^N) \quad (\text{From 3})$$

$$\therefore \sum_i b_i^P = 1 - \sum_i a_i^P$$

Proof of (10 ii): This follows from (10 i) and (4).

Proof of (11):

$$\sum_P B_L^P = \sum_P b_L^P \cdot O^P \quad (\text{From 8})$$

$$= \frac{b_L^N}{(1 - \sum_i a_i^N)} \cdot \sum_P O^P (1 - \sum_i a_i^P) \quad (\text{From 7})$$

$$= \frac{B_L^N}{O^N (1 - \sum_i a_i^N)} \cdot \sum_P O^P (1 - \sum_i a_i^P) \quad (\text{From 2})$$

$$= \frac{B_L^N}{(O^N - \sum_i A_i^N)} \cdot (\sum_P O^P - \sum_P \sum_i A_i^P) \quad (\text{From 2 and 4})$$

$$= \frac{B_L^N}{(\sum_P O^P - \sum_P \sum_i A_i^P)} \cdot (\sum_P O^P - \sum_P \sum_i A_i^P) \quad (\text{From 5 and 6})$$

$$= B_L^N$$

APPENDIX 4

TABLE A4.1

DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	NEWFOUNDLAND										TOTAL
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	
1. AGRICULTURE	65.81	0.43	1.93	0.95	9.23	12.12	0.56	0.42	0.52	0.31	92.27
2. FORESTRY	85.19	0.47	1.80	0.70	7.23	12.14	0.56	0.42	0.52	0.31	109.76
3. FISHING, ETC.	64.29	0.36	1.74	0.65	12.41	12.90	0.43	0.31	0.46	0.35	93.85
4. FUEL MINES & WELLS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. MINES & QUARRIES	44.48	0.00	1.13	0.00	6.00	9.00	0.00	0.00	0.00	0.00	63.76
6. FOOD & BEVERAGES	52.76	0.51	1.88	1.04	10.72	14.81	0.54	0.60	0.68	0.60	84.14
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. LEATHER PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10. TEXTILES	61.22	0.00	1.21	1.33	13.70	23.57	0.62	0.37	0.62	0.41	109.33
11. KNITTING MILLS	41.37	0.00	0.66	0.43	15.63	15.01	0.00	0.00	0.46	0.57	72.60
12. CLOTHING	68.17	0.00	2.32	0.00	15.95	15.27	0.45	0.00	0.48	0.32	104.16
13. SHOE PRODUCTS	60.43	1.11	4.50	0.99	18.33	16.20	0.60	0.00	0.50	0.36	98.45
14. FURNITURE & FIXTURES	35.88	0.00	4.44	0.00	12.97	14.20	0.43	0.00	0.53	1.31	116.36
15. PAPER & ALLIED PRODS.	35.51	0.00	4.44	0.00	12.97	14.20	0.43	0.00	0.53	0.00	90.55
16. PRINTING, ETC.	71.27	0.00	1.50	1.50	13.14	13.44	0.44	0.00	0.47	0.42	102.18
17. PRIMARY METAL PRODS.	57.39	0.00	1.36	0.56	9.48	15.14	0.38	0.00	0.42	0.56	82.87
18. METAL FABRICATING	46.30	0.00	1.46	0.00	10.67	15.50	0.40	0.00	0.49	0.69	79.92
19. MACHINERY	68.16	0.00	2.22	0.00	13.43	19.50	0.48	0.00	0.49	0.47	106.45
20. TRANSPORTATION EQUIPMENT	51.08	0.00	1.58	0.81	13.49	19.74	0.48	0.00	0.47	0.73	85.81
21. ELECTRICAL PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22. NON-METALLIC MINERALS	64.11	0.00	1.08	0.00	10.88	12.97	0.00	0.00	0.00	0.00	90.00
23. PETROLEUM AND COAL PRODS.	17.38	0.00	1.55	0.00	3.99	4.27	0.41	0.00	0.44	0.40	41.76
24. CHEMICAL PRODUCTS	32.47	0.00	1.55	0.00	3.99	4.27	0.33	0.00	0.17	0.13	29.31
25. MISCELLANEOUS MANUFACTURING	53.70	0.00	1.33	0.00	10.88	11.93	0.31	0.00	0.43	0.25	62.26
26. CONSTRUCTION	55.55	0.00	1.33	0.00	10.88	12.22	0.39	0.00	0.42	0.40	88.08
27. TRANSPORTATION & STORAGE	75.08	0.00	1.46	0.57	11.55	16.78	0.43	0.00	0.47	0.97	108.65
28. UTILITIES	75.08	0.00	1.46	0.57	11.55	16.78	0.43	0.00	0.47	0.97	108.65
29. WHOLESALE & RETAIL	25.07	0.00	1.41	0.00	7.49	3.75	0.14	0.00	0.16	0.11	32.79
30. FINANCE, INS. & RE.	45.14	0.00	0.94	0.00	4.88	1.28	0.00	0.00	0.28	0.28	48.65
31. COMMUNICATIONS & SERVICES	72.86	0.00	1.34	0.76	7.33	12.63	0.52	0.00	0.22	0.20	53.49
32. MISC. OPERATIONS COSTS	40.99	0.00	1.33	0.68	10.73	17.46	0.52	0.00	0.51	0.34	97.64
33. HEALTH, EDUCATION & HOSP.	100.01	0.00	1.45	0.75	9.57	13.98	0.53	0.00	0.50	0.32	127.98
34. PERSONAL SECTOR	129.58	0.65	1.48	0.88	9.56	14.43	0.60	0.39	0.56	0.33	158.48

TABLE A4.1

DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	PRINCE EDWARD ISLAND										
	NFLD	PEI	NS	NR	QUE	ONT	MAN	SASK	ALTA	BC	TOTAL
1. AGRICULTURE	0.15	63.36	2.38	2.71	8.89	12.54	0.51	0.89	0.61	0.42	92.47
2. FORESTRY	0.11	95.64	2.00	1.73	7.69	11.22	0.40	0.33	0.46	0.40	119.98
3. FISHING, ETC.	0.08	52.57	2.87	1.33	7.50	10.19	0.29	0.24	0.38	1.19	76.83
4. FUEL, MINES & WELLS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. MINES & QUARRIES	0.07	46.63	1.20	1.06	4.99	7.99	0.27	0.19	0.27	0.22	62.88
6. FOOD & BEVERAGES	0.51	48.49	2.57	2.64	9.35	12.65	0.96	0.93	0.87	0.81	79.57
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. LEATHER PRODUCTS	0.08	46.14	1.77	2.69	19.28	24.91	0.52	0.36	0.58	0.36	96.73
10. TEXTILES	0.05	21.34	2.67	0.67	22.95	13.78	0.29	0.23	0.43	0.39	62.80
11. KNITTING MILLS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12. CLOTHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13. WOOD PRODUCTS	0.11	73.54	4.59	2.94	8.51	11.60	0.39	0.32	0.56	5.51	108.07
14. FURNITURE & FIXTURES	0.13	99.37	3.49	2.80	11.02	14.12	0.45	0.40	0.62	3.23	135.62
15. PAPER & ALLIED PRODS.	0.06	38.66	1.52	1.27	7.46	7.44	0.23	0.19	0.38	0.28	57.49
16. PRINTING, ETC.	0.09	61.48	1.56	1.84	14.11	10.80	0.35	0.28	0.44	0.38	91.33
17. PRIMARY METAL PRODS.	0.15	99.86	3.89	2.11	9.48	12.52	0.42	0.35	0.50	0.36	129.64
18. METAL FABRICATING	0.12	45.28	5.77	2.71	9.03	14.92	0.36	0.34	1.10	0.31	79.94
19. MACHINERY	0.11	42.40	4.35	2.36	7.93	14.31	0.33	0.24	0.36	0.25	72.63
20. TRANSPORTATION EQUIPMENT	0.11	58.65	4.37	1.79	11.76	15.27	0.38	0.29	0.43	0.64	93.72
21. ELECTRICAL PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22. NON-METALLIC MINERALS	0.11	61.76	3.94	1.59	10.35	10.38	0.34	0.32	0.41	0.30	89.50
23. PETROLEUM AND COAL PRODS.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24. CHEMICAL PRODUCTS	0.06	17.87	1.31	4.29	9.91	13.72	0.36	2.79	0.51	0.38	51.20
25. MISC. MANUFACTURING	0.12	57.22	2.61	1.75	8.27	10.89	0.30	0.25	0.37	0.29	82.08
26. CONSTRUCTION	0.12	41.48	6.15	3.07	9.61	14.84	0.36	0.28	0.45	1.48	77.83
27. TRANSPORTATION & STORAGE	0.09	71.79	2.59	1.40	7.02	9.81	0.33	0.27	0.39	0.34	94.04
28. UTILITIES	0.05	32.95	2.52	0.84	3.65	5.36	0.17	0.15	0.23	0.26	46.19
29. WHOLESALE & RETAIL	0.15	72.53	1.86	1.55	7.19	9.98	0.42	0.30	0.40	0.36	94.74
30. FINANCE, INS. & R.E.	0.05	39.06	1.30	0.91	3.75	5.61	0.18	0.15	0.21	0.28	51.50
31. COMMUNICATIONS & SERVICES	0.13	69.87	2.04	1.88	7.58	11.04	0.40	0.38	0.52	0.50	94.32
32. MISC. OPERATION COSTS	0.10	39.94	2.20	1.89	9.31	16.80	0.50	0.30	0.44	0.38	71.86
33. HEALTH, EDUCATION & HOSP.	0.12	100.32	2.12	1.78	8.99	12.48	0.44	0.35	0.50	0.39	127.48
34. PERSONAL SECTOR	0.14	131.05	2.19	1.98	8.99	12.51	0.47	0.40	0.56	0.42	158.71

TABLE A4.1

DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY

NOVA SCOTIA

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	TOTAL
1. AGRICULTURE	0.22	0.41	62.50	2.31	8.34	12.50	0.73	1.16	0.6	0.34	89.15
2. FORESTRY	0.11	0.34	72.29	4.10	5.95	10.44	0.55	0.53	0.2	0.28	94.86
3. FISHING, ETC.	0.28	0.37	85.42	1.11	7.78	13.10	0.55	0.58	0.0	0.0	110.09
4. FUEL MINES & WELLS	0.13	0.39	91.36	0.0	6.23	11.07	0.55	0.58	0.0	0.0	111.94
5. MINES & QUARRIES	0.09	0.23	50.12	0.85	5.42	8.84	0.55	0.58	0.0	0.0	68.79
6. FOOD & BEVERAGES	1.40	0.76	54.02	1.80	8.81	16.80	0.95	1.57	0.7	0.49	84.36
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. LEATHER PRODUCTS	0.11	0.31	67.39	1.91	2.83	11.01	0.58	0.58	0.0	0.0	79.97
10. TEXTILES	0.07	0.18	39.40	0.73	3.33	14.50	0.43	0.33	0.0	0.0	61.76
11. KNITTING MILLS	0.08	0.21	44.60	0.84	3.77	17.38	0.45	0.40	0.0	0.0	78.10
12. CLOTHING	0.09	0.24	48.52	1.09	3.17	15.22	0.55	0.46	0.0	0.0	81.66
13. FOOD PRODUCTS	0.11	0.32	65.28	0.32	6.68	11.20	0.50	0.52	0.0	0.0	95.81
14. FURNITURE & FIXTURES	0.13	0.29	64.18	2.21	7.90	16.86	0.51	0.51	0.0	1.1	97.84
15. PAPER & ALLIED PRODS.	0.13	0.25	52.48	7.39	7.30	10.37	0.41	0.43	0.0	0.0	79.84
16. PRINTING, ETC.	0.28	0.32	70.17	2.02	10.27	11.50	0.50	0.52	0.0	0.0	96.60
17. PRIMARY METAL PRODS.	0.09	0.22	49.15	0.60	4.16	7.04	0.51	0.33	0.0	0.0	66.28
18. METAL FABRICATING	0.39	0.23	50.65	0.95	7.29	18.93	0.43	0.43	0.0	0.0	82.50
19. MACHINERY	0.23	0.35	79.54	0.99	10.09	15.38	0.55	0.57	0.0	0.0	108.44
20. TRANSPORTATION EQUIPMENT	0.17	0.24	51.73	0.97	8.49	16.85	0.44	0.42	0.0	0.0	80.48
21. ELECTRICAL PRODUCTS	0.14	0.19	40.64	0.84	5.52	22.84	0.46	0.46	0.0	0.0	80.51
22. NON-METALLIC MINERALS	0.11	0.25	52.63	1.15	8.11	3.85	0.40	0.42	0.0	0.0	73.49
23. PETROLEUM AND COAL PRODS.	0.04	0.09	17.34	0.33	2.28	3.44	0.14	0.15	0.0	0.0	24.59
24. CHEMICAL PRODUCTS	0.10	0.27	40.43	1.30	7.99	12.52	0.37	0.50	0.0	0.0	62.92
25. MIS. MANUFACTURING	0.15	0.25	53.97	1.24	9.09	14.96	0.43	0.45	0.0	0.0	81.66
26. CONSTRUCTION	0.15	0.27	56.03	1.60	8.93	15.95	0.46	0.46	0.0	0.0	85.55
27. TRANSPORTATION & STORAGE	0.11	0.32	72.06	0.85	5.51	9.88	0.46	0.49	0.0	0.0	90.22
28. UTILITIES	0.07	0.20	44.90	0.55	3.39	5.95	0.29	0.31	0.0	0.0	59.79
29. WHOLESALE & RETAIL	0.12	0.41	79.51	1.02	6.17	10.33	0.56	0.57	0.0	0.0	95.99
30. FINANCE, INS. & R.E.	0.07	0.20	45.77	0.56	3.44	6.09	0.29	0.31	0.0	0.0	59.79
31. COMMUNICATIONS & SERVICES	0.18	0.57	72.27	1.10	6.15	10.68	0.58	0.80	0.0	0.0	93.55
32. MISC. OPERATION COSTS	0.13	0.33	43.55	1.09	8.03	16.59	0.54	0.53	0.0	0.0	71.55
33. HEALTH, EDUCATION & HOSP.	0.14	0.43	98.79	1.04	7.66	12.57	0.63	0.66	0.0	0.0	122.61
34. PERSONAL SECTOR	0.16	0.54	132.97	1.21	7.45	12.64	0.74	0.80	0.0	0.0	157.24

TABLE A4.1

DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	NEW BRUNSWICK										
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	TOTAL
1. AGRICULTURE	0.05	0.20	1.22	60.38	8.59	12.09	0.53	0.66	0.58	0.27	85.10
2. FORESTRY	0.03	0.16	1.17	75.58	8.82	12.08	0.41	0.37	0.36	0.22	96.64
3. FISHING, ETC.	0.04	0.32	2.68	68.19	7.22	12.02	0.41	0.36	0.38	0.45	94.54
4. FUEL MINES & WELLS	0.04	0.15	1.27	71.57	9.66	12.02	0.40	0.35	0.34	0.22	90.43
5. MINES & QUARRIES	0.02	0.08	0.68	35.14	3.53	6.00	0.21	0.18	0.19	0.13	46.59
6. FOOD & BEVERAGES	0.06	0.58	2.53	41.81	8.48	12.02	0.66	0.94	0.70	0.31	69.46
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. LEATHER PRODUCTS	0.04	0.14	0.85	62.39	17.48	25.55	0.67	0.46	0.59	0.31	108.78
10. TEXTILES	0.02	0.11	0.73	41.10	7.13	10.33	0.27	0.23	0.26	0.17	58.65
11. KNITTING MILLS	0.03	0.09	1.60	35.40	18.72	15.65	0.44	0.28	0.41	0.25	72.38
12. CLOTHING	0.03	0.18	1.31	33.38	13.33	13.76	0.45	0.37	0.42	0.26	100.69
13. WOOD PRODUCTS	0.04	0.14	1.67	65.00	14.87	16.36	0.41	0.37	0.43	1.13	94.77
14. FURNITURE & FIXTURES	0.05	0.12	1.63	50.25	13.33	15.70	0.41	0.44	0.54	1.22	83.42
15. PAPER & ALLIED PRODS.	0.03	0.12	1.81	52.43	12.26	10.00	0.35	0.31	0.54	0.49	76.71
16. PRINTING, ETC.	0.04	0.16	1.20	35.79	12.33	11.33	0.66	0.42	0.65	0.65	100.62
17. PRIMARY METAL PRODS.	0.15	0.11	3.12	44.63	8.91	15.94	0.54	0.30	0.37	0.22	74.04
18. METAL FABRICATING	0.14	0.12	3.00	52.18	9.33	17.33	0.40	0.34	0.40	0.25	83.95
19. MACHINERY	0.10	0.15	1.76	72.11	9.99	14.08	0.43	0.37	0.41	0.24	99.34
20. TRANSPORTATION EQUIPMENT	0.08	0.14	2.73	65.26	11.26	15.66	0.40	0.36	0.40	0.42	95.14
21. ELECTRICAL PRODUCTS	0.10	0.10	1.61	41.40	11.86	14.99	0.40	0.30	0.42	0.29	76.18
22. NON-METALLIC MINERALS	0.03	0.12	1.81	54.24	6.68	9.99	0.33	0.29	0.30	0.24	73.54
23. PETROLEUM AND COAL PRODS.	0.01	0.03	0.31	13.07	1.75	2.77	0.09	0.07	0.09	0.06	18.26
24. CHEMICAL PRODUCTS	0.04	0.14	0.87	34.31	7.64	13.08	0.30	0.35	0.46	0.23	57.42
25. MISC. MANUFACTURING	0.04	0.13	1.02	58.77	9.95	15.55	0.40	0.34	0.43	0.52	86.57
26. CONSTRUCTION	0.06	0.13	1.72	57.37	10.11	15.27	0.41	0.34	0.40	0.74	86.57
27. TRANSPORTATION & STORAGE	0.03	0.15	1.35	74.33	6.64	9.99	0.39	0.35	0.34	0.23	93.55
28. UTILITIES	0.02	0.08	1.40	34.71	3.33	4.44	0.00	0.17	0.17	0.12	44.65
29. WHOLESALE & RETAIL	0.03	0.18	1.03	63.81	6.90	10.33	0.44	0.40	0.37	0.23	103.73
30. FINANCE, INS. & RE	0.02	0.09	0.57	44.72	3.33	5.00	0.21	0.20	0.16	0.16	55.96
31. COMMUNICATIONS & SERVICES	0.04	0.25	1.08	71.04	6.66	10.00	0.49	0.42	0.42	0.26	91.03
32. MISC. OPERATION COSTS	0.04	0.15	1.18	44.68	6.00	16.33	0.38	0.38	0.42	0.31	72.74
33. HEALTH, EDUCATION & HOSP.	0.04	0.20	1.11	101.65	8.44	12.55	0.46	0.44	0.44	0.25	125.65
34. PERSONAL SECTOR	0.04	0.24	1.19	135.50	8.55	12.55	0.60	0.54	0.48	0.26	157.76

TABLE A4.1

DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	QUEBEC										
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	TOTAL
1. AGRICULTURE	0.15	0.09	0.28	0.25	85.74	11.97	0.76	1.17	1.40	0.41	102.21
2. FORESTRY	0.04	0.05	0.23	0.29	92.83	8.85	0.38	0.39	0.77	0.30	104.13
3. FISHING, ETC.	0.06	0.05	0.34	0.21	97.10	10.64	0.41	0.40	0.81	0.45	110.47
4. FUEL MINES & WELLS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. MINES & QUARRIES	0.04	0.03	0.23	0.13	53.93	7.02	0.00	0.25	0.52	0.22	62.63
6. FOOD & BEVERAGES	0.14	0.16	0.33	0.37	58.28	13.67	1.26	2.09	2.31	0.56	79.17
7. TOBACCO PRODUCTS	0.10	0.08	0.24	0.31	53.52	19.31	0.00	0.60	0.71	0.38	75.84
8. RUBBER & PLASTICS	0.04	0.04	0.24	0.19	61.35	12.69	0.33	0.31	0.81	0.30	76.30
9. LEATHER PRODUCTS	0.04	0.05	0.30	0.27	77.11	17.42	0.33	0.44	0.96	0.41	97.54
10. TEXTILES	0.04	0.04	0.26	0.19	58.68	12.79	0.33	0.30	0.67	0.30	73.58
11. KNITTING MILLS	0.03	0.04	0.28	0.19	59.74	14.41	0.37	0.30	0.66	0.30	76.32
12. CLOTHING	0.04	0.04	0.29	0.20	68.13	12.70	0.39	0.33	0.67	0.32	83.10
13. WOOD PRODUCTS	0.05	0.05	0.27	0.79	81.06	11.49	0.38	0.39	0.85	1.67	97.21
14. FURNITURE & FIXTURES	0.06	0.04	0.39	0.38	72.62	13.48	0.33	0.36	0.74	1.25	89.72
15. PAPER & ALLIED PRODS.	0.04	0.04	0.56	0.81	65.54	10.45	0.32	0.32	0.74	0.59	79.43
16. PRINTING, ETC.	0.04	0.05	0.40	0.95	61.99	11.88	0.39	0.37	0.77	0.62	97.46
17. PRIMARY METAL PRODS.	0.06	0.04	0.94	0.33	43.65	15.00	0.31	0.27	0.75	0.24	52.25
18. METAL FABRICATING	0.16	0.04	1.06	0.21	61.65	16.57	0.36	0.33	0.68	0.32	81.59
19. MACHINERY	0.11	0.04	0.67	0.20	61.64	16.29	0.37	0.32	0.65	0.35	80.65
20. TRANSPORTATION EQUIPMENT	0.08	0.04	0.56	0.19	66.05	14.27	0.39	0.32	0.66	0.40	82.96
21. ELECTRICAL PRODUCTS	0.13	0.04	0.42	0.20	64.08	16.00	0.39	0.32	0.73	0.34	82.66
22. NON-METALLIC MINERALS	0.12	0.04	0.66	0.24	60.72	9.39	0.33	0.29	0.67	0.26	72.69
23. PETROLEUM AND COAL PRODS.	0.02	0.01	0.09	0.06	20.10	3.25	0.10	0.10	0.24	0.09	24.05
24. CHEMICAL PRODUCTS	0.11	0.04	0.41	0.22	58.30	12.28	0.34	0.34	0.91	0.33	73.28
25. MISC. MANUFACTURING	0.08	0.04	0.34	0.36	66.87	12.94	0.33	0.34	0.80	0.53	82.65
26. CONSTRUCTION	0.08	0.05	0.43	0.27	79.53	13.52	0.33	0.37	0.78	0.72	96.15
27. TRANSPORTATION & STORAGE	0.04	0.04	0.27	0.16	79.91	8.20	0.34	0.34	0.69	0.27	90.27
28. UTILITIES	0.02	0.02	0.09	0.07	40.32	3.31	0.16	0.16	0.31	0.12	44.57
29. WHOLESALE & RETAIL	0.05	0.06	0.23	0.19	88.42	8.67	0.44	0.42	0.79	0.31	99.56
30. FINANCE, INS. & R.E.	0.03	0.03	0.15	0.12	58.97	5.50	0.30	0.35	0.50	0.21	66.10
31. COMMUNICATIONS & SERVICES	0.05	0.07	0.33	0.23	87.01	9.25	0.41	0.34	1.13	0.38	94.66
32. MISC. OPERATION COSTS	0.05	0.05	0.28	0.26	56.11	13.58	0.39	0.39	0.79	0.38	72.29
33. HEALTH, EDUCATION & HOSP.	0.05	0.06	0.34	0.21	111.47	10.47	0.46	0.45	0.91	0.34	124.75
34. PERSONAL SECTOR	0.05	0.07	0.27	0.22	145.21	10.38	0.33	0.34	1.04	0.36	158.67

TABLE A4.1

DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	ONTARIO										TOTAL
	NFLD	PEI	NS.	NB	QUE	ONT	MAN	SASK	ALTA	BC	
1. AGRICULTURE	0.07	0.05	0.16	0.19	5.19	89.36	0.76	0.82	0.92	0.37	97.89
2. FORESTRY	0.03	0.02	0.14	0.25	1.37	88.97	0.47	0.42	0.73	0.32	95.84
3. FISHING, ETC.	0.04	0.02	0.19	0.33	1.84	106.92	0.56	0.45	0.76	0.50	115.00
4. FUEL MINES & WELLS	0.02	0.01	0.07	0.07	0.97	41.22	0.33	0.17	0.27	0.16	44.20
5. MINES & QUARRIES	0.03	0.01	0.12	0.11	3.28	60.76	0.33	0.27	0.47	0.22	65.93
6. FOOD & BEVERAGES	0.14	0.10	0.20	0.33	6.08	68.38	1.36	1.52	1.08	0.46	79.64
7. TOBACCO PRODUCTS	0.23	0.14	0.16	0.39	6.68	63.37	1.11	1.11	0.84	0.00	76.64
8. RUBBER & PLASTICS	0.03	0.02	0.19	0.16	8.52	60.31	0.33	0.49	0.63	0.29	69.85
9. LEATHER PRODUCTS	0.05	0.03	0.25	0.21	7.81	80.44	1.11	0.38	0.95	0.44	94.87
10. TEXTILES	0.03	0.02	0.37	0.33	5.92	62.13	0.44	0.32	0.71	0.57	75.60
11. SPINNING MILLS	0.03	0.02	0.39	0.21	6.31	64.34	0.44	0.36	0.69	0.36	79.23
12. CLOTHING	0.03	0.02	0.32	0.23	6.40	74.63	0.44	0.34	0.52	0.37	84.17
13. WOOD PRODUCTS	0.04	0.02	0.16	0.22	6.31	68.88	0.55	0.44	0.53	0.57	95.66
14. FURNITURE & FIXTURES	0.05	0.02	0.23	0.26	8.72	77.15	0.47	0.36	0.55	1.11	84.99
15. PAPER & ALLIED PRODS.	0.04	0.02	0.21	0.22	9.33	66.23	0.44	0.34	0.74	0.00	79.00
16. PRINTING, ETC.	0.04	0.02	0.20	0.26	5.52	65.24	0.44	0.34	0.60	1.00	98.02
17. PRIMARY METAL PRODS.	0.51	0.02	0.32	0.13	5.66	59.49	0.36	0.77	0.40	0.00	68.47
18. METAL FABRICATING	0.14	0.02	0.25	0.16	5.22	70.67	0.33	0.33	0.54	0.00	74.19
19. MACHINERY	0.08	0.02	0.18	0.13	6.22	66.67	0.44	0.28	0.48	0.00	74.19
20. TRANSPORTATION EQUIPMENT	0.06	0.01	0.18	0.22	5.17	59.48	0.44	0.44	0.43	0.00	61.46
21. ELECTRICAL PRODUCTS	0.09	0.02	0.22	0.16	7.73	71.58	0.44	0.33	0.54	0.00	81.39
22. NON-METALLIC MINERALS	0.04	0.02	0.20	0.16	5.26	66.91	0.44	0.33	0.44	0.00	75.77
23. PETROLEUM AND COAL PRODS.	0.02	0.01	0.09	0.08	7.77	59.02	0.44	0.34	0.68	0.00	43.84
24. CHEMICAL PRODUCTS	0.04	0.02	0.23	0.18	6.11	57.02	0.44	0.34	0.60	0.00	65.88
25. MISC MANUFACTURING	0.06	0.02	0.13	0.20	6.72	66.44	0.44	0.33	0.62	0.00	78.94
26. CONSTRUCTION	0.06	0.02	0.19	0.21	3.68	83.68	0.44	0.33	0.63	1.00	93.80
27. TRANSPORTATION & STORAGE	0.03	0.02	0.13	0.16	3.94	77.93	0.44	0.33	0.78	0.00	84.00
28. UTILITIES	0.02	0.01	0.17	0.07	1.94	42.82	0.44	0.16	0.26	0.00	45.63
29. WHOLESALE & RETAIL	0.04	0.03	0.14	0.16	4.38	42.82	0.44	0.33	0.61	0.00	49.23
30. FINANCE, INS. & R.E.	0.02	0.01	0.09	0.09	7.53	54.22	0.44	0.33	0.34	0.00	63.24
31. COMMUNICATIONS & SERVICES	0.04	0.03	0.22	0.12	4.21	42.82	0.44	0.33	0.63	0.00	49.23
32. MISC. OPERATION COSTS	0.04	0.02	0.17	0.22	3.21	61.42	0.44	0.33	0.66	0.00	70.57
33. HEALTH, EDUCATION & HOSP.	0.04	0.02	0.18	0.17	7.53	114.74	0.44	0.41	0.44	0.00	120.55
34. PERSONAL SECTOR	0.04	0.03	0.18	0.18	5.50	148.79	0.64	0.47	0.68	0.35	156.87

TABLE A4.1

DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	MANITOBA										TOTAL
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	
1. AGRICULTURE	0.02	0.01	0.11	0.11	4.03	8.59	76.10	2.68	1.60	1.01	94.26
2. FORESTRY	0.02	0.01	0.12	0.12	4.50	9.51	114.37	2.20	1.31	0.94	133.10
3. FISHING, ETC.	0.02	0.01	0.14	0.12	6.68	10.09	93.76	1.96	1.30	1.40	115.48
4. FUEL MINES & WELLS	0.01	0.00	0.04	0.03	1.21	2.78	18.41	0.50	0.36	0.35	23.69
5. MINES & QUARRIES	0.01	0.01	0.09	0.07	2.60	5.84	49.76	1.11	0.70	0.61	60.79
6. FOOD & BEVERAGES	0.02	0.02	0.14	0.19	4.65	10.66	54.77	11.67	2.20	1.88	88.20
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.02	0.01	0.13	0.13	7.78	14.00	76.48	1.64	1.18	1.10	102.46
9. LEATHER PRODUCTS	0.02	0.02	0.18	0.15	11.54	18.13	52.64	2.20	1.79	1.21	87.86
10. TEXTILES	0.02	0.02	0.34	0.22	16.71	15.46	38.24	1.04	1.08	1.40	74.54
11. KNITTING MILLS	0.02	0.02	0.25	0.17	16.68	13.60	44.79	1.03	1.13	0.87	78.57
12. CLOTHING	0.02	0.02	0.29	0.16	13.74	13.23	53.69	1.71	1.07	1.08	66.02
13. WOOD PRODUCTS	0.02	0.01	0.13	0.12	4.88	12.13	57.55	2.18	2.11	8.80	87.93
14. FURNITURE & FIXTURES	0.03	0.01	0.24	0.15	10.02	15.24	54.49	1.54	1.56	3.81	87.10
15. PAPER & ALLIED PRODS.	0.02	0.01	0.14	0.25	6.24	17.53	40.00	1.46	1.62	3.55	70.82
16. PRINTING, ETC.	0.02	0.01	0.14	0.27	6.26	15.25	68.14	1.53	1.12	2.91	95.66
17. PRIMARY METAL PRODS.	0.03	0.01	0.12	0.08	3.82	8.24	44.50	2.59	0.93	0.75	61.08
18. METAL FABRICATING	0.11	0.01	0.55	0.12	5.50	18.46	51.88	1.46	1.18	0.92	80.21
19. MACHINERY	0.08	0.01	0.41	0.11	5.44	17.90	43.78	1.36	1.19	1.28	71.56
20. TRANSPORTATION EQUIPMENT	0.04	0.01	0.20	0.12	7.34	14.22	61.18	1.37	1.06	1.08	80.63
21. ELECTRICAL PRODUCTS	0.06	0.01	0.22	0.14	7.68	15.46	43.02	1.28	1.49	1.59	70.95
22. NON-METALLIC MINERALS	0.02	0.01	0.10	0.11	3.85	8.91	49.70	1.44	1.26	1.04	60.44
23. PETROLEUM AND COAL PRODS.	0.01	0.00	0.06	0.05	2.23	4.81	18.49	6.24	9.57	0.77	42.24
24. CHEMICAL PRODUCTS	0.03	0.01	0.14	0.21	6.09	12.32	38.02	1.66	2.66	2.52	63.66
25. MISC. MANUFACTURING	0.03	0.01	0.16	0.16	6.31	12.04	73.85	1.73	1.70	1.96	97.96
26. CONSTRUCTION	0.04	0.01	0.20	0.12	5.82	14.88	51.45	1.65	1.64	3.13	78.94
27. TRANSPORTATION & STORAGE	0.02	0.01	0.11	0.09	4.08	8.18	72.20	1.66	1.21	0.88	88.42
28. UTILITIES	0.01	0.00	0.05	0.04	1.64	3.44	36.80	0.77	0.48	0.45	43.67
29. WHOLESALE & RETAIL	0.02	0.01	0.11	0.11	4.14	8.61	85.01	2.37	1.10	1.01	102.48
30. FINANCE, INS. & R.E.	0.01	0.01	0.07	0.06	2.50	5.40	52.19	1.05	0.63	0.69	62.63
31. COMMUNICATIONS & SERVICES	0.02	0.02	0.16	0.14	4.30	9.01	80.26	2.45	1.22	1.25	98.82
32. MISC. OPERATION COSTS	0.02	0.01	0.14	0.15	5.50	14.23	47.58	1.75	1.24	1.34	71.97
33. HEALTH, EDUCATION & HOSP.	0.02	0.01	0.13	0.13	5.47	10.45	103.67	2.02	1.16	1.04	124.12
34. PERSONAL SECTOR	0.02	0.01	0.14	0.14	5.14	10.10	137.31	2.40	1.23	1.05	157.53

TABLE A4.1

DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	SASKATCHEWAN										TOTAL
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	
1. AGRICULTURE	0.01	0.01	0.11	0.08	4.10	8.30	1.58	87.11	2.55	1.29	105.15
2. FORESTRY	0.02	0.01	0.11	0.08	3.69	8.54	1.70	58.98	2.21	3.89	80.43
3. FISHING, ETC.	0.02	0.01	0.12	0.09	5.41	9.17	1.11	84.84	2.45	3.54	105.32
4. FUEL MINES & WELLS	0.01	0.00	0.04	0.03	1.22	2.76	0.48	17.35	0.71	0.49	23.08
5. MINES & QUARRIES	0.01	0.00	0.06	0.05	2.24	5.04	0.34	29.42	1.33	1.12	40.64
6. FOOD & BEVERAGES	0.02	0.01	0.14	0.10	4.55	9.56	2.21	64.82	3.59	2.45	87.45
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. LEATHER PRODUCTS	0.02	0.01	0.18	0.15	7.33	13.09	1.70	20.16	1.11	1.24	45.61
10. TEXTILES	0.02	0.01	0.28	0.14	13.79	13.01	1.65	42.37	1.11	1.34	74.49
11. KNITTING MILLS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12. CLOTHING	0.02	0.01	0.24	0.12	10.58	12.02	2.37	58.96	2.23	1.75	88.30
13. WOOD PRODUCTS	0.02	0.01	0.13	0.10	5.01	10.46	2.32	53.22	2.46	1.40	87.14
14. FURNITURE & FIXTURES	0.03	0.01	0.26	0.13	9.53	14.80	2.20	51.90	2.62	1.92	83.75
15. PAPER & ALLIED PRODS.	0.02	0.01	0.14	0.18	7.50	13.89	1.80	43.28	2.14	1.71	79.67
16. PRINTING, ETC.	0.02	0.01	0.14	0.14	6.27	11.89	1.69	71.04	1.93	1.26	99.39
17. PRIMARY METAL PRODS.	0.04	0.01	0.33	0.08	3.78	10.54	1.10	23.91	3.01	1.73	56.54
18. METAL FABRICATING	0.10	0.01	0.72	0.11	5.11	16.15	1.13	33.24	3.08	1.45	73.51
19. MACHINERY	0.05	0.01	0.38	0.10	5.25	14.78	1.32	33.99	3.37	1.45	82.31
20. TRANSPORTATION EQUIPMENT	0.05	0.01	0.34	0.11	5.62	14.96	1.17	33.28	3.58	4.37	84.48
21. ELECTRICAL PRODUCTS	0.06	0.01	0.22	0.12	7.40	13.48	3.07	25.51	4.43	6.00	56.03
22. NON-METALLIC MINERALS	0.01	0.01	0.11	0.07	3.46	8.17	3.62	44.41	2.48	1.33	63.68
23. PETROLEUM AND COAL PRODS.	0.01	0.00	0.07	0.05	2.22	4.85	0.71	18.12	2.74	0.94	43.78
24. CHEMICAL PRODUCTS	0.02	0.01	0.12	0.18	6.14	10.83	1.89	27.01	3.56	3.71	55.48
25. MISC. MANUFACTURING	0.03	0.01	0.16	0.13	5.80	11.65	1.90	36.36	3.36	3.00	82.38
26. CONSTRUCTION	0.04	0.01	0.24	0.10	5.68	13.88	1.99	43.00	3.64	3.77	73.35
27. TRANSPORTATION & STORAGE	0.01	0.01	0.09	0.06	3.30	6.93	1.17	38.03	1.96	1.06	72.62
28. UTILITIES	0.01	0.00	0.04	0.03	1.44	3.03	0.00	27.83	0.88	0.53	34.34
29. WHOLESALE & RETAIL	0.01	0.01	0.12	0.08	4.08	8.24	1.33	77.76	2.22	1.48	95.34
30. FINANCE, INS. & R.E.	0.01	0.01	0.07	0.05	2.39	5.04	0.93	46.32	2.22	0.91	56.94
31. COMMUNICATIONS & SERVICES	0.02	0.01	0.17	0.11	4.27	8.73	1.70	72.11	2.22	1.11	91.53
32. MISC. OPERATION COSTS	0.02	0.01	0.14	0.13	5.56	13.95	2.20	36.77	3.06	4.46	63.61
33. HEALTH, EDUCATION & HOSP.	0.02	0.01	0.14	0.10	5.58	10.34	1.70	101.47	2.25	1.44	123.05
34. PERSONAL SECTOR	0.02	0.01	0.15	0.10	5.25	10.07	1.79	134.84	2.47	1.49	156.19

TABLE A4.1

DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	ALBERTA										
	NFLD	PEI	NS	NB	QUE	UNT	MAN	SASK	ALTA	BC	TOTAL
1 AGRICULTURE	0.01	0.01	0.12	0.07	4.82	8.45	0.94	0.48	82.12	1.82	97.83
2 FORESTRY	0.01	0.01	0.12	0.07	3.70	8.38	0.77	0.48	72.44	4.11	90.10
3 FISHING, ETC.	0.02	0.01	0.15	0.09	5.14	10.14	1.04	0.48	110.52	2.12	129.70
4 FUEL MINES & WELLS	0.01	0.00	0.05	0.03	1.38	3.24	0.31	0.14	27.00	0.70	32.86
5 MINES & QUARRIES	0.01	0.01	0.10	0.07	3.03	7.14	1.05	0.34	52.80	1.83	68.37
6 FOOD & BEVERAGES	0.02	0.01	0.13	0.09	3.99	9.06	1.32	1.25	65.74	3.28	84.69
7 TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8 RUBBER & PLASTICS	0.02	0.01	0.23	0.09	7.07	10.50	0.76	0.29	36.10	2.62	57.68
9 LEATHER PRODUCTS	0.02	0.02	0.24	0.15	7.45	13.98	1.29	0.85	58.95	3.26	86.21
10 TEXTILES	0.00	0.01	0.32	0.11	9.44	12.26	0.82	0.34	43.38	2.87	69.37
11 KNITTING MILLS	0.02	0.01	0.34	0.14	14.27	15.26	0.58	0.30	41.89	1.33	74.14
12 CLOTHING	0.02	0.01	0.39	0.13	13.71	14.74	1.84	0.69	52.56	2.75	86.33
13 FOOD PRODUCTS	0.02	0.01	0.14	0.13	4.57	10.76	0.90	0.53	57.45	1.39	85.91
14 FURNITURE & FIXTURES	0.03	0.01	0.32	0.12	8.57	13.80	0.94	0.40	55.48	4.54	84.22
15 PAPER & ALLIED PRODS.	0.01	0.01	0.11	0.12	4.19	9.18	0.84	0.55	42.00	9.31	66.32
16 PRINTING, ETC.	0.02	0.01	0.13	0.16	4.90	10.38	0.83	0.45	65.70	3.68	91.25
17 PRIMARY METAL PRODS.	0.06	0.01	0.52	0.08	3.73	12.72	7.57	0.71	40.25	2.95	68.62
18 METAL FABRICATING	0.09	0.01	0.72	0.10	4.64	17.17	1.66	0.43	48.33	3.02	76.19
19 MACHINERY	0.05	0.01	0.30	0.10	5.26	15.69	1.33	0.39	51.21	2.61	76.95
20 TRANSPORTATION EQUIPMENT	0.04	0.01	0.28	0.10	5.57	14.66	1.12	0.37	47.83	2.97	73.95
21 ELECTRICAL PRODUCTS	0.04	0.01	0.19	0.09	6.70	15.14	1.48	0.42	33.20	3.66	60.92
22 NON-METALLIC MINERALS	0.02	0.01	0.13	0.07	3.38	8.04	1.96	0.39	48.58	2.37	64.93
23 PETROLEUM AND COAL PRODS.	0.01	0.00	0.08	0.05	2.55	6.00	0.57	0.30	34.26	1.35	45.18
24 CHEMICAL PRODUCTS	0.01	0.01	0.10	0.07	3.34	7.58	2.24	0.39	38.51	2.76	55.06
25 MISC. MANUFACTURING	0.02	0.01	0.17	0.10	4.95	11.35	1.04	0.40	60.55	3.37	81.96
26 CONSTRUCTION	0.04	0.01	0.31	0.11	5.14	14.04	1.41	0.46	56.40	3.96	81.87
27 TRANSPORTATION & STORAGE	0.01	0.01	0.10	0.06	3.93	6.66	0.61	0.30	58.56	1.29	70.52
28 UTILITIES	0.01	0.00	0.07	0.03	1.32	2.99	0.29	0.14	29.10	0.85	34.57
29 WHOLESALE & RETAIL	0.01	0.01	0.12	0.07	3.75	8.06	0.80	0.42	49.64	1.92	94.80
30 FINANCE, INS. & R.F.	0.01	0.00	0.08	0.04	2.20	5.03	0.49	0.22	77.09	1.12	56.29
31 COMMUNICATIONS & SERVICES	0.02	0.01	0.17	0.10	4.00	13.71	0.93	0.50	83.30	2.16	99.91
32 MISC. OPERATION COSTS	0.02	0.01	0.14	0.11	4.89	13.34	1.21	0.43	42.70	2.67	65.52
33 HEALTH, EDUCATION & HOSP.	0.02	0.01	0.15	0.09	5.16	10.26	0.93	0.45	101.77	1.92	120.75
34 PERSONAL SECTOR	0.02	0.01	0.15	0.09	4.87	9.94	0.97	0.51	136.25	2.01	154.83

TABLE A4.1

DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY A \$100 INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY		BRITISH COLUMBIA										
		NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	TOTAL
1.	AGRICULTURE	0.02	0.01	0.12	0.08	4.05	9.47	0.68	0.81	5.91	84.91	104.60
2.	FORESTRY	0.01	0.01	0.09	0.06	3.44	7.45	0.41	0.36	4.91	63.42	76.60
3.	FISHING, ETC.	0.02	0.01	0.16	0.09	1.10	1.05	0.41	0.31	1.43	78.11	97.60
4.	FUEL MINES & WELLS	0.01	0.00	0.04	0.03	1.10	2.20	0.17	0.11	0.22	27.86	33.60
5.	MINES & QUARRIES	0.01	0.00	0.06	0.05	0.30	0.49	0.20	0.19	0.33	44.03	53.64
6.	FOOD & BEVERAGES	0.02	0.01	0.14	0.10	4.11	9.90	0.50	0.37	5.00	56.00	78.67
7.	TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.	RUBBER & PLASTICS	0.02	0.01	0.12	0.08	6.46	12.18	0.50	0.30	1.01	79.49	101.67
9.	LEATHER PRODUCTS	0.02	0.01	0.21	0.12	2.92	12.65	0.72	0.30	1.11	42.33	49.69
10.	TEXTILES	0.02	0.01	0.33	0.12	2.92	12.65	0.72	0.30	1.11	42.33	49.69
11.	KNITTING MILLS	0.02	0.01	0.36	0.12	3.00	12.33	0.45	0.26	1.11	43.46	51.44
12.	CLOTHING	0.02	0.01	0.29	0.11	2.93	12.33	0.45	0.26	1.11	43.46	51.44
13.	WOOD PRODUCTS	0.01	0.01	0.10	0.07	3.55	12.11	0.46	0.33	1.11	73.88	88.33
14.	FURNITURE & FIXTURES	0.02	0.01	0.20	0.10	7.55	12.56	0.43	0.33	1.11	66.66	84.99
15.	PAPER & ALLIED PRODS.	0.01	0.01	0.09	0.07	3.55	12.11	0.46	0.33	1.11	73.88	88.33
16.	PRINTING, ETC.	0.01	0.01	0.11	0.08	4.92	8.71	0.44	0.33	1.11	78.07	95.28
17.	PRIMARY METAL PRODS.	0.03	0.01	0.09	0.14	5.55	12.84	0.68	0.44	1.11	47.77	60.53
18.	METAL FABRICATING	0.07	0.01	0.18	0.10	5.55	12.84	0.68	0.44	1.11	47.77	60.53
19.	MACHINERY	0.06	0.01	0.16	0.10	5.55	12.84	0.68	0.44	1.11	47.77	60.53
20.	TRANSPORTATION EQUIPMENT	0.04	0.01	0.15	0.09	5.55	12.84	0.68	0.44	1.11	47.77	60.53
21.	ELECTRICAL PRODUCTS	0.05	0.01	0.14	0.09	5.55	12.84	0.68	0.44	1.11	47.77	60.53
22.	NON-METALLIC MINERALS	0.01	0.01	0.09	0.08	3.10	5.44	0.41	0.33	1.11	55.33	64.99
23.	PETROLEUM AND COAL PRODS.	0.01	0.00	0.06	0.05	3.37	5.65	0.41	0.33	1.11	55.33	64.99
24.	CHEMICAL PRODUCTS	0.02	0.01	0.10	0.11	4.95	8.65	0.43	0.33	1.11	45.44	60.77
25.	MISC MANUFACTURING	0.02	0.01	0.13	0.09	4.96	10.41	0.44	0.30	1.11	70.47	84.99
26.	CONSTRUCTION	0.03	0.01	0.13	0.09	4.79	12.39	0.44	0.31	1.11	67.41	84.99
27.	TRANSPORTATION & STORAGE	0.01	0.01	0.09	0.06	3.11	2.28	0.38	0.35	1.11	69.41	82.60
28.	UTILITIES	0.01	0.00	0.04	0.02	1.28	2.28	0.38	0.35	1.11	69.41	82.60
29.	WHOLESALE & RETAIL	0.01	0.01	0.11	0.07	3.62	7.72	0.41	0.33	1.11	88.33	100.66
30.	FINANCE, INS. & R.E.	0.01	0.00	0.06	0.04	1.10	1.72	0.37	0.17	1.11	50.00	58.73
31.	COMMUNICATIONS & SERVICES	0.01	0.01	0.11	0.08	1.77	4.47	0.37	0.33	1.11	48.33	60.99
32.	MISC. OPERATION COSTS	0.02	0.01	0.12	0.10	6.67	12.72	0.70	0.33	1.11	48.33	60.99
33.	HEALTH, EDUCATION & HOSP.	0.02	0.01	0.12	0.08	8.99	9.67	0.55	0.36	1.11	104.98	123.68
34.	PERSONAL SECTOR	0.02	0.01	0.15	0.08	6.60	9.34	0.59	0.41	1.11	137.99	155.99

TABLE A4.2

PERCENTAGE DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY AN INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	NEWFOUNDLAND										
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	TOTAL
1. AGRICULTURE	71.32	0.47	2.09	1.02	10.00	13.13	0.61	0.46	0.57	0.33	100.00
2. FORESTRY	77.62	0.43	1.64	0.64	7.22	11.06	0.42	0.28	0.42	0.27	100.00
3. FISHING, ETC.	68.50	0.38	1.86	0.69	12.99	13.75	0.46	0.30	0.49	0.58	100.00
4. FUEL MINES & WELLS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. MINES & QUARRIES	69.76	0.44	1.77	0.72	10.06	15.50	0.48	0.33	0.53	0.42	100.00
6. FOOD & BEVERAGES	62.71	0.60	2.23	1.24	12.75	17.60	0.64	0.71	0.81	0.71	100.00
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. LEATHER PRODUCTS	55.99	0.31	1.11	1.21	18.01	21.56	0.57	0.34	0.57	0.33	100.00
10. TEXTILES	56.83	0.35	2.25	0.66	18.72	19.24	0.50	0.32	0.55	0.57	100.00
11. KNITTING MILLS	65.45	0.34	2.14	0.62	15.29	14.60	0.44	0.29	0.47	0.31	100.00
12. CLOTHING	66.80	1.06	1.42	0.92	14.05	13.91	0.62	0.32	0.52	0.38	100.00
13. WOOD PRODUCTS	68.20	0.40	4.49	1.60	9.15	12.44	0.44	0.32	0.67	2.29	100.00
14. FURNITURE & FIXTURES	71.20	0.38	2.27	1.03	10.36	12.42	0.42	0.25	0.45	1.12	100.00
15. PAPER & ALLIED PRODS.	73.52	0.42	2.79	0.80	8.75	12.06	0.43	0.29	0.60	0.36	100.00
16. PRINTING, ETC.	69.75	0.39	1.13	1.13	12.85	13.16	0.43	0.29	0.46	0.43	100.00
17. PRIMARY METAL PRODS.	69.26	0.40	1.64	0.67	11.44	14.65	0.46	0.30	0.50	0.67	100.00
18. METAL FABRICATING	57.93	0.34	3.63	0.83	13.05	19.39	0.50	0.34	0.62	3.37	100.00
19. MACHINERY	64.03	0.36	1.98	0.77	12.67	18.54	0.45	0.30	0.46	0.44	100.00
20. TRANSPORTATION EQUIPMENT	59.70	0.36	5.34	2.29	11.05	15.51	0.47	0.32	0.56	4.35	100.00
21. ELECTRICAL PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22. NON-METALLIC MINERALS	69.87	0.41	1.79	0.74	11.39	14.14	0.45	0.30	0.48	0.43	100.00
23. PETROLEUM AND COAL PRODS.	66.06	0.42	2.10	0.76	12.47	16.24	0.49	0.34	0.63	0.49	100.00
24. CHEMICAL PRODUCTS	58.41	0.38	1.59	0.94	17.55	19.16	0.50	0.38	0.70	0.41	100.00
25. MISC. MANUFACTURING	67.56	0.38	1.54	0.76	11.95	16.14	0.44	0.30	0.48	0.45	100.00
26. CONSTRUCTION	62.55	0.37	2.52	1.00	13.02	18.10	0.48	0.32	0.53	1.10	100.00
27. TRANSPORTATION & STORAGE	76.03	0.42	1.58	0.62	8.20	11.69	0.43	0.29	0.44	0.31	100.00
28. UTILITIES	76.43	0.42	1.94	0.65	7.59	11.44	0.42	0.30	0.48	0.35	100.00
29. WHOLESALE & RETAIL	76.60	0.63	1.23	0.74	7.92	11.44	0.43	0.29	0.42	0.29	100.00
30. FINANCE, INS. & R.E.	70.91	0.42	1.27	0.66	7.70	11.57	0.42	0.27	0.40	0.38	100.00
31. COMMUNICATIONS & SERVICES	74.62	0.59	1.37	0.78	7.92	12.93	0.54	0.37	0.52	0.35	100.00
32. MISC. OPERATION COSTS	50.44	0.51	1.84	0.94	14.09	24.03	0.64	0.39	0.63	0.50	100.00
33. HEALTH, EDUCATION & HOSP.	78.15	0.42	1.13	0.58	7.47	10.92	0.41	0.27	0.39	0.25	100.00
34. PERSONAL SECTOR	81.77	0.41	0.94	0.56	6.03	9.11	0.38	0.25	0.35	0.21	100.00

TABLE A4.2

PERCENTAGE DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY AN INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	PRINCE EDWARD ISLAND										
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	TOTAL
1. AGRICULTURE	0.16	68.52	2.57	2.94	9.62	13.56	0.56	0.96	0.66	0.46	100.00
2. FORESTRY	0.09	79.71	1.67	1.44	6.41	9.35	0.33	0.27	0.38	0.33	100.00
3. FISHING, ETC.	0.10	68.60	3.75	1.73	9.79	13.30	0.38	0.31	0.50	1.55	100.00
4. FUEL MINES & WELLS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. MINES & QUARRIES	0.10	78.16	1.90	1.68	7.94	12.71	0.42	0.31	0.43	0.35	100.00
6. FOOD & BEVERAGES	0.04	60.94	3.22	3.32	11.75	15.90	1.20	1.16	1.09	0.77	100.00
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. LEATHER PRODUCTS	0.08	47.74	1.83	2.78	14.94	25.75	0.53	0.37	0.60	0.37	100.00
10. TEXTILES	0.07	33.98	4.25	1.07	36.55	21.94	0.47	0.37	0.68	0.63	100.00
11. ANNIHING MILLS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12. CLOTHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13. WOOD PRODUCTS	0.10	68.05	4.25	2.72	7.88	10.74	0.36	0.29	0.52	5.10	100.00
14. FURNITURE & FIXTURES	0.09	73.27	2.57	2.06	8.13	10.41	0.33	0.29	0.46	2.39	100.00
15. PAPER & ALLIED PRDUS.	0.10	67.25	2.94	2.21	12.97	12.93	0.40	0.34	0.66	0.49	100.00
16. PRINTING, ETC.	0.09	67.31	1.71	2.01	15.45	11.43	0.39	0.31	0.48	0.42	100.00
17. PRIMARY METAL PRDUS.	0.12	77.03	3.00	1.63	7.31	9.66	0.32	0.27	0.38	0.28	100.00
18. METAL FABRICATING	0.15	56.64	3.22	3.39	11.30	18.66	0.45	0.42	1.38	0.38	100.00
19. MACHINERY	0.15	58.38	3.96	3.25	10.91	19.71	0.45	0.33	0.49	0.35	100.00
20. TRANSPORTATION EQUIPMENT	0.12	62.59	4.67	1.91	12.55	16.30	0.41	0.31	0.46	0.68	100.00
21. ELECTRICAL PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22. NON-METALLIC MINERALS	0.12	69.00	4.40	1.78	11.56	11.59	0.38	0.36	0.46	0.34	100.00
23. PETROLEUM AND COAL PRDUS.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24. CHEMICAL PRODUCTS	0.11	34.90	2.55	8.39	19.35	26.80	0.71	5.48	1.00	0.73	100.00
25. MISC MANUFACTURING	0.14	69.71	3.18	2.14	18.68	13.27	0.37	0.30	0.45	0.36	100.00
26. CONSTRUCTION	0.15	53.29	3.90	3.95	12.35	19.07	0.46	0.36	0.57	1.90	100.00
27. TRANSPORTATION & STORAGE	0.10	76.34	3.76	1.49	7.46	10.43	0.35	0.29	0.42	0.37	100.00
28. UTILITIES	0.11	71.33	3.46	1.81	7.91	11.60	0.38	0.33	0.50	0.57	100.00
29. WHOLESALE & RETAIL	0.16	76.36	3.96	1.62	7.59	10.33	0.44	0.32	0.43	0.38	100.00
30. FINANCE, INS. & RE	0.10	75.83	3.51	1.77	7.28	10.89	0.36	0.29	0.41	0.54	100.00
31. COMMUNICATIONS & SERVICES	0.13	74.07	3.16	1.99	8.03	11.70	0.43	0.40	0.55	0.33	100.00
32. MISC. OPERATION CUSTS	0.14	55.57	3.06	2.63	12.96	23.38	0.69	0.42	0.62	0.53	100.00
33. HEALTH, EDUCATION & HOSP.	0.09	78.66	1.66	1.36	7.05	9.79	0.35	0.27	0.40	0.31	100.00
34. PERSONAL SECTOR	0.09	82.57	1.38	1.25	5.66	7.88	0.30	0.25	0.35	0.27	100.00

TABLE A4.2

PERCENTAGE DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY AN INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	NOVA SCOTIA										TOTAL	
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC		
1. AGRICULTURE	0.25	0.47	70.10	2.59	9.36	14.02	0.00	1.30	0.00	0.71	0.58	100.00
2. FORESTRY	0.12	0.36	76.20	0.33	6.27	11.01	0.00	0.56	0.00	0.40	0.50	100.00
3. FISHING, ETC.	0.26	0.34	77.59	0.00	5.57	11.90	0.00	0.00	0.00	0.25	0.45	100.00
4. FUEL MINES & WELLS	0.12	0.35	81.62	0.00	5.57	11.90	0.00	0.00	0.00	0.25	0.45	100.00
5. MINES & QUARRIES	0.14	0.35	75.03	0.00	5.11	13.23	0.00	0.00	0.00	0.36	0.49	100.00
6. FOOD & BEVERAGES	0.66	0.40	54.03	0.13	10.45	16.36	1.13	1.33	0.00	0.58	0.00	100.00
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. LEATHER PRODUCTS	0.11	0.30	64.82	0.00	12.97	18.26	0.00	0.00	0.00	0.44	0.76	100.00
10. TEXTILES	0.11	0.30	63.79	1.18	15.97	18.26	0.00	0.00	0.00	0.47	0.55	100.00
11. KNITTING MILLS	0.10	0.27	57.10	1.07	17.11	22.25	0.00	0.00	0.00	0.50	0.50	100.00
12. CLOTHING	0.12	0.29	59.42	0.33	17.35	19.26	1.11	0.58	0.00	0.58	0.00	100.00
13. FOOD PRODUCTS	0.11	0.33	67.42	0.33	6.90	11.57	0.00	0.00	0.00	0.56	0.22	100.00
14. FURNITURE & FIXTURES	0.14	0.33	65.50	0.33	11.15	17.25	0.00	0.00	0.00	0.57	1.00	100.00
15. PAPER & ALLIED PRODS.	0.16	0.32	65.74	0.22	19.14	12.94	0.00	0.00	0.00	0.77	0.00	100.00
16. PRINTING, ETC.	0.29	0.33	72.64	0.22	10.63	11.90	0.00	0.00	0.00	0.44	0.62	100.00
17. PRIMARY METAL PRODS.	0.14	0.00	78.42	0.00	6.68	11.33	0.00	0.00	0.00	0.41	0.00	100.00
18. METAL FABRICATING	0.47	0.22	61.46	1.14	11.80	12.97	0.00	0.00	0.00	0.36	0.00	100.00
19. MACHINERY	0.21	0.32	73.35	0.00	9.31	11.41	0.00	0.00	0.00	0.34	0.00	100.00
20. TRANSPORTATION EQUIPMENT	0.21	0.32	64.55	0.00	10.60	12.03	0.00	0.00	0.00	0.46	0.00	100.00
21. ELECTRICAL PRODUCTS	0.17	0.25	50.48	1.11	17.17	18.33	0.00	0.00	0.00	0.55	0.00	100.00
22. NON-METALLIC MINERALS	0.15	0.35	71.54	0.00	11.04	13.41	0.00	0.00	0.00	0.33	0.00	100.00
23. PETROLEUM AND COAL PRODS.	0.15	0.35	70.73	0.00	9.31	16.08	0.00	0.00	0.00	0.47	0.00	100.00
24. CHEMICAL PRODUCTS	0.15	0.43	63.03	0.00	12.46	14.54	0.00	0.00	0.00	0.56	0.00	100.00
25. MISC MANUFACTURING	0.19	0.31	68.22	1.11	11.13	14.11	0.00	0.00	0.00	0.46	0.00	100.00
26. CONSTRUCTION	0.17	0.31	65.76	1.11	10.48	18.72	0.00	0.00	0.00	0.46	1.11	100.00
27. TRANSPORTATION & STORAGE	0.12	0.35	79.85	0.00	6.11	10.00	0.00	0.00	0.00	0.34	0.00	100.00
28. UTILITIES	0.12	0.36	80.13	0.00	6.06	10.94	0.00	0.00	0.00	0.34	0.00	100.00
29. WHOLESALE & RETAIL	0.12	0.42	80.07	0.00	6.21	10.40	0.00	0.00	0.00	0.25	0.00	100.00
30. FINANCE, INS. & R.E.	0.12	0.36	80.13	0.00	6.03	10.66	0.00	0.00	0.00	0.36	0.00	100.00
31. COMMUNICATIONS & SERVICES	0.14	0.45	77.88	1.11	6.21	11.47	0.00	0.00	0.00	0.33	0.00	100.00
32. MISC. OPERATION COSTS	0.18	0.45	60.88	1.11	2.20	23.16	0.00	0.00	0.00	0.53	0.00	100.00
33. HEALTH, EDUCATION & HOSP.	0.11	0.35	80.57	0.00	6.25	10.25	0.00	0.00	0.00	0.31	0.00	100.00
34. PERSONAL SECTOR	0.10	0.34	84.56	0.77	4.74	8.04	0.00	0.00	0.00	0.20	0.00	100.00

TABLE A4.2

PERCENTAGE DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY AN INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY		NEW BRUNSWICK										
		NFLD	PEI	NS	NR	QUE	ONT	MAN	SASK	ALTA	BC	TOTAL
1.	AGRICULTURE	0.05	0.24	1.43	70.96	10.10	14.82	0.62	0.78	0.69	0.32	100.00
2.	FORESTRY	0.03	0.16	1.21	78.21	8.70	10.37	0.43	0.38	0.37	0.23	100.00
3.	FISHING, ETC.	0.04	0.34	1.84	78.12	9.08	13.11	0.43	0.38	0.40	0.47	100.00
4.	FUEL MINES & WELLS	0.04	0.16	1.11	78.71	8.05	11.11	0.44	0.38	0.37	0.24	100.00
5.	VINES & QUARRIES	0.05	0.16	1.11	75.41	8.05	13.11	0.45	0.40	0.42	0.28	100.00
6.	FOOD & BEVERAGES	0.05	0.16	1.11	60.19	12.87	18.60	0.95	1.35	1.01	0.45	100.00
7.	TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.	RUBBER & PLASTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.	LEATHER PRODUCTS	0.04	0.13	1.11	57.36	16.67	23.76	0.62	0.42	0.54	0.29	100.00
10.	TEXTILES	0.04	0.13	1.11	70.08	16.16	14.72	0.45	0.39	0.44	0.28	100.00
11.	KNITTING MILLS	0.04	0.13	1.11	48.90	20.20	21.73	0.45	0.39	0.57	0.24	100.00
12.	CLOTHING	0.03	0.13	1.11	69.90	13.63	13.47	0.45	0.37	0.42	0.26	100.00
13.	WOOD PRODUCTS	0.04	0.15	1.11	65.59	15.90	11.32	0.44	0.39	0.46	1.19	100.00
14.	FURNITURE & FIXTURES	0.06	0.15	1.11	60.23	15.90	13.32	0.49	0.40	0.53	1.46	100.00
15.	PAPER & ALLIED PRODS.	0.04	0.16	1.11	66.91	15.32	13.41	0.45	0.40	0.68	0.65	100.00
16.	PRINTING, ETC.	0.04	0.15	1.11	75.17	9.74	11.83	0.45	0.38	0.41	0.64	100.00
17.	PRIMARY METAL PRODS.	0.20	0.14	4.32	60.24	12.93	22.46	0.47	0.41	0.49	0.29	100.00
18.	METAL FABRICATING	0.16	0.15	3.57	62.16	11.70	20.62	0.48	0.40	0.47	0.29	100.00
19.	MACHINERY	0.10	0.15	3.77	72.69	9.65	14.18	0.44	0.38	0.41	0.24	100.00
20.	TRANSPORTATION EQUIPMENT	0.08	0.15	2.87	65.59	10.16	16.46	0.45	0.38	0.42	0.44	100.00
21.	ELECTRICAL PRODUCTS	0.14	0.13	2.11	34.55	15.61	22.00	0.55	0.40	0.56	0.38	100.00
22.	NON-METALLIC MINERALS	0.05	0.16	2.46	73.75	9.36	15.00	0.45	0.40	0.41	0.32	100.00
23.	PETROLEUM AND COAL PRODS.	0.06	0.16	1.11	59.56	9.38	15.75	0.47	0.41	0.50	0.33	100.00
24.	CHEMICAL PRODUCTS	0.07	0.15	1.11	59.75	13.11	22.55	0.53	0.61	0.80	0.41	100.00
25.	MISC MANUFACTURING	0.05	0.15	1.11	67.89	11.77	17.51	0.47	0.39	0.50	0.20	100.00
26.	CONSTRUCTION	0.07	0.16	1.11	66.27	11.70	17.63	0.48	0.39	0.46	0.25	100.00
27.	TRANSPORTATION & STORAGE	0.04	0.16	1.11	74.45	6.92	10.63	0.42	0.37	0.47	0.24	100.00
28.	UTILITIES	0.04	0.17	1.11	77.74	6.87	10.44	0.43	0.39	0.49	0.26	100.00
29.	WHOLESALE & RETAIL	0.03	0.18	1.11	80.74	6.67	10.49	0.43	0.38	0.47	0.33	100.00
30.	FINANCE, INS. & R.E.	0.04	0.18	1.11	79.92	6.83	10.59	0.43	0.37	0.45	0.29	100.00
31.	COMMUNICATIONS & SERVICES	0.04	0.27	1.11	78.04	7.33	11.24	0.45	0.39	0.47	0.28	100.00
32.	MISC OPERATION COSTS	0.06	0.21	1.11	61.41	2.41	10.00	0.47	0.35	0.55	0.43	100.00
33.	HEALTH, EDUCATION & HOSP.	0.03	0.16	1.11	80.40	7.00	10.00	0.42	0.36	0.45	0.20	100.00
34.	PERSONAL SECTOR	0.03	0.15	0.76	84.62	5.29	7.96	0.38	0.34	0.30	0.16	100.00

TABLE A4.2

PERCENTAGE DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY AN INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY		QUEBEC										
		NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	TOTAL
1.	AGRICULTURE	0.14	0.09	0.28	0.24	83.89	11.72	0.74	1.14	1.37	0.40	100.00
2.	FORESTRY	0.04	0.05	0.22	0.28	89.15	8.50	0.37	0.38	0.74	0.28	100.00
3.	FISHING, ETC.	0.05	0.05	0.30	0.19	87.89	9.63	0.38	0.36	0.73	0.11	100.00
4.	FUEL MINES & QUARRIES & WELLS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.	MINES & QUARRIES & WELLS	0.07	0.05	0.36	0.21	86.11	11.21	0.41	0.41	0.82	0.34	100.00
6.	FOOD & BEVERAGES	0.17	0.20	0.42	0.46	73.62	17.26	1.59	2.64	2.92	0.71	100.00
7.	TOBACCO PRODUCTS	0.13	0.11	0.31	0.41	70.57	25.47	0.77	0.80	0.44	0.50	100.00
8.	RUBBER & PLASTICS	0.06	0.05	0.31	0.25	80.40	16.63	0.44	0.41	1.07	0.39	100.00
9.	LEATHER PRODUCTS	0.05	0.05	0.31	0.27	79.06	17.86	0.54	0.46	0.98	0.40	100.00
10.	TEXTILES	0.05	0.05	0.36	0.26	79.74	17.38	0.44	0.41	0.91	0.41	100.00
11.	KNITTING MILLS	0.04	0.05	0.37	0.24	78.27	18.68	0.48	0.39	0.87	0.40	100.00
12.	CLOTHING	0.04	0.05	0.35	0.24	81.98	15.28	0.46	0.39	0.81	0.39	100.00
13.	WOOD PRODUCTS	0.05	0.05	0.28	0.28	83.38	11.82	0.39	0.40	0.88	1.40	100.00
14.	FURNITURE & FIXTURES	0.07	0.05	0.43	0.42	80.94	15.02	0.41	0.40	0.86	0.71	100.00
15.	PAPER & ALLIED PRODS.	0.05	0.05	0.70	1.02	82.52	13.16	0.40	0.41	0.93	0.74	100.00
16.	PRINTING, ETC.	0.04	0.05	0.41	0.97	84.12	12.19	0.40	0.38	0.79	0.44	100.00
17.	PRIMARY METAL PRODS.	1.09	0.05	1.52	0.53	70.13	24.16	0.50	0.43	1.20	0.40	100.00
18.	METAL FABRICATING	0.19	0.05	1.30	0.26	75.80	20.32	0.45	0.40	0.84	0.39	100.00
19.	MACHINERY	0.14	0.05	0.84	0.25	76.43	20.20	0.46	0.39	0.81	0.43	100.00
20.	TRANSPORTATION EQUIPMENT	0.09	0.05	0.67	0.23	79.63	17.20	0.46	0.39	0.79	0.48	100.00
21.	ELECTRICAL PRODUCTS	0.16	0.05	0.51	0.24	77.52	19.35	0.47	0.39	0.59	0.42	100.00
22.	NON-METALLIC MINERALS	0.17	0.05	0.90	0.32	83.54	12.92	0.41	0.40	0.92	0.36	100.00
23.	PETROLEUM AND COAL PRODS.	0.06	0.05	0.36	0.23	83.55	13.50	0.43	0.42	1.00	0.39	100.00
24.	CHEMICAL PRODUCTS	0.15	0.06	0.56	0.31	79.56	16.75	0.47	0.46	1.24	0.44	100.00
25.	MISC. MANUFACTURING	0.09	0.05	0.41	0.43	80.41	15.66	0.43	0.41	0.96	0.65	100.00
26.	CONSTRUCTION	0.08	0.05	0.45	0.29	82.72	14.06	0.41	0.39	0.81	0.75	100.00
27.	TRANSPORTATION & STORAGE	0.04	0.05	0.30	0.18	88.52	9.09	0.38	0.38	0.76	0.30	100.00
28.	UTILITIES	0.04	0.05	0.20	0.16	90.45	7.43	0.35	0.36	0.70	0.27	100.00
29.	WHOLESALE & RETAIL	0.05	0.06	0.23	0.19	88.81	8.71	0.42	0.42	0.79	0.22	100.00
30.	FINANCE, INS. & R.E.	0.04	0.05	0.23	0.18	89.22	8.48	0.37	0.37	0.75	0.20	100.00
31.	COMMUNICATIONS & SERVICES	0.05	0.07	0.33	0.23	87.35	9.28	0.52	0.55	1.13	0.50	100.00
32.	MISC. OPERATION COSTS	0.07	0.06	0.39	0.36	77.62	16.78	0.57	0.53	1.04	0.55	100.00
33.	HEALTH, EDUCATION & HOSP.	0.04	0.05	0.27	0.17	89.35	8.39	0.37	0.36	0.73	0.27	100.00
34.	PERSONAL SECTOR	0.03	0.05	0.17	0.14	91.52	6.54	0.33	0.34	0.66	0.23	100.00

TABLE A4.2

PERCENTAGE DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY AN INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	ONTARIO										TOTAL	
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC		
1 AGRICULTURE	0.07	0.05	0.16	0.19	0.30	0.91	0.92	0.78	0.44	0.94	0.38	100.00
2 FORESTRY	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.76	0.33	100.00
3 FISHING, ETC.	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.66	0.33	100.00
4 FUEL MINES & QUARRIES	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.66	0.33	100.00
5 MINES & QUARRIES	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.58	100.00
6 FOOD & BEVERAGES	0.18	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.58	100.00
7 TOBACCO PRODUCTS	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.97	100.00
8 RUBBER & PLASTICS	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
9 LEATHER PRODUCTS	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
10 TEXTILES	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
11 KNITTING MILLS	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
12 CLOTHING	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
13 WOOD PRODUCTS	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
14 FURNITURE & FIXTURES	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
15 PAPER & ALLIED PRODS.	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
16 PRINTING, ETC.	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
17 PRIMARY METAL PRODS.	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
18 METAL FABRICATING	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
19 MACHINERY	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
20 TRANSPORTATION EQUIPMENT	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
21 ELECTRICAL PRODUCTS	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
22 NON-METALLIC MINERALS	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
23 PETROLEUM AND COAL PRODS.	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
24 CHEMICAL PRODUCTS	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
25 MISC MANUFACTURING	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
26 CONSTRUCTION	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
27 TRANSPORTATION & STORAGE	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
28 UTILITIES	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
29 WHOLESALE & RETAIL	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
30 FINANCE, INS. & R.E.	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
31 COMMUNICATIONS & SERVICES	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
32 MISC. OPERATION COSTS	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
33 HEALTH, EDUCATION & HOSP.	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
34 PERSONAL SECTOR	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00

TABLE A4.2

PERCENTAGE DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY AN INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	MANITOBA										TOTAL
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	
1. AGRICULTURE	0.02	0.01	0.11	0.12	4.88	9.11	8.74	2.85	1.70	1.07	100.00
2. FORESTRY	0.01	0.01	0.09	0.09	0.88	7.59	8.93	1.69	1.99	0.71	100.00
3. FISHING, ETC.	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
4. FUEL MINES & WELLS	0.00	0.00	0.15	0.13	0.00	11.00	7.73	2.00	1.53	1.21	100.00
5. MINES & QUARRIES	0.00	0.00	0.14	0.11	0.00	9.00	6.36	1.80	1.50	1.00	100.00
6. FIRM & BEVERAGES	0.00	0.00	0.16	0.00	0.00	1.00	0.00	0.00	0.00	0.00	100.00
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
8. RUBBER & PLASTICS	0.02	0.01	0.12	0.13	0.00	1.00	7.40	1.00	0.00	0.00	100.00
9. LEATHER PRODUCTS	0.00	0.00	0.12	0.13	0.00	1.00	6.66	1.00	0.00	0.00	100.00
10. TEXTILES	0.00	0.00	0.15	0.14	0.00	1.00	4.94	1.00	1.00	1.00	100.00
11. KNITTING MILLS	0.00	0.00	0.15	0.14	0.00	1.00	4.94	1.00	1.00	1.00	100.00
12. CLOTHING	0.00	0.00	0.32	0.29	0.00	1.00	6.66	1.00	1.00	1.00	100.00
13. WOOD PRODUCTS	0.00	0.00	0.14	0.14	0.00	1.00	6.66	1.00	1.00	1.00	100.00
14. FURNITURE & FIXTURES	0.00	0.04	0.27	0.27	1.00	1.00	4.44	1.00	1.00	1.00	100.00
15. PAPER & ALLIED PRODS.	0.00	0.03	0.20	0.17	1.00	1.00	4.44	1.00	1.00	1.00	100.00
16. PRINTING, ETC.	0.00	0.02	0.15	0.13	0.00	1.00	7.11	1.00	1.00	1.00	100.00
17. PRIMARY METAL PRODS.	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
18. METAL FABRICATING	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
19. MACHINERY	0.00	0.02	0.06	0.05	0.00	0.00	0.00	0.00	0.00	0.00	100.00
20. TRANSPORTATION EQUIPMENT	0.00	0.05	0.17	0.16	0.00	0.00	0.00	0.00	0.00	0.00	100.00
21. ELECTRICAL PRODUCTS	0.00	0.00	0.33	0.30	1.00	0.00	0.00	0.00	0.00	0.00	100.00
22. NON-METALLIC MINERALS	0.00	0.03	0.15	0.16	0.00	0.00	0.00	0.00	0.00	0.00	100.00
23. PETROLEUM AND COAL PRODS.	0.00	0.02	0.15	0.16	0.00	0.00	0.00	0.00	0.00	0.00	100.00
24. CHEMICAL PRODUCTS	0.00	0.04	0.15	0.13	0.00	0.00	0.00	0.00	0.00	0.00	100.00
25. MISC MANUFACTURING	0.00	0.05	0.11	0.16	0.00	0.00	0.00	0.00	0.00	0.00	100.00
26. CONSTRUCTION	0.00	0.14	0.21	0.15	0.00	0.00	0.00	0.00	0.00	0.00	100.00
27. TRANSPORTATION & STORAGE	0.00	0.00	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00	100.00
28. UTILITIES	0.00	0.00	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	100.00
29. WHOLESALE & RETAIL	0.00	0.00	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	100.00
30. FINANCE, INS. & R.E.	0.00	0.00	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	100.00
31. COMMUNICATIONS & SERVICES	0.00	0.00	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	100.00
32. MISC. OPERATION COSTS	0.00	0.00	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	100.00
33. HEALTH, EDUCATION & HOSP.	0.02	0.01	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.00	100.00
34. PERSONAL SECTOR	0.01	0.01	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	100.00

TABLE A4.2

PERCENTAGE DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY AN INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	SASKATCHEWAN										TOTAL
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	
1. AGRICULTURE	0.01	0.01	0.11	0.08	3.90	7.89	1.51	82.84	2.42	1.23	100.00
2. FORESTRY	0.02	0.01	0.14	0.10	4.84	10.62	2.11	73.34	2.00	4.84	100.00
3. FISHING, ETC.	0.02	0.01	0.12	0.09	5.14	8.71	1.58	80.56	2.33	1.46	100.00
4. FUEL MINES & WELLS	0.02	0.01	0.17	0.11	5.24	11.95	2.10	75.19	2.06	2.10	100.00
5. MINES & QUARRIES	0.02	0.01	0.19	0.12	5.22	12.41	2.30	72.39	2.27	2.77	100.00
6. FOOD & BEVERAGES	0.02	0.01	0.16	0.12	5.21	10.93	2.52	74.12	4.11	2.01	100.00
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. RUBBER & PLASTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. LEATHER PRODUCTS	0.05	0.02	0.39	0.34	16.07	28.70	2.72	44.20	2.78	2.71	100.00
10. TEXTILES	0.03	0.02	0.37	0.19	18.52	17.47	2.21	56.87	2.52	1.80	100.00
11. KNITTING MILLS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12. CLOTHING	0.02	0.01	0.27	0.14	11.99	13.61	2.69	60.77	2.53	1.98	100.00
13. FOOD PRODUCTS	0.02	0.01	0.15	0.12	5.75	12.01	2.67	61.08	6.26	1.94	100.00
14. FURNITURE & FIXTURES	0.04	0.01	0.31	0.15	11.73	17.67	2.70	61.97	3.13	2.29	100.00
15. PAPER & ALLIED PRODS.	0.02	0.01	0.18	0.22	9.41	17.44	2.26	54.32	3.69	3.44	100.00
16. PRINTING, ETC.	0.02	0.01	0.14	0.14	6.31	11.96	1.70	71.47	1.95	6.30	100.00
17. PRIMARY METAL PRODS.	0.08	0.01	0.56	0.14	6.47	18.00	2.80	40.85	5.14	2.96	100.00
18. METAL FABRICATING	0.13	0.02	0.98	0.15	6.95	21.97	6.98	53.39	6.91	2.54	100.00
19. MACHINERY	0.07	0.01	0.46	0.12	6.38	17.96	4.03	65.11	4.10	3.76	100.00
20. TRANSPORTATION EQUIPMENT	0.06	0.01	0.41	0.13	5.65	17.70	3.75	61.88	4.24	5.17	100.00
21. ELECTRICAL PRODUCTS	0.11	0.02	0.38	0.20	12.75	23.23	3.28	40.06	7.63	10.34	100.00
22. NON-METALLIC MINERALS	0.02	0.01	0.17	0.11	5.44	12.84	5.69	69.73	3.90	2.09	100.00
23. PETROLEUM AND COAL PRODS.	0.02	0.01	0.15	0.11	5.08	11.10	5.62	41.46	3.31	2.14	100.00
24. CHEMICAL PRODUCTS	0.04	0.02	0.22	0.32	11.07	19.53	3.41	48.68	10.02	6.09	100.00
25. MISC MANUFACTURING	0.03	0.01	0.20	0.15	7.04	14.14	2.30	68.41	4.08	3.85	100.00
26. CONSTRUCTION	0.05	0.01	0.33	0.14	7.75	18.93	2.07	58.62	4.96	5.14	100.00
27. TRANSPORTATION & STORAGE	0.02	0.01	0.13	0.09	4.54	9.54	1.61	79.91	2.70	1.46	100.00
28. UTILITIES	0.02	0.01	0.13	0.08	4.18	8.82	1.60	81.06	2.57	1.54	100.00
29. WHOLESALE & RETAIL	0.02	0.01	0.12	0.08	4.28	8.65	1.58	81.56	2.22	1.56	100.00
30. FINANCE, INS. & R.E.	0.02	0.01	0.13	0.08	4.19	8.85	1.64	81.35	2.22	1.59	100.00
31. COMMUNICATIONS & SERVICES	0.02	0.01	0.19	0.12	4.66	9.54	3.34	78.79	3.44	2.98	100.00
32. MISC. OPERATION COSTS	0.03	0.02	0.22	0.19	8.14	21.21	3.34	60.43	3.44	2.98	100.00
33. HEALTH, EDUCATION & HOSP.	0.01	0.01	0.11	0.08	4.53	8.41	1.38	82.46	1.58	1.17	100.00
34. PERSONAL SECTOR	0.01	0.01	0.09	0.06	3.36	6.45	1.15	86.33	1.58	0.95	100.00

TABLE A4.2

PERCENTAGE DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY AN INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY	ALBERTA										TOTAL
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	
1. AGRICULTURE	0.01	0.01	0.12	0.07	3.90	8.64	0.96	0.49	83.94	1.86	100.00
2. FORESTRY	0.02	0.01	0.13	0.08	3.10	9.30	0.86	0.53	80.40	4.56	100.00
3. FISHING, ETC.	0.01	0.01	0.11	0.07	3.96	7.82	0.80	0.37	85.21	1.60	100.00
4. FUEL MINES & WELLS	0.01	0.01	0.15	0.09	4.21	9.87	0.94	0.43	82.17	1.11	100.00
5. MINES & QUARRIES	0.02	0.01	0.15	0.10	4.57	10.75	1.58	0.51	79.56	2.75	100.00
6. FOOD & BEVERAGES	0.00	0.01	0.16	0.11	4.70	10.68	1.55	1.48	77.44	3.86	100.00
7. DRUG PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
8. RUBBER & PLASTICS	0.00	0.02	0.40	0.15	12.25	18.21	1.31	0.50	62.58	4.55	100.00
9. LEATHER PRODUCTS	0.00	0.02	0.27	0.18	8.64	16.22	1.50	0.99	68.38	3.79	100.00
10. TEXTILES	0.00	0.02	0.46	0.17	13.61	17.67	1.18	0.48	62.33	3.85	100.00
11. KNITTING MILLS	0.00	0.02	0.46	0.19	19.25	20.58	0.78	0.41	56.50	1.79	100.00
12. CLOTHING	0.00	0.02	0.45	0.15	15.78	16.97	2.12	0.80	60.53	3.16	100.00
13. WOOD PRODUCTS	0.00	0.01	0.17	0.15	5.32	12.52	1.05	0.62	66.87	13.26	100.00
14. FURNITURE & FIXTURES	0.00	0.01	0.38	0.15	10.17	16.39	1.12	0.48	65.88	5.39	100.00
15. PAPER & ALLIED PRODS.	0.00	0.01	0.17	0.17	6.32	13.34	1.26	0.83	63.33	14.04	100.00
16. PRINTING, ETC.	0.00	0.01	0.15	0.18	6.37	11.38	0.91	0.49	72.00	9.51	100.00
17. PRIMARY METAL PRODS.	0.00	0.01	0.76	0.12	5.44	18.54	11.03	1.04	58.67	4.30	100.00
18. METAL FABRICATING	0.00	0.01	0.95	0.14	6.09	22.54	2.17	0.57	63.44	3.47	100.00
19. MACHINERY	0.00	0.01	0.39	0.13	6.84	20.39	1.73	0.51	66.55	3.39	100.00
20. TRANSPORTATION EQUIPMENT	0.00	0.01	0.37	0.13	7.54	19.82	1.52	0.50	64.68	5.37	100.00
21. ELECTRICAL PRODUCTS	0.00	0.01	0.32	0.15	11.00	24.86	2.42	0.69	54.50	6.00	100.00
22. NONMETALLIC MINERALS	0.00	0.01	0.19	0.11	5.20	12.38	3.02	0.60	74.61	3.65	100.00
23. PETROLEUM AND COAL PRODS.	0.00	0.01	0.18	0.11	5.65	13.29	1.25	0.67	75.83	2.98	100.00
24. CHEMICAL PRODUCTS	0.00	0.01	0.18	0.12	5.08	13.78	4.07	0.70	70.01	5.02	100.00
25. MISC. MANUFACTURING	0.00	0.01	0.20	0.12	6.04	13.85	1.27	0.49	73.87	4.11	100.00
26. CONSTRUCTION	0.00	0.01	0.38	0.13	6.28	17.15	1.72	0.56	69.88	4.84	100.00
27. TRANSPORTATION & STORAGE	0.00	0.01	0.14	0.08	4.16	9.44	0.86	0.42	83.04	1.82	100.00
28. UTILITIES	0.00	0.01	0.14	0.08	3.82	8.64	0.84	0.39	84.18	1.89	100.00
29. WHOLESALE & RETAIL	0.00	0.01	0.13	0.08	3.95	8.50	0.84	0.44	84.01	2.03	100.00
30. FINANCE, INS. & R.E.	0.00	0.01	0.15	0.08	3.90	8.93	0.87	0.39	83.66	1.99	100.00
31. COMMUNICATIONS & SERVICES	0.00	0.01	0.17	0.10	4.01	8.72	0.93	0.50	83.38	2.16	100.00
32. MISC. OPERATION COSTS	0.00	0.01	0.22	0.17	7.46	20.37	1.85	0.65	65.16	4.07	100.00
33. HEALTH, EDUCATION & HOSP.	0.01	0.01	0.12	0.07	4.27	8.50	0.77	0.37	84.29	1.59	100.00
34. PERSONAL SECTOR	0.01	0.01	0.10	0.06	3.15	6.42	0.63	0.33	88.00	1.30	100.00

TABLE A4.2

PERCENTAGE DISTRIBUTION BY PROVINCE OF PERSONAL INCOME INDUCED BY AN INCREASE
IN INDUSTRY OUTPUTS AND PERSONAL INCOME

INDUSTRY

BRITISH COLUMBIA

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	TOTAL
1. AGRICULTURE	0.00	0.01	0.11	0.04	3.89	9.10	0.65	0.78	1.75	81.60	100.00
2. FORESTRY	0.00	0.01	0.11	0.04	3.89	9.10	0.65	0.78	1.75	81.60	100.00
3. FISHING, ETC.	0.00	0.01	0.16	0.09	5.25	10.54	0.51	0.34	1.49	88.29	100.00
4. FUEL, MINES & WELLS	0.00	0.01	0.15	0.05	4.28	9.64	0.52	0.35	1.66	88.29	100.00
5. MINES & QUARRIES	0.00	0.01	0.12	0.05	4.28	9.64	0.52	0.35	1.66	88.29	100.00
6. FOOD & BEVERAGES	0.00	0.01	0.00	0.13	5.47	12.56	1.04	0.63	4.45	71.08	100.00
7. TOBACCO PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
8. RUBBER & PLASTICS	0.00	0.01	0.00	0.00	0.00	0.00	0.45	0.50	0.93	78.05	100.00
9. LEATHER PRODUCTS	0.00	0.01	0.00	0.13	6.06	12.00	0.78	0.40	1.89	67.10	100.00
10. TEXTILES	0.00	0.02	0.00	0.12	11.57	17.64	0.58	0.37	1.55	65.96	100.00
11. KNITTING MILLS	0.00	0.02	0.00	0.15	11.57	17.64	0.58	0.37	1.55	65.96	100.00
12. CLOTHING	0.00	0.01	0.00	0.12	11.57	17.64	0.58	0.37	1.55	65.96	100.00
13. FOOD PRODUCTS	0.00	0.01	0.00	0.12	11.57	17.64	0.58	0.37	1.55	65.96	100.00
14. FURNITURE & FIXTURES	0.00	0.01	0.00	0.05	4.43	9.06	0.52	0.33	1.39	70.29	100.00
15. PAPER & ALLIED PRODS.	0.00	0.01	0.00	0.11	4.43	9.06	0.52	0.33	1.39	70.29	100.00
16. PRINTING, ETC.	0.00	0.01	0.00	0.09	4.43	9.06	0.52	0.33	1.39	70.29	100.00
17. PRIMARY METAL PRODS.	0.00	0.01	0.00	0.23	4.43	9.06	0.52	0.33	1.39	70.29	100.00
18. METAL FABRICATING	0.00	0.01	0.00	0.23	4.43	9.06	0.52	0.33	1.39	70.29	100.00
19. MACHINERY	0.00	0.01	0.00	0.12	4.43	9.06	0.52	0.33	1.39	70.29	100.00
20. TRANSPORTATION EQUIPMENT	0.00	0.01	0.00	0.10	4.43	9.06	0.52	0.33	1.39	70.29	100.00
21. ELECTRICAL PRODUCTS	0.00	0.01	0.00	0.12	4.43	9.06	0.52	0.33	1.39	70.29	100.00
22. NON-METALLIC MINERALS	0.00	0.01	0.00	0.11	4.43	9.06	0.52	0.33	1.39	70.29	100.00
23. PETROLEUM AND COAL PRODS.	0.00	0.01	0.00	0.10	4.43	9.06	0.52	0.33	1.39	70.29	100.00
24. CHEMICAL PRODUCTS	0.00	0.01	0.00	0.17	4.43	9.06	0.52	0.33	1.39	70.29	100.00
25. MISCELLANEOUS MANUFACTURING	0.00	0.01	0.00	0.10	4.43	9.06	0.52	0.33	1.39	70.29	100.00
26. CONSTRUCTION	0.00	0.01	0.00	0.10	4.43	9.06	0.52	0.33	1.39	70.29	100.00
27. TRANSPORTATION & STORAGE	0.00	0.01	0.00	0.07	4.43	9.06	0.52	0.33	1.39	70.29	100.00
28. UTILITIES	0.00	0.01	0.00	0.10	4.43	9.06	0.52	0.33	1.39	70.29	100.00
29. WHOLESALE & RETAIL	0.00	0.01	0.00	0.07	4.43	9.06	0.52	0.33	1.39	70.29	100.00
30. FINANCE, INS. & REAL ESTATE	0.00	0.01	0.00	0.07	4.43	9.06	0.52	0.33	1.39	70.29	100.00
31. COMMUNICATIONS & SERVICES	0.00	0.01	0.00	0.07	4.43	9.06	0.52	0.33	1.39	70.29	100.00
32. MISC. OPERATION COSTS	0.00	0.01	0.00	0.14	4.43	9.06	0.52	0.33	1.39	70.29	100.00
33. HEALTH, EDUCATION & HOSP.	0.00	0.01	0.00	0.07	4.43	9.06	0.52	0.33	1.39	70.29	100.00
34. PERSONAL SECTOR	0.00	0.01	0.00	0.05	4.43	9.06	0.52	0.33	1.39	70.29	100.00

