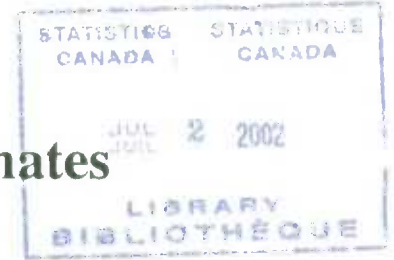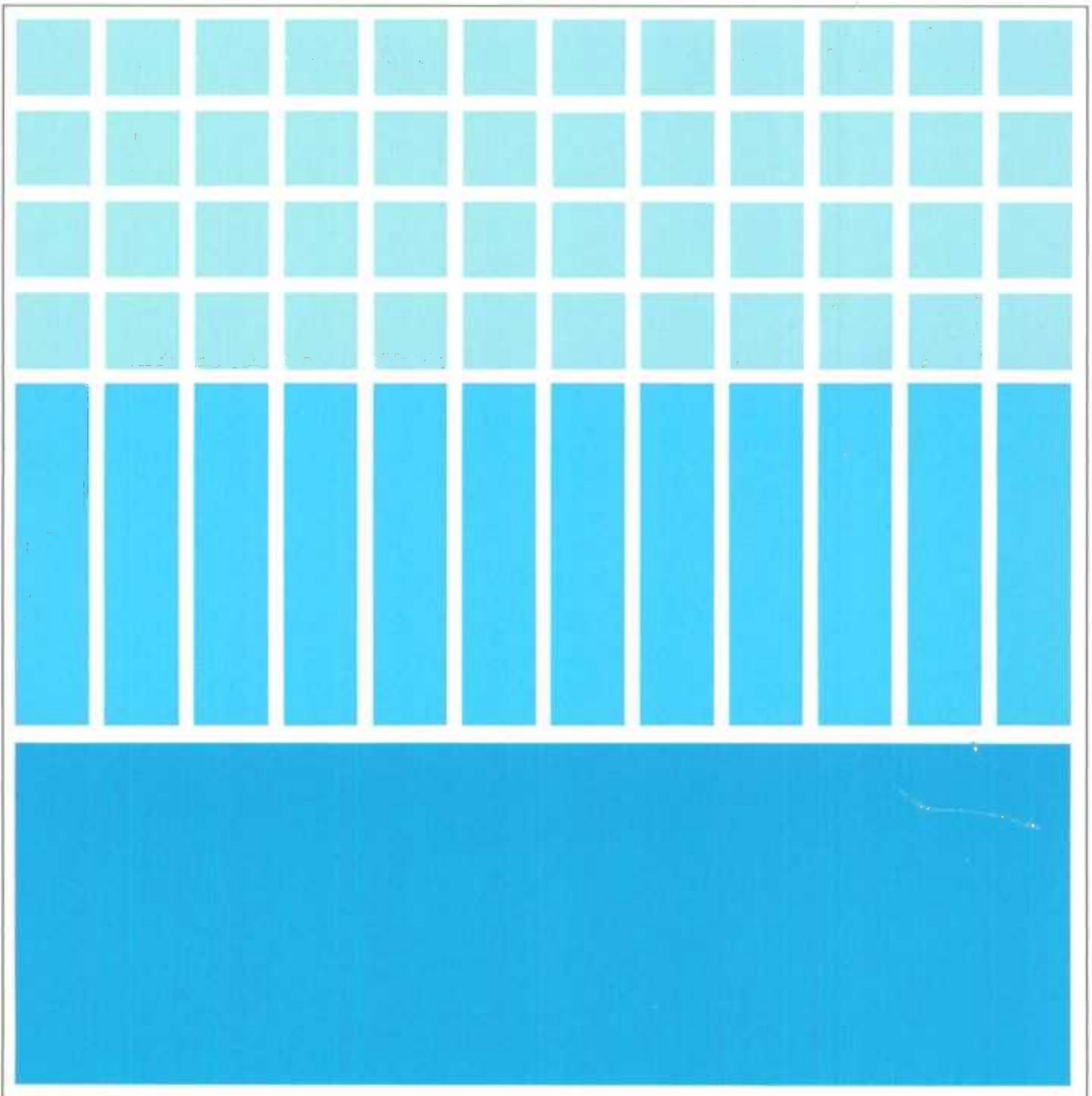System of National Accounts
Public Institutions Division

Impact of Statistics Canada Estimates
on
Canada's Fiscal Equalization System

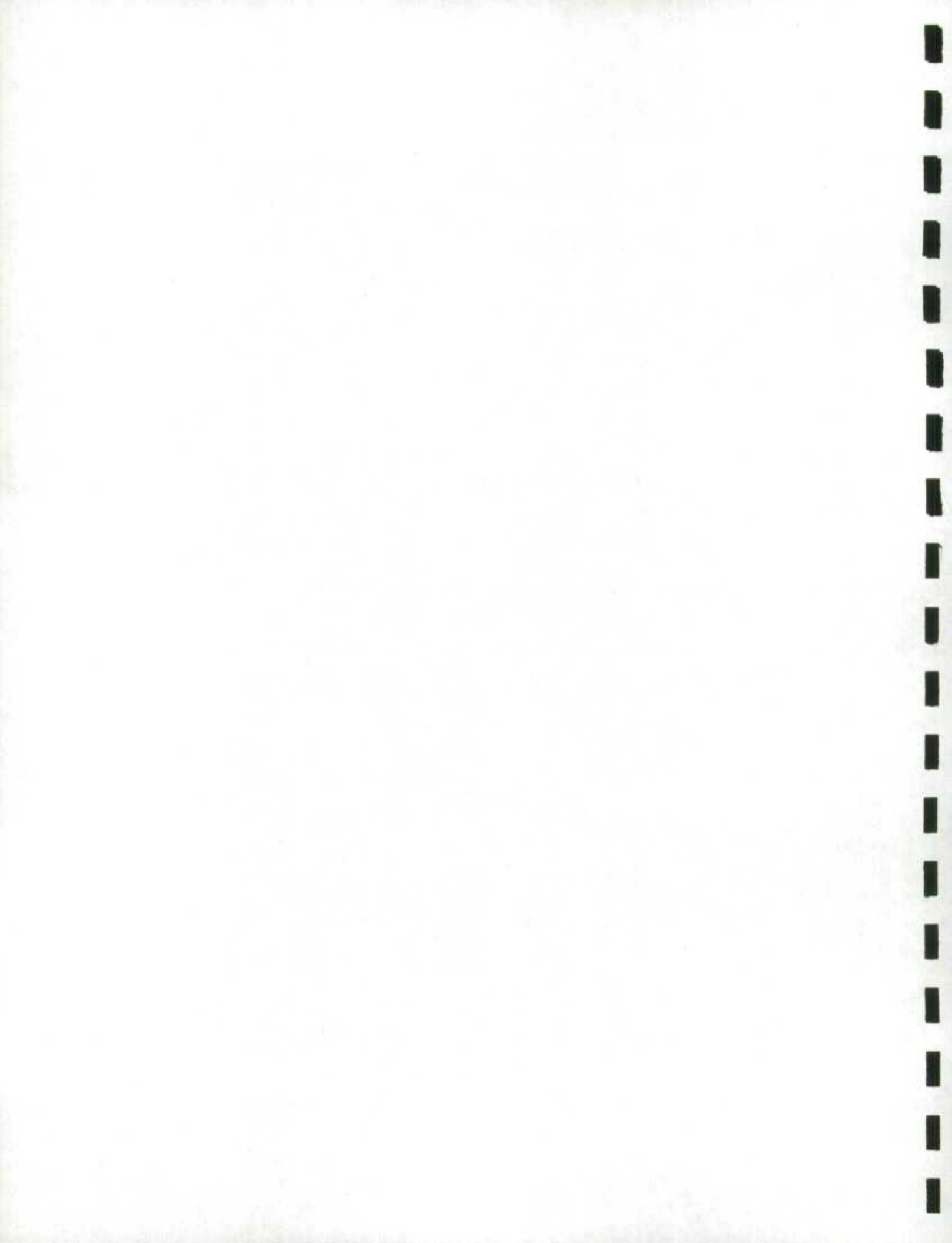**Statistics Canada**   **Statistique Canada**

Canadä

Impact of Statistics Canada Estimates
on
Canada's Fiscal Equalization System

Krishna Sahay
Clancy Barrett
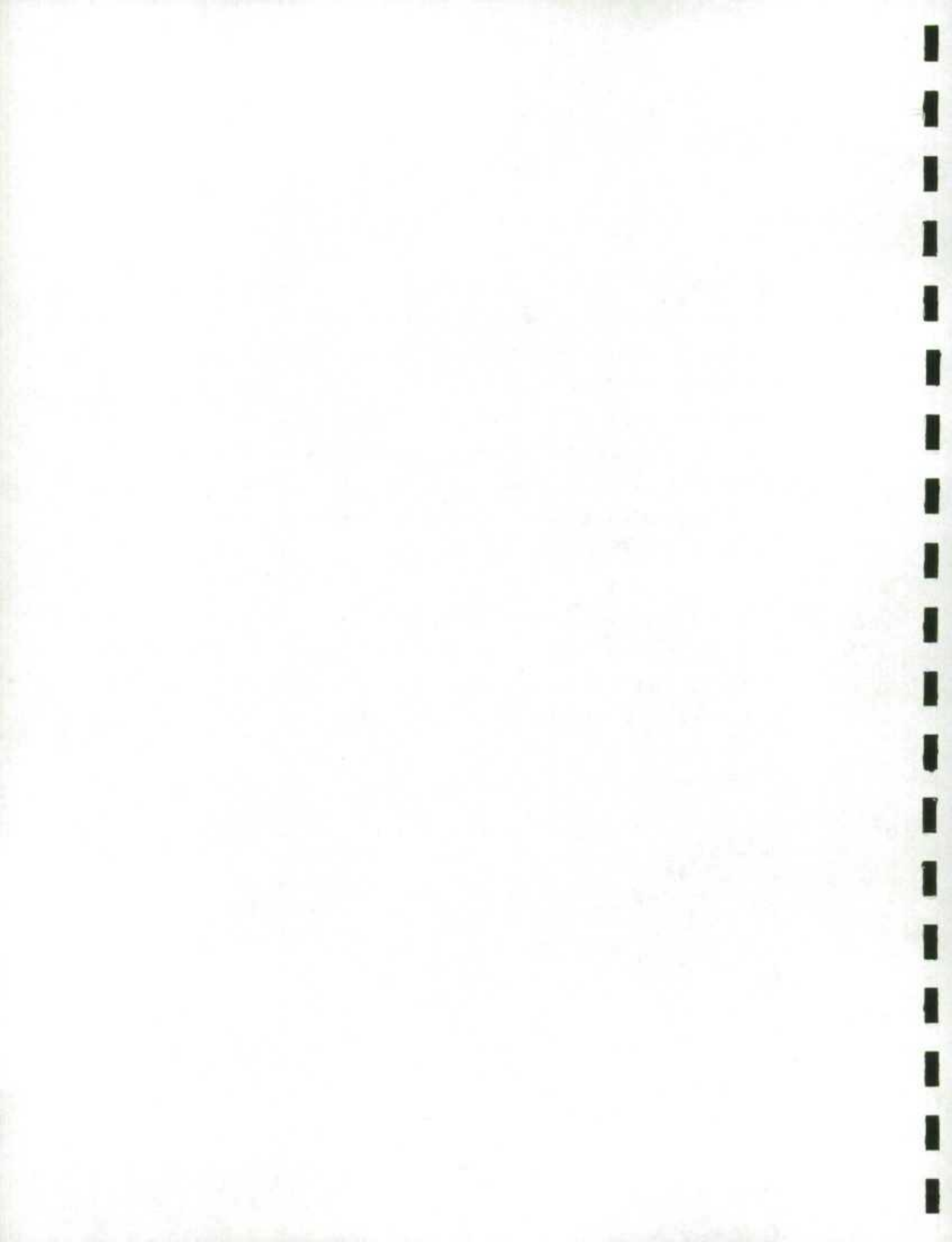Public Institutions Division, Statistics Canada
April 1993

## ACKNOWLEDGEMENTS

TABLE OF CONTENTS

Executive Summary

Federal states must deal with issues of regional disparity and the unequal fiscal capacities of sub-national governments, such as provinces or states. In Canada, the ability of provincial governments to raise revenue to provide public services differs significantly between provinces, and, therefore, the federal government has played a crucial role in these areas since confederation. Currently, the federal government administers three major programs designed to assist provinces in the provision of public services: Established Program Financing, Canada Assistance Plan and the Equalization Program under the Fiscal Arrangements Act. This paper focuses on the Equalization Program and, in particular, on Statistics Canada's role in its administration.

The existence of interprovincial differences in the levels and types of (per capita) economic activity implies that each province has different revenue bases and differing capabilities to raise revenues. Thus, at comparable levels of taxation the "fiscal capacity" of provinces can vary widely and so, correspondingly, can the ability of different provinces to provide public services to their residents. The goal of the Equalization Program is to permit Canadians in all provinces to receive comparable levels of public services at comparable levels of taxation. The program seeks to achieve this by comparing the capacity of a province to raise revenue from 37 different revenue bases with that of a five-province standard, consisting of Quebec, Ontario, Manitoba, Saskatchewan and British Columbia. A province's per capita revenue capacity is compared to this five-province standard. A province has a positive or a negative entitlement from a particular revenue base depending on whether or not its capacity to raise revenue from that base exceeds, or falls short of, the five-province standard. A province's total equalization entitlement for a given year is given by the sum of its entitlements from all 37 revenue bases. A province whose total entitlement would be negative under this formula receives no equalization payments for that year, but does not transfer any funds to other provinces. The funding for the program is entirely provided by the federal government.
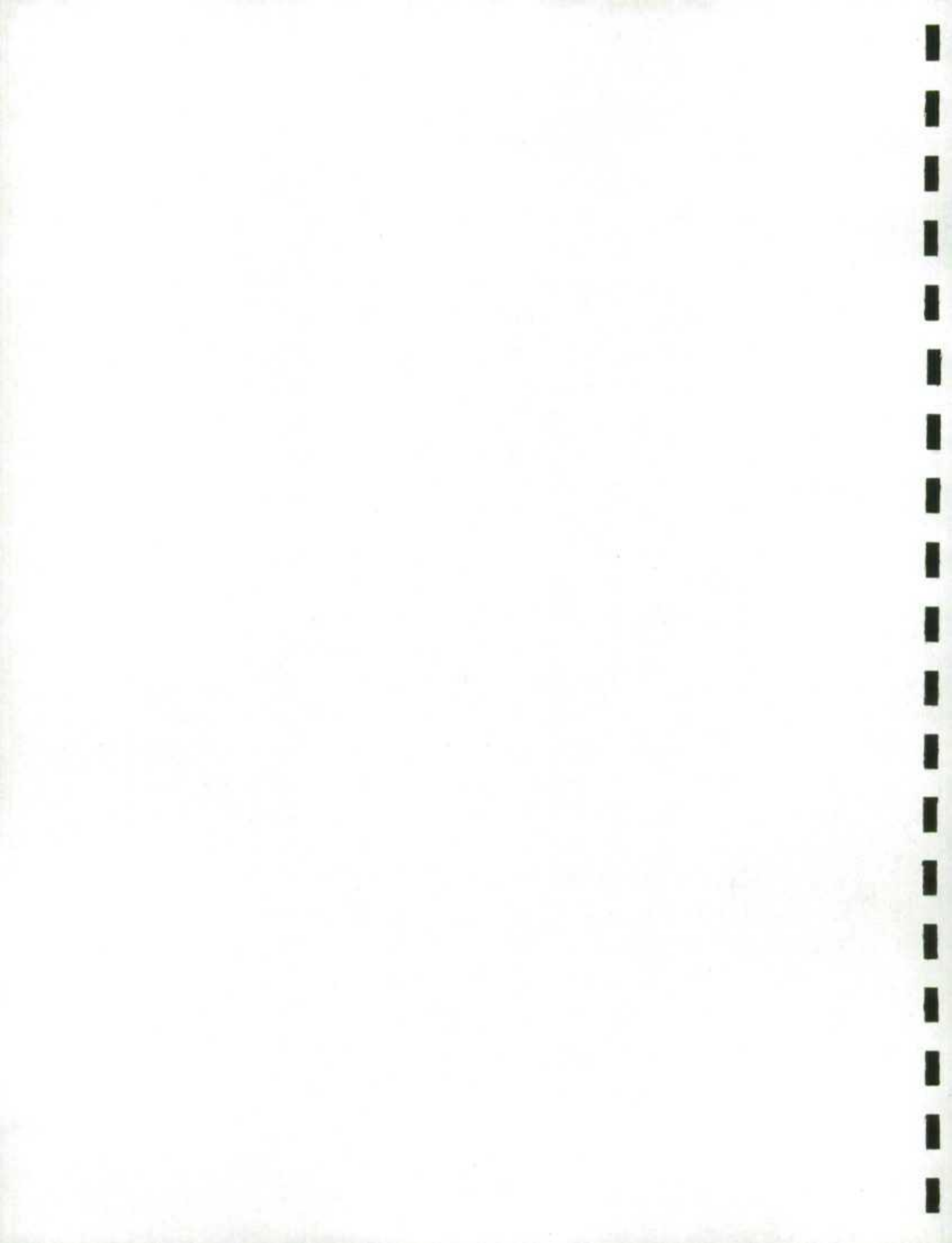
In Fiscal Year 1988-89 the equalization program transferred $7.3 billion from the federal government to seven of Canada's ten provinces. In the receiving provinces, as a group, these transfers amounted to 15 per cent of the revenues from their own sources. The transfers were particularly important to the Atlantic provinces; in Newfoundland and Prince Edward Island equalization payments approached 50 per cent of provincial revenues from their own sources.

Transfers of this magnitude require careful administration based on data which are generally accepted as being objectively and professionally produced. Accordingly, the Fiscal Arrangements Act provides for the Chief Statistician of Canada to provide to the Minister of Finance an annual certificate showing data for one hundred and fifty eight series out of a total of two hundred and ten series used in the calculation of provincial tax bases. These estimates of revenue tax bases are then used in a series of detailed (though conceptually straightforward) calculations to arrive at provincial equalization entitlements.

The primary purpose of this study is to identify those variables which have a major impact on the provincial equalization entitlements and to examine whether statistically insignificant variations in estimates prepared by Statistics Canada could have significant revenue consequences. The variables are classified as those having "Very High Impact", "High Impact", "Medium Impact", "Low Impact" and "Negligible Impact" on equalization entitlements. Of four variables ranked as having "Very High Impact" only one (population data) is supplied by Statistics Canada. The three remaining "Very High Impact" variables are income tax assessment variables calculated by the Department of Finance from data provided by Revenue Canada. Twenty-seven variables are ranked as having a "High Impact" on entitlements and of these variables 22 are supplied by Statistics Canada. These 22 "High Impact" variables are analyzed further to examine the statistical variability of the estimates.

The main conclusion from the analysis is that although there are a number of variables which could **potentially** have a significant impact on equalization payments the actual risks are probably quite small. Nine variables have a sufficiently high variability to potentially have material impact on equalization payments. These are: Wages and Salaries from the National Income and Expenditure Accounts; four variables which affect General and Miscellaneous Sales Taxes - Service Establishment Sales, Investment in Machinery and Equipment (including repairs), Capital and Repair in the Primary Sector, and the Cost of Construction; four affecting the calculation of Provincial and Local Tax Revenues -- Personal Disposal Income, Net Provincial Income at Factor Cost, Residential Capital Stock and Capital Stock-Commercial.

The variables are identified as **potentially** having a significant impact but this does not necessarily imply an actual impact. In particular, the capital stock variables and the national income variables are identified as being both highly variable and having high potential impact because these variables are revised several times and undergo changes in successive revisions. However, the estimates used in the actual calculation of equalization payments are the final estimates which are not subject to revision.

Population estimates are not included in the list above because they have not been identified as having a high variance. However, population estimates are the most significant of the data prepared by Statistics Canada used in the Equalization Program. Any changes in the distribution of population amongst provinces, could have significant impacts on payments under the program.

Immigration has always been a major source of Canada's population growth and, in recent years, immigrants have been settling disproportionately in the provinces of Ontario, British Columbia and Alberta. In addition, there appears to be internal migration to these provinces. Based on the results shown, these population movements would lead to a shift in entitlements from Atlantic Canada, Saskatchewan and Manitoba and an increase in Ontario and B.C. in particular. Since these latter provinces do not now receive equalization payments the net effect of recent population patterns is to reduce the total entitlements under the program.

iv
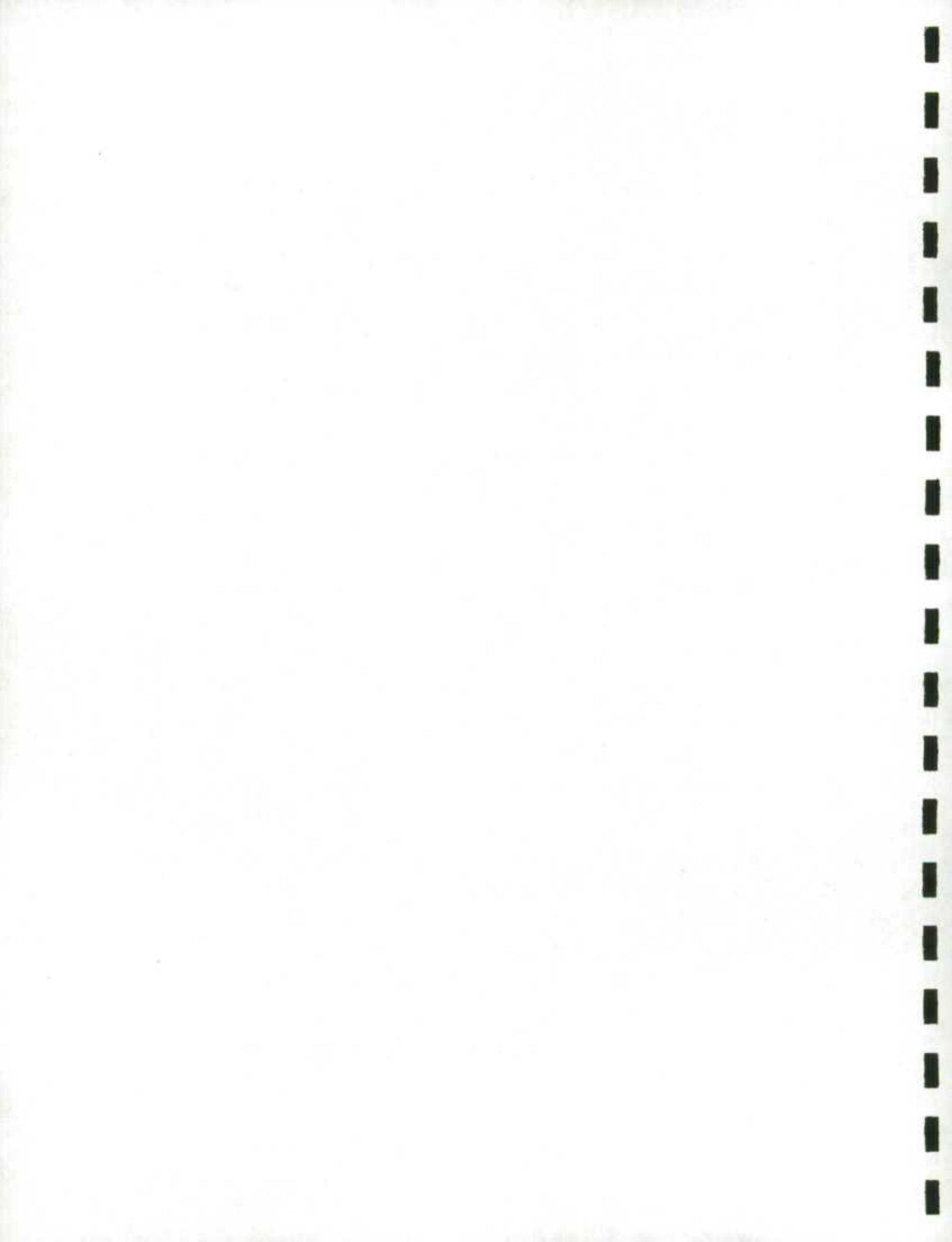
Introduction

Federal states must deal with issues of regional disparity and the unequal fiscal capacities of sub-national governments, such as provinces or states. Since Confederation, in 1867, Canada's federal government has transferred funds to provincial governments in order to permit all provinces to provide comparable levels of public services to their residents at comparable levels of taxation. At present, the federal government administers three major programs designed to assist provinces in the provision of public services: Established Program Financing, the Canada Assistance Plan and the Equalization Program under the Fiscal Arrangements Act.

This paper focuses on the Equalization Program and on Statistics Canada's role in its administration. Under the Fiscal Arrangements Act, the Chief Statistician of Canada provides an annual certificate showing data used in the calculation of equalization payments. All statistical estimation procedures require the use of professional judgement and carry an irreducible amount of statistical estimation error. The primary purpose of this study is to identify those variables which have a major impact on provincial equalization entitlements and to examine whether statistically insignificant variations in estimates could have material revenue consequences.

The plan of the paper is as follows: Section 1 presents a brief overview of the equalization program, including the formulae used in the calculation of entitlement payments and the theoretical effect of changes in statistical variables. Section 2 describes the simulation experiments that were carried out; Section 3 describes the classification of variables by the level of impact on equalization payments and provides an evaluation of variables to identify those which both have a high impact on equalization and carry significant statistical risk. Section 4 provides a brief conclusion.
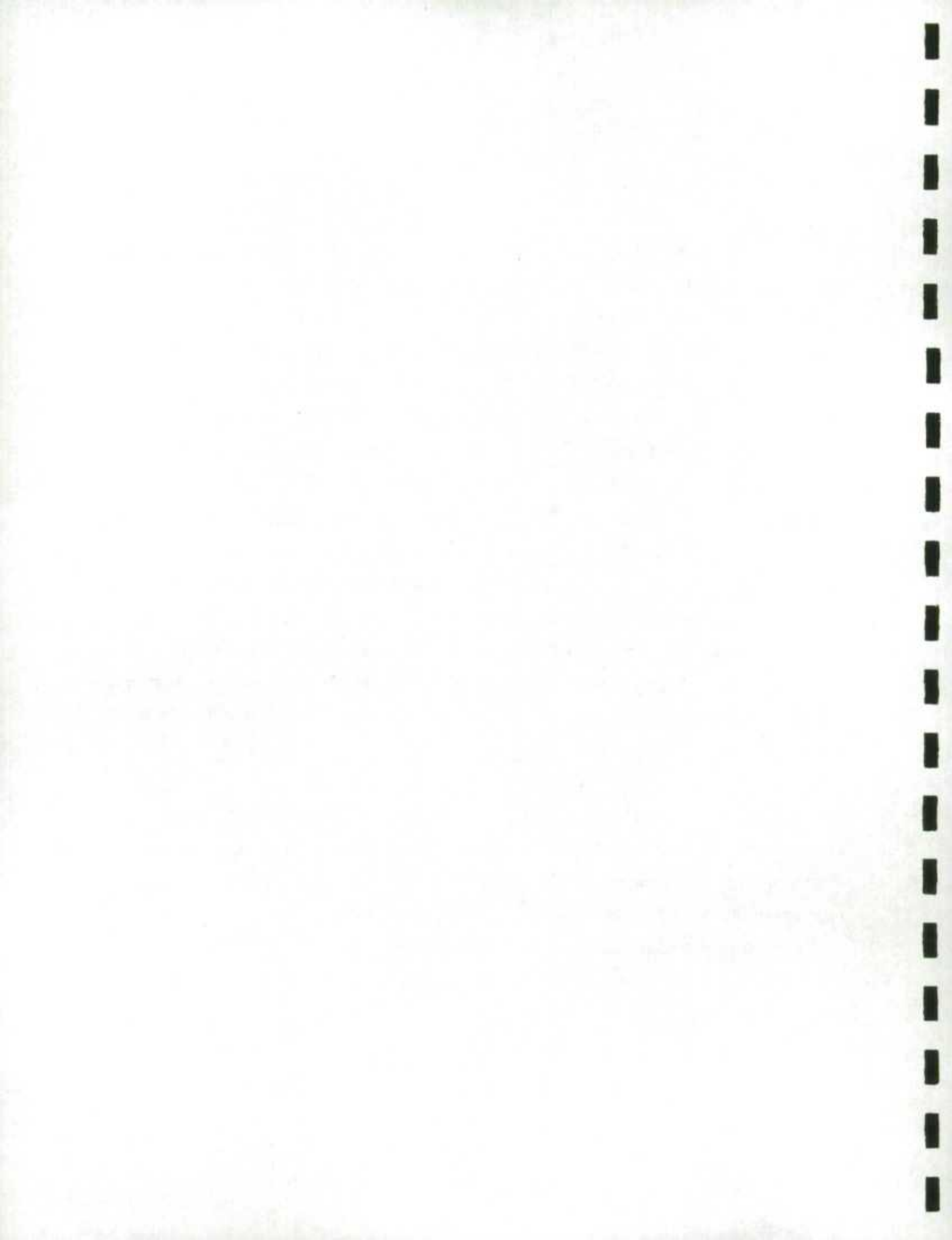
1. The Equalization Program

1.1 Background

Various approaches to equalization have been used in the period since Confederation, including grants, subsidies and tax rental agreements. The broad outlines of the current equalization program were established in 1957. The equalization program is based on the concept of equalization of provincial "fiscal capacity", without detracting from the right of provinces to make independent decisions on how to raise their own revenues. The fiscal capacity of a province is based on the availability of tax bases within the province and is, therefore, a measure of the ability to raise revenues, rather than a measure of actual revenues. The Equalization program involves the transfer of federal funds to those provinces whose fiscal capacity is below an agreed standard. Over time this standard has varied, and at different times, has been the equalization of revenue to: a national average; the richest province; the two richest provinces; and has evolved to today's five-province standard consisting of Quebec, Ontario, Manitoba, Saskatchewan and British Columbia.

Provincial governments have many sources of revenue and those that are subject to equalization have also varied over the years. At present the fiscal agreement considers 37 revenue sources, ranging from personal and business taxes to very specific mineral revenues [cf. Table 10].

For Fiscal Year 1988-89, the federal government transferred $7.3 billion to seven of Canada's ten provinces under the equalization program [Table 1]. In the receiving provinces, as a group, these transfers amounted to 15 per cent of the revenues from their own sources. The transfers were particularly important to the Atlantic Provinces; in Newfoundland and Prince Edward Island equalization payments approached 50 per cent of provincial revenues from their own sources.

Table 1

Equalization as a Percentage of Own-Source Revenue: 1988-89

	Own Source Revenue ($ million)	Equalization Payments ($ million)	Equalization as a Percentage of Own Source Revenue
Newfoundland	1,701	844	49.6
Prince Edward Island	374	177	47.2
Nova Scotia	2,822	833	29.5
New Brunswick	2,214	773	34.9
Quebec	31,660	3,398	10.7
Manitoba	5,138	781	15.2
Saskatchewan	4,710	456	9.7
Total - Receiving Provinces	48,619	7,261	14.9

Source: Statistics Canada: Public Finance Historical Data: 1965/66 to 1991/92 Catalogue 68-512 and Department of Finance.

1.2 Calculation of Entitlements

A province's equalization entitlement is calculated on the basis of 37 revenue sources. Revenue sources include items such as personal and corporate income taxes, sales taxes and property taxes. Corresponding to each revenue source is a revenue tax base. The revenue tax base is an economic variable to which a tax rate is applied to yield revenue. For instance, personal and corporation income, retail sales and value of property are tax bases which determine the value of the revenue sources listed. The number of variables composing a revenue tax base varies significantly from base to base. A total of 210 variables are used in the calculation of the 37 tax bases, and of these Statistics Canada provides 158.[1] Equalization entitlements are calculated on the basis of the revenue tax bases and hence the influence of any particular variable on entitlements depends on its relative importance in the revenue base calculation.

---

[1] The number of variables used in each year can be counted in various ways, depending on the treatment of things such as lagged values of variables. In the count used here each variable is counted only once, regardless of the number of lagged values that are also reported.

3
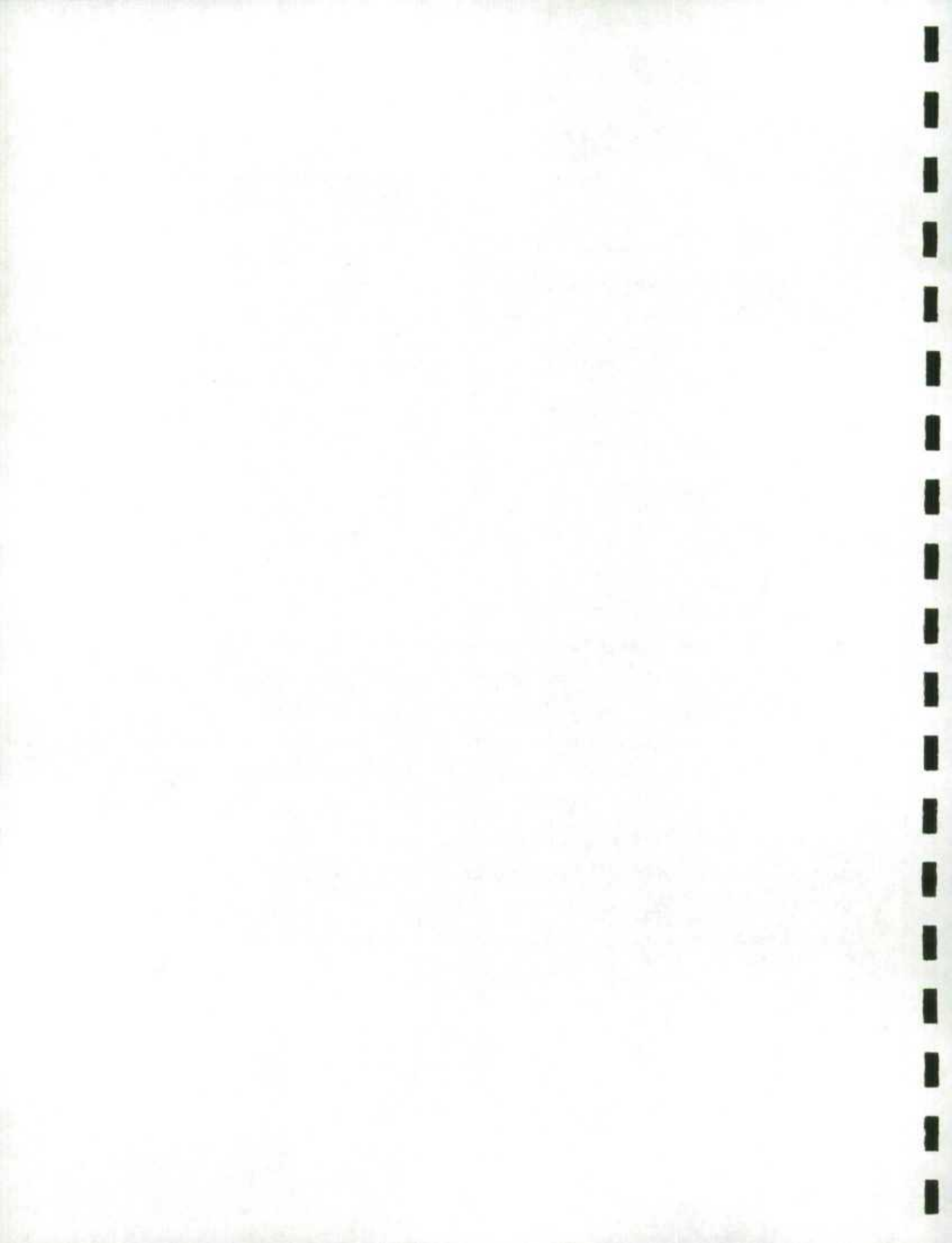
The actual calculations, are carried out for each revenue source separately and involve four steps as shown in Figure 1. The entitlements from any particular revenue base could be positive or

Figure 1

Calculation of Entitlements: Single Revenue Base

1. Calculate the implicit **national average tax rate** for that base as:

   $$t_c = \frac{\text{Total Revenues from source for all provinces}}{\text{Total tax base for all provinces}}$$

2. Calculate the **hypothetical per capita** revenue from the tax base in the five standard provinces if these provinces had imposed a tax rate equal to the national average tax rate:

   $$R_s = t_c * \frac{\text{(Total revenue tax base for five standard provinces)}}{\text{Population of five standard provinces}}$$

3. Calculate the **hypothetical per capita** revenue (R_i) from the tax base in the province "i", using the formula from step 2 and data for province "i"

4. Calculate the provincial entitlement for the province from this revenue source as:

   $$\text{Entitlement} = \text{Population of province} * (R_s - R_i)$$

---

negative. The final provincial entitlement is the sum of entitlements from all of the revenue sources.

4
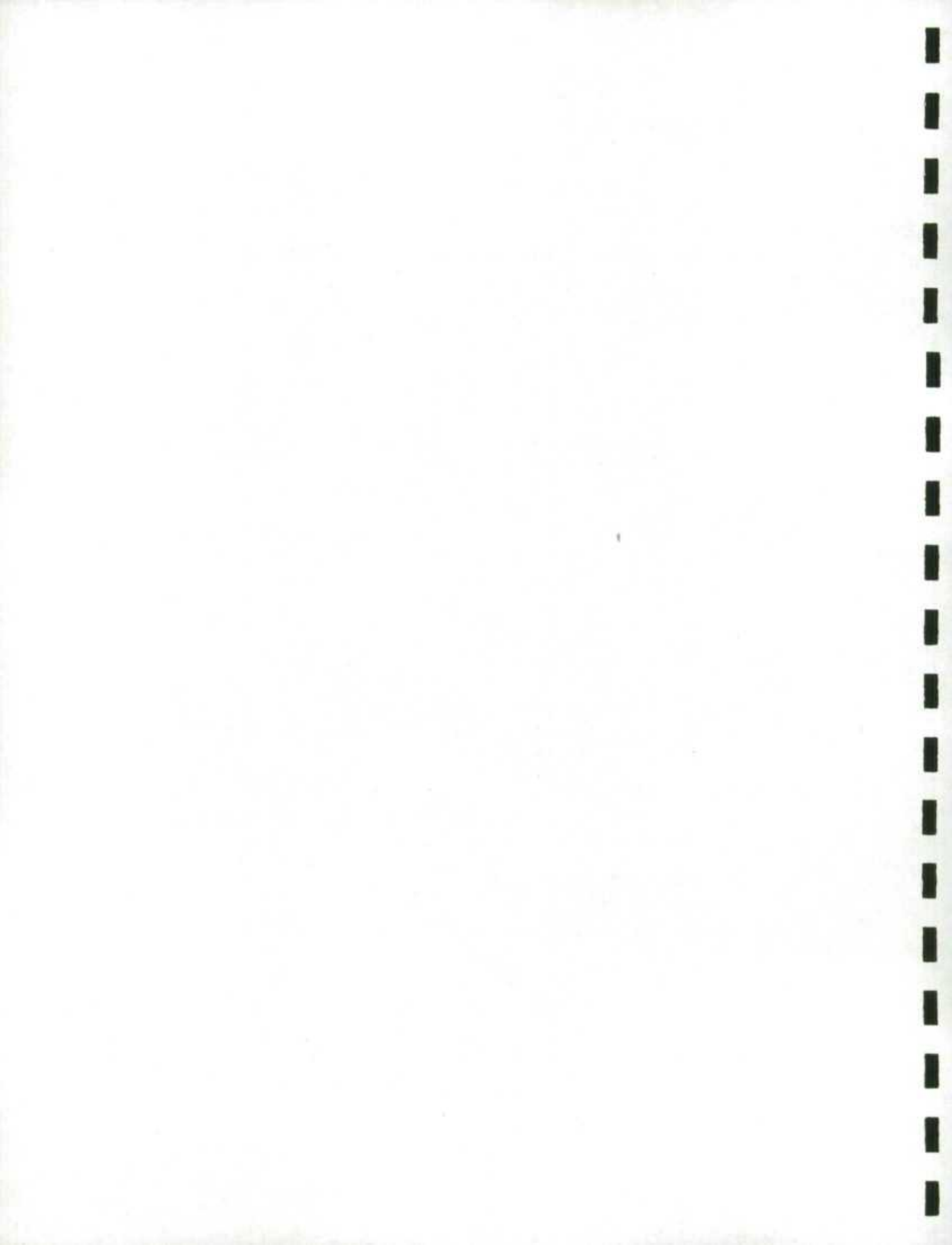
As Figure 1 suggests, there are a number of factors which affect provincial entitlements:

- Entitlements depend on the size of provincial revenue bases which measure each province's _ability_ to raise revenue, but are not directly related to whether or not a province chooses to exercise that ability to raise revenue. For instance, there is no general retail sales tax in the province of Alberta but the equalization calculations recognize the existence of a retail sales tax base for that province by using the national average tax rate to calculate its ability to raise revenue from this source.

- While a province's tax rates do not directly affect its entitlements under this formula there is an indirect effect due to the fact that the national average tax rate is simply a weighted average of the tax rates in all provinces. The weights are the provincial shares for each tax base. Changes in the weights of large provinces or in the tax rates of large provinces could have significant effects on the entitlements of all provinces.

- In addition to the effect on national averages, changes in the revenue tax base or tax rates in standard provinces have an impact on all provinces while non-standard provinces affect only their own entitlements.

To analyze the effects of changing variables which constitute the different revenue tax bases the following section reports on simulation experiments in which different revenue tax bases are increased by 1 per cent. An increase in a revenue tax base requires changes in one or more _variables_ used in the calculation of the base. In order to facilitate presentation the paper begins by analyzing changes in the revenue tax base, without identifying which variables are changed. Subsequently there is a brief discussion of the actual variables. Since the equalization formula is based on per capita results for each province the distribution of population between provinces is an exceptionally important variable. For this reason simulations of changes in population are presented separately in a later section.

5

1.3 Analysis of the Effect of Changing Revenue Base Variables

The equalization calculations shown in Figure 1 can be summarized by the following equation:

$$(1) \quad \frac{E_i}{P_i} = t_c\left(\frac{B_s}{P_s} - \frac{B_i}{P_i}\right)$$

where

E_i = entitlement to province i.

P_i = population in province i.

t_c = national average tax rate for a given revenue source calculated by dividing total revenue source (TR), by the total revenue tax base (B_c)

B_s/P_s = per capita revenue tax base of the standard provinces

B_i/P_i = per capita revenue tax base in province i.

To facilitate the analysis Equation 1 can be rearranged as follows:

$$(2) \quad E_i = \frac{B_s}{B_c}TR\left(\frac{P_i}{P_s} - \frac{B_i}{B_s}\right)$$

From equation (2), <u>a province's equalization entitlements are determined by the difference in its population and revenue base shares relative to the standard provinces</u>. Thus, a province with a large share of the total population and a small share of the revenue base would have a large equalization entitlement. If the population share and the revenue base shares are equal then no equalization entitlements will exist. If the shares are approximately equal then any entitlements will be small and even small percentage variations in the revenue base can cause large percentage changes in entitlements.

Table 2 shows the relationships between changes in a revenue base and entitlements from that base. The relationships are presented as elasticities, i.e. each entry in the figure shows the <u>percentage</u> change in entitlements from a 1 per cent change in a revenue base. Also, for reasons of simplicity only, the table presents the elasticity for the special case of a province whose tax

6
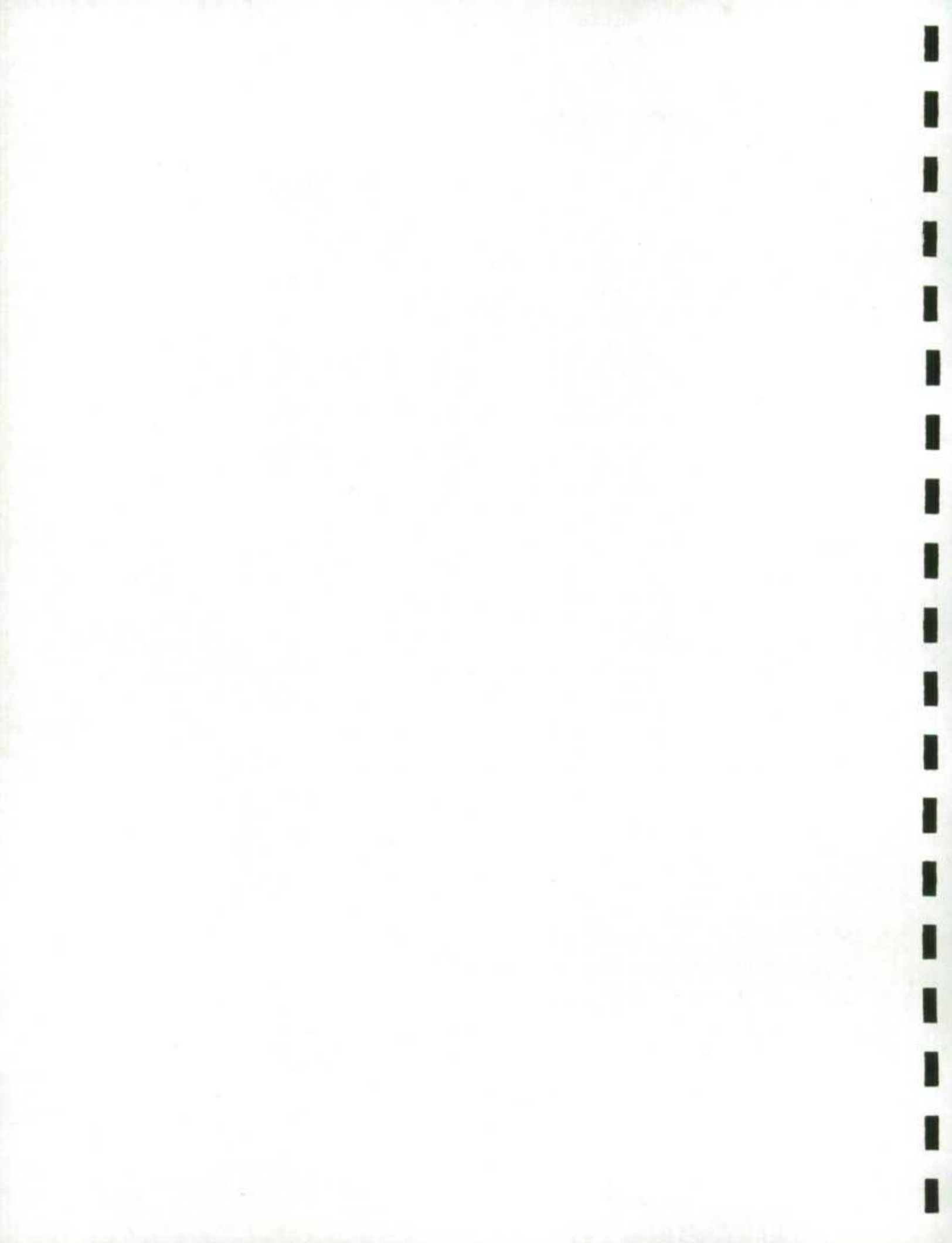
rate is equal to the national average tax rate. More general results are included in a detailed analytical appendix which may be obtained from the authors on request. This simplifying assumption implies that the elasticities shown reflect the effect of changes in the revenue tax base only and not of tax rates.

Table 2

Elasticity of Entitlement with Respect to Revenue Base, $t_i = t_c$

	Own Province Impact	Other Provinces Impact
Standard Province	$-\dfrac{B^*}{P^*-B^*}+\dfrac{B^*}{P^*-B^*}\dfrac{P_I}{P_s}$	$\dfrac{B_{i^*}}{B_s}\dfrac{B^*}{P^*-B^*}$
Non-Standard Province	$-\dfrac{B^*}{P^*-B^*}$	0
where $B^* = \dfrac{B_I}{B_s}$, $P^* = \dfrac{P_I}{P_s}$		

As Table 2 indicates, the elasticity of entitlement ($\mathscr{E}_{Ei,Bi}$) with respect to a revenue base is a complex function of the ratios of population and revenue bases to the corresponding quantities in the standard provinces. However, the economic interpretation of the relationships is straightforward. In Table 2, B* represents the ratio of the revenue base in the "i^{th}" province to the revenue base in the five standard provinces. In the following, we refer to this ratio as the provincial share. Similarly, P* is the population share of the "i^{th}" province and [P*-B*] represents the difference between the province's population share and its share of the revenue

7
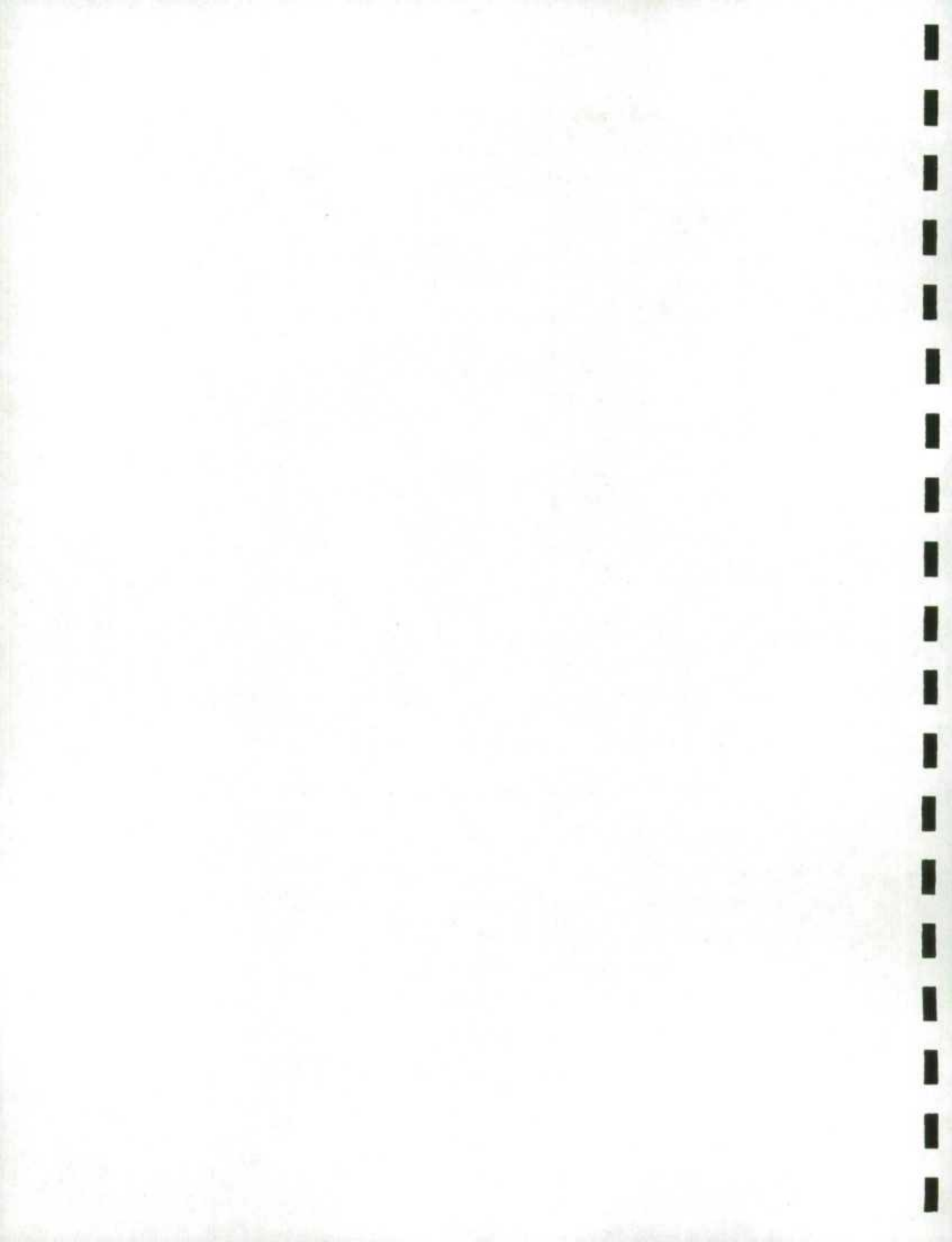
base. Thus, the main factors governing changes in a province's entitlements are that province's revenue base share and population shares.

Clearly, $[B^*/(P^*-B^*)]$ is not defined when $P^*=B^*$. In other words, when the province's population share and its share of the revenue base are equal its entitlement from the base is zero and therefore the elasticity of entitlements is undefined. When P^* and B^* are approximately equal the estimated elasticity is likely to be numerically very large, but has very limited economic significance since the dollar amounts involved are likely to be small.

2. Simulations Experiments

2.1 Changes in Revenue Base Variables

Tables 3 and 4 illustrate the simulation results using Payroll Revenue Tax base as an example. The choice of this tax base for presentation is somewhat arbitrary, but reflects the fact that it is large enough to illustrate salient features of the system. For instance, even apparently small variations in a revenue base estimate can have a material impact (in dollars) on equalization payments to individual provinces. The simulations show the effects of a 1 per cent increase in the Payroll Tax Revenue Base in Fiscal year 1988-89. Similar results for the remaining tax bases are available in a separate data appendix which is available on request. Tables 3 and 4 contain three sections: the change in entitlements in each province in dollars; the change in entitlements as a percent of entitlements from that revenue tax base and the change in entitlements as a percent of total entitlements from all bases. Table 3 corresponds to the analysis shown in Table 2, i.e. to the case where tax rates for all provinces are constrained to be equal to the national average. Recall that this implies the analysis should be interpreted as reflecting changes solely in the tax base. Table 4 presents the corresponding results for the more realistic case where tax rates vary from province to province.

8
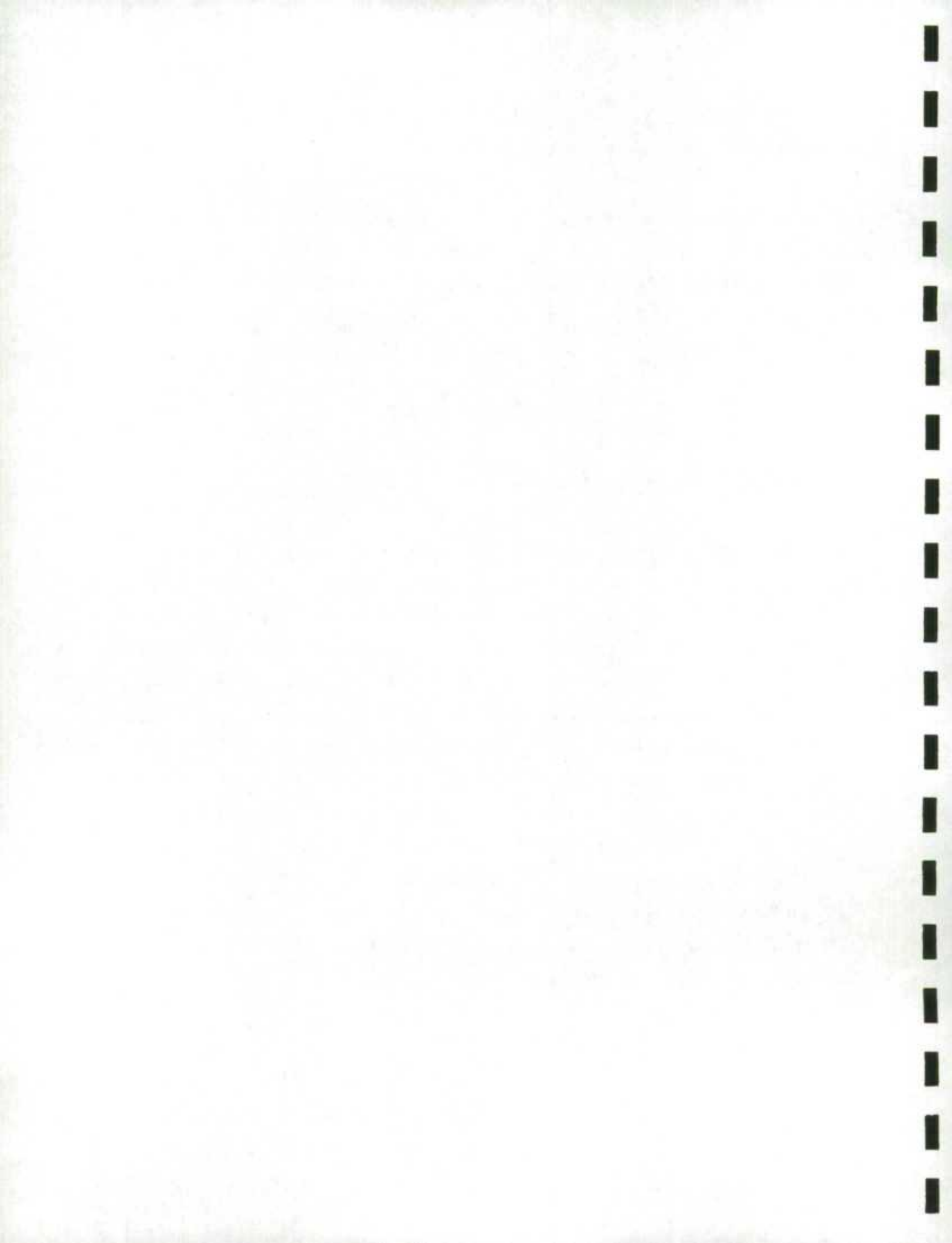
Table 3

Effect of 1 Per Cent Increase in Revenue Tax Base: Payroll Taxes - Base Effect Only ($'000)

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
NFLD	-317	0	0	0	143	266	21	16	0	69
PEI	0	-71	0	0	32	60	5	4	0	15
NS	0	0	-612	0	221	413	33	26	0	106
NB	0	0	0	-455	179	334	27	21	0	86
QUE	0	0	0	0	-3641	3108	249	192	0	800
ONT	0	0	0	0	2367	-5484	353	273	0	1137
MAN	0	0	0	0	272	507	-751	31	0	131
SASK	0	0	0	0	254	474	38	-583	0	122
ALTA	0	0	0	0	599	1118	89	69	-2151	288
BC	0	0	0	0	748	1395	112	86	0	-2190

Change as Per Cent of Entitlements Due to This Tax Base Only

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
NFLD	-1.600	0.000	0.000	0.000	0.720	1.343	0.107	0.083	0.000	0.346
PEI	0.000	-1.564	0.000	0.000	0.710	1.325	0.106	0.082	0.000	0.341
NS	0.000	0.000	-3.266	0.000	1.182	2.204	0.176	0.136	0.000	0.568
NB	0.000	0.000	0.000	-2.370	0.933	1.741	0.139	0.108	0.000	0.448
QUE	0.000	0.000	0.000	0.000	-5.139	4.387	0.351	0.271	0.000	1.130
ONT	0.000	0.000	0.000	0.000	1.747	-4.048	0.261	0.201	0.000	0.839
MAN	0.000	0.000	0.000	0.000	1.432	2.670	-3.955	0.165	0.000	0.688
SASK	0.000	0.000	0.000	0.000	0.832	1.551	0.124	-1.906	0.000	0.399
ALTA	0.000	0.000	0.000	0.000	46.393	86.526	6.924	5.352	-166.478	22.283
BC	0.000	0.000	0.000	0.000	4.965	9.261	0.741	0.573	0.000	-14.540

Percentage Change in Total Entitlements From All Tax Bases

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
NFLD	-0.038	0.000	0.000	0.000	0.017	0.032	0.003	0.002	0.000	0.008
PEI	0.000	-0.040	0.000	0.000	0.018	0.034	0.003	0.002	0.000	0.009
NS	0.000	0.000	-0.073	0.000	0.027	0.049	0.004	0.003	0.000	0.013
NB	0.000	0.000	0.000	-0.059	0.023	0.043	0.003	0.003	0.000	0.011
QUE	0.000	0.000	0.000	0.000	-0.107	0.092	0.007	0.006	0.000	0.024
ONT	0.000	0.000	0.000	0.000	0.056	-0.130	0.008	0.006	0.000	0.027
MAN	0.000	0.000	0.000	0.000	0.034	0.064	-0.095	0.004	0.000	0.016
SASK	0.000	0.000	0.000	0.000	0.056	0.104	0.008	-0.127	0.000	0.027
ALTA	0.000	0.000	0.000	0.000	0.016	0.030	0.002	0.002	-0.058	0.008
BC	0.000	0.000	0.000	0.000	0.095	0.177	0.014	0.011	0.000	-0.278

Table 4

Effect of 1 Per Cent Increase in Revenue Tax Base: Payroll Taxes - Tax and Base Effect ($'000)

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
NFLD	-320	-1	-5	-4	279	179	31	11	-19	46
PEI	-1	-71	-1	-1	63	40	7	2	-4	10
NS	-3	-1	-616	-4	351	330	42	20	-18	85
NB	-3	-1	-5	-459	312	250	36	16	-18	65
QUE	-10	-2	-19	-14	-3181	2788	282	173	-67	720
ONT	19	4	36	27	1457	-4874	290	309	128	1287
MAN	-3	-1	-5	-4	404	423	-743	26	-18	109
SASK	-4	-1	-8	-6	465	340	52	-591	-29	88
ALTA	-0	-0	-0	-0	612	1107	90	69	-2150	286
BC	-2	-0	-4	-3	856	1323	119	82	-14	-2204

Change as Per Cent of Entitlements Due to This Tax Base Only

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
NFLD	-1.613	-0.003	-0.027	-0.020	1.409	0.904	0.154	0.056	-0.094	0.234
PEI	-0.014	-1.568	-0.027	-0.020	1.399	0.886	0.153	0.055	-0.094	0.229
NS	-0.014	-0.003	-3.292	-0.020	1.873	1.762	0.223	0.109	-0.094	0.455
NB	-0.014	-0.003	-0.027	-2.389	1.623	1.301	0.186	0.081	-0.094	0.336
QUE	-0.014	-0.003	-0.027	-0.020	-4.490	3.935	0.398	0.244	-0.094	1.017
ONT	0.014	0.003	0.027	0.020	1.075	-3.597	0.214	0.228	0.094	0.950
MAN	-0.014	-0.003	-0.027	-0.020	2.125	2.226	-3.910	0.138	-0.094	0.575
SASK	-0.014	-0.003	-0.027	-0.020	1.521	1.111	0.171	-1.932	-0.094	0.287
ALTA	-0.014	-0.003	-0.027	-0.020	47.394	85.719	6.974	5.324	-166.415	22.146
BC	-0.014	-0.003	-0.027	-0.020	5.683	8.788	0.788	0.546	-0.094	-14.635

Percentage Change in Total Entitlements From All Tax Bases

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
NFLD	-0.038	-0.000	-0.001	-0.000	0.033	0.021	0.004	0.001	-0.002	0.006
PEI	-0.000	-0.040	-0.001	-0.001	0.036	0.023	0.004	0.001	-0.002	0.006
NS	-0.000	-0.000	-0.074	-0.000	0.042	0.040	0.005	0.002	-0.002	0.010
NB	-0.000	-0.000	-0.001	-0.059	0.040	0.032	0.005	0.002	-0.002	0.008
QUE	-0.000	-0.000	-0.001	-0.000	-0.094	0.082	0.008	0.005	-0.002	0.021
ONT	0.000	0.000	0.001	0.001	0.034	-0.115	0.007	0.007	0.003	0.030
MAN	-0.000	-0.000	-0.001	-0.000	0.051	0.053	-0.093	0.003	-0.002	0.014
SASK	-0.001	-0.000	-0.002	-0.001	0.102	0.074	0.011	-0.129	-0.006	0.019
ALTA	-0.000	-0.000	-0.000	-0.000	0.016	0.030	0.002	0.002	-0.058	0.008
BC	-0.000	-0.000	-0.001	-0.000	0.109	0.168	0.015	0.010	-0.002	-0.280
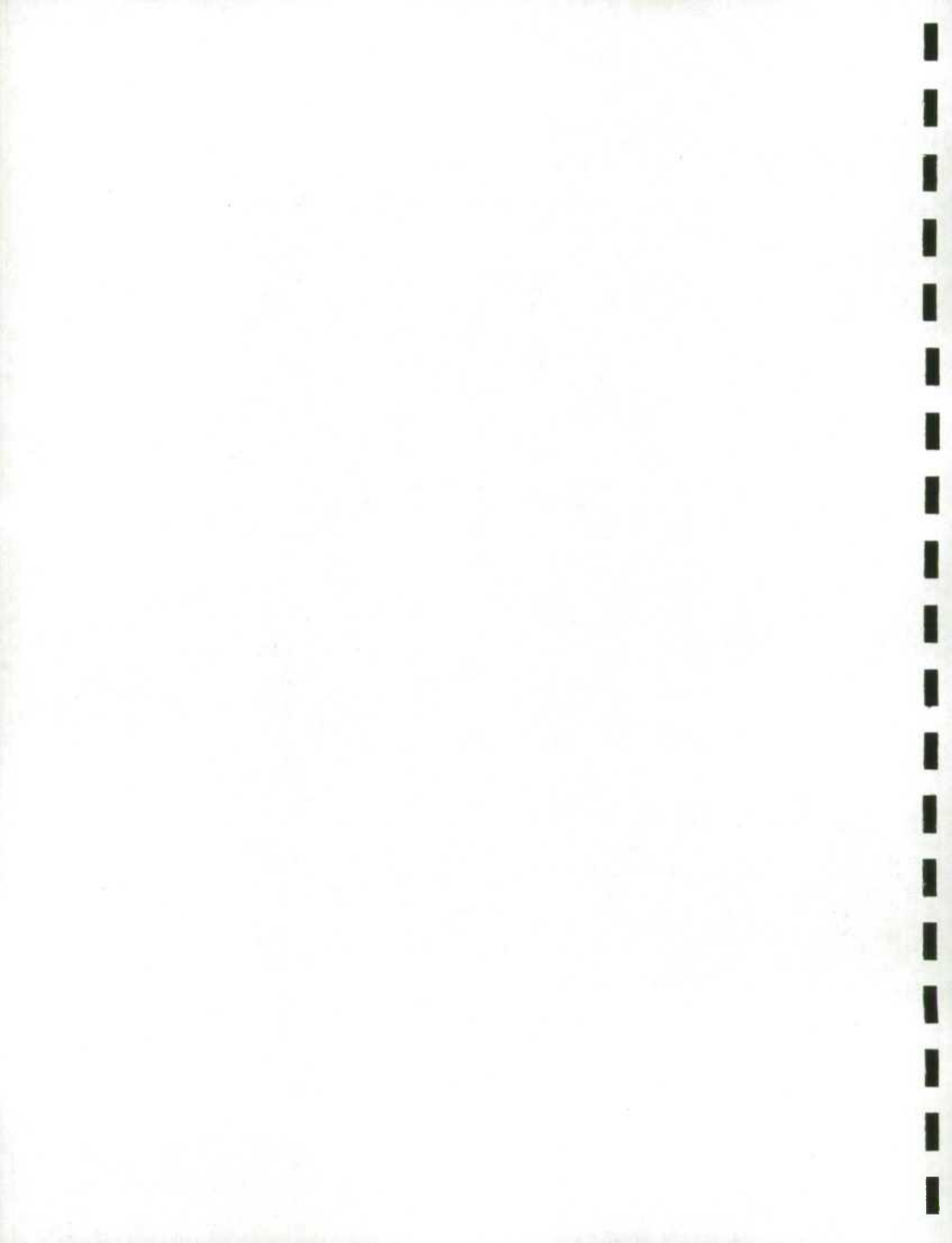
The results are presented in a matrix format where the diagonal elements represent the "own province" impact of an increase in the revenue base. Off-diagonal elements in each column represent the effect on other provinces. When the provincial tax rates are all equal to the national average [Table 3], a 1 per cent increase in the revenue base in Newfoundland resulted in a decline of $317,000 in entitlements to Newfoundland, but had no effect on other provinces since, as a non-standard province, Newfoundland has no direct effect on other provinces. In contrast, changes in the standard provinces have a significant influence on the outcomes for other provinces. Table 4 contains the results of the simulation when the provincial tax rates are not restricted to the national average.

The two tables, which are presented here only as examples, do suggest the following:

- For larger provinces the difference between Table 3 and Table 4 effects are material both in terms of the dollar amounts and in the implied elasticities. Nevertheless, the orders of magnitude of the results are similar and;

- Elasticities can vary significantly from province to province.

2.2 Analysis of Changes in Population

The distribution of population amongst provinces can affect each of the revenue tax base calculations of entitlement, and therefore can have potentially significant effects on a province's entitlements. This section examines the impact of population change on equalization entitlements.

11

We examine two different ways in which the population of a particular province can change:

- An autonomous increase in the population of a province, leading to a corresponding increase in the total population of Canada and;

- An increase in population of a province caused by shifts from other provinces, with the total population of Canada remaining unchanged.

2.2.1 Effects of an Increase in Aggregate Population

- A population increase in a standard province results in an increase in entitlements in that province and a decrease in entitlements in all other provinces.

- An increase in population in a non-standard province results in an increase in entitlements in it's own province and has no impact on the other province.

These results are summarized in Table 5.

- On a per capita basis, it is not clear whether a standard province would have an increase or a decline in entitlements even though the total entitlements associated with the revenue tax base would increase. The key factor determining the effect on a per capita basis is, not surprisingly, how the provinces base share compares to its population share. The per capita entitlements of other provinces would, however decline.

- The per capita entitlements of a non-standard province would increase whenever its population increases.

12
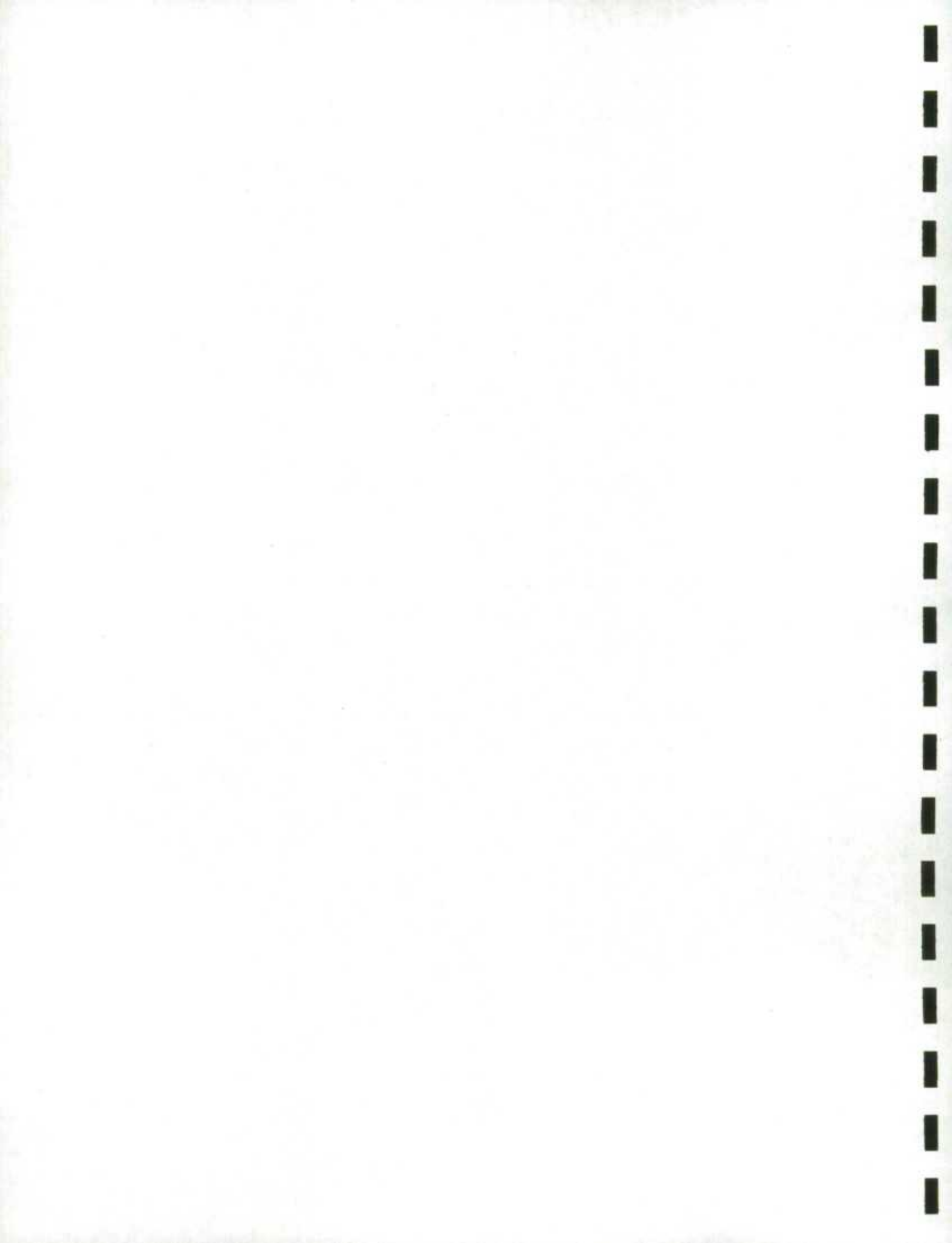
Table 5

Elasticity Population Increase

	Own Province Impact	Other Provinces Impact
Standard Province	$\dfrac{P^*}{P^*-B^*} - \dfrac{P_l}{P_s}\dfrac{P^*}{P^*-B^*}$	$-\dfrac{P_{l^*}}{P_s^2}\dfrac{P^*}{P^*-B^*}$
Non-Standard Province	$\dfrac{P^*}{P^*-B^*}$	0

2.2.2 Effects of a Population Shift

An alternative analysis of population examines the impact of a shift in population from one province to another. The impact of a shift of population on entitlements is shown in Table 6.

A shift in population either from a standard or non-standard province will increase the entitlements of the receiving province, whether it is a standard or non-standard province. However, the magnitude of the impact will be influenced by whether the population receiving and sending provinces are standard provinces.

2.2.3 Actual Changes in Population

Sections 2.2.1 and 2.2.2 discuss changes in the distribution of population in Canada which are caused either by an increase in total population or by a shift in population. Recent experience suggests that a combination of these two factors is at work in Canada. Recently, immigrants, who are now a major component of any Canadian population increase, appear to be settling
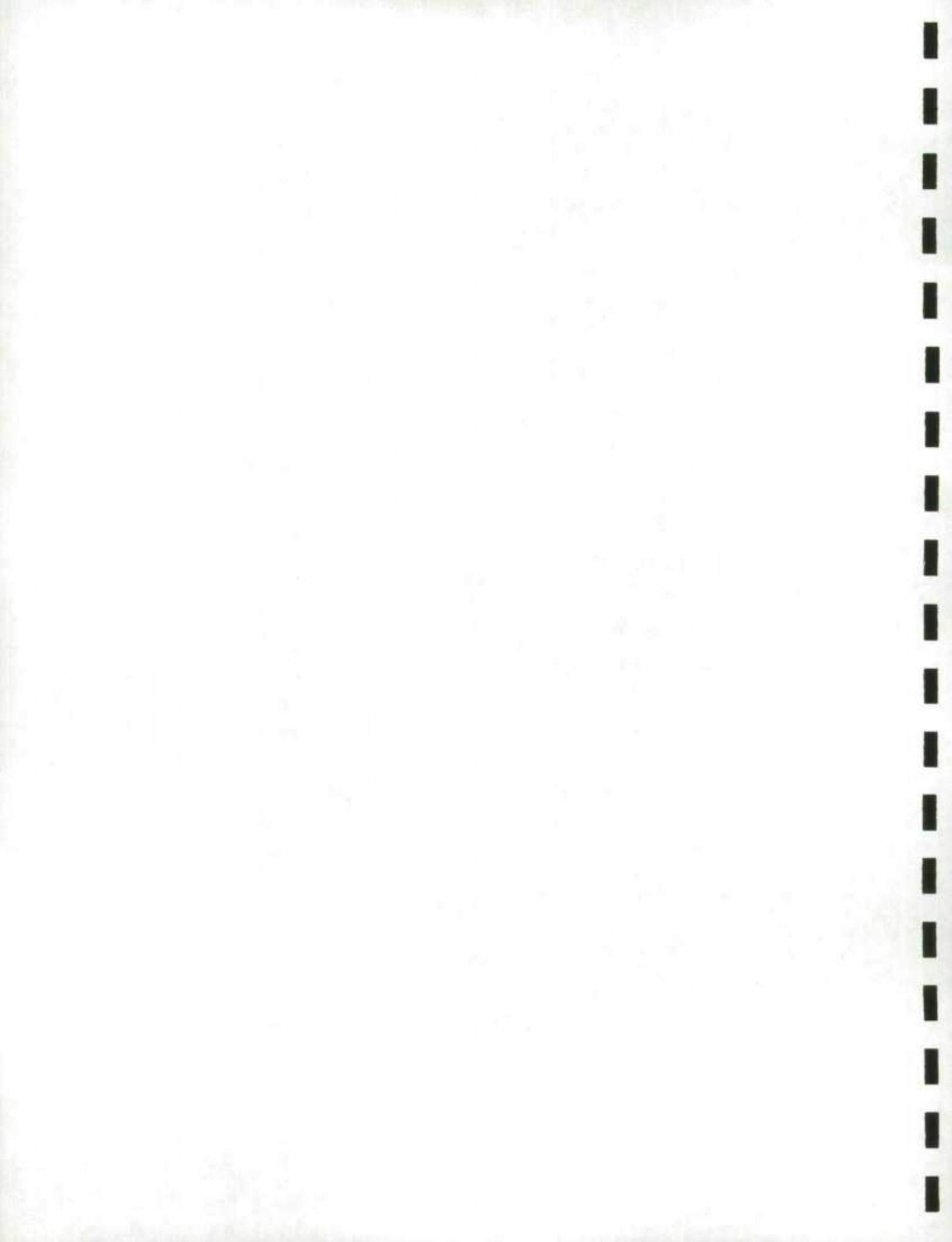
disproportionately to Ontario, B.C. and Alberta. In addition, there appear to be internal migration to these provinces. Based on the results shown, these population movements would lead to a shift in entitlements from Atlantic Canada, Saskatchewan and Manitoba and an increase in Ontario and B.C. in particular. Since these latter provinces do not now receive equalization payments the net effect of recent population patterns is to reduce the total entitlements under the program.

Table 6

Elasticity Population Shift

Sending Province	Receiving Province	
	Standard	Non-Standard
Standard	$\dfrac{P_{i\cdot}}{P_s}\dfrac{1}{P^{\cdot}-B^{\cdot}}$ *> 0 for province with postive entitlements else < 0*	$\dfrac{P_{i\cdot}}{P_s}\dfrac{1}{P^{\cdot}-B^{\cdot}}+\dfrac{P_{i\cdot}}{P_s}\dfrac{P^{\cdot}}{P^{\cdot}-B^{\cdot}}$
Non-Standard	$\dfrac{P_{i\cdot}}{P_s}\dfrac{1}{P^{\cdot}-B^{\cdot}}$ *> 0 for province with postive entitlement else < 0*	$\dfrac{P_{i\cdot}}{P_s}\dfrac{1}{P^{\cdot}-B^{\cdot}}-\dfrac{P_{i\cdot}}{P_s}\dfrac{P^{\cdot}}{P^{\cdot}-B^{\cdot}}$

Two tables summarize the results: of a 1 per cent population increase in each of the provinces, [Table 7] and a 1 per cent shift in population to a standard province [Table 8].
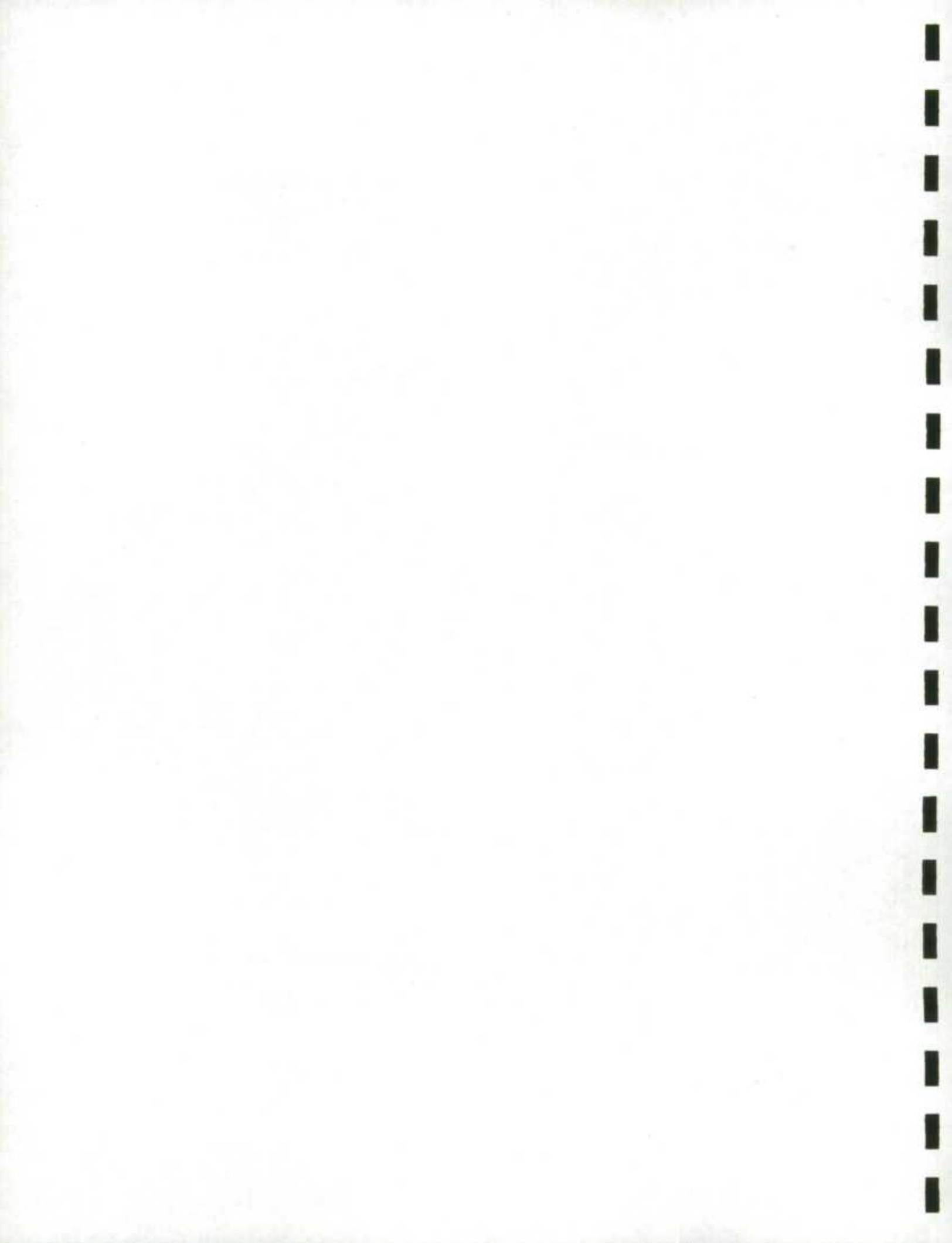
14

Table 7, indicates that when a province's population increases its own entitlements increase by a large amount. For instance, a 1 per cent increase in the population of Quebec would lead to an increase in its entitlements in 1988-89 of $187 million or 5.5 per cent of its total entitlement. At the same time there would be declines in total entitlements for all other provinces ranging from $1.7 million in P.E.I. to $122 million in Ontario. The table also confirms that when the population of a non-standard province increases there is no effect on the other provinces for a population increase in a non-standard province.

Table 7

	Effect of 1 Per Cent Increase in Population ($'000)									
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
NFLD	23459	0	0	0	-7343	-10414	-1202	-1124	0	-3301
PEI	0	5300	0	0	-1659	-2353	-272	-254	0	-746
NS	0	0	36372	0	-11385	-16147	-1863	-1742	0	-5118
NB	0	0	0	29459	-9221	-13078	-1509	-1411	0	-4145
QUE	0	0	0	0	187297	-121588	-14032	-13118	0	-38538
ONT	0	0	0	0	-121747	214556	-18927	-18630	0	-54731
MAN	0	0	0	0	-13995	-19849	42397	-2142	0	-6291
SASK	0	0	0	0	-13083	-18556	-2141	39777	0	-5882
ALTA	0	0	0	0	-30836	-43735	-5047	-4719	98515	-13862
BC	0	0	0	0	-38472	-54565	-6297	-5887	0	105442

|	Percentage Change in Total Entitlements									
NFLD	2.797	0.000	0.000	0.000	-0.875	-1.242	-0.143	-0.134	0.000	-0.394
PEI	0.000	2.993	0.000	0.000	-0.937	-1.329	-0.153	-0.143	0.000	-0.421
NS	0.000	0.000	4.356	0.000	-1.363	-1.934	-0.223	-0.209	0.000	-0.613
NB	0.000	0.000	0.000	3.820	-1.196	-1.696	-0.196	-0.183	0.000	-0.538
QUE	0.000	0.000	0.000	0.000	5.521	-3.584	-0.414	-0.387	0.000	-1.136
ONT	0.000	0.000	0.000	0.000	-2.877	5.070	-0.471	-0.440	0.000	-1.293
MAN	0.000	0.000	0.000	0.000	-1.760	-2.497	5.333	-0.269	0.000	-0.791
SASK	0.000	0.000	0.000	0.000	-2.860	-4.057	-0.468	8.695	0.000	-1.286
ALTA	0.000	0.000	0.000	0.000	-0.827	-1.172	-0.135	-0.126	2.641	-0.372
BC	0.000	0.000	0.000	0.000	-4.890	-6.935	-0.800	-0.748	0.000	13.401
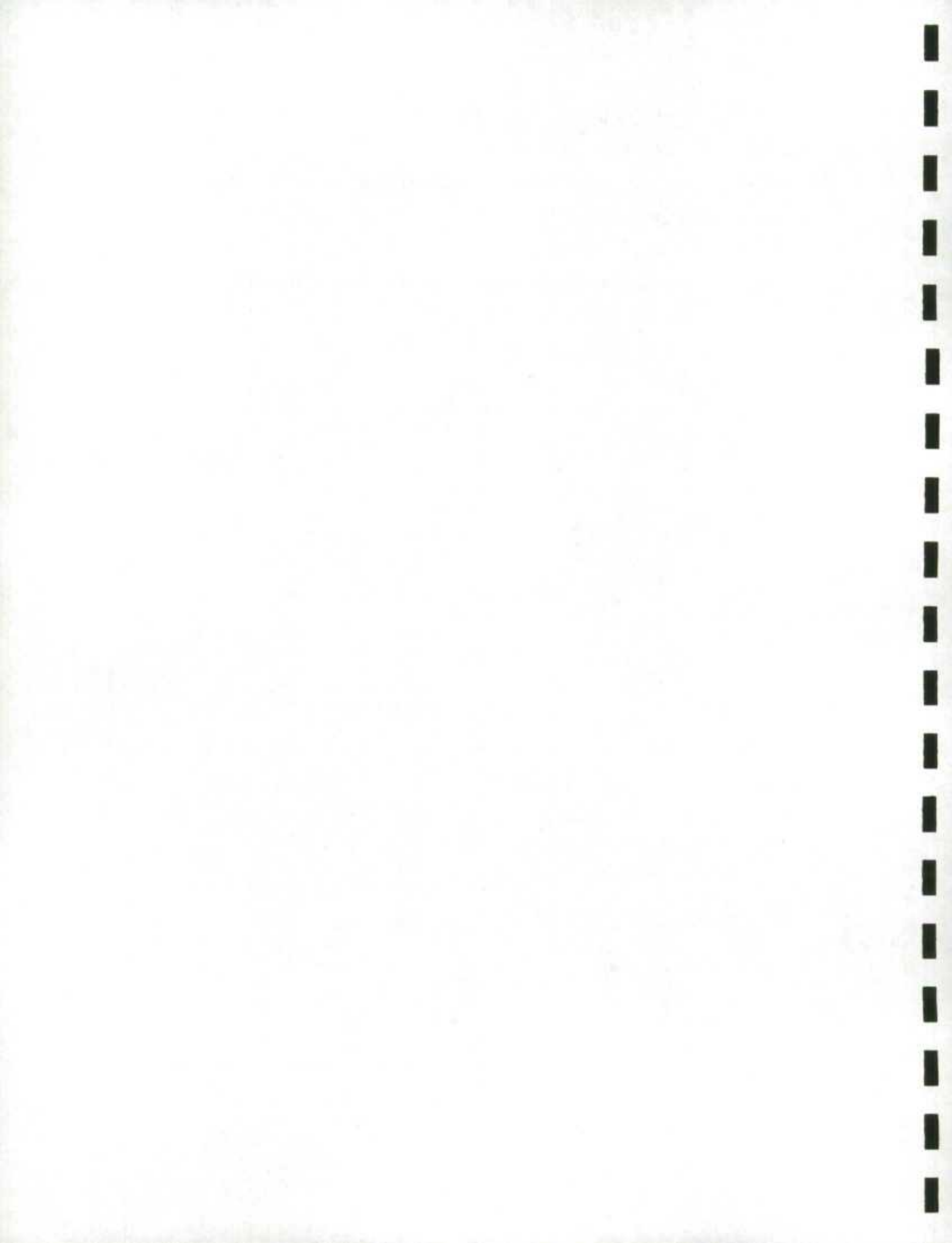
Table 8 summarizes the results of a shift in population between provinces, holding the total population constant. Each column of the table shows the impact of shifting 1 per cent of the population of the province to Ontario. Thus, the column marked Newfoundland shows the effect of a shift of 1 per cent of Newfoundland's population to Ontario. In this example, since the population is shifted from a non-standard province to a standard province, the entitlements for all provinces, other than Ontario decline. Further, the total entitlements of all provinces combined is reduced. On the other hand, when population is shifted between standard provinces, such as Ontario and Quebec,[2] the total entitlements remains unchanged and there is simply a shift in entitlements from one standard province (Quebec) to another (Ontario).

As noted earlier, any net shift in entitlements to Ontario (or indeed B.C. or Alberta) leads to a reduction in actual equalization payments since they do not currently receive equalization payments.

Table 8

Effect of 1 Per Cent Shift in Population to Ontario ($'000)									
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
NFLD	-24063	-143	-978	-792	0	0	0	0	-2646	0
PEI	-142	-5332	-221	-179	0	0	0	0	-598	0
NS	-978	-221	-37872	-1228	0	0	0	0	-4103	0
NB	-792	-179	-1228	-30444	0	0	0	0	-3323	0
QUE	-7364	-1664	-11416	-9247	-273882	388960	0	0	-30898	0
ONT	12994	2936	20144	16317	273882	-388960	44711	41799	54524	122910
MAN	-1202	-272	-1864	-1510	0	0	-44711	0	-5044	0
SASK	-1124	-254	-1742	-1411	0	0	0	-41799	-4716	0
ALTA	-2649	-599	-4106	-3326	0	0	0	0	-109518	0
BC	-3305	-747	-5123	-4150	0	0	0	0	-13866	-122910

Percentage Change in Total Entitlements									
NFLD	-2.871	-0.017	-0.117	-0.094	0.000	0.000	0.000	0.000	-0.316	0.000
PEI	-0.060	-3.011	-0.125	-0.101	0.000	0.000	0.000	0.000	-0.338	0.000
NS	-0.117	-0.026	-4.536	-0.147	0.000	0.000	0.000	0.000	-0.491	0.000
NB	-0.103	-0.023	-0.159	-3.948	0.000	0.000	0.000	0.000	-0.431	0.000
QUE	-0.217	-0.049	-0.336	-0.273	-8.073	11.465	0.000	0.000	-0.911	0.000
ONT	0.307	0.069	0.476	0.386	6.472	-9.191	1.057	0.988	1.288	2.904
MAN	-0.151	-0.034	-0.234	-0.190	0.000	0.000	-5.624	0.000	-0.635	0.000
SASK	-0.246	-0.056	-0.381	-0.309	0.000	0.000	0.000	-9.138	-1.031	0.000
ALTA	-0.071	-0.016	-0.110	-0.089	0.000	0.000	0.000	0.000	-2.936	0.000
BC	-0.420	-0.095	-0.651	-0.527	0.000	0.000	0.000	0.000	-1.762	-15.622

---

[2]   To carry out the simulations for Ontario the population was shifted from Ontario to Quebec.

16
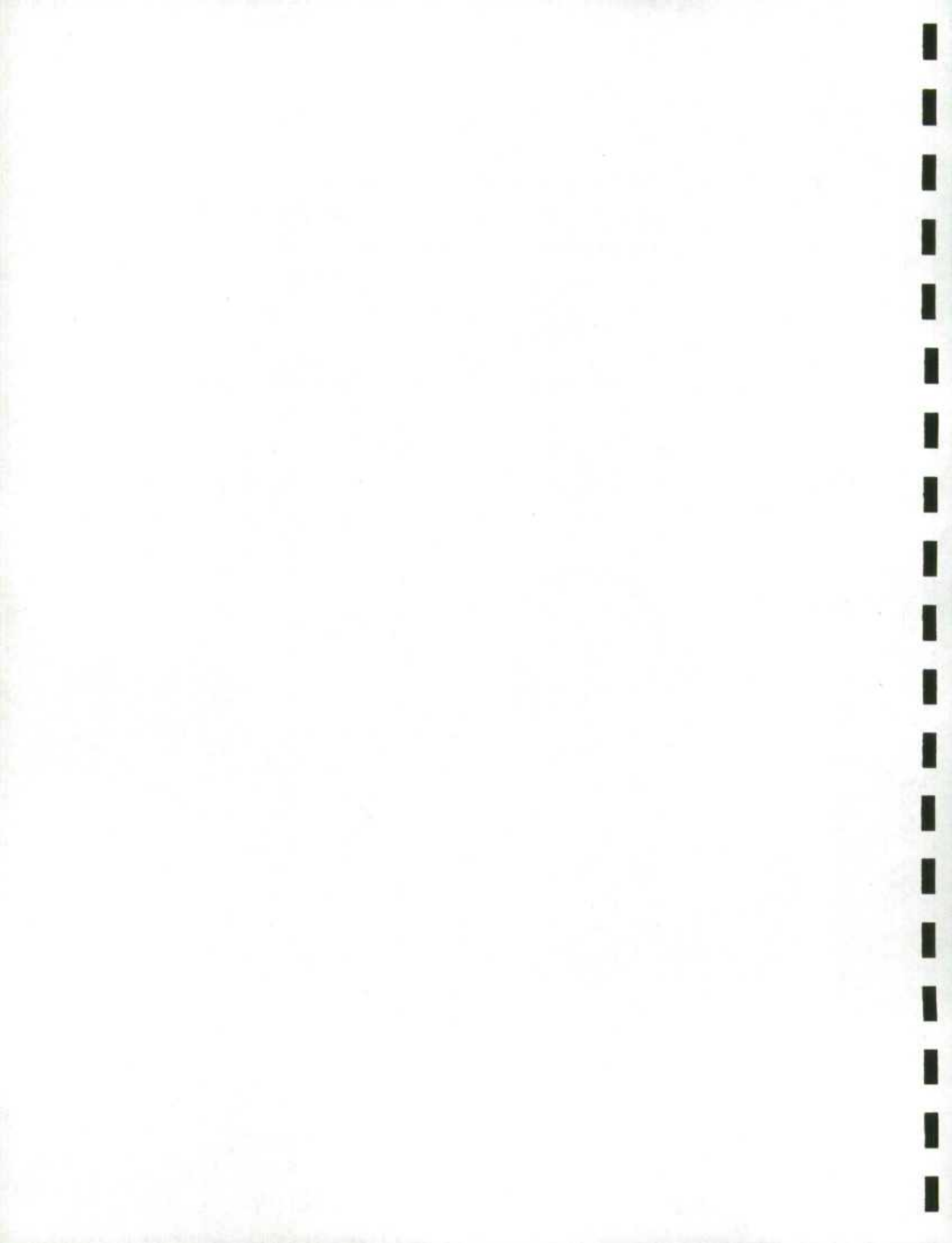
3. Classification of Variables by Impact on Entitlements

This section reports the results of simulation experiments to classify variables by their impact on entitlements. Detailed simulation results for each variable (including population variables) used in the calculation of entitlements are provided in appendix tables obtainable from the authors upon request.

Each variable affects entitlements through its impact on the revenue tax base or revenue source on a per capita basis. Revenue tax bases or revenue sources can be made up of a large or small number of variables and therefore a particular variable may have a small impact on entitlements even when revenue tax base or revenue source of which it is a member has an important impact on entitlements. At the risk of some repetition, the following sections present analyses of individual variables as well as revenue tax bases.

3.1 Criteria for Degree of Impact from a 1 Per Cent Change in a Variable.

To assess the impact a variable has on the total entitlements of a province a ranking of the impact is required. Five categories of impact: (1) Very High, (2) High, (3) Medium, (4) Low and (5) Negligible are given in Table 9, both as a percentage change in total entitlements and as a dollar amount, for each of the receiving provinces.

The criteria are applied to each variable which affects a receiving province's entitlement. If even one province's response meets a "high impact" criterion then the variable is classified as a high impact variable. This approach probably creates a bias toward defining a variable as having a high impact. However, the purpose of this exercise is to identify variables which potentially have a significant impact on equalization payments. In this context, it is probably better to risk this type of error than to risk the possibility of failing to identify significant variables.

17
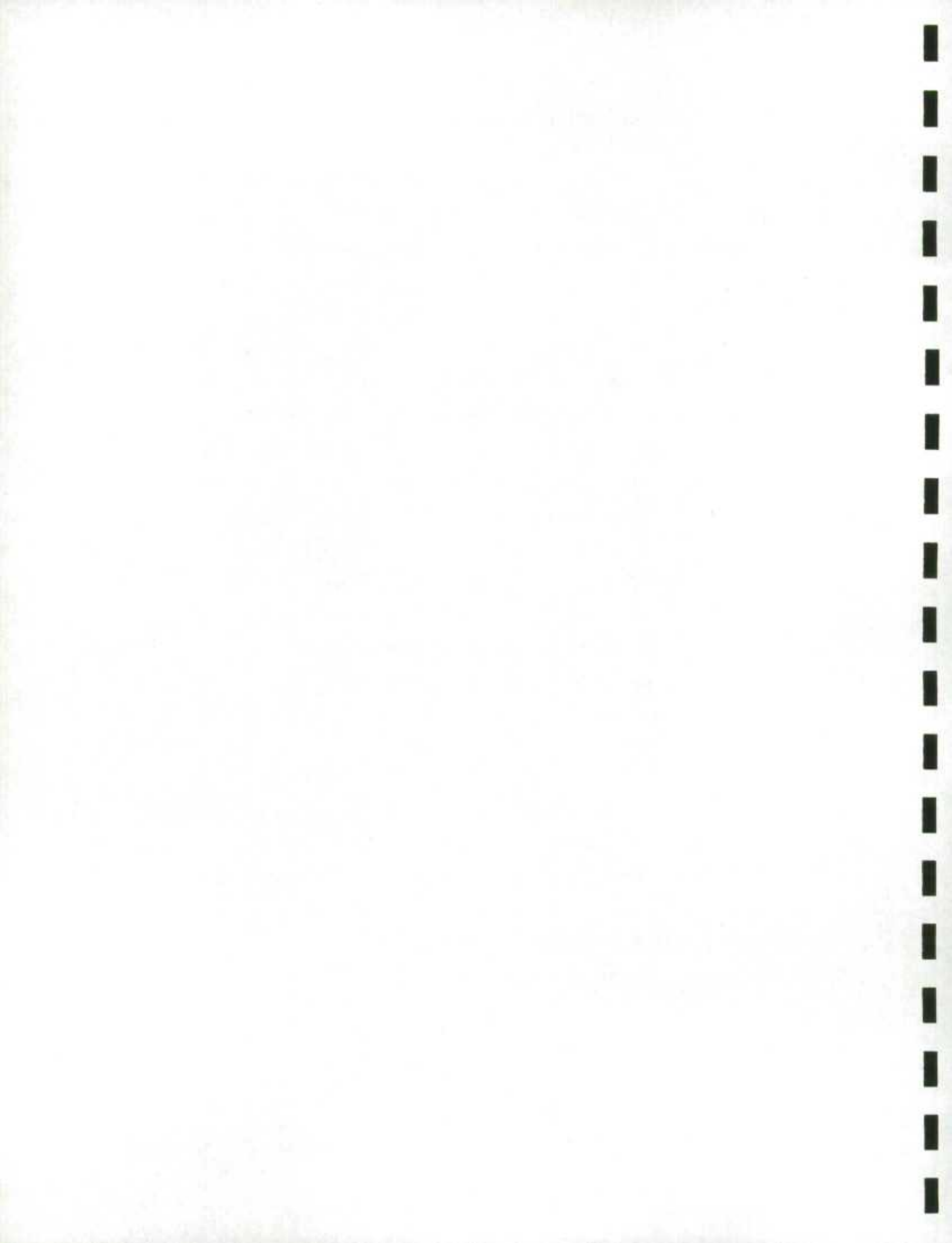
Table 9

Criteria for Ranking of Impact

Very High Impact, Greater than 1% Change in Total Entitlements							
	NFLD	PEI	NS	NB	QUE	MAN	SASK
Dollar Range	8,386,970	1,770,650	8,349,890	7,711,330	33,925,370	7,949,390	4,574,440
High Impact, Between .1% and 1% Change in Total Entitlements							
Dollar Range High	8,386,970	1,770,650	8,349,890	7,711,330	33,925,370	7,949,390	4,574,440
Low	838,697	177,065	834,989	771,133	3,392,537	774,939	457,444
Medium Impact, Between .01% and .1% Change in Total Entitlements							
Dollar Range High	838,697	177,065	834,989	771,133	3,392,537	774,939	457,444
Low	83,870	17,707	83,499	77,113	339,254	77,474	45,744
Low Impact, Between .001% and .01% Change in Total Entitlements							
Dollar Range High	83,870	17,707	83,499	77,113	339,325	77,494	45,744
Low	8,387	1,771	8,350	7,711	33,925	7,749	4,574
Negligible Impact, Less than .001% Change in Total Entitlements							
Dollar Range	8,387	1,771	8,350	7,711	33,925	7,749	4,574

Table 10

Ranking of Revenue Tax Base by Degree of Impact on
Total Entitlements for a 1 Per Cent Increase in the Base

REVENUE SOURCE	VERY HIGH	HIGH	MEDIUM	LOW	NEGLIGIBLE	REVENUE SUBJECT TO EQUALIZATION	RANK
1. PERSONAL INCOME TAX REVENUES	X					29,140,123	1
34. PROV.- LOCAL PROPERTY TAX REVENUES	X					19,866,450	2
4. GENERAL AND MISCELLANEOUS SALES TAXES	X					17,576,121	3
36. MISC. PROV.-LOCAL TAXES AND REVENUES		X				9,712,488	4
2. BUSINESS TAX REVENUES		X				6,489,788	5
6. GASOLINE TAXES		X				3,241,570	6
13. HOSPITAL AND MEDICAL INSURANCE PREMIUMS		X				2,547,180	7
5. TOBACCO TAXES		X				2,311,614	8
33. PAYROLL TAXES		X				2,276,412	9
3. CAPITAL TAX REVENUES			X			1,592,826	10
10. REVENUES FROM THE SALE OF SPIRITS		X				1,456,939	11
35. LOTTERY REVENUES			X			1,337,362	12
8. NON-COMMERCIAL VEHICLE LICENCES		X				1,298,210	13
7. DIESEL FUEL TAXES		X				946,928	14
15. FORESTRY REVENUES			X			939,216	15
12. REVENUES FROM THE SALE OF BEER			X			931,849	16
21. DOMESTICALLY SOLD NATURAL GAS REVENUES			X			717,139	17
32. INSURANCE PREMIUM REVENUES			X			676,355	18
9. COMMERCIAL VEHICLE LICENCES			X			662,917	19
11. REVENUES FROM THE SALE OF WINE			X			551,041	20
18. OLD OIL REVENUES			X			533,407	21
17. NORP OIL REVENUES		X				454,881	22
23. SALES OF CROWN LEASES			X			451,433	23
22. EXPORTED NATURAL GAS REVENUES					X	449,565	24
31. WATER POWER RENTALS			X			411,129	25
29. MINERAL RESOURCES – OTHER			X			353,553	26
24. OTHER OIL AND GAS REVENUES			X			241,804	27
14. RACE TRACK TAXES				X		135,117	28
30. POTASH REVENUES		X				104,790	29
28. MINERAL RESOURCES – COAL			X			70,600	30
19. HEAVY OIL REVENUES			X			39,762	31
26. MINERAL RESOURCES – URANIUM				X		21,576	32
25. MINERAL RESOURCES – IRON				X		19,847	33
20. MINED OIL REVENUES					X	16,404	34
27. MINERAL RESOURCES – ASBESTOS					X	544	35
16. NEW OIL REVENUES						0	36
37. SHARED REVENUES: OFFSHORE ACTIVITIES						(416)	37
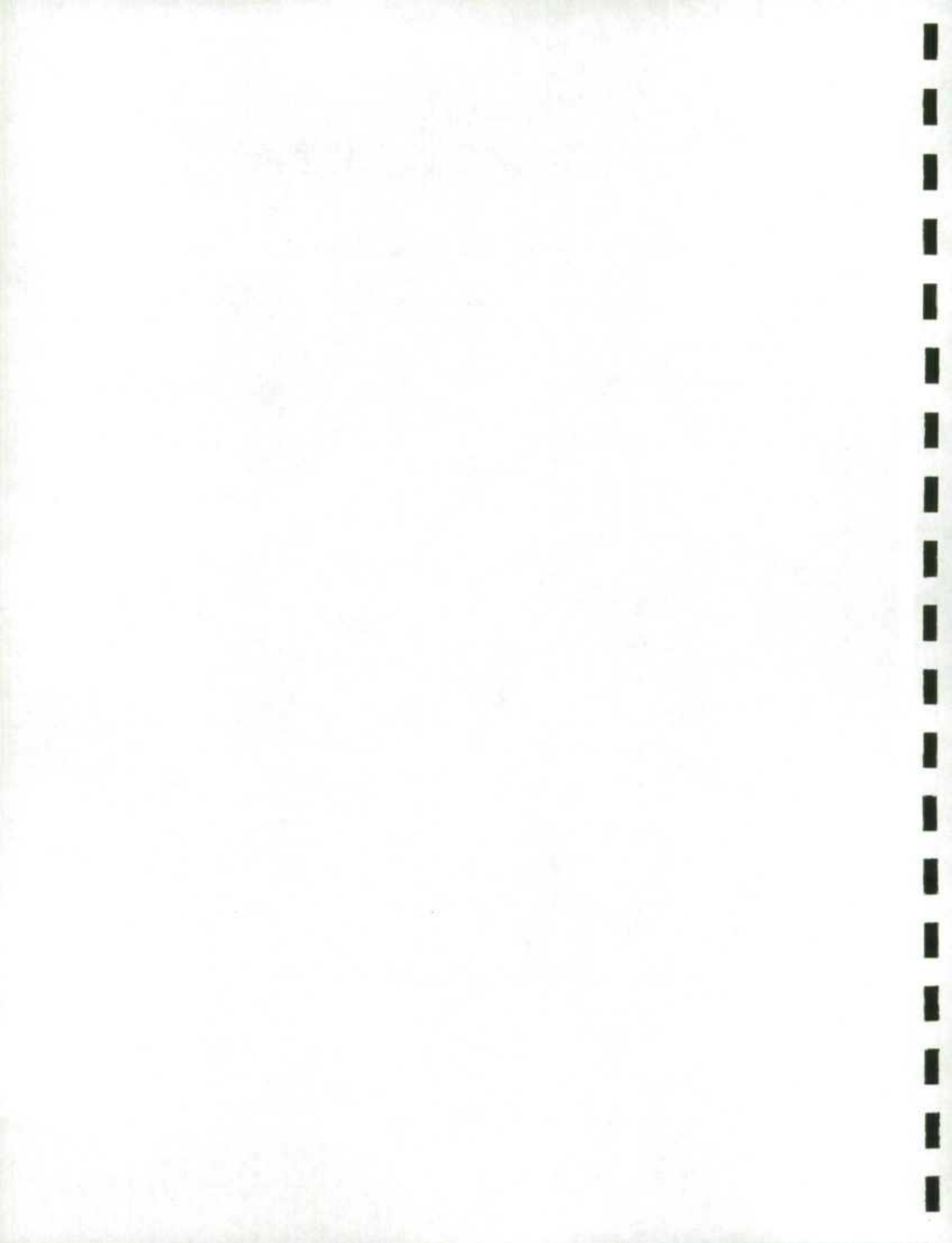
3.2 Revenue Tax Base

This section classifies entire revenue tax bases by impact. Each of the revenue bases is classified in Table 10. The listing ranks each revenue base in descending order of revenues subject to equalization.

Table 11 summarizes the impact of the individual revenue tax bases on total entitlements, according to the above criteria.

Table 11

Summary Revenue Tax Base Increases

Degree of Impact	Number of Revenue Tax Bases
Very High	3
High	11
Medium	15
Low	3
Negligible	3

Revenue bases with a "Very High Impact" or "High Impact" on entitlements account for over 90 per cent of total revenue sources subject to equalization:

- Personal Income Tax Revenue Bases, General and Miscellaneous Sales Tax Revenue Bases, and Provincial-Local Property Tax Revenue Bases have a very high impact on total entitlements and are also the top three ranked revenue sources, accounting for almost 62 per cent of the total revenue sources subject to equalization.

- Eleven revenue tax bases have a high impact on total entitlements. Of these, eight are included in the next ten ranked revenue sources. The revenue bases ranked as high impact correspond to revenue sources that account for over 28 per cent of the total revenue source subject to equalization.

3.3 Input Variable Simulation

The results for revenue bases shown in Tables 8 to 10 can be broken down further by analyzing the individual variables which are used in the calculation of tax bases. The impact of a 1 per cent increase for the input variables prepared by Statistics Canada are recorded in detailed appendices which are available on request.

Annex Table A1 summarizes the impact of each of the input variables according to the same criteria used to rank the impact of the revenue tax base changes on total entitlements. The ranking of the input variables is summarized in Table 12. Four variables have a "Very High" impact on equalization payments. Of these, three are calculated by the Department of Finance and Revenue Canada and include: Basic Federal Tax, simulated tax payments and a simulated provincial distribution of income taxes. The fourth "Very High" impact available is Population and is provided by Statistics Canada.

21
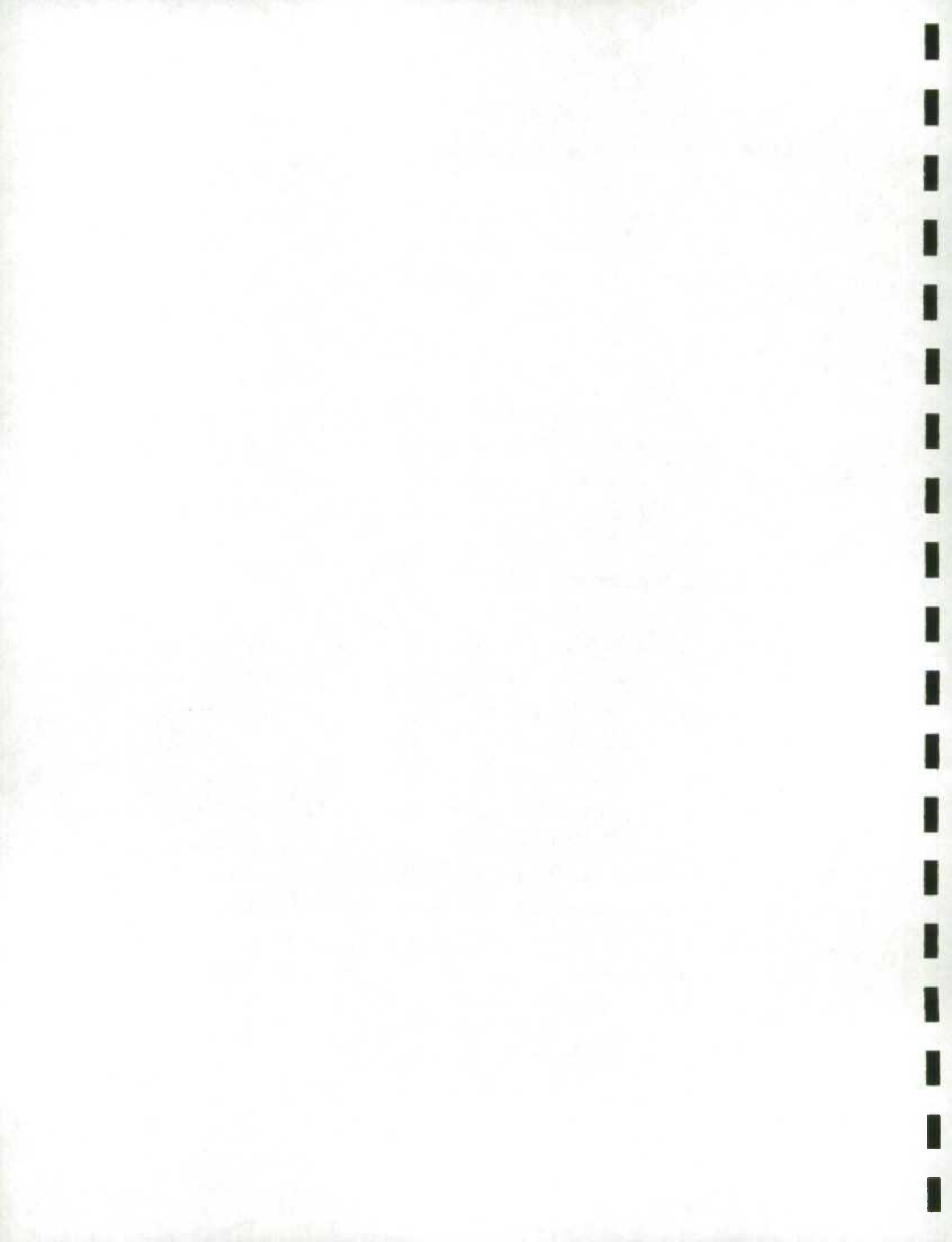
Table 12

Summary Impact of Input Variables

Ranking	Statistics Canada	Non-Statistics Canada	Total
Very High	1	3	4
High	22	5	27
Medium	49	16	65
Low	59	7	66
Negligible	27	21	48
Total	158	52	210

Of the 27 high impact variables 22 are supplied by Statistics Canada of these:

- Population is the single most important variable as an input variable, affecting the calculations of entitlements from all revenue bases;

- Eight of the high impact input variables are used in the calculation of the "General and Miscellaneous Sales Taxes" revenue tax base. The variables are listed as lines 4a-1 to 4b-29 in Table 13.

- Five Statistics Canada variables (lines 34a-1 to 34a-17 in Table 13) that have a high impact on total entitlements are used in the calculation of the "Provincial-Local Property Tax Revenues" revenue tax base.

Table 13

Percentage Error of High Impact Input Variables

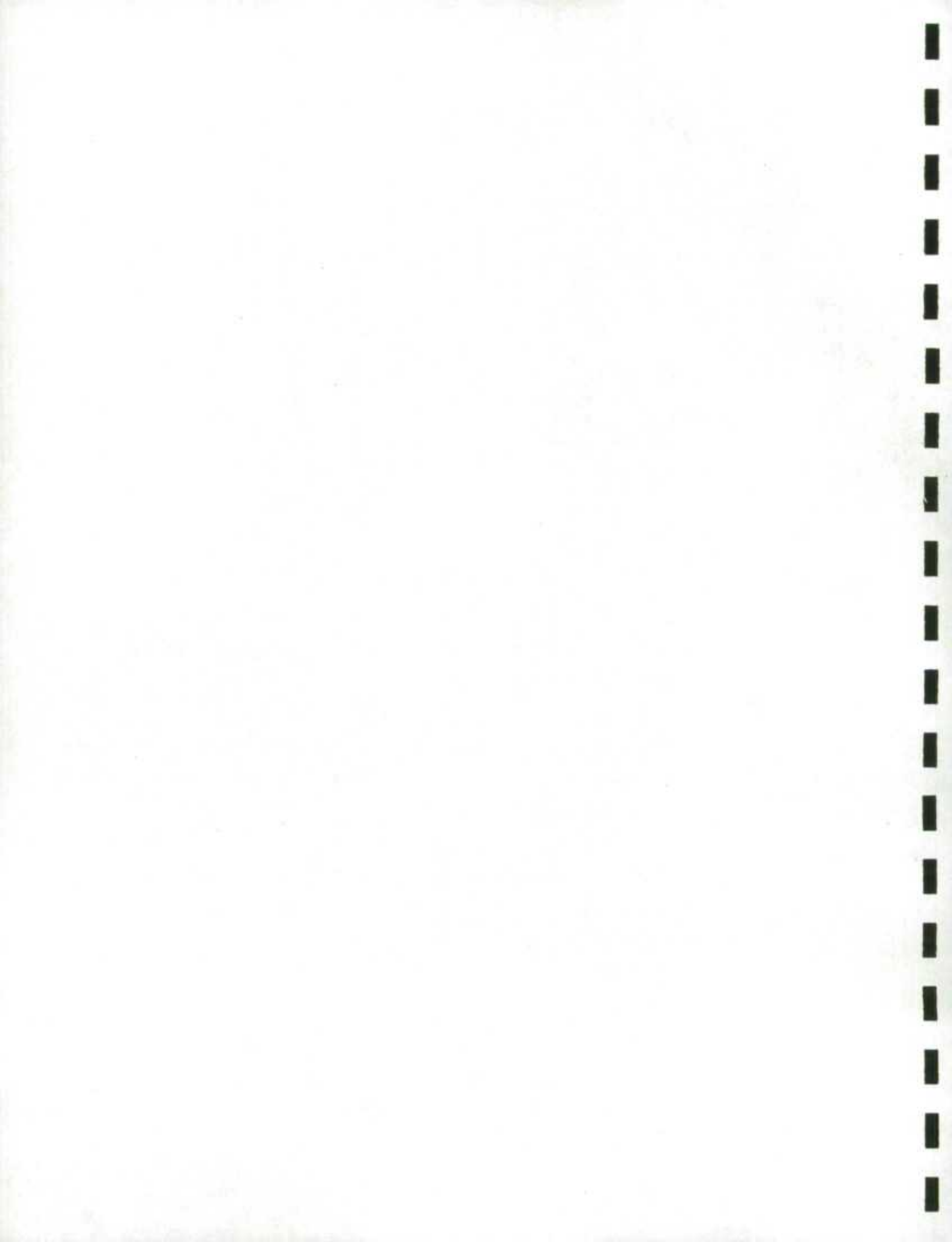| INPUT VARIABLE		NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC
S-1	POPULATION	0.14	0.23	0.10	0.00	0.04	0.05	0.01	0.07	0.27	0.12
2-17	TOTAL CORPORATE PROFITS ON A NATIONAL ACCOUNTS BASIS					NO CHANGE - TOTAL OF ALL PROVINCES					
4a-1	RETAILS SALES BY PROVINCE	0.09	0.06	0.00	0.08	0.00	0.07	0.10	0.06	0.03	0.08
4a-27	AVERAGE FAMILY EXPENDITURE ON FOOD PREPARED AT HOME					NO CHANGE - BASE YEAR 1986					
4a-28	AVERAGE FAMILY SIZE					NO CHANGE - BASE YEAR 1986					
4a-32	POPULATION					SAME AS VARIABLE S-1					
4b-19	INVESTMENT IN CAPITAL AND REPAIR OF MACH./EQUIP.	0.36	10.05	6.53	7.41	1.54	1.20	0.01	9.57	5.09	4.02
4b-20	CAPITAL AND REPAIR MACH./EQUIP. - PRIMARY SECTOR	12.04	27.84	10.92	3.19	3.85	9.59	16.81	10.67	11.97	5.04
4b-23	COST OF CONSTRUCTION	7.53	17.18	5.48	17.43	20.18	19.37	9.56	14.14	2.49	10.56
4b-29	SERVICE ESTABLISHMENTS SALES	4.01	2.77	2.70	0.29	4.06	1.74	3.18	1.60	3.66	3.28
5-2	TAX RATE PER CIGARETTE	NC	NC	NC	NC	NC	NC	NC	0.05	NC	3.82
6-1	GASOLINE TAXED AT ROAD USE RATE	NC	NC	NC	NC	NC	NC	NC	NC	9.02	NC
6-5	GASOLINE CONSUMPTION FOR ROAD TRANSPORT	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
8-1	PASSENGER VEHICLE REGISTRATIONS	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10-1	VOLUME OF SPIRITS	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
18-1	TOTAL VALUE OF MARKETABLE PRODUCTION OF CRUDE OIL	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
30-1	TOTAL VOLUME OF POTASH PRODUCTION	NC	NC	NC	26.37	NC	NC	NC	2.30	NC	NC
33-1	WAGES AND SALARIES EXCLUDING SUPP. LABOUR INCOME	7.20	5.86	5.74	5.15	0.52	3.00	4.92	0.90	4.07	6.61
34a-1	PERSONAL DISPOSABLE INCOME	3.19	1.45	2.49	0.99	2.54	0.31	3.93	5.53	2.08	1.39
34a-6	NET PROVINCIAL INCOME AT FACTOR COST	4.94	1.69	5.47	3.91	2.08	1.05	3.98	3.93	0.37	3.60
34b-1	RESIDENTIAL CAPITAL STOCK	2.92	3.28	2.55	1.87	2.87	3.26	2.95	2.85	2.33	2.45
34b-7	CAPITAL STOCK - COMMERCIAL	14.03	26.88	25.16	25.40	17.34	17.29	15.64	22.26	22.35	20.68
34b-17	VALUE OF AGRICULUTRAL LAND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
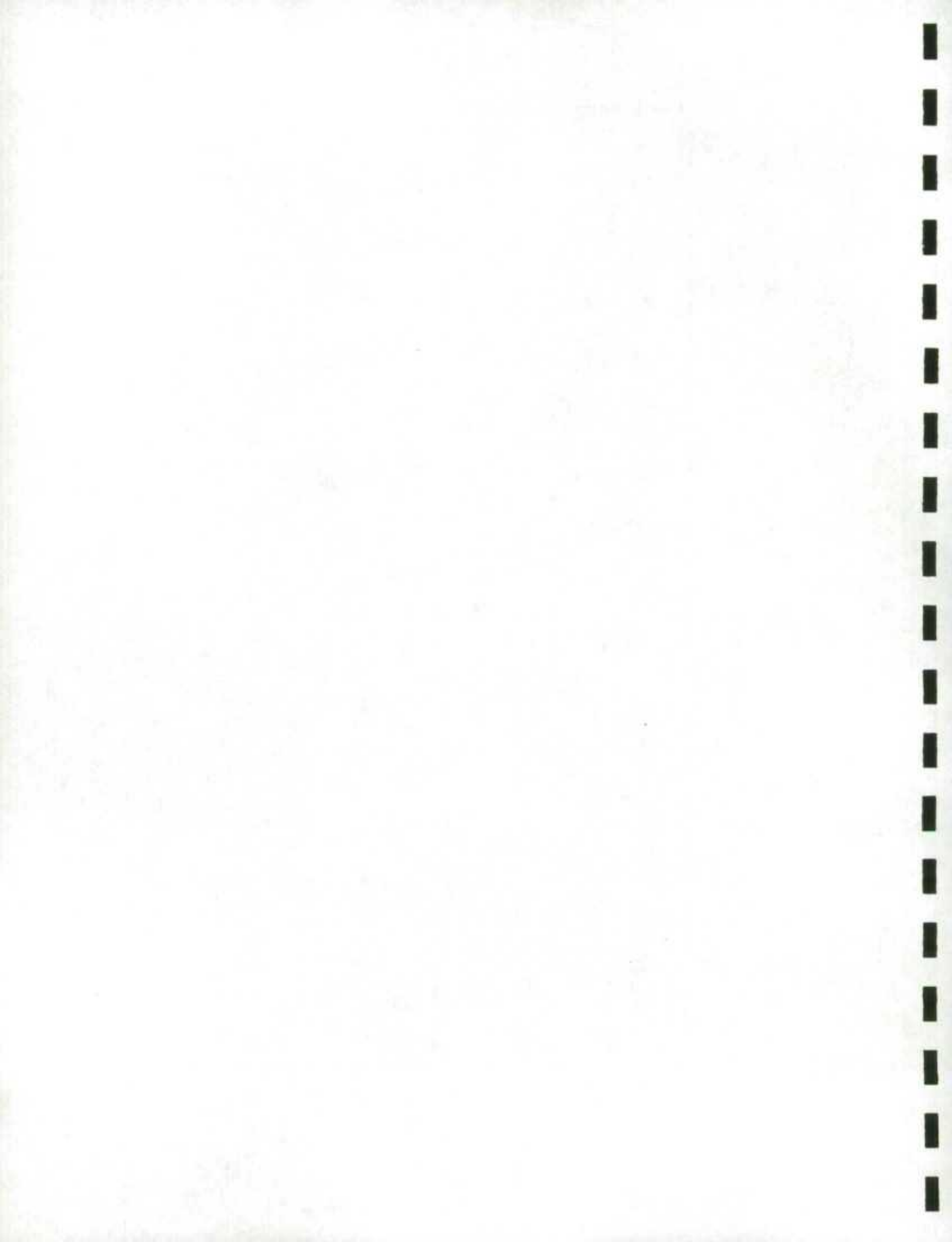
- The remaining nine variables are used in the calculation of entitlements from various other revenue tax bases such as non-commercial vehicle licences, alcoholic beverages, gasoline taxes, etc.

3.4 High Impact Variables and Estimation Errors

Twenty two revenue tax base input variables and population which have a "high" or "very high" impact on equalization payments are supplied by Statistics Canada. From the point of view of this program changes in the scope, concepts, methodology or operational procedures which result in changes in the estimates of these variables would have a potentially material impact on provincial entitlements. In addition to any methodological changes, large statistical estimation errors for any of these variables would be a cause for concern since this would imply the confidence interval around any point estimate could be large enough to affect payments to the provinces.

It would be useful to use the estimated coefficients of variation for high impact variables to further classify them into "high variability" variables. However, a number of variables used are obtained from administrative data and others are not survey based. Hence, for most of the series used in this analysis it has not been possible to obtain these estimates. Instead, for each high impact variable we examined the record of revisions to obtain a "proxy" for estimation error. The estimates for the variability of high impact variables are presented in Table 13. The estimation of the percentage error expands the identification of high impact variables to further identify those variables that also have potentially large variability.

Clearly, this is at best an imperfect way of measuring the variability of data. For instance, amongst the variables with high variability is the national accounts estimate of wages and salaries. In the equalization calculations "final" national accounts estimates for wages and salaries are used. These estimates are based on actual taxation data and, therefore, are likely to be firmly based. However, initial estimates of wages and salaries are derived from preliminary indicators which are subject to revision. Because of this difference in estimation

24

methodology between first and final estimates our "proxy" for statistical variability is likely to overstate the statistical risk associated with using this series in the equalization program. Nevertheless, using "proxy" estimates of variability, nine of the high impact variables are identified as having a high variability; four variables from General and Miscellaneous Sales Taxes, four variables from Provincial-Local Property Tax Revenues and the wages and salaries variable from Payroll Taxes.

Table 14 provides a province-by-province summary of the decline in entitlements resulting from a 1 per cent increase in the nine high impact/high variability variables.

3.5 Population Simulation

The estimates of population by province have the largest impact of any single Statistics Canada variable. This general issue has been discussed at length in Section 2.2. Additional tables, showing how changes in population affect entitlements from individual revenue bases are available on request.
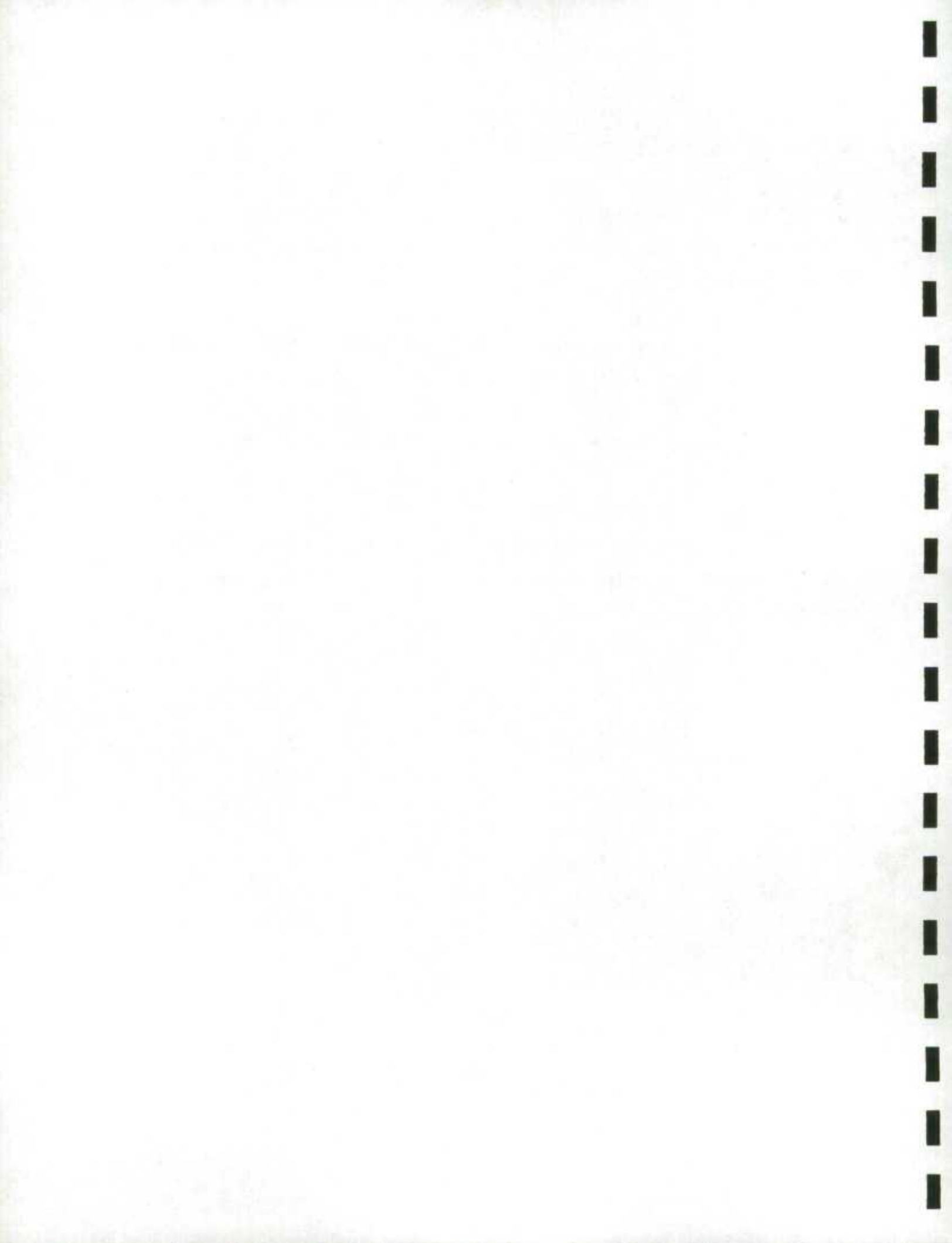
Table 14

Effect of High Impact/High Variability Variables

Own Province Effect of High Impact/High Variability Variables Produced by Statistics Canada 1988-89 (Per Cent of Initial Entitlement)

	Nfld	PEI	NS	NB	Que	Ont	Man	Sask	Alta	B.C.
Investment in Capital and Repair of Mach./Equip	0.09	0.07	0.16	0.14	0.22	0.28	0.19	0.39	0.17	0.67
Capital and Repair, Mach/Equip Primary Sector	0.02	0.02	0.02	0.02	0.01	0.02	0.04	0.15	0.05	0.08
Cost of Construction	0.06	0.06	0.09	0.08	0.14	0.15	0.12	0.26	0.11	0.36
Service Establishment Sales	0.03	0.04	0.05	0.04	0.06	0.07	0.09	0.15	0.05	0.25
Wages and Salaries, ex. Supplementary Labour Income	0.04	0.04	0.07	0.06	0.09	0.11	0.09	0.13	0.06	0.28
Personal Disposable Income	0.03	0.02	0.05	0.03	0.15	0.15	0.10	0.10	0.05	0.39
Net Provincial Income at Factor Cost	0.03	0.04	0.07	0.05	0.11	0.10	0.09	0.15	0.06	0.27
Residential Capital Stock	0.15	0.18	0.26	0.21	0.36	0.44	0.36	0.63	0.22	1.14
Capital Stock—Commercial	0.13	0.11	0.24	0.19	0.34	0.35	0.32	0.50	0.24	1.00

Own Province Effect of High Impact/High Variability Variables Produced by Statistics Canada 1988-89 ($'000)

|	Nfld	PEI	NS	NB	Que	Ont	Man	Sask	Alta	B.C.
Investment in Capital and Repair of Mach./Equip	764	121	1,326	1,114	7,316	11,810	1,541	1,788	6,184	5,201
Capital and Repair, Mach/Equip Primary Sector	161	32	135	135	422	719	289	673	1,898	636
Cost of Construction	462	112	773	581	4,617	6,457	957	1,170	4,050	2,849
Service Establishment Sales	270	71	449	346	2,076	3,118	701	698	2,014	2,000
Wages and Salaries, ex. Supplementary Labour Income	317	69	585	449	3,165	4,841	732	588	2,131	2,186
Personal Disposable Income	215	39	441	263	4,959	6,126	786	447	2,004	3,101
Net Provincial Income at Factor Cost	281	65	543	416	3,601	4,376	743	680	2,292	2,086
Residential Capital Stock	1,274	310	2,198	1,653	12,148	18,753	2,833	2,872	8,182	8,951
Capital Stock—Commercial	1,071	195	1,973	1,495	11,462	14,728	2,558	2,266	9,033	7,863

4. Conclusions

The foregoing analysis of variables that affect equalization payments to provinces suggests that there are only nine variables produced by Statistics Canada which have a high impact on payments and may also have a high variability.
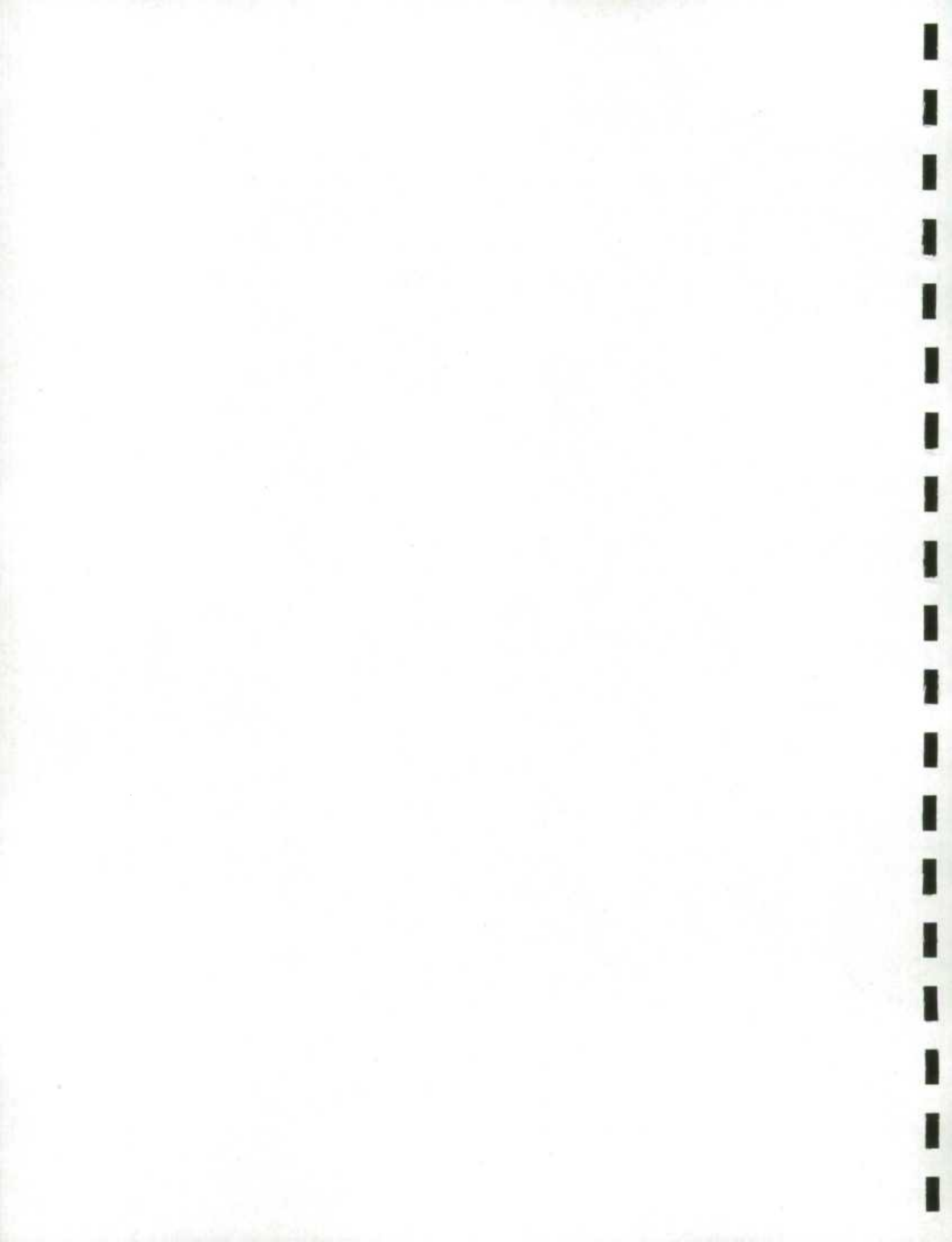
The main conclusion from the analysis is that although there are a number of variables which could **potentially** have a significant impact on equalization payments the actual risks are probably quite small. Nine variables have a sufficiently high variability to potentially have material impact on equalization payments. These are: Wages and Salaries from the National Income and Expenditure Accounts; four variables which affect General and Miscellaneous Sales Taxes - Service Establishment Sales, Investment in Machinery and Equipment (including repairs), Capital and Repair in the Primary Sector, and the Cost of Construction; four affecting the calculation of Provincial and Local Tax Revenues -- Personal Disposable Income, Net Provincial Income at Factor Cost, Residential Capital Stock and Capital Stock-Commercial.

The variables are identified as **potentially** having a significant impact but this does not necessarily imply an actual impact. In particular, the capital stock variables and the national income variables are identified as being both highly variable and having high potential impact because these variables are revised several times and undergo significant changes in successive revisions. However, the estimates used in the actual calculation of equalization payments are the final estimates and these data are not subject to revision.

Population estimates are not included in the list above because they have not been identified as having a high variance. However, population estimates are the most significant of the data prepared by Statistics Canada used in the Equalization Program. Any changes in the distribution of population amongst provinces, whether due to statistical error or to definition and concept changes could have significant impacts on payments under the program.
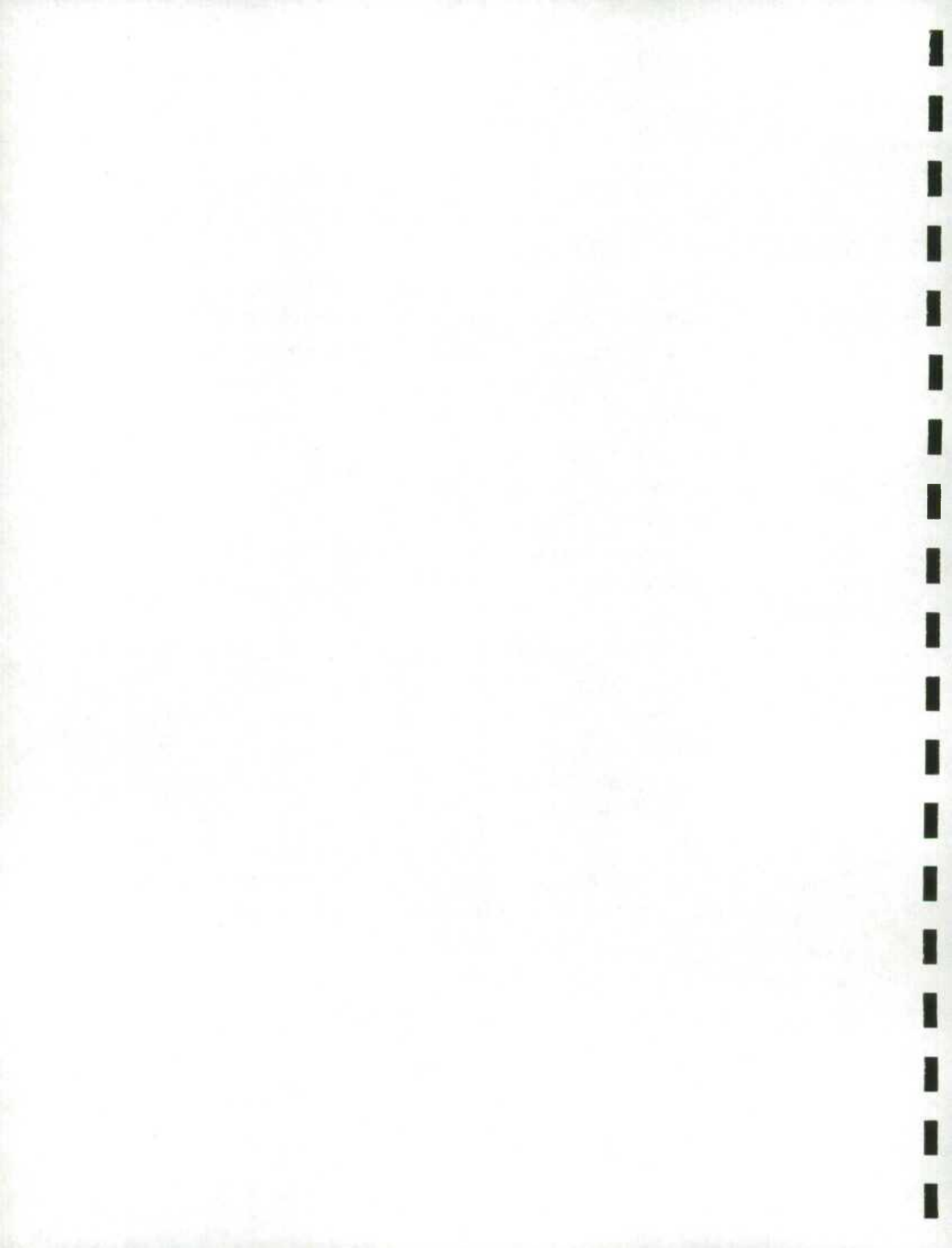
27

Immigration has always been a major source of Canada's population growth and, in recent years, immigrants have been settling disproportionately in the provinces of Ontario, British Columbia and Alberta. In addition, there appears to be internal migration to these provinces. Based on the results shown, these population movements would lead to a shift in entitlements from Atlantic Canada, Saskatchewan and Manitoba and an increase in Ontario and B.C. in particular. Since these latter provinces do not now receive equalization payments the net effect of recent population patterns is to reduce the total entitlements under the program.

ANNEX TABLE 1
RANKING OF VARIABLES BY DEGREE OF IMPACT ON TOTAL ENTILEMENTS
FOR A 1% INCREASE IN THE INPUT VARIABLE

	INPUT VARIABLE	VERY HIGH IMPACT > 1%	HIGH IMPACT .1% – 1%	MEDIUM IMPACT .01% – .1%	LOW IMPACT .001% – .01%	NEGLIGIBL IMPACT < .001%
S-1	POPULATION	X				
* 1-1	TAX COLLECTION AGREEMENT	X				
* 1-2	SIMULATED PITAX ESTIMATES	X				
* 1-6	DISTRIBUTION OF PROVINCIAL PERSONAL INCOME TAXES	X				
* 2-1	ASSESSED CORPORATION TAXABLE INCOME		X			
* 2-2	TAXABLE INCOME – CAPITAL GAIN REFUNDS				X	
* 2-3	TAXABLE INCOME ELIGIBLE FOR LOW TAX RATE			X		
2-5	GENERAL TAX RATE				X	
2-7	LOW TAX RATE				X	
* 2-10	OIL/GAS ROYALTY ESTIMATES			X		
* 2-11	RESOURCE ALLOWANCES			X		
2-17	TOTAL CORPORATE PROFITS ON A NATIONAL ACCOUNTS BASIS		X			
2-19	ADJUSTED PROFITS OF GOV'T BUSINESS ENTERPRISES			X		
2-21	UNADJUSTED PROFITS OF GOV'T BUSINESS ENTERPRISES			X		
3a-1	TOTAL ASSETS BY INDUSTRY				X	
3a-2	CASH					X
3a-3	ACCOUNTS RECEIVABLE				X	
3a-5	INVENTORIES				X	
3a-6	OTHER CURRENT ASSETS					X
3a-8	TOTAL FIXED ASSETS				X	
3a-9	OTHER CURRENT ASSETS					X
3a-11	ACCUMULATED DEPRRECIATION				X	
3a-12	CAPITAL COST ALLOWNANCE			X		
3a-13	BOOK DEPRECIATION			X		
** 3a-18	TOTAL EQUITY DEPOSIT ACCEPTING INSTITUTIONS				X	
3a-19	ACCOUNTS PAYABLE				X	
3a-21	OTHER CURRENT LIABILITIES					X
3a-23	DEFERRED INCOME					X
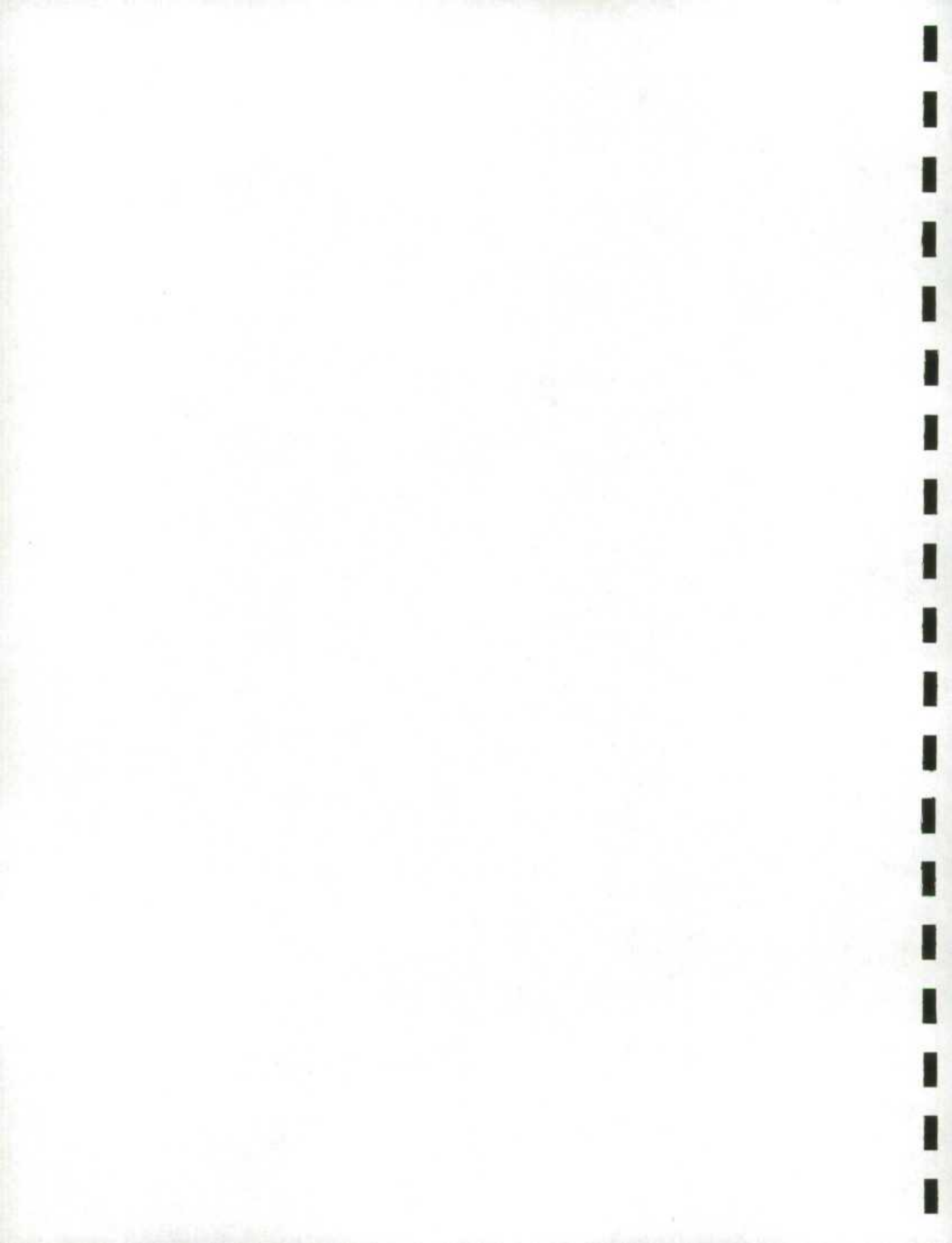
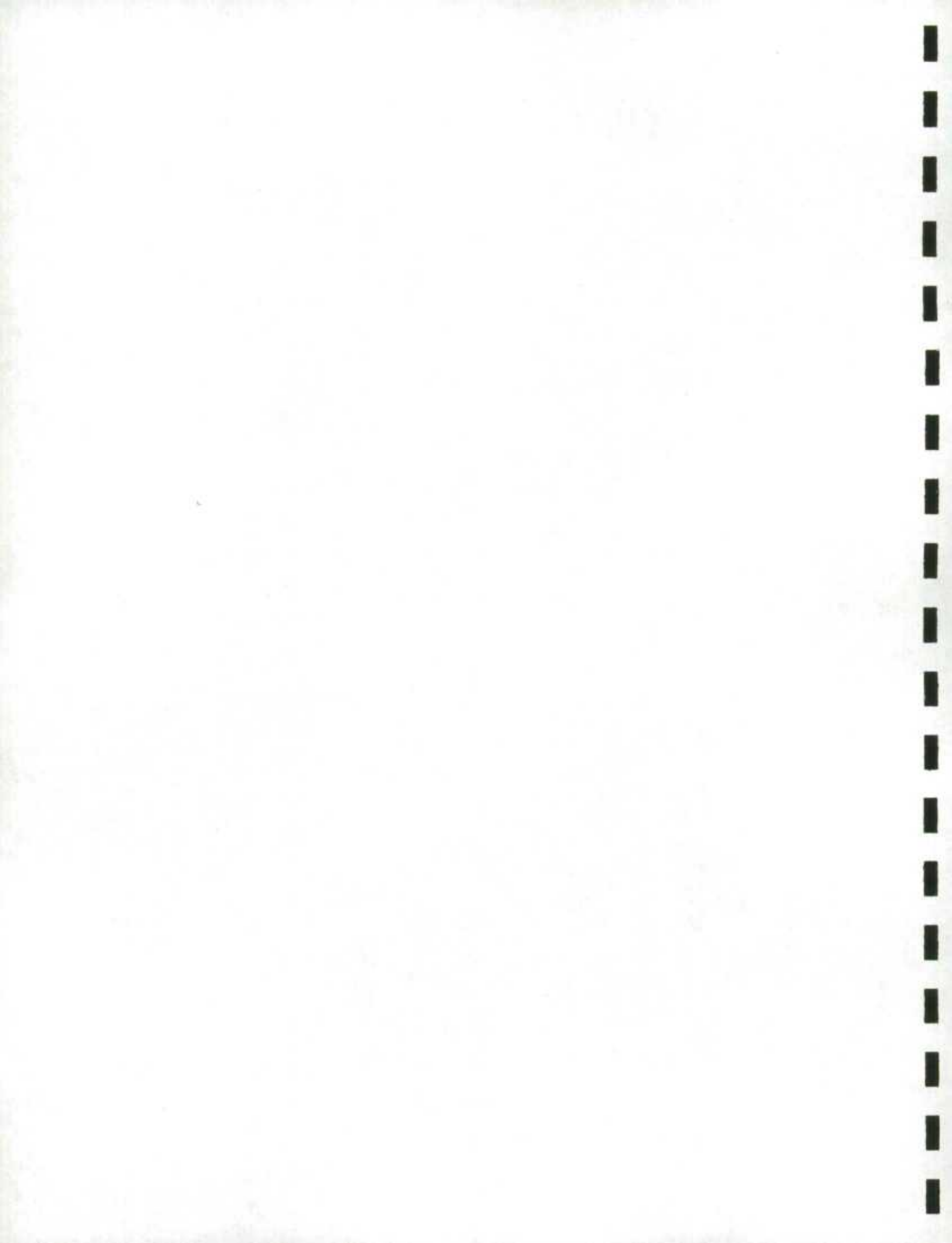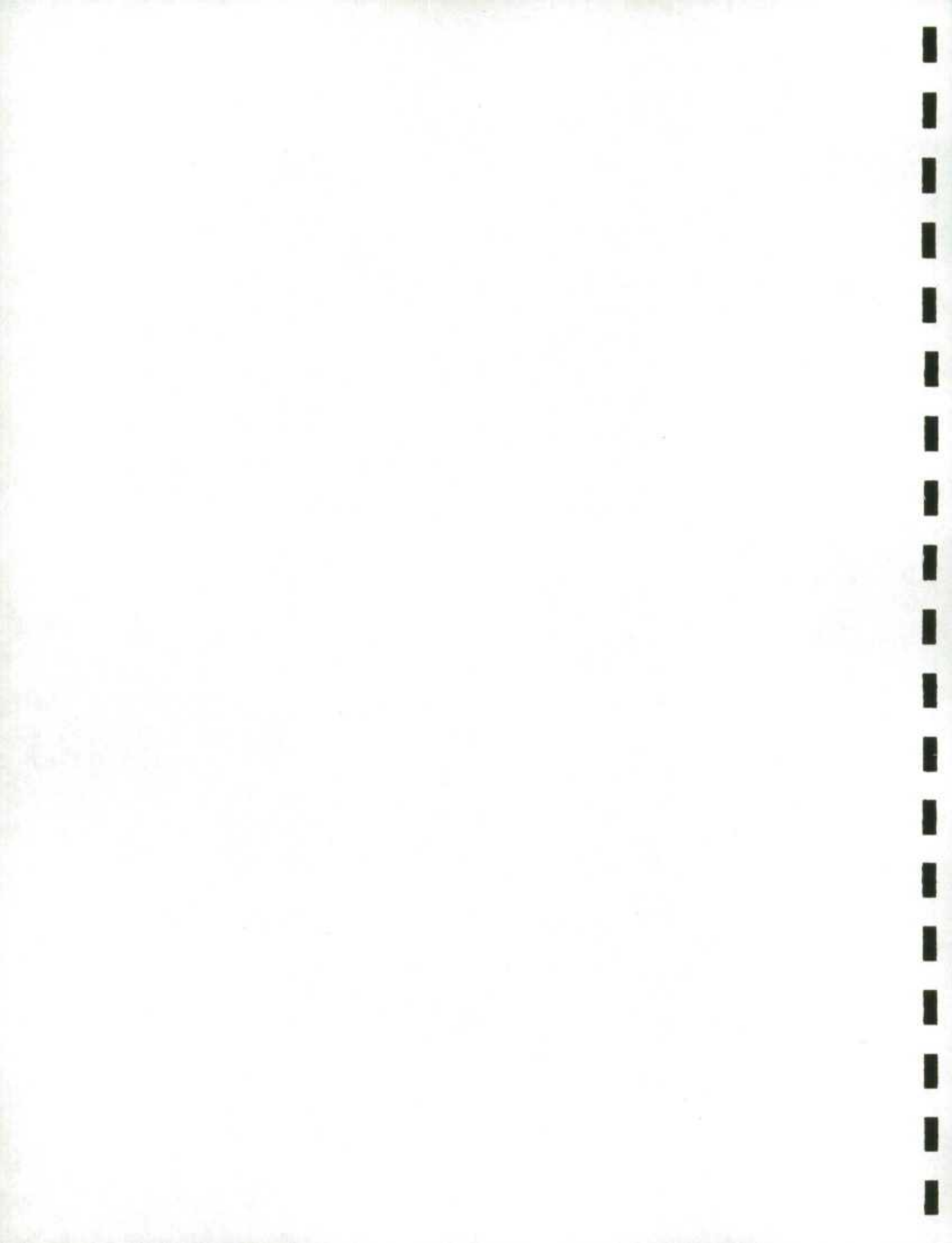| INPUT VARIABLE	VERY HIGH IMPACT > 1%	HIGH IMPACT .1% – 1%	MEDIUM IMPACT .01% – .1%	LOW IMPACT .001% – .01%	NEGLIGIBL IMPACT < .001%
3b-11 AGRICULTURE				X	
3b-12 MINING			X		
3b-13 MANUFACTURING			X		
3b-14 CONSTRUCTION			X		
3b-15 UTILITIES			X		
3b-16 WHOLESALE TRADE				X	
3b-17 RETAIL TRADE			X		
3b-18 SERVICES				X	
3b-19 OTHER FINANCE				X	
* 3b-20 DEPOSIT ACCEPTING INSTITUTIONS				X	
* 3b-42 REVENUES FROM PAID-UP CAPITAL					X
* 3b-43 OUTSTANDING GUARANTEED DEBT OF ELECTRIC UTILITIES					X
3b-44 REVENUES FROM DEBT GUARANTEE FEES					X
4a-1 RETAIL SALES BY PROVINCE		X			
4a-2 VENDING MACHINE SALES				X	
4a-3 TOTAL DIRECT SALES				X	
4a-4 DIRECT SALES OF FOOD					X
4a-6 RETAILS SALES (INCL. YUKON AND N.W.T.)				X	
4a-8 COMBINATION STORES				X	
4a-9 GROCERY, CONFECTIONARY AND SUNDRIES STORES				X	
4a-10 ALL OTHER FOOD STORES					X
4a-11 DEPARTMENT STORES					X
4a-12 GENERAL MERCHANDISE STORES					X
4a-13 GENERAL STORES					X
4a-14 COMBINATION STORES			X		
4a-15 GROCERY, CONFECTIONARY AND SUNDRIES STORES				X	
4a-16 ALL OTHER FOOD STORES				X	
4a-17 DEPARTMENT STORES					X
4a-18 GENERAL MERCHANDISE STORES					X
4a-19 GENERAL STORES					X
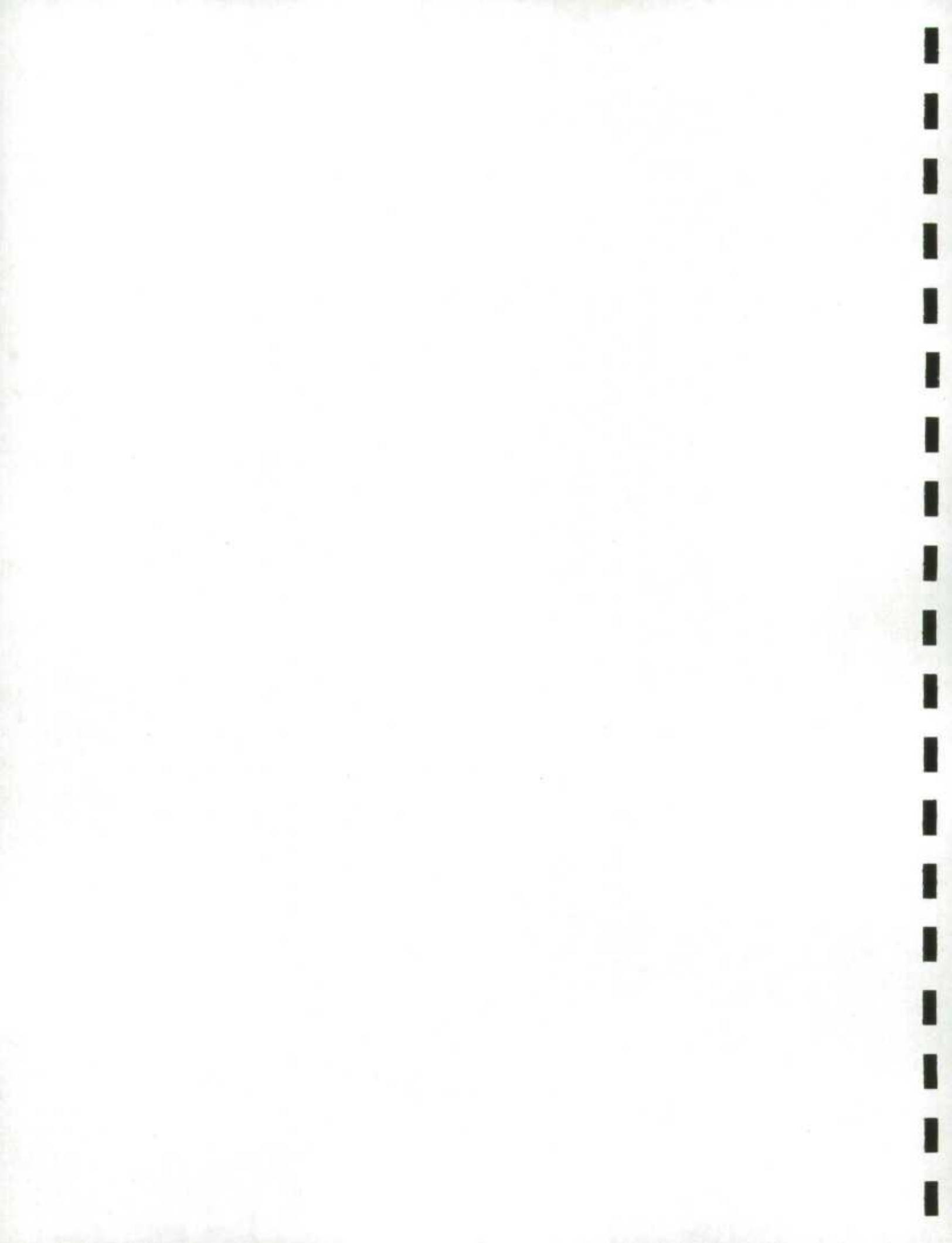
INPUT VARIABLE	VERY HIGH IMPACT > 1%	HIGH IMPACT .1% – 1%	MEDIUM IMPACT .01% – .1%	LOW IMPACT .001% – .01%	NEGLIGIBL IMPACT < .001%
4a-27 AVERAGE FAMILY EXPENDITURE ON FOOD PREPARED AT HOME		X			
4a-28 AVERAGE FAMILY SIZE		X			
4a-32 POPULATION		X			
4a-36 AVERAGE FAMILY EXPENDITURE ON CHILDREN'S CLOTHING AND FOOTWARE				X	
4a-37 AVERAGE NUMBER OF CHILREN IN FAMILY AGED 13 AND UNDER			X		
4a-42 POPULATION AGED 14 AND UNDER			X		
4a-44 TOTAL RETAIL SALES – FAMILY EXPENDITURE SURVEY YEAR				X	
4a-45 POPULATION AGED 14 AND UNDER – FAMILY EXPENDITURE SURVEY YEAR				X	
* 4b-1 TOBACCO TAX REVENUES			X		
4b-2 AVERAGE ANNUAL TAX RATE PER CIGARETTE			X		
4b-4 AVERAGE PRICE CARTON CIGARETTE – APR.–JUNE				X	
4b-5 AVERAGE PRICE CARTON CIGARETTE – JULY–SEPT.				X	
4b-6 AVERAGE PRICE CARTON CIGARETTE – OCT.–DEC.				X	
4b-7 AVERAGE PRICE CARTON CIGARETTE – JAN.–MARCH				X	
4b-9 AVERAGE PROVINCIAL SALES TAX APPLICABLE TO TOBACCO				X	
4b-12 VOLUME OF SALES OF GASOLINE			X		
4b-13 VOLUME OF SALES DIESEL FUEL				X	
4b-15 SUM AVERAGE MONTHLY PRICE PER LITRE GASOLINE			X		
* 4b-18 RETAIL SALES – PRESCRIPTION DRUGS			X		
4b-19 INVESTMENT IN CAPITAL & REPAIR OF MANCHINERY/EQUIPMENT		X			
4b-20 CAPITAL & REPAIR MACHINERY/EQUIPMENT – PRIMARY SECTOR		X			
4b-21 CAPITAL & REPAIR MACHINERY/EQUIPMENT – MANUFACTURING SECTOR			X		
4b-23 COST OF CONSTURCTION		X			
4b-25 AVERAGE RATE OF PROVINCIAL SALES TAX			X		
4b-27 AMOUNT RELATED TO OFFSHORE EXP. AND DEV. OF OIL AND GAS				X	
4b-29 SERVICE ESTABLISMENTS SALES		X			
4b-30 RECEIPTS OF RESTAURANTS, CATERERS AND TAVERNS			X		
* 5-1 TOBACCO TAX REVENUES		X			
5-2 TAX RATE PER CIGARETTE		X			

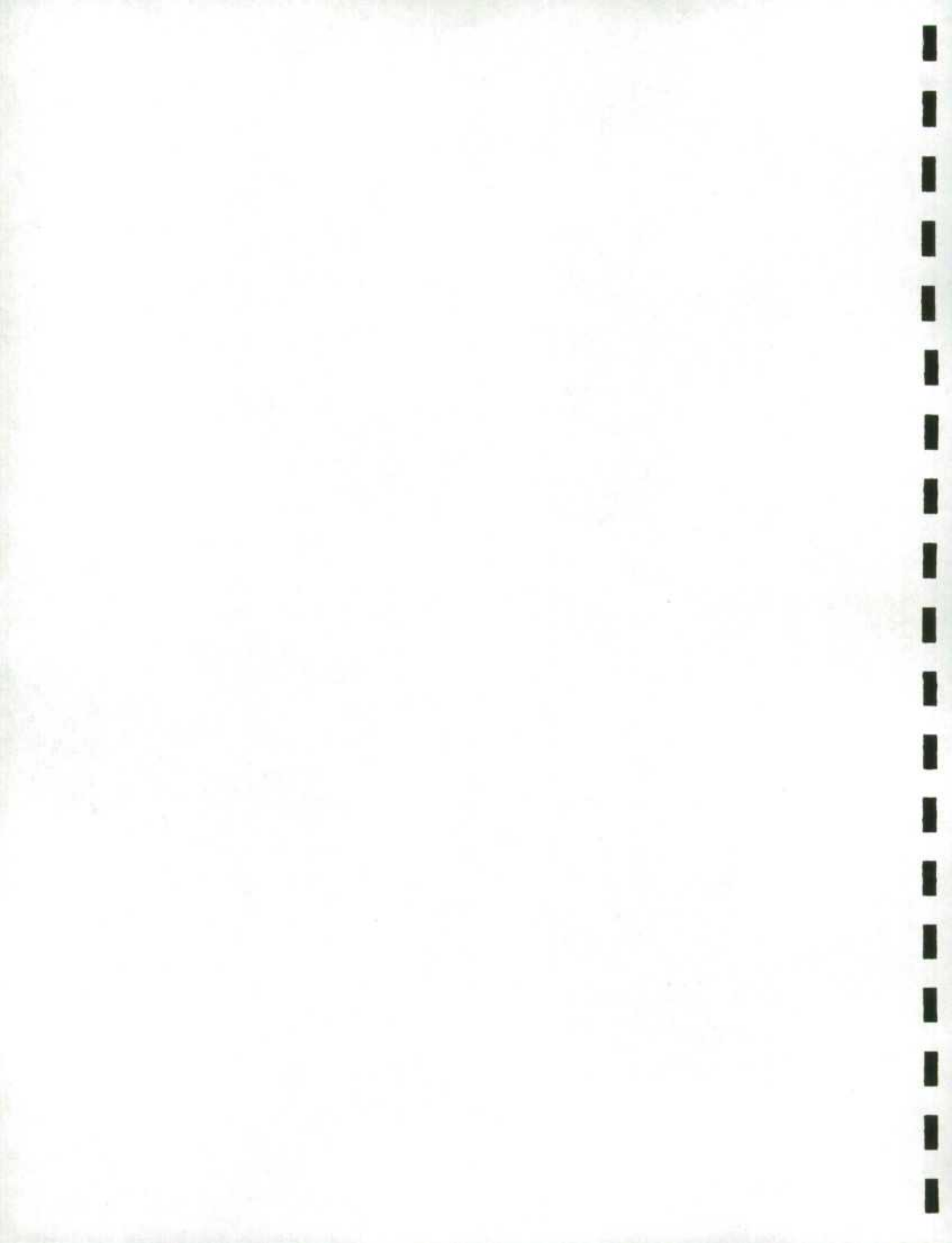|	INPUT VARIABLE	VERY HIGH IMPACT > 1%	HIGH IMPACT .1% – 1%	MEDIUM IMPACT .01% – .1%	LOW IMPACT .001% – .01%	NEGLIGIBL IMPACT < .001%
6-1	GASOLINE TAXED AT ROAD USE RATE		X			
6-2	GASOLINE CONSUMPTION BY AGRICULTURE SECTOR				X	
6-5	GASOLINE CONSUMPTION FOR ROAD TRANSPORT		X			
6-10	TAXABLE AVIATION FUEL				X	
6-11	GASOLINE – AVERAGE TAX RATE PER LITRE			X		
6-13	GASOLINE – AVERAGE TAX RATE PER LITRE (FARMS TRUCKS)				X	
6-15	AVIATION FUEL – AVERAGE TAX RATE PER LITRE					X
7-1	DIESEL FUEL TAXED AT ROAD USE RATE			X		
7-4	DIESEL CONSUMPTION BY AGRICULTURAL SECTOR				X	
7-9	DIESEL CONSUMPTION BY RAILWAYS				X	
7-12	RAILWAY DIESEL			X		
7-14	DIESEL (ROAD NON-FARM) AVERAGE TAX RATE PER LITRE			X		
7-16	DIESEL (FARM TRUCKS) AVERAGE TAX RATE PER LITRE				X	
7-18	RAILWAY DIESEL – AVERGAE TAX RATE PER LITRE				X	
8-1	PASSENGER VEHICLE REGISTRATION		X			
8-2	MOTORCYCLE REGISTRATIONS					X
8-3	MOPED REGISTRATIONS					X
9-1	CURRENT $ SALES 1983				X	
9-2	CURRENT $ SALES 1984				X	
9-3	CURRENT $ SALES 1985			X		
9-4	CURRENT $ SALES 1986			X		
9-5	CURRENT $ SALES 1987			X		
9-6	CURRENT $ SALES 1988			X		
9-7	PRICE INDEX 1983				X	
9-8	PRICE INDEX 1984				X	
9-9	PRICE INDEX 1985				X	
9-10	PRICE INDEX 1986				X	
9-11	PRICE INDEX 1987				X	
9-12	PRICE INDEX 1988				X	
10-1	VOLUME OF SPIRITS		X			

	INPUT VARIABLE	VERY HIGH IMPACT > 1%	HIGH IMPACT .1% – 1%	MEDIUM IMPACT .01% – .1%	LOW IMPACT .001% – .01%	NEGLIGIBL IMPACT < .001%
11–1	VOLUME OF WINE			X		
12–1	VOLUME OF BEER			X		
* 13–1	SINGLE TAXED AS SINGLE (4200+)			X		
* 13–2	SINGLE TAXED AS SINGLE (3800–4199)					X
* 13–3	SINGLE TAXED AS SINGLE (3200–3799)					X
* 13–4	SINGLE TAXED AS SINGLE (2800–3199)					X
* 13–6	MARRIED TAXED AS SINGLE (4200+)			X		
* 13–7	MARRIED TAXED AS SINGLE (3800–4199)					X
* 13–8	MARRIED TAXED AS SINGLE (3200–3799)					X
* 13–9	MARRIED TAXED AS SINGLE (2800–3199)					X
* 13–11	SINGLE TAXED AS MARRIED (4200+)			X		
* 13–12	SINGLE TAXED AS MARRIED (3800–4199)					X
* 13–13	SINGLE TAXED AS MARRIED (3200–3799)					X
* 13–14	SINGLE TAXED AS MARRIED (2800–3199)					X
* 13–16	MARRIED TAXED AS MARRIED (4200+)			X		
* 13–17	MARRIED TAXED AS MARRIED (3800–4199)					X
* 13–18	MARRIED TAXED AS MARRIED (3200–3799)					X
* 13–19	MARRIED TAXED AS MARRIED (2800–3199)					X
* 14–1	AMOUNTS WAGERED AT PARI-MUTUEL TRACKS				X	
15–1	TOTAL VOLUME OF WOOD CUT			X		
15–2	WOOD CUT ON CROWN LAND			X		
15–3	LOGGING ACTIVITY VALUE ADDED			X		
15–4	VALUE OF STUMPAGE			X		
* 17–1	TOTAL VALUE OF MARKETABLE PRODUCTION OF NEW/NORP OIL		X			
* 17–2	TOTAL VALUE OF MARKETABLE PRODUCTION OF NEW/NORP HEAVY OIL			X		
18–1	TOTAL VALUE OF MARKETABLE PRODUCTION OF CRUDE OIL		X			
* 18–2	TOTAL VALUE OF MARKETABLE PRODUCTION OF NEW/NORP OIL		X			
* 18–3	TOTAL VALUE OF MARKETABLE PRODUCTION OF OLD HEAVY OIL					X

INPUT VARIABLE	VERY HIGH IMPACT > 1%	HIGH IMPACT .1% – 1%	MEDIUM IMPACT .01% – .1%	LOW IMPACT .001% – .01%	NEGLIGIBL IMPACT < .001%
* 19-1 TOTAL VALUE OF MARKETABLE PRODUCTION OF NEW/NORP HEAVY OIL			X		
* 19-2 TOTAL VALUE OF MARKETABLE PRODUCTION OF OLD HEAVY OIL				X	
20-1 TOTAL VALUE OF MARKETABLE PRODUCTION OF SYNTHETIC CRUDE OIL					X
21-1 TOTAL VOLUME OF NET PRODUCTION OF WITHDRAWALS OF GAS			X		
21-2 TOTAL VOLUME OF EXPORTS OF GAS				X	
22-1 TOTAL VOLUME OF EXPORTS OF GAS				X	
* 23-1 NEW/NORP OIL REVENUES			X		
* 23-2 HEAVY OIL REVENUES			X		
* 23-3 DOMESTICALLY SOLD NATURAL GAS REVENUES			X		
* 23-4 EXPORTED NATURAL GAS REVENUES					X
24-1 TOTAL VOLUME OF MARKETABLE PRODUCTION OF CRUDE OIL			X		
24-2 TOTAL VOLUME OF MARKETABLE PRODUCTION OF SYNTHETIC CRUDE OIL			X		
24-3 TOTAL VOLUME OF MARKETABLE PRODUCTION OF CONDENSATE			X		
25-1 TOTAL VALUE OF IRON ORE PRODUCTION			X		
25-2 TOTAL VALUE OF IRON REMELT PRODUCTION					X
26-1 TOTAL VALUE OF URANIUM PRODUCTION			X		
27-1 TOTAL VALUE OF ASBESTOS PRODUCTION					X
28-1 VOLUME OF COAL PRODUCTION – BITUMINOUS SURFACE					X
28-2 VOLUME OF COAL PRODUCTION – BITUMINOUS UNDERGROUND					X
28-3 VOLUME OF COAL PRODUCTION – SUB–BITUMINOUS				X	
28-4 VOLUME OF COAL PRODUCTION – LIGNITE				X	

	INPUT VARIABLE	VERY HIGH IMPACT > 1%	HIGH IMPACT .1% – 1%	MEDIUM IMPACT .01% – .1%	LOW IMPACT .001% – .01%	NEGLIGIBL IMPACT < .001%
29-1	TOTAL VALUE OF PRODUCTION IN METAL MINING INDUSTRIES			X		
29-6	TOTAL VALUE OF PRODUCTON IN NON-METAL MINING INDUSTRIES			X		
29-8	TOTAL VALUE OF POTASH PRODUCTION			X		
29-9	TOTAL VALUE OF ELEMENTAL SULHUR PRODUCTION					X
29-11	TOTAL VALUE OF SAND, GRAVEL AND STONE PRODUCTION					X
30-1	TOTAL VOLUME OF POTASH PRODUCTION		X			
31-1	K.W.H. OF HYDRO GENERATED ELECTRICITY			X		
31-2	TOTAL REVENUE FROM SALE OF ELECTRICITY FROM ALL SOURCES			X		
31-3	K.W.H. ELECTRICITY GENERATED BY ALL SOURCES			X		
31-4	K.W.H. OF HYDRO GENERATED ELECTRICITY			X		
* 32-1	PROPERTY/CASUALTY INSURANCE			X		
* 32-2	FED. REG. PROP./CASUALTY INS.				X	
* 32-4	FEDERALLY REG. LIFE INS.			X		
* 32-5	PROVINCIALLY REG. LIFE INS.				X	
* 32-7	FEDERALLY REG. FRATERNAL SOC.					X
* 32-8	PROV. REG. FRATERNAL SOC.					X
* 32-13	FEDERALLLY REG. MARINE INS.					X
* 32-16	FEDERALLY REG. DIVIDENDS				X	
33-1	WAGES AND SALARIES EXCLUDING SUPP. LABOUR INCOME		X			
33-2	MILITARY PAY/ALLOWANCES EXLUDING SUPP. LABOUR INCOME				X	
34a-1	PERSONAL DISPOSABLE INCOME		X			
34a-2	ADJUSTED INDIRECT TAXES			X		
* 34a-4	URBAN SCALE INDEX		X			
34a-6	NET PROVINCIAL INCOME AT FACTOR COST		X			
34a-7	AGRICULTURE SECTOR–PROVINCIAL GROSS DOMESTIC PRODUCT				X	
34a-8	ELEM. AND SEC. SCHOOLS AND UNIVERSITIES AND COLLEGES – PGDP				X	
34a-9	HOSPITALS – PGDP				X	
34a-1	PROVINCIAL ADMINISTRATION – PGDP				X	
34a-1	LOCAL ADMINISTRATION – PGDP				X	
34a-1	RESIDENTIAL CONSTRUCTION – PGDP				X	

INPUT VARIABLE	VERY HIGH IMPACT > 1%	HIGH IMPACT .1% – 1%	MEDIUM IMPACT .01% – .1%	LOW IMPACT .001% – .01%	NEGLIGIBL IMPACT < .001%
34b-1 RESIDENTIAL CAPITAL STOCK		X			
34b-7 CAPITAL STOCK – COMMERCIAL		X			
34b-1 CAPITAL STOCK – FARM			X		
34b-1 VALUE OF AGRICULTURAL LAND		X			
35-1 TOTAL PERSONAL INCOME			X		
35-2 CHANGE IN FARM INVENTORY					X
35-3 PROVINCIAL GOVERNMENT TRANSFERS TO PERSONS				X	
35-4 LOCAL GOVERNMENT TRANSFER TO PERSONS					X
* 35-5 FEDERAL PERSONAL INCOME TAX				X	
* 35-6 QUEBEC ABATEMENT					X
35-7 U.I.C. PREMIUMS				X	
35-8 C.P.P. PREMIUMS					X
35-9 Q.P.P. PREMIUMS					X
35-14 LOTTERY SALES			X		

** 36-1 PERSONAL INCOME TAX REVENUES
** 36-2 BUSINESS INCOME REVENUES
** 36-3 CAPITAL TAX REVENUES
** 36-4 GENERAL AND MISCELLANEOUS SALES TAXES
** 36-6 GASOLINE TAXES
** 36-7 DIESEL FUEL TAXES
** 36-8 NON-COMMERCIAL VEHICLE REGISTRATIONS
** 36-9 COMMERCIAL VEHICLE REGISTRATIONS
** 36-10 REVENUES FROM THE SALE OF SPIRITS
** 36-11 REVENUES FROM THE SALE OF WINE
** 36-12 REVENUES FROM THE SALE OF BEER
** 36-13 HOSPITAL AND MEDICAL INSURANCE PREMIUMS
** 36-14 RACE TRACK TAXES
** 36-15 INSURANCE PREMIUM REVENUES
** 36-16 PAYROLL TAXES
** 36-17 PROVINCIAL-LOCAL PROPERTY TAX REVENUES
** 36-18 LOTTERY REVENUES

	INPUT VARIABLE	VERY HIGH IMPACT > 1%	HIGH IMPACT .1% – 1%	MEDIUM IMPACT .01% – .1%	LOW IMPACT .001% – .01%	NEGLIGIBL IMPACT < .001%
	29-1 TOTAL VALUE OF PRODUCTION IN METAL MINING INDUSTRIES			X		
	29-6 TOTAL VALUE OF PRODUCTON IN NON-METAL MINING INDUSTRIES			X		
	29-8 TOTAL VALUE OF POTASH PRODUCTION			X		
	29-9 TOTAL VALUE OF ELEMENTAL SULHUR PRODUCTION					X
	29-11 TOTAL VALUE OF SAND, GRAVEL AND STONE PRODUCTION					X
	30-1 TOTAL VOLUME OF POTASH PRODUCTION		X			
	31-1 K.W.H. OF HYDRO GENERATED ELECTRICITY			X		
	31-2 TOTAL REVENUE FROM SALE OF ELECTRICITY FROM ALL SOURCES			X		
	31-3 K.W.H. ELECTRICITY GENERATED BY ALL SOURCES			X		
	31-4 K.W.H. OF HYDRO GENERATED ELECTRICITY			X		
*	32-1 PROPERTY/CASUALTY INSURANCE			X		
*	32-2 FED. REG. PROP./CASUALTY INS.				X	
*	32-4 FEDERALLY REG. LIFE INS.			X		
*	32-5 PROVINCIALLY REG. LIFE INS.				X	
*	32-7 FEDERALLY REG. FRATERNAL SOC.					X
*	32-8 PROV. REG. FRATERNAL SOC.					X
*	32-13 FEDERALLLY REG. MARINE INS.					X
*	32-16 FEDERALLY REG. DIVIDENDS				X	
	33-1 WAGES AND SALARIES EXCLUDING SUPP. LABOUR INCOME		X			
	33-2 MILITARY PAY/ALLOWANCES EXLUDING SUPP. LABOUR INCOME				X	
	34a-1 PERSONAL DISPOSABLE INCOME		X			
	34a-2 ADJUSTED INDIRECT TAXES			X		
*	34a-4 URBAN SCALE INDEX	X				
	34a-6 NET PROVINCIAL INCOME AT FACTOR COST	X				
	34a-7 AGRICULTURE SECTOR-PROVINCIAL GROSS DOMESTIC PRODUCT				X	
	34a-8 ELEM. AND SEC. SCHOOLS AND UNIVERSITIES AND COLLEGES – PGDP				X	
	34a-9 HOSPITALS – PGDP				X	
	34a-1 PROVINCIAL ADMINISTRATION – PGDP				X	
	34a-1 LOCAL ADMINISTRATION – PGDP				X	
	34a-1 RESIDENTIAL CONSTRUCTION – PGDP				X	

INPUT VARIABLE		VERY HIGH IMPACT > 1%	HIGH IMPACT .1% – 1%	MEDIUM IMPACT .01% – .1%	LOW IMPACT .001% – .01%	NEGLIGIBL IMPACT < .001%
34b-1	RESIDENTIAL CAPITAL STOCK		X			
34b-7	CAPITAL STOCK – COMMERCIAL		X			
34b-1	CAPITAL STOCK – FARM			X		
34b-1	VALUE OF AGRICULTURAL LAND		X			
35-1	TOTAL PERSONAL INCOME			X		
35-2	CHANGE IN FARM INVENTORY					X
35-3	PROVINCIAL GOVERNMENT TRANSFERS TO PERSONS				X	
35-4	LOCAL GOVERNMENT TRANSFER TO PERSONS					X
* 35-5	FEDERAL PERSONAL INCOME TAX				X	
* 35-6	QUEBEC ABATEMENT					X
35-7	U.I.C. PREMIUMS				X	
35-8	C.P.P. PREMIUMS					X
35-9	Q.P.P. PREMIUMS					X
35-14	LOTTERY SALES			X		
** 36-1	PERSONAL INCOME TAX REVENUES					
** 36-2	BUSINESS INCOME REVENUES					
** 36-3	CAPITAL TAX REVENUES					
** 36-4	GENERAL AND MISCELLANEOUS SALES TAXES					
** 36-6	GASOLINE TAXES					
** 36-7	DIESEL FUEL TAXES					
** 36-8	NON-COMMERCIAL VEHICLE REGISTRATIONS					
** 36-9	COMMERCIAL VEHICLE REGISTRATIONS					
** 36-10	REVENUES FROM THE SALE OF SPIRITS					
** 36-11	REVENUES FROM THE SALE OF WINE					
** 36-12	REVENUES FROM THE SALE OF BEER					
** 36-13	HOSPITAL AND MEDICAL INSURANCE PREMIUMS					
** 36-14	RACE TRACK TAXES					
** 36-15	INSURANCE PREMIUM REVENUES					
** 36-16	PAYROLL TAXES					
** 36-17	PROVINCIAL-LOCAL PROPERTY TAX REVENUES					
** 36-18	LOTTERY REVENUES					