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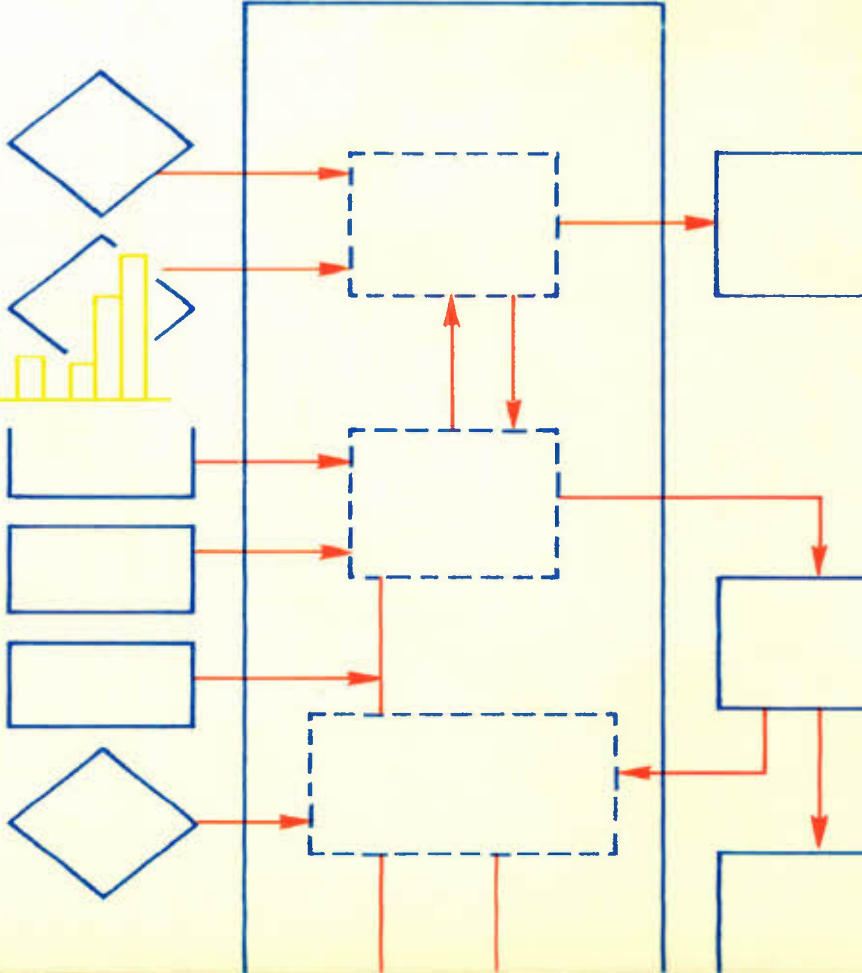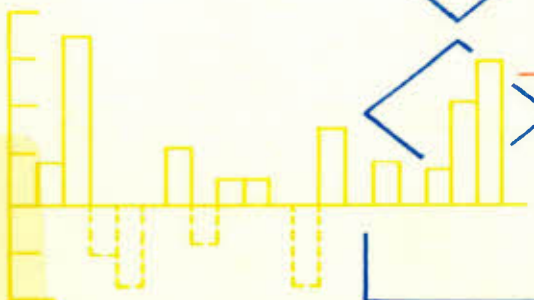# Conseil économique du Canada
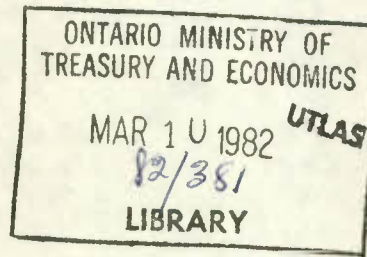
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DISCUSSION PAPER NO. 56

The Regional Effects of Federal
Stabilization Policy, 1965-73

by Tony Glynn

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RÉSUMÉ

Dans ce document, l'auteur fait une évaluation des
effets régionaux de la politique fiscale fédérale de 1965 à
1973, dans le cadre d'une étude plus vaste de la politique
de stabilisation et de son application au niveau des régions,
entreprise par l'Équipe des études régionales.

Pour mesurer ces effets régionaux, on calcule les
changements provoqués par la politique fiscale dans les
dépenses d'immobilisation en machines et biens d'équipement
et en bâtiments, ainsi que les changements dans les dépenses
personnelles de consommation, par rapport à 1970, l'année
choisie comme point de repère.

D'après les résultats de ces calculs, l'Ontario
et le Québec seraient les régions qui bénéficient le plus des
périodes d'assouplissement fiscal, mais qui par ailleurs sont
les plus touchées par suite d'un resserrement de la politique
fiscale. La région de l'Atlantique, les Prairies et la
Colombie-Britannique bénéficient moins que l'Ontario et le
Québec, semble-t-il, de périodes d'assouplissement fiscal,
mais leurs pertes sont également moins lourdes lors d'un
resserrement de l'appareil fiscal.

SUMMARY

      This paper, which estimates the regional effects
of federal fiscal policy between 1965 and 1973, forms part of
a larger study on stabilization policy and its regionalized
application currently being undertaken by the Regional Studies
Group.

      These regional effects are measured by estimating
the fiscally induced changes in capital expenditures on machinery
and equipment and buildings as well as the change in personal
consumption expenditures, relative to 1970 which was chosen as
our reference point.

      The results suggest that Ontario and Quebec benefit
most during periods of fiscal ease but are also the most affected
by a tightening of fiscal policy. The Atlantic, the Prairies
and British Columbia neither benefit to the same degree as
Ontario and Quebec during periods of fiscal ease nor lose as
much during periods of fiscal tightness.

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CHAPTER 1

INTRODUCTION

Before attempting to quantify the effects of fiscal policy as it applied to the regions, we might usefully consider some examples of actual fiscal policy measures adopted since 1965.

In the budget of March 1968, the Minister of Finance announced that the rates of depreciation allowances normally applicable to assets -- machinery and equipment and buildings -- were to be reduced for the first three years for assets purchased between March 30, 1966 and October 1, 1967. The rates were then to revert to their normal levels. For machinery and equipment this meant that the rate of depreciation was reduced from 20 per cent to 10 per cent (on the declining balance method) for the first three years of the life of the asset. For buildings, the rate was cut from 5 per cent to 2½ per cent for a similar period of time.

A 3 per cent surtax on "basic"[1] personal income tax in excess of $200 was announced in March 1968 along with a 3 per cent surtax on corporate income. These measures initially were to apply to the 1968 and 1969 taxation years but were subsequently extended to 1971 before being repealed.

From December 4, 1970 to March 31, 1972 manufacturing and processing enterprises were permitted to value new investments in machinery and equipment and structures at 115 per cent of their actual cost in claiming depreciation allowances.

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1 "Basic" tax is personal income tax at full graduated rates after deduction of the dividend tax credit but before abatement for provincial income tax and excluding such additional federal taxes as the Old Age Security Tax.

In October 1971, personal income taxes were reduced
by 3 per cent while corporate income taxes were cut by 7 per
cent, both measures to run from July 1, 1971 to December 31, 1972.

The above list, while not exhaustive, does indicate
the areas in which federal fiscal policy has been concentrated
since 1965. A complete listing of the fiscal policies introduced
between 1965 and 1973 can be found in Appendix A. In attempting
to estimate the impact of such fiscal policies it therefore seemed
necessary to consider effects on investment in machinery and
equipment and buildings as well as effects on personal consumption
expenditures.

Those interested only in the results can go directly
to Chapter 5, bypassing Chapters 2 through 4. In Chapter 2 we
will discuss in detail the procedure adopted in estimating the
changes in capital expenditures on machinery and equipment
induced by fiscal policy during the 1965-73 period. Chapter 3
deals with similar changes in capital expenditures on buildings,
while Chapter 4 deals with the effects on personal disposable
income (hence personal consumption expenditures) caused by
changes in the tax treatment of personal income. Finally all
of the results will be brought together and analysed in Chapter 5.

CHAPTER 2

CAPITAL EXPENDITURES ON MACHINERY AND EQUIPMENT

According to the theory of optimal capital accumulation, upon which the theory of investment depends, a firm will maximize its present value, i.e., the discounted flow of net earnings, if it invests in all projects whose present value is positive at the market rate of interest. This is only true if capital markets are perfect, however.

Relaxing this assumption, the theory postulates that the intersection of the marginal efficiency of investment (meI) and the marginal cost of funds (mcf) curves determines the level of investment which is profitable for the firm to undertake. At this point of intersection, the rate of return on the last investment is equal to the marginal cost of funds for the last investment. The marginal cost of funds will be equal to the market rate of interest only if the interest rate remains unchanged no matter how much the firm borrows and if there is no increasing risk attached to this extra borrowing.

In Figure 2-1 we show the situation where the mcf curve is upward sloping reflecting the higher cost of funds as more is borrowed, i.e., as the firm moves from internal financing to bond financing to equity financing. The intersection of the meI and mcf schedules determines the level of investment OB which is profitable for the firm to undertake. The vertical axis measures the true cost of funds and the rate of return (r) which is OA in this example.

Figure 2-1
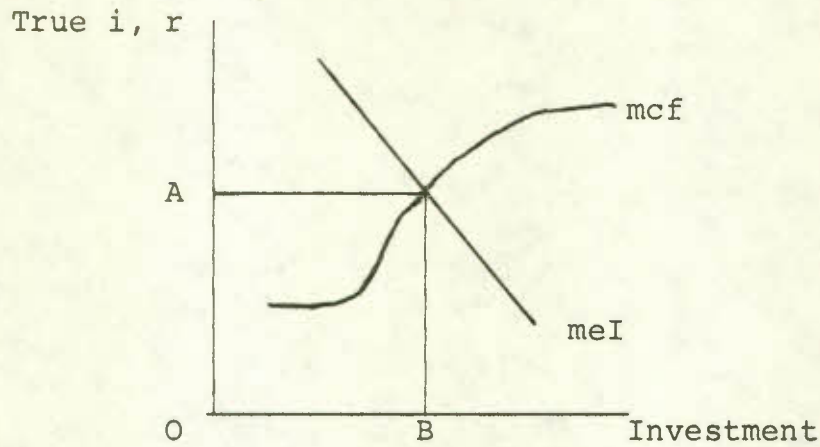
A fiscally induced change in this rate of return
will shift the meI schedule and alter the amount of investment
which is profitable for the firm to undertake. Consider a policy
which raises the rate of return by raising the net flow of
earnings either by increasing the amount of depreciation allowed
for tax purposes or by reducing the corporate income tax rate.
This policy will shift the meI schedule out as in Figure 2-2.

Figure 2-2
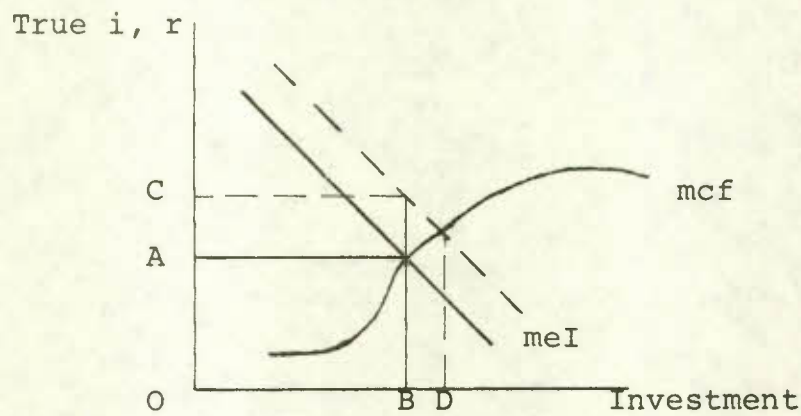
The percentage change in the rate of return is AC/OA which
results in a percentage change in investment of BD/OB.

        In order to estimate the changes in investment
induced by actual fiscal policy between 1965 and 1973 we have
to estimate the percentage change in the internal rate of return,
AC/OA in Figure 2-2, induced by fiscal policy, for each type of
investment, and from it calculate the resulting change in invest-
ment. To accomplish this we first reverted to the perfect
capital markets assumption, whereby the funds available to
the firm were in perfectly elastic supply at their present
rate of interest. In other words we assumed that the mcf curve
was horizontal.

        We then selected an arbitrary investment project
and calculated its rate of return before and after the changes
in fiscal policy. For example, in Figure 2-3 the arbitrary
investment project might be at G, and fiscal policy might lead
to a percentage increase in its rate of return equal to EF/OE.

Figure 2-3
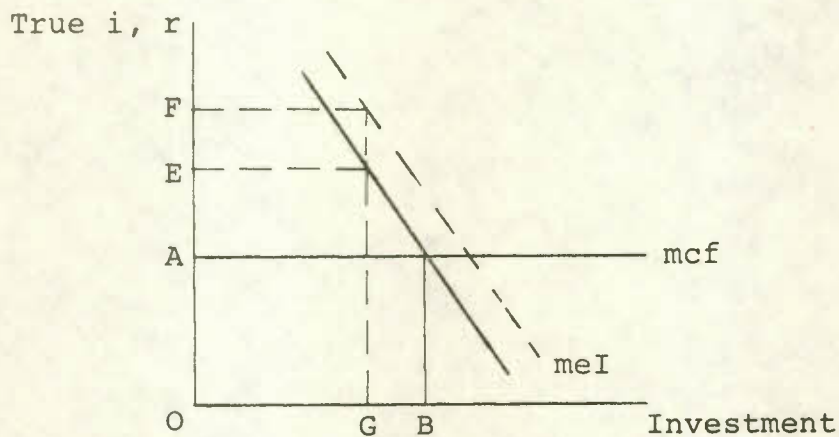
We then assumed that this change in the rate of return would apply
to all investment projects, including those at the margin. In terms
of the diagrams, we assumed that AC/OA in Figure 2-2 was equal to
EF/OE in Figure 2-3.

Given the percentage change in the rate of return
we may then apply some measure of the elasticity of investment
demand with respect to the rate of return to calculate the
resulting change in investment.[1]

This is the basic theory of investment underlying
the analysis in this paper. Before leaving this brief discussion
we should note that to the extent that the mcf schedule facing
individual firms is not horizontal as we have assumed, we will
overestimate the change in investment induced by fiscal policy.

On reading through the budgets between 1965 and
1973 it was clear that several rates of return would have to be
calculated to reflect the fact that (a) income earned in manu-
facturing was generally treated differently than income earned
in nonmanufacturing, (b) corporations with differing degrees of
Canadian control received different treatment and (c) different
levels of taxable income imply different corporate tax rates.

In calculating the various rates of return, in line
with the above distinctions, we made use of the following
formula.

$$P.V. = \sum_{t=1}^{n} (G_t - T_t) (1 + r)^{-t} - I_f$$

where

P.V. = present value of the cash receipts from asset

---

1 The new level of investment made profitable for the firm by the
   change in the rate of return will not be attained instantaneously
   due to the decision lag within the firm and the production lag
   within the capital goods-producing industries. We will discuss
   more fully the lag structure of the investment response later
   in the chapter.

I_f = initial cost of the asset

G_t = gross earnings from the asset in year t

T_t = corporate income taxes payable in year t on income earned in that year

r = the project's internal rate of return, which is that discount rate which makes the present value of the earnings from the project equal to zero.

We note further that

$$T_t = T' (G_t - D_t)$$

where

T' = marginal tax rate on corporate income

D_t = the depreciation allowance for tax purposes in year t. The value of D_t depends on D_t', the rate of depreciation allowed in year t. Since we assume that the initial cost of the asset is 1 (I_f = 1.0) we have D_t' equals D_t.

Substituting for T_t we get

$$P.\,V. = \sum_{t=1}^{n} [G_t - T'(G_t - D_t')]\,(1 + r)^{-t} - I_f$$

which takes explicit account of both T' the marginal rate of tax on corporate income and D_t' the rate of depreciation allowed, in calculating r the internal rate of return.

In order to calculate r we need to have values for G_t, I_f and the working life of the asset, t. As mentioned above, we assumed I_f = 1.0, we also assumed that the asset produces an even annual flow of gross earnings equal to 0.25 and that the asset produces these earnings for ten years and has no scrappage value.

Some twenty rates of return were calculated using the appropriate values for T' and D_t' to reflect the different treatment accorded different types of corporation between 1965 and 1973.

Given these rates of return it was then necessary to estimate the capital expenditures totals on machinery and equipment to which changes in these rates of return might be applicable. A detailed account of the actual estimation procedure adopted will now be undertaken in order to spell out the many assumptions and approximations inherent in the final figures presented at the end of the chapter.

At the outset it was decided to concentrate on private business capital expenditures rather than on total expenditures which would include government departments, agencies, Crown corporations as well as institutions. The profit maximizing assumption underlying our procedure can reasonably be applied to private investment but not to public investment.

The share of private business expenditures in total capital expenditures on new machinery and equipment is available for Canada[1] and applying this share to the regional totals gives the regional shares due to private business, assuming that the Canadian distribution holds equally for each region. Over the 1965 to 1973 period private business expenditures on machinery and equipment in Canada accounted for 77 to 84 per cent of total expenditures on machinery and equipment. Thus the greatest share

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1 Private and Public Investment in Canada, Statistics Canada, Cat. No. 61-205, various issues, 1965-74.

of expenditures was made by private business and it seems reasonable to assume that this is true in each region also. This same distribution was assumed to hold for both the manufacturing and non-manufacturing sectors (whose totals are available by region) and they were estimated for 1965 through 1973 by region.

In Corporations and Labour Unions Returns Act (C.A.L.U.R.A), Statistics Canada, Cat. No. 61-210, the share of profits by sector by degree of foreign ownership for coporations with gross revenue in excess of $500,000 is available for Canada. From these reports it was possible to obtain the share of profits in manufacturing and nonmanufacturing due to corporations (a) with 50-100 per cent Canadian ownership, (b) with 25-50 per cent Canadian ownership (this was required for manufacturing only) and (c) with 0-25 per cent Canadian ownership, for Canada only.

Again assuming that these shares held for each region and that the share of profits is a proxy for the share of capital spending, total capital expenditures by private business on machinery and equipment were distributed to corporations by degree of Canadian ownership by manufacturing-nonmanufacturing sector by region for 1965 to 1973.[1]

The formulation of taxation policy necessitated some breakdown of corporations capital expenditures by taxable

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1 It has also been assumed that the distribution of foreign ownership over all corporations is the same as for the corporations reporting in #61-210. It may well be the case that corporations with gross revenue < $500,000 have greater degrees of Canadian ownership than the corporations covered under C.A.L.U.R.A., however lack of data made such an assumption unavoidable.

income size group. The annual report from Statistics Canada,
Corporation Taxation Statistics, Cat. No. 61-208, provides a
provincial breakdown of corporate taxable income by taxable
income size group without a sectoral breakdown. These data are
available for 1969 through 1971. It was thus possible to obtain
the share of total regional taxable income accounted for by
corporations with taxable income (a) < $35,000, (b) $35,000-
$50,000, (c) > $35,000, (d) > $50,000, for 1969, 1970 and
1971. We used the 1969 shares to estimate the 1965-69 totals
and the 1971 shares to estimate the 1971-73 totals.

By applying these shares to the total capital
expenditures in both manufacturing and nonmanufacturing by
corporation with the defined degrees of Canadian ownership,
we arrived at the capital expenditure estimates by private
business (i) by degree of Canadian ownership, (ii) by taxable
income size group for both manufacturing and nonmanufacturing
by region from 1965 to 1973.

Finally it was necessary to obtain some breakdown
between private and public corporations with 50-100 per cent
Canadian control given the change in the tax treatment of each
from 1972.[1]

The Department of Finance estimated that in 1968
10.5 per cent of the profits of corporations in manufacturing
were due to Canadian controlled private corporations. To date

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1   These changes initially arose out of the tax reform introduced
    in 1972 and hence were not initially fiscally induced. However,
    in 1973 a special reduction in taxes for Canadian-controlled
    private corporations in manufacturing was announced.

we have obtained the share of profits in manufacturing due to
both private and public corporations with 50-100 per cent
Canadian ownership from C.A.L.U.R.A. reports.

Assuming that the 10.5 per cent share applies to
each region for each year in the 1965-73 period, we can by
subtraction arrive at the share of profits due to both private
and public corporations separately. Expressing these shares
as a fraction of their total (sum) and applying these ratios to
the appropriate totals we arrive at private capital
expenditures by private and public corporations with 50-100 per
cent Canadian ownership in manufacturing by region for 1965-73.

Also in 1968, Finance estimated that 35.5 per cent
of the profits of nonmanufacturing corporations were due to
Canadian-controlled private corporations. Adopting the same
procedure and assumptions as in manufacturing, the share of
capital expenditures on machinery and equipment by private and
public corporations with 50-100 per cent Canadian ownership by
taxable income size group for nonmanufacturing was obtained by
region from 1965 to 1973.

A condensed form of the totals resulting from the
above calculations is presented in Table 2-1 below.

Now that we have estimates of capital expenditures by
corporations by degree of Canadian control, by taxable income size
group for manufacturing and nonmanufacturing (with the required
private-public split where appropriate) by region, we are in a
position to estimate the effects of changes in fiscal policy
as reflected in the internal rates of return previously calculated.

Table 2-1

Estimated Regional Breakdown of Business Capital Expenditures on New Machinery and Equipment in Manufacturing and Nonmanufacturing, 1965-73

(Millions of dollars)

	1965	1966	1967	1968	1969	1970	1971	1972	1973
Manufacturing									
Atlantic region	82.9	132.8	144.7	76.4	103.8	157.9	187.1	140.3	161.3
Quebec	337.5	414.7	358.7	341.0	351.6	364.9	291.2	389.8	552.3
Ontario	759.1	839.8	715.8	577.3	747.4	954.8	824.2	820.4	996.6
Prairie region	86.0	97.5	95.3	97.0	79.6	115.0	120.6	121.6	201.3
British Columbia	195.9	247.4	171.0	107.5	167.1	199.2	233.0	221.0	204.4
Proportion in each region allocated to									
(a)	0.3778	0.3778	0.3778	0.3594	0.3572	0.3747	0.3582	0.3458	0.3458
(b)	0.2148	0.2148	0.2148	0.1751	0.1314	0.1027	0.0927	0.1079	0.1079
(c)	0.4074	0.4074	0.4074	0.4655	0.5114	0.5226	0.5491	0.5463	0.5463
Nonmanufacturing									
Atlantic region	206.8	238.6	241.4	236.9	249.0	289.7	301.3	352.9	418.7
Quebec	509.6	612.2	621.9	597.5	674.7	622.2	748.2	954.0	1,114.7
Ontario	795.1	930.6	1,032.0	1,051.1	1,220.7	1,301.6	1,351.0	1,563.1	1,948.8
Prairie region	686.8	819.9	887.0	829.4	810.4	754.2	781.4	1,047.9	1,259.1
British Columbia	339.2	398.6	431.2	398.9	434.0	459.0	496.2	579.3	767.8
Proportion in each region allocated to									
(a)	0.7042	0.7042	0.7042	0.6842	0.6672	0.6466	0.6695	0.6731	0.6731
(d)	0.2958	0.2958	0.2958	0.3158	0.3328	0.3534	0.3305	0.3269	0.3269

(a) 50-100 per cent Canadian controlled.
(b) 25-50 per cent Canadian controlled.
(c) 0-25 per cent Canadian controlled.
(d) 0-50 per cent Canadian controlled.

Source Based on data from Statistics Canada as explained in the text.

Such a procedure requires the use of some elasticity measure whereby a given percentage change in the rate of return can be translated into a percentage change in capital expenditures.

In a study carried out for the Royal Commission on Taxation, Wilson[1] used a specification of investment demand as the backlog of unexpended appropriations (or uncompleted projects) in which firms are assumed to adjust the backlog in response to changes in the determinants of investment. He derived a point estimate of the long-run elasticity of investment demand for aggregate investment in Canada equal to -.67. This suggested that for each one per cent reduction in the cost of capital (the corporate bond rate) investment demand would in the long run increase by two-thirds of one per cent.

An interesting highlight of his model made the time pattern of investment response to changes in interest rates different from the time pattern of response to output changes. This property was due to the specification of the model which treats capital-deepening investment and capacity-expanding investment differently. Capacity-expanding investment is assumed to have a depressing effect on future output whereas capital-deepening investment is not.

In addition Wilson carried out some simulations on his model, one of which concerned changes (a reduction) in the rate of interest. By assuming "that all investment induced by

1 Thomas A. Wilson, "Capital Investment and the Cost of Capital: A Dynamic Analysis", Studies of the Royal Commission on Taxation, No. 30 (Ottawa: Queeen's Printer 1967).

the interest rate reduction is capital deepening, and hence no capacity feedback effects occur",[1] he found that a reduction in interest rates causes investment to build up rapidly for seven- or eight-quarters and then level off at the permanently higher level then reached. This was in contrast with the rapid build-up and then gradual decline in investment back to the earlier level which is observed following an increase in output. This latter pattern is observed because Wilson has made allowance for the effect of capacity-expanding investment upon capacity, which has a depressing effect on future investment.

By assuming that the investment induced by changes in interest rates is capital deepening only, Wilson ignored (consciously) any capital-widening effects which might follow the initial increase in capital per unit of output for a given level of output.

For our purposes we assume that a given change in the internal rate of return has the same effect as an equal but opposite change in the rate of interest. Consequently, accepting Wilson's result, our elasticity becomes 0.67.

Taking his observed response of eight-quarters during which time the level of investment builds up to the new level then maintains this level in the future, until some new change in the rate of return produces a further shock to the system, we are also accepting his capital-deepening assumption and ignoring any effects on output.

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1 Wilson, ibid, p. 84.

His simulations imply that it would be reasonable to assume a two-year lag before the new level of investment is realized following the change in the rate of return and that about one-third of the new desired level is realized during the year in which the change occurs and one-third during each of the following two years (eight-quarters).

Call a change in desired investment at time t, that occurs purely as a result of fiscal policy, $\bar{\Delta}I_t^*$. Then the change in actual investment due to fiscal policy, $\bar{\Delta}I_t$ is defined as

$$(1) \qquad \bar{\Delta}I_t = \frac{1}{3} \{\bar{\Delta}I_t^* + \bar{\Delta}I_{t-1}^* + \bar{\Delta}I_{t-2}^*\}$$

Fiscal policy affects the rate of return on any investment project. For a particular project G, arbitrarily chosen, let the rate of return in year t be r_t^G. Let the rate of return on the same project but with the policies of year τ be r_τ^G. Then the policy induced increase in the rate of return in year t, as compared with year τ, is $r_t^G - r_\tau^G$, (which may, of course be negative). Thus, the rate of return on project G in t is a multiple $\left(r_t^G - r_\tau^G\right)/ r_\tau^G$ of what it would have been in t if policies had not changed between τ and t.

For all projects within a particular tax-depreciation class we assume that the rate of return will be affected in this way. Consequently, given that "e" is the elasticity of investment with respect to the rate of return, the policy induced change in desired investment, $\bar{\Delta}I_t^*$, is given by

(2) $\quad \bar{\Delta} I_t^* = \dfrac{r_t^G - r_\tau^G}{r_\tau^G} \, e \, I_t^*$

put $\quad \dfrac{r_t^G - r_\tau^G}{r_\tau^G} = k_t$, so that

(3) $\quad \bar{\Delta} I_t^* = k_t \, e \, I_t^*$

$\qquad\qquad = k_t \, e \, \{I_t + I_t^* - I_t\}$

$\qquad\qquad = k_t \, e \, I_t \, \{1 + \dfrac{I_t^* - I_t}{I_t}\}$

Now $\left(I_t^* - I_t\right) / I_t^*$ is the fractional gap between desired and actual investment at t, which we assume is small relative to unity over the cycle, so we can neglect it in (3) and therefore write

(4) $\quad \bar{\Delta} I_t^* \simeq k_t \, e \, I_t$

Substituting in (1) we obtain

(5) $\quad \bar{\Delta} I_t = \dfrac{1}{3} \{e\} \, [k_t \, I_t + k_{t-1} \, I_{t-1} + k_{t-2} \, I_{t-2}]$

Thus the approach adopted has been to select a year, τ, within the period under study and measure the effects of fiscal policy on the region relative to that year. In this manner we have defined the change in the rate of return in t relative to τ. We selected 1970 as year τ.[1]

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1 This particular lag structure of investment was the work of Neil Swan.

The choice of 1970 has the advantage of being a year in which the government appears to have followed a neutral or hands-off policy with regard to the economy, whereas the middle 1960s and early 1970s were periods of fiscal ease, in the sense that the settings of taxes and depreciation allowances that obtained in 1970, if imposed in any of these years, would have caused demand to be lower than it actually was.

It is true that no year exists in which fiscal policy was completely neutral, including 1970. But for our purpose, which is to assess the regional effects of fiscal policy, it is not really necessary to have a neutral year, though it is intuitively appealing. Any period could, in principle, be selected as our zero setting from which the effects of policy could be measured.

Having chosen 1970 as our focal point we can assess the regional effects of a tightening of fiscal policy (1966 to 1970) and also the effects of an easing of policy (1971 to 1973).

We calculated the changes in the rates of return each year relative to 1970 for each of our categories of investment previously identified. Application of the above formula then gave the changes in capital expenditures on machinery and equipment induced by fiscal policy over the 1965-73 period. These results are shown in Table 2-2 below in a condensed form.

We will forgo any discussion of these results until Chapter 5 when the results for all the components of aggregate demand will be brought together and analysed.

Table 2-2

Changes in Business Capital Expenditures on Machinery and Equipment Due to
Fiscal Policy, by Region, 1965-73

	1965	1966	1967	1968	1969	1970	1971	1972	1973
				(Millions of dollars)					
Atlantic region									
Manufacturing	.85	.73	.09	-.86	-.89	-.26	5.94	11.26	25.16
Nonmanufacturing	3.05	-1.04	-.02	-3.07	1.02	–	5.42	18.43	24.67
TOTAL	3.90	-.31	.07	-3.93	.13	-.26	11.36	29.69	49.83
Quebec									
Manufacturing	5.66	3.61	2.07	-2.17	-2.43	-.90	9.22	24.31	73.13
Nonmanufacturing	7.60	-3.08	-.41	-7.96	2.72	–	13.62	48.97	60.37
TOTAL	13.26	.53	1.66	-10.13	-.29	-.90	22.84	73.28	133.50
Ontario									
Manufacturing	8.50	8.29	5.42	-4.09	-5.06	-3.51	26.27	58.33	147.00
Nonmanufacturing	12.04	-4.40	.02	-11.98	4.44	–	24.64	82.71	103.21
TOTAL	20.54	3.89	5.44	-16.07	-.62	-3.51	50.91	141.04	250.21
Prairie region									
Manufacturing	1.17	0.73	0.24	-1.33	-.66	-.24	3.83	8.40	25.45
Nonmanufacturing	9.99	-3.84	-.17	-10.16	3.69	–	13.99	58.24	62.57
TOTAL	11.16	-3.11	.07	-11.49	3.03	-.24	17.82	66.64	88.02
British Columbia									
Manufacturing	2.13	1.75	2.83	-.54	-1.17	-.36	5.87	15.42	32.08
Nonmanufacturing	5.74	-1.76	-.02	-5.02	1.80	–	8.75	29.75	34.80
TOTAL	7.87	-.01	2.81	-5.56	.63	-.36	14.62	45.17	66.80

Source Based on data from Statistics Canada.

CHAPTER 3

CAPITAL EXPENDITURES ON BUILDINGS

As was the case for machinery and equipment, in
dealing with the effects of fiscal policy on capital expenditures
on buildings, we calculated internal rates of return to reflect
the different budgetary treatment accorded different types of
buildings by different sectors of the economy

The rationale behind the calculations of these rates
of return is the same as that explained in Chapter 2 and needs
little repetition. It was, however, necessary to make some
assumptions about the initial cost of the asset (building), the
gross earnings from the asset and the length of time over which
such earnings might accrue.

We assumed that the initial cost (I_f) was 1.0,
the even annual flow of gross earnings was 0.15 and the life of the
asset was twenty-five years. Given these parameters and the
legislated rate of depreciation allowance plus the tax rate on
corporate income, it was possible to calculate the appropriate
rates of return as indicated by the formulation of
fiscal policy between 1965 and 1973.

The way in which budgetary policy was formulated
with respect to buildings made it necessary to have a commercial-
industrial breakdown as well as a manufacturing-nonmanufacturing
split. A detailed account of the estimation procedure involved
in obtaining such totals follows.

The Statistics Canada definition of industrial
buildings includes those in the sectors of manufacturing, agri-
culture, forestry, mining, transportation, communications and
other utilities. From Private and Public Investment in Canada[1]
we took the total capital expenditures by the manufacturing,
primary industries (including construction) and utilities sectors
and calculated the shares due to manufacturing and nonmanufacturing
(the remainder). This was done for each region from 1965 to 1973.

Applying these ratios to the value of new industrial
construction by region for 1965-73 from Construction in Canada,
Statistics Canada, Cat. No. 64-201, we obtained estimates of
capital expenditures on new industrial buildings by the manu-
facturing and nonmanufacturing sectors by region.[2]

The June budget of 1969 attempted to apply regionally
differentiated restraint on commercial buildings by deferring
depreciation allowances for the first two years. To assess the
impact of this particular policy measure we needed to break down
spending on commercial buildings into the appropriate components.

The 1969 measure applied to commercial buildings
put in place in the major urban centers in Ontario, Alberta and
British Columbia. These centers were defined to be centers with
populations of 50,000 or more as of the 1966 Census.

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1 Statistics Canada, Cat. No. 61-205.

2 We have again attempted to concentrate on business capital
   expenditures on buildings by ignoring those expenditures
   undertaken by institutions and government departments whenever
   possible.

Having identified these centers from the Census, we then obtained the ratio of the value of commercial building permits issued in these centers to total commercial building permits issued in the corresponding region from the Statistics Canada publication, Building Permits, Cat. No. 64-203. Applying these ratios to the value of new commercial construction, from Construction in Canada, gave the required major urban-remainder split for Ontario, Alberta and British Columbia. Also from the same source we obtained directly the value of capital expenditures on new commercial buildings for the Atlantic region, Quebec, Manitoba and Saskatchewan from 1965 to 1973.

As was the case for capital expenditures on machinery and equipment, the treatment of spending on buildings was influenced by the degree of Canadian ownership of the corporation undertaking the investment. Again from the reports on C.A.L.U.R.A. the share of profits in corporations with 50-100 per cent and 0-50 per cent Canadian ownership in manufacturing and nonmanufacturing were used to distribute the industrial and commercial expenditure totals so far identified, to corporations by the appropriate degree of Canadian ownership.

In addition, expenditures undertaken by those corporations with 50-100 per cent Canadian ownership has to be broken down into their private and public components. The 1968 information from the Department of Finance was used for this purpose making the same assumptions as in Chapter 2.

Finally it was necessary to have these expenditure figures by corporations by taxable income size group. The allocation of taxable income by taxable income size group from 1969 to 1971 from Corporation Taxation Statistics was again used for this purpose.

The end results of all of the above calculations is presented in a condensed form in Table 3-1 below.

Taking 1970 as our zero setting, we calculated the changes in the internal rates of return in each year and category relative to the corresponding rates in 1970. Given that these changes in the rates of return were fiscally induced and adopting the same measure of elasticity of investment with respect to the rate of return and the same investment response process (lag structure) as in Chapter 2, we calculated the changes in capital expenditures on buildings by region from 1965 to 1973. These results are shown in Table 3-2.

Once more we will not undertake a discussion of these results at this time, deferring any such analysis to Chapter 5.

Table 3-1

Estimated Regional Breakdown of Business Capital Expenditures on Commercial, and Industrial Buildings, 1965-73

	1965	1966	1967	1968	1969	1970	1971	1972	1973
				(Millions of dollars)					
Commercial									
Atlantic region	52.4	74.9	68.9	59.4	62.1	62.1	56.8	82.8	127.7
Quebec	259.1	334.8	247.7	206.5	175.4	187.2	207.1	293.2	393.3
Ontario (i)	294.2	346.2	367.3	326.3	321.8	433.2	459.5	523.9	687.5
(ii)	40.9	48.1	58.5	67.2	68.1	72.7	95.4	110.3	119.9
Prairie region (i)	53.1	70.5	68.2	72.0	83.3	87.3	71.1	115.3	175.4
(ii)	87.7	120.3	103.0	104.2	120.4	120.9	82.9	126.2	161.0
British Columbia (i)	28.7	30.9	67.6	47.1	50.4	45.4	76.4	73.4	89.9
(ii)	59.4	63.8	54.5	78.6	73.0	57.2	91.4	141.5	192.6
Proportion in each region allocated to									
(a)	0.6817	0.6817	0.6817	0.6833	0.7049	0.6866	0.7031	0.6950	0.6950
(d)	0.3183	0.3183	0.3183	0.3167	0.2951	0.3134	0.2969	0.3050	0.3050
Industrial									
Atlantic region									
Manufacturing	11.8	25.4	10.9	8.5	11.8	25.1	50.1	15.5	12.5
Nonmanufacturing	39.8	59.6	43.9	25.8	34.4	52.7	93.3	36.6	38.9
Quebec									
Manufacturing	28.7	40.7	33.9	34.6	42.4	30.1	35.3	44.2	64.3
Nonmanufacturing	115.6	122.4	102.4	87.5	87.6	83.5	125.0	161.4	242.2
Ontario									
Manufacturing	107.0	155.3	113.1	64.8	85.7	139.8	69.5	63.0	92.8
Nonmanufacturing	158.6	242.4	213.3	162.3	184.3	273.9	207.8	207.7	249.7
British Columbia									
Manufacturing	18.2	15.5	8.2	8.8	21.0	18.5	22.8	13.3	9.3
Nonmanufacturing	78.6	81.7	64.4	68.2	118.2	103.3	173.1	90.3	74.8
Proportion in each region allocated to									
(a) Manufacturing	0.3778	0.3778	0.3778	0.3594	0.3572	0.3747	0.3582	0.3458	0.3458
(d) Manufacturing	0.6222	0.6222	0.6222	0.6406	0.6428	0.6253	0.6418	0.6542	0.6542
(a) Nonmanufacturing	0.7291	0.7291	0.7291	0.6852	0.6196	0.6032	0.6185	0.6361	0.6361
(d) Nonmanufacturing	0.2709	0.2709	0.2709	0.3148	0.3804	0.3968	0.3815	0.3639	0.3639

(i) Major urban centres with population of 50,000 or more as of the 1966 Census.
(ii) Commercial buildings in areas other than (i).
(a) 50-100 per cent Canadian controlled.
(b) 0-50 per cent Canadian controlled.

Source Based on data from Statistics Canada as explained in the text.

Table 3-2

Changes in Business Capital Expenditures on Buildings Due to Fiscal Policy, by Region, 1965-73

	1965	1966	1967	1968	1969	1970	1971	1972	1973
					(Millions of dollars)				
Atlantic region									
Commercial	.59	1.00	1.67	1.08	.67	–	1.16	4.57	5.89
Industrial-Manufacturing	.12	.24	.34	.21	.08	-.02	1.40	2.03	2.52
Nonmanufacturing	.48	.79	1.26	.73	.43	–	1.88	3.41	3.80
TOTAL	1.19	2.03	3.27	2.02	1.18	-.02	4.44	10.01	12.21
Quebec									
Commercial	2.98	4.32	6.80	4.26	2.48	–	4.25	16.45	20.99
Industrial-Manufacturing	.32	.50	.81	.46	.25	-.06	.96	2.77	5.18
Nonmanufacturing	1.40	2.05	3.08	1.66	1.01	–	2.58	9.28	12.10
TOTAL	4.70	6.87	10.69	6.38	3.74	-.06	7.79	28.50	38.27
Ontario									
Commercial	.52	.78	1.37	.84	.58	–	1.97	6.55	8.00
Commercial (Urban)	6.93	11.41	18.49	16.28	11.46	4.33	11.47	37.51	52.34
Industrial-Manufacturing	1.20	1.91	2.95	1.68	0.91	-.11	1.90	4.60	8.66
Nonmanufacturing	1.94	3.21	5.35	3.41	2.13	–	4.29	12.93	15.98
TOTAL	10.59	17.31	28.16	22.21	15.08	4.22	19.63	61.59	84.98
Prairie region									
Commercial	.99	1.62	2.64	1.63	1.00	–	1.68	6.81	8.32
Commercial (Urban)	1.11	2.12	3.39	2.90	2.25	.98	1.88	7.44	10.70
Industrial-Manufacturing	.03	.04	.12	.08	.04	-.01	.08	.36	.86
Nonmanufacturing	.74	1.19	2.04	1.29	.86	–	1.14	3.90	4.73
TOTAL	2.87	4.97	8.19	5.90	4.15	.97	4.78	18.51	24.61
British Columbia									
Commercial	.82	1.16	1.69	.86	.54	–	1.82	7.56	9.01
Commercial (Urban)	.62	1.05	2.97	2.13	1.91	.62	1.83	5.33	6.93
Industrial-Manufacturing	.20	.49	.33	.13	.04	-.01	.59	1.14	,62
Nonmanufacturing	1.25	1.39	2.00	1.06	.62	–	3.43	7.11	7.76
TOTAL	2.89	4.09	6.99	4.18	3.11	.61	7.67	21.14	24.32

Source   Based on data from Statistics Canada .

CHAPTER 4

PERSONAL CONSUMPTION EXPENDITURES

The remaining component of aggregate demand which we have to consider is personal consumption expenditures. Changes in these expenditures come about through fiscally induced changes in personal disposable income.

Over the 1965-73 period changes in the tax treatment of personal income have generally been the result of changes in federal taxes which left "basic" federal taxes unaffected. Some such examples are the 3 per cent surtax introduced in 1968 and the increase in the upper limit of the Old Age Security Tax introduced in 1966.

In July 1971, the actual rates in the basic tax schedule were changed thus changing the "basic" federal tax, but this tended to be the exception rather than the rule, at least during this period.

By changing personal disposable income in this fashion the federal government would seem to have been attempting to change federal taxes yet leaving provincial taxes unaffected. This is due to the fixed relationship in all provinces, other than Quebec, between provincial taxes and "basic" federal taxes. For example, in Ontario in 1970, provincial income tax revenues were 28 per cent of "basic" federal tax revenues from Ontario taxpayers. Consequently, any change in this basic federal tax

(caused by federal taxation policy) would automatically change provincial taxes unless the province amended its own tax rate.

In Quebec changes in the basic federal tax payable change the federal abatement to Quebec taxpayers but not necessarily the provincial taxes levied separately by the province.

Given these relationships and the fact that the federal government provides an abatement of the "basic" federal tax to allow the provinces to levy their own income tax (which the federal government collects in all cases except Quebec), it was possible to calculate the federal and provincial shares of total taxes paid, by province, from Taxation Statistics (published by the Department of National Revenue, Taxation). To calculate these shares it was necessary to calculate the basic federal tax payable, a total which is not currently available in the published statistics. The method used is as follows.

For the 1965-71 period we have for all provinces other than Quebec,

$$TT = (1 - \alpha) \, BFT + \beta BFT + \gamma BFT + \delta TY$$

where TT = total tax paid

           BFT = "basic" federal tax

           TY = taxable income

           α = provincial abatement

           β = provincial tax rate which may or may not equal α

           γ = federal surtaxes on the "basic" federal tax

δ = federal taxes levied on taxable income which do not affect the basic federal tax, e.g., Old Age Security Tax.

From this we have (with knowledge of TT, α, β, γ, δ)

$$BFT = \frac{TT - \delta TY}{(1+\gamma-\alpha+\beta)}$$

which then gives

$$PT = \beta.BFT \quad \text{where } PT = \text{provincial tax}$$

and it follows that

$$FT = TT - PT \quad \text{where } FT = \text{federal tax}$$

For Quebec we have

$$FT = (1-\alpha)BFT + \gamma BFT + \delta TY$$

so that

$$BFT = \frac{FT - \delta TY}{(1+\gamma-\alpha)}$$

and

$$R = \alpha.BFT \quad \text{where } R = \text{provincial rebate.}$$

The income tax reform of 1972 eliminated the system of abatement to all provinces other than Quebec. Also the relevant concept in determining provincial taxes became federal taxes calculated at the new rates in the tax schedule which had absorbed the Old Age Security Tax and the Social Development Tax represented by δ in our formulations above.

Thus for 1972 and 1973 for everywhere, except Quebec, we have

$$TTP = (1-\theta)FT + \beta FT$$

where

TTP = total taxes paid

FT = federal taxes payable at full federal rate

θ = the federal tax cut to individuals
(this tax cut affects federal taxes paid
but not the calculation of provincial taxes)

β = provincial tax rate.

so $TTP = (1-\theta+\beta)FT$

and $FT = TTP/(1-\theta+\beta)$ and with knowledge of TTP, θ,
and β we can determine FT.

Given FT and β we have PT from $PT = \beta.FT$ and it
follows that $FTP = TTP - PT$

where FTP = federal taxes paid.

For Quebec for 1972 and 1973 we have

$FTP = (1-\theta)FT$

so that $FT = FTP/(1-\theta)$ and

$R = \alpha.FT$

where α is the abatement to Quebec.

From these sets of equations we were able to calculate
the federal and provincial taxes paid each year as well as the
"basic" federal tax (or federal tax payable for 1972 and 1973).
These calculations were made for six income classes[1] for each
province, and the results are reported in Appendix Table B-1.

Turning now to measure the impact of fiscal policy
on disposable income, we again selected 1970 as the point of
reference from which we would measure these effects on the regions.

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1   The income classes were < $5,000, $5,000-10,000, $10,000-
15,000, $15,000-20,000, $20,000-25,000 and $25,000 and over.

In this case the application of the set of tax measures in existence in 1970 to each of the other years measures the amount of taxes which would have been paid in those years at the 1970 rates. The difference between these taxes and the taxes actually paid represents the change in disposable income due to fiscal policy.

Before applying the 1970 rates, we first had to determine those years in which such a procedure would change the amount of federal and provincial taxes payable, and those years in which only the amount of federal taxes payable would be affected. This is because, in the first case federal fiscal policy actually changes provincial fiscal policy, as represented by provincial income tax collections, while in the latter case only federal fiscal policy is affected. In those cases where the basic tax schedule corresponds with the 1970 schedule, application of the 1970 tax rates will lead to no change in "basic" federal tax payable and consequently lead to no change in provincial tax payable or in the case of Quebec the provincial abatement. This was the case from 1965 through 1968.

From 1971 through 1973 the tax schedules differ from the 1970 schedule, so the application of the 1970 rates to each of these years results in changes in the "basic" federal tax payable compared with the "basic" tax actually paid. Therefore, the amount of provincial tax payable also changes. However, from 1965 to 1968 and from 1971 to 1973 the procedure results in changes in federal taxes payable.

In 1969, the basic tax schedule agrees with the 1970 schedule so our procedure results in no change in provincial tax payable. At the same time, the remaining federal taxes (Old Age Security, Social Development) levied in 1969 also corresponds with their 1970 rates, so we find no change in the amount of federal tax payable either.

The effective rate of tax in 1970 which we calculate as $(FT/GY)_{70}$ for each of our six income classes, where FT is total federal taxes paid and GY is the total income on which these taxes are paid, depends not only on the legislated tax policy in effect in 1970 but also on the distribution of tax-payers within each income class. Likewise the actual tax paid in any year depends on the prevailing tax rates and the distribution of taxpayers within each income class. In comparing the tax that would have been paid in any year at the 1970 rates and the tax actually paid, we ignore the possibility of differences in these distributions and attribute all of the differences in the amount of tax payable to fiscal policy, i.e., to differences in tax regulations. To the extent that these distributions probably vary to a small degree, our results will not be completely accurate.

Applying $(FT/GY)_{70}$ to total income in each of the other years gives, as pointed out above, the federal taxes that would have been paid at 1970 rates. For 1965, for example, this results in a total which we call FT_{65}^{70}. Subtracting actual taxes paid in 1965 (FT_{65}) from this gives part of the change in dis-posable income due to fiscal policy. That is $FT_{65}^{70} - FT_{65} = \Delta FT$.

Disposable income also was changed due to the affect on provincial tax payable of changes in the "basic" federal tax payable. Taking the "basic" federal tax payable to total income in 1970 $(BFT/GY)_{70}$ and applying it to total income in each of the years 1971 to 1973 (where we know the tax schedules were different from the 1970 schedule) gives the "basic" federal tax payable in, say 1973, at the 1970 rates (BFT_{73}^{70}). Applying the provincial tax rate (β) to this gives the provincial taxes payable at 1970 rates (PT_{73}^{70}). Subtracting actual provincial taxes paid in 1973 (PT_{73}) from this gives the change in provincial taxes payable or the change in disposable income.

The results of these calculations are shown in Table 4-1 below in a somewhat condensed form.

Table 4-1

Changes in Personal Disposable Income Due to Fiscal Policy, by Region, 1965-73

Taxes	1965	1966	1967	1968	1971	1972	1973
				(Millions of dollars)			
Atlantic region							
Federal	33.26	45.00	44.28	39.27	-.31	29.60	29.93
Provincial					-2.86	9.72	17.99
Total	33.26	45.00	44.28	39.27	-3.17	39.32	47.92
Quebec							
Federal	148.95	201.57	177.79	148.64	9.95	89.59	38.69
Abatement					-22.13	146.11	180.58
Total	148.95	201.57	177.79	148.64	-12.18	235.70	219.27
Ontario							
Federal	297.17	686.94	360.64	292.99	43.45	176.63	163.39
Provincial					-15.14	92.05	156.51
Total	297.17	686.94	360.64	292.99	28.31	268.68	319.90
Prairie region							
Federal	91.91	125.00	116.85	98.78	4.44	67.18	104.95
Provincial					-6.78	31.26	70.93
Total	91.91	125.00	116.85	98.78	-2.34	98.44	175.88
British Columbia							
Federal	77.26	99.15	91.45	78.00	9.97	45.68	40.52
Provincial					-8.47	22.54	41.59
Total	77.26	99.15	91.45	78.00	1.50	68.22	82.11

Source Based on data from National Revenue, Taxation.

Now that we have the changes in personal disposable
income due to fiscal policy, it only remains to convert these
changes into changes in personal consumption expenditures through
the application of appropriate marginal propensities to consume.

For this, we draw on an internal working paper by Beaudry,[1]
who made use of certain published estimates of short-run marginal
propensities to consume for the regions, to arrive at estimates
appropriate for our purposes. It is these estimates which have
been used to convert the totals in Table 4-1 into changes in con-
sumption expenditures. The resulting totals are presented in
Table 4-2 below.

Table 4-2

Changes in Personal Consumption Expenditures Due to Fiscal Policy,
by Region, 1965-73

	1965	1966	1967	1968	1971	1972	1973
	(Millions of dollars)						
Atlantic region	16.96	22.95	22.59	20.03	-1.62	20.06	24.44
Quebec	73.43	99.37	87.65	73.28	-6.00	116.20	108.10
Ontario	143.23	331.10	173.83	141.22	13.64	129.50	154.19
Prairie region	46.96	63.86	59.70	50.47	-1.19	50.29	89.86
British Columbia	37.31	47.88	44.16	37.67	0.72	32.94	39.65

Source Based on data from National Revenue, Taxation.

As before we will forego any discussion of results until
Chapter 5 immediately following, where we will bring together the
results from Chapters 2, 3 and 4.

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1 Beaudry R., "Etudes D'Impact De Différentes Politiques Fiscales",
   May, 1975.

CHAPTER 5

THE REGIONAL EFFECTS OF FEDERAL STABILIZATION POLICY

In this chapter we bring together the results obtained in Chapters 2, 3 and 4 and analyse the regional effects of fiscal policy from 1965 to 1973.

The effects of fiscal policy on capital expenditures on machinery and equipment were estimated in Chapter 2, on expenditures on buildings in Chapter 3, while the effects on personal consumption expenditures were estimated in Chapter 4. Combining the results for these three components of aggregate demand gives us the effects on total demand by region. The resulting effects are shown in Table 5-1 below. In the table, the effects in current dollars and as a per cent of gross regional product are shown.

These gross regional product (GRP) estimates were initially obtained in constant dollar form from an internal working paper by Beaudry[1] and inflated by the GNE implicit price index to give current dollar values.

Before discussing the results in Table 5-1 we should point out that these are initial or first-round effects where no allowance for interregional leakages has been made. Once these leakages have been allowed for the results change somewhat as we shall shortly see, so care should be taken in viewing these results as they do not reflect the whole picture.

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1   Beaudry, R., "Les Aspects Régionaux De La Diffusion De La Technologie au Canada: Le Cas Des Ordinateurs", December 1975.

Table 5-1

Initial Effects of Fiscal Policy on Total Demand, by Region, 1965-73

	1965	1966	1967	1968	1969	1970[1]	1971	1972	1973
	(Millions of dollars)								
Atlantic region									
Expenditures on machinery and equipment	3.90	-0.31	0.07	-3.93	0.13	-0.26	11.36	29.69	49.83
Expenditures on buildings	1.19	2.03	3.27	2.02	1.18	-0.02	4.44	10.01	12.21
Expenditures on personal consumption	16.96	22.95	22.59	20.03	-	-	-1.62	20.06	24.44
TOTAL	22.05	24.67	25.93	18.12	1.31	-0.28	14.18	56.76	86.48
Quebec									
Expenditures on machinery and equipment	13.26	0.53	1.66	-10.13	-0.29	-0.90	22.84	73.28	133.50
Expenditures on buildings	4.70	6.87	10.69	6.38	3.74	-0.06	7.79	28.50	38.27
Expenditures on personal consumption	73.43	99.37	87.65	73.28	-	-	-6.00	116.20	108.10
TOTAL	91.39	106.77	100.00	69.53	3.45	-0.96	24.63	217.98	279.87
Ontario									
Expenditures on machinery and equipment	20.54	3.89	5.44	-16.07	-0.62	-3.51	50.91	141.04	250.21
Expenditures on buildings	10.59	17.31	28.16	22.21	15.08	4.22	19.63	61.59	84.98
Expenditures on personal consumption	143.23	331.10	173.83	141.22	-	-	13.64	129.50	154.19
TOTAL	174.36	352.30	207.43	147.36	14.46	0.71	84.18	332.13	489.38
Prairie region									
Expenditures on machinery and equipment	11.16	-3.11	0.07	-11.49	3.03	-0.24	17.82	66.64	88.02
Expenditures on buildings	2.87	4.97	8.19	5.90	4.15	0.97	4.78	18.51	24.61
Expenditures on personal consumption	46.96	63.86	59.70	50.47	-	-	-1.19	50.29	89.86
TOTAL	60.99	65.72	67.96	44.88	7.18	0.73	21.41	135.44	202.49
British Columbia									
Expenditures on machinery and equipment	7.87	-0.01	2.81	-5.56	0.63	-0.36	14.62	45.17	66.80
Expenditures on buildings	2.89	4.07	6.99	4.18	3.11	0.61	7.67	21.14	24.32
Expenditures on personal consumption	37.31	47.88	44.16	37.67	-	-	0.72	32.94	39.65
TOTAL	48.07	51.96	53.96	36.29	3.74	0.25	23.01	99.25	130.77
	(Total as a per cent of gross regional product)								
Atlantic region	0.62	0.58	0.61	0.39	0.03	0.00	0.23	0.83	1.12
Quebec	0.63	0.67	0.58	0.38	0.02	0.00	0.11	0.86	0.97
Ontario	0.81	1.45	0.80	0.52	0.05	0.00	0.23	0.79	1.03
Prairie region	0.67	0.64	0.64	0.38	0.06	0.01	0.14	0.82	1.04
British Columbia	0.82	0.79	0.75	0.46	0.04	0.00	0.22	0.83	0.94

1 Due to the lag structure of the investment process it was not possible to make these totals identically zero.

Source Based on data from Statistics Canada and Department of National Revenue, Taxation .

Turning now to look at the results in Table 5-1, let us first examine the regional effects of the easing of fiscal policy which occurred from 1971 through 1973.

In 1973 Ontario, through the easing of fiscal policy, received a stimulus, compared with the 1970 situation (which for all practical purposes we can treat as zero) of $489 million or 1.03 per cent of GRP. Quebec received a stimulus to total demand of $279 million which was 0.97 per cent of GRP, slightly less than the Ontario effect.

Surprisingly enough the largest percentage gain was in the Atlantic where an added $86 million represented 1.12 per cent of GRP. The situation in the Prairies resulted in a net gain of 1.04 per cent of GRP ($202 million) while the smallest effect was recorded in British Columbia at 0.94 per cent of GRP.

Next, consider the effects of the tightening of fiscal policy from 1966 through 1970. In Ontario, in 1966, fiscal policy was expansionary to the tune of 1.45 per cent of GRP, and this stimulus was gradually reduced to zero by 1970. In other words, this 1.45 per cent of GRP represents the effect on Ontario of the tightening of policy over the period.

In Quebec this tightening amounted to 0.67 per cent of GRP, less than half the Ontario effect. The effects in the other regions were 0.79 per cent in British Columbia, 0.64 per cent in the Prairies and 0.58 per cent in the Atlantic.

Thus, for these initial effects, we can say that the Atlantic region appears to have benefited most from the easing of policy from 1971 through 1973 and to have been least affected by the tightening of policy from 1966 through 1970. Ontario, on the other hand, appears to have been affected most by the tightening of policy and also to have benefited from the easing of policy. It is hard to discern any general pattern for the other regions.

To allow for interregional leakages and hence to estimate the final or global effects of fiscal policy on the regions, we have made use of an unpublished interprovincial input-output table developed by DREE which gives the total income induced for each province by a $100 change in expenditure in a given industry in a given province.

For our purposes we needed to convert the initial effects on capital expenditures on machinery and equipment and buildings, and the effects on personal consumption expenditures to take account of interregional leakages.

The input-output table provides data for the primary metals and transportation equipment industries, the industries most likely to produce machinery and equipment. Taking the total value of shipments of goods of own manufacture by these two industries and the share of each in the total[1]

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1 Obtained from General Review of the Manufacturing Industries of Canada, Statistics Canada, Catalogue No. 31-203.

(omitting shipments of motor vehicles and accessories where appropriate), we arrived at weights for each industry. Applying these weights to the impacts of a $100 change in primary metals and a $100 change in transportation equipment we calculated the weighted impact of a $100 change in machinery and equipment expenditures. The result expressed in terms of a $1.00 change in expenditures on machinery and equipment is shown in Table 5-2.

Table 5-2

Total Income Induced by a $1.00 Change in Expenditures on Machinery and Equipment

| Region of Impact | Region of Initial Change | | | | |
	Atlantic region	Quebec	Ontario	Prairie region	British Columbia
	(Dollars)				
Atlantic region	.8439	.0244	.0134	.0097	.0068
Quebec	.1480	.9773	.1015	.0909	.0846
Ontario	.3030	.2944	1.1898	.2743	.2422
Prairie region	.0201	.0237	.0325	.9523	.0490
British Columbia	.0084	.0073	.0071	.0329	.9359
Total	1.3246	1.3279	1.3446	1.3608	1.3191

Source Unpublished interprovincial input-output table from DREE.

The table shows, for example that a $1.00 change in expenditures on machinery and equipment in Ontario results in a change of $0.0134 in the Atlantic, $0.1015 in Quebec, $1.1898 in Ontario itself, $0.0325 in the Prairies and $0.0071 in British Columbia, for a total change of $1.3446. Consequently, the change in capital expenditures on machinery and equipment in Ontario due

to fiscal policy in 1973 (from Table 5-1) of $250.21 million results in a change of $(250.21 x .0134) million in the Atlantic, $(250.21 x .1015) million in Quebec and so on. The initial change in expenditure in each of the regions for each year was put through Table 5-2 and the resulting final effects are reported in Table 5-3.[1]

We constructed similar tables for changes in construction expenditures and for changes in consumption expenditures, the latter being derived from the column for personal income in the input-output table. Both of these tables are shown in Appendix Tables C-1 and C-2 respectively.

Applying Appendix Table C-1 to the fiscally induced changes in expenditures on buildings (in Table 5-1) gave the final effects on expenditures on building, while the application of Appendix Table C-2 to the initial changes in personal consumption expenditures gave the final effects on these partial expenditures. Both sets of results are shown in Table 5-3.

As before, in considering the results in Table 5-3, our actual measure of fiscal ease in years other than 1970 is the amount by which total demand was higher than it would have been if 1970 fiscal legislation had applied. In discussing the period of fiscal tightening, we also speak of added demand and view the tightening as a reduction of this demand.

Examining first the period of fiscal ease from 1971 through 1973 we see that Ontario received a net stimulus of

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1 It makes a slight but not important difference if one imposes all effects simultaneously, rather than adding up the separate effects as we have done.

$769 million equal to 1.62 per cent of GRP. Quebec received the

next largest increase in demand, $390 million or 1.35 per cent of GRP.

Table 5-3

Final Effects of Fiscal Policy on Total Demand, by Region, 1965-73

	1965	1966	1967	1968	1969	1970[1]	1971	1972	1973
	(Millions of dollars)								
Atlantic region									
Expenditures on machinery and equipment	4.05	-0.23	0.19	-3.94	0.12	-0.29	11.10	29.70	49.96
Expenditures on buildings	1.43	2.40	3.85	2.43	1.45	0.02	4.89	11.44	14.11
Expenditures on personal consumption	18.88	27.08	24.76	21.71	-	-	-1.41	22.10	24.99
TOTAL	24.36	29.25	28.80	20.20	1.57	-0.27	14.58	63.24	89.06
Quebec									
Expenditures on machinery and equipment	17.30	0.58	2.43	-13.62	0.01	-1.33	32.03	100.21	176.89
Expenditures on buildings	7.45	11.20	17.70	11.30	6.98	0.55	13.23	45.77	61.14
Expenditures on personal consumption	107.37	161.38	129.29	107.93	-	-	-5.08	151.58	151.99
TOTAL	132.12	173.16	149.42	105.61	6.99	-0.78	40.18	297.56	390.02
Ontario									
Expenditures on machinery and equipment	34.49	3.85	7.68	-27.79	0.19	-4.68	79.16	227.60	392.42
Expenditures on buildings	16.98	27.50	44.71	34.12	23.06	5.96	32.25	101.40	137.85
Expenditures on personal consumption	207.25	441.31	252.08	206.48	-	-	14.15	201.43	239.54
TOTAL	258.72	472.66	304.47	212.81	23.15	1.28	125.56	530.43	769.81
Prairie region									
Expenditures on machinery and equipment	12.08	-2.83	0.43	-12.05	2.89	-0.39	20.11	72.59	99.38
Expenditures on buildings	3.90	6.61	10.87	7.83	5.46	1.27	6.80	25.00	33.14
Expenditures on personal consumption	56.88	82.92	71.55	60.26	-	-	-0.77	60.86	100.03
TOTAL	72.86	86.70	82.85	56.04	8.35	0.88	26.14	158.45	232.55
British Columbia									
Expenditures on machinery and equipment	8.02	-0.08	2.68	-5.79	0.69	-0.38	14.90	46.24	68.59
Expenditures on buildings	3.61	5.20	8.82	5.42	3.97	0.79	9.28	26.02	30.37
Expenditures on personal consumption	40.96	54.25	48.75	41.47	-	-	0.73	37.13	45.60
TOTAL	52.59	59.37	60.25	41.10	4.66	0.41	24.91	109.39	144.56
	(Total as a per cent of gross regional product)								
Atlantic region	0.68	0.69	0.68	0.43	0.03	0.00	0.24	0.93	1.15
Quebec	0.92	1.08	0.86	0.57	0.03	0.00	0.17	1.17	1.35
Ontario	1.20	1.95	1.17	0.75	0.07	0.00	0.34	1.26	1.62
Prairie region	0.80	0.85	0.77	0.47	0.06	0.01	0.18	0.96	1.20
British Columbia	0.90	0.90	0.84	0.53	0.05	0.00	0.23	0.92	1.04

1 Due to the lag structure of the investment process it was not possible to make these totals identically zero.

Source Based on data from Statistics Canada and Department of National Revenue, Taxation.

In the Prairies the net gain from the easing of policy was
$232 million (1.20 per cent of GRP), while in the Atlantic the gain
was 1.15 per cent of GRP ($89 million). The smallest percentage gain
was recorded in British Columbia where $144 million in added
demand represented 1.04 per cent of GRP.

By 1973 then, the easing of fiscal policy initiated
in 1971 appears to have benefited Ontario the most and to a
lesser extent Quebec, with rather less of an effect again in
the other regions.

Now considering the gradual tightening of fiscal
policy from 1966 through 1970, we see that in Ontario in 1966
fiscal policy was having an expansionary effect of the order of
1.95 per cent of GRP. This then is the stimulus to total demand
gradually eliminated by this tightening of policy. In Quebec
the tightening over the same period amounted to 1.08 per cent of
GRP somewhat less than the Ontario effect.

In both British Columbia and the Prairies the effect
was less than in Quebec and, hence, much less than in Ontario,
while in the Atlantic the effect was smallest of all only 0.69
per cent of GRP.

As was the case with the increase in stimulus
provided by fiscal policy from 1971 through 1973, Ontario and
to a lesser extent Quebec, appear to have been the regions most
affected by the reduction in stimulus from 1966 through 1970.
The tightening of policy affected the remaining regions to a
much smaller degree.

These findings for the final effects of fiscal policy
are in contrast somewhat with the earlier findings on initial
effects (Table 5-1). There we found that the Atlantic region
appeared to have benefited most from the easing of policy but
to have been least affected by the tightening of policy, and
that Ontario while benefiting to a slightly lesser degree than
the Atlantic from the easing of policy, was the region most
affected by the tightening of policy. It thus seems that any
conclusions drawn on the basis of the initial results are at
best tentative.

It is interesting to look at the periods of fiscal
ease and tightening and observe which of the three components
of demand contributed most to the total effects in the region.
From Table 5-3 it seems that in all regions the reduction in
stimulus came about mainly through changes in personal consumption
expenditures. The easing of policy, however, seems to have been
reflected in spending on machinery and equipment and personal
consumption. In Ontario the increase in demand was largely due
to expenditures on machinery and equipment with personal con-
sumption expenditures playing a less important role. In Quebec
both components appear to have played a major role, while in the
Atlantic, the Prairies and British Columbia expenditures on
machinery and equipment appear to have had the major role.

In the discussion of buildings in Chapter 3 we saw that
in June 1969 the federal government introduced a measure to defer
depreciation allowances for the first two years on commercial buildings
put in place up to the end of 1970, in Ontario, Alberta and British

Columbia. Given that this was a specifically, regionalized policy whose expenditures we have treated separately, it may be instructive to look at the effects of fiscal policy on commercial buildings thus identified in this measure. Given the procedure adopted in this paper it is not possible to consider the 1969 policy measure alone, so our results show the effects of overall fiscal policy on this particular class of commercial buildings for the whole period 1965-73.

To this end Table 5-4 is presented which shows the final effects on this particular class of commercial building by region. Although the 1969 policy was restricted to Ontario, the Prairies (Alberta) and British Columbia, the final effects of fiscal policy in general are apparent in all five regions due to the interregional input-output table underlying these results.

Table 5-4

Final Effects of Fiscal Policy on Expenditures on Commercial Buildings on Selected Regions, 1965-73

	1965	1966	1967	1968	1969	1970[1]	1971	1972	1973
	(Millions of dollars)								
Atlantic region	0.08	0.14	0.23	0.20	0.14	0.05	0.14	0.46	0.65
Quebec	0.95	1.59	2.69	2.32	1.69	0.65	1.64	5.45	7.60
Ontario	9.61	15.91	26.07	22.82	16.21	6.14	16.11	52.86	73.72
Prairie region	1.55	2.85	4.65	3.98	3.04	1.28	2.64	10.00	14.26
British Columbia	0.86	1.45	3.76	2.77	2.41	0.81	2.31	6.90	9.07
	(As a per cent of gross regional product)								
Atlantic region	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01
Quebec	0.01	0.01	0.02	0.01	0.01	0.00	0.01	0.02	0.03
Ontario	0.04	0.07	0.10	0.08	0.05	0.02	0.04	0.13	0.16
Prairie region	0.02	0.03	0.04	0.03	0.02	0.01	0.02	0.06	0.07
British Columbia	0.01	0.02	0.05	0.04	0.03	0.01	0.02	0.06	0.07

1 Due to the lag structure of the investment process it was not possible to make these totals indentically zero.

Source Based on data from Statistics Canada.

The results in the table suggest that during both
the period of general fiscal ease and the period of general fiscal
tightening Ontario was the region most affected. During the easing
of fiscal policy, Ontario in 1973 received a stimulus to total
demand of 0.16 per cent of GRP more than twice the effect in the
Prairies or British Columbia. The reduction in stimulus was also
twice that in either of these regions.

It thus seems that while the overall effect of
fiscal policy on commercial buildings in the designated areas
was small, it had an effect in Ontario which was twice as large
as the effects in the Prairies or British Columbia.

This was not the only specifically regionalized policy
adopted by the government, although this is true for our period
of study. In the budget of June 1963, new manufacturing and
processing enterprises located in designated areas of slower
growth which commenced commercial operations in the period of
twenty-four months of the date of enactment of the measure, were
given exemption from income tax for three years from their in-
ception, and they were permitted to write off new machinery and
equipment in as little as two years.

Summary

Summing up, the 1965-73 experience suggests that
Ontario and Quebec benefit most during periods of fiscal ease
but are also most affected by a tightening of fiscal policy.
The Atlantic, the Prairies and British Columbia, on the other hand,
neither benefit to the same degree as Ontario or Quebec during

periods of fiscal ease, nor lose as much during periods of fiscal tightness. It therefore seems likely that federal fiscal policy, be it one of ease or tightness, works better in the centre of the country -- Ontario and Quebec -- and less well as one leaves the centre and moves to the outlying regions.

APPENDIX A

FEDERAL FISCAL POLICY MEASURES 1965-73

April 1965   Personal Income

-- from July 1, 1965 tax payable by an individual
   was reduced by 10 per cent of the basic tax or
   $600, whichever was less.

-- a deduction of 20 per cent (up from 10 per cent)
   of income up to $2,500 per annum for a registered
   retirement savings fund.

-- contributions under Canada/Quebec Pension Plans
   were made deductible from income for tax purposes.

Corporate Income

-- the two-year write-off for assets by manufacturing
   and processing establishment with a minimum of
   25 per cent Canadian ownership was extended from
   June 1965 to December 1966.

March 1966   Personal Income

-- the reduction of tax by 10 per cent of the basic
   tax to a maximum of $600 was cancelled and replaced
   by a cut of 20 per cent with a maximum of $20 as
   of June 1, 1966.

Corporate Income

-- a temporary tax of 5 per cent on the cash profits
   of corporations for an 18-month period from
   May 1966.

-- the capital cost allowance for assets
(buildings - classes 3, 6; machinery and equipment -
class 8) purchased between March 30, 1966
and October 1, 1967 was to apply to only part of
the assets for the first three years of the life
of the asset. This effectively halved the allowed
rate of depreciation on buildings and machinery
and equipment for the first three years.

Sales Tax

-- the sales tax on all machinery and equipment
used directly in manufacturing or production was
to be removed over a two-year period.

December 1966 Personal Income

-- the old age security tax was left at 4 per cent
but the limit was raised from $120 to $240 per
year as of January 1, 1967.

Sales Tax

-- the tax allocated to budgetary revenues was
raised from 8 to 9 per cent so that the total
sales tax was increased from 11 to 12 per cent
from January 1, 1967.

June 1967   Sales Tax

-- the remaining 6 per cent tax on production
machinery which was to last until April 1, 1968
was removed as of June 1, 1967.

March 1968   Personal Income

-- a 3 per cent surtax on "basic" income tax in
   excess of $200 with no upper limit for 1968 and
   1969 tax years.

Corporate Income

-- a 3 per cent surtax on corporate income for
   1968 and 1969 tax years.

-- a two-month speed-up in corporate tax payments.

October 1968   Personal Income

-- a social development tax of 2 per cent of taxable
   income with a maximum of $120 per year from
   January 1, 1969.

Corporate Income

-- a two-month speed-up in corporate tax payments.

Investment Income

-- a 15 per cent tax on investment income of life
   insurance companies.

June 1969   Personal Income

-- the 3 per cent surtax on basic income tax in
   excess of $200 was extended to December 31, 1970.

Corporate Income

-- the 3 per cent surtax on corporate income extended
   to December 31, 1970.

-- the capital cost allowance for tax purposes on
   commercial buildings put in place up to the end

of 1970 in urban centres with populations of
50,000 or more (as of the 1966 Census) in Ontario,
Alberta and British Columbia, was deferred for the
first two years of the life of the building.

March 1970   Corporate Income

-- the two-year deferral of depreciation on commercial
buildings was extended to the end of 1971.

December 1970   Personal Income

-- the 3 per cent surtax on basic personal income
tax in excess of $200 was extended through
calendar year 1971.

Corporate Income

-- the 3 per cent surtax on corporate income was
extended through calendar year 1971.

-- from December 4, 1970 to March 31, 1972,
manufacturing and processing enterprises
were permitted to value new investment in
machinery and equipment and structures at 115 per
cent of their actual cost in earning capital
cost allowances.

June 1971   Personal Income

-- as of July 1, 1971 the 3 per cent surtax was
removed.

-- as of July 1, 1971 those with taxable income less
than $500 were to pay no tax, and those with tax-
able income less than $3,000 were to pay less tax.

Corporate Income

-- the 3 per cent surtax removed as of July 1, 1971.

October 1971   Personal Income

-- from July 1, 1971 to December 31, 1972 personal
   income tax payable was reduced by 3 per cent.

Corporate Income

-- from July 1, 1971 to December 31, 1972 corporate
   income tax was reduced by 7 percentage points.

May 1972   Personal Income

-- exemptions for taxpayers 65 years and over
   was increased from $650 to $1,000.

February 1973   Personal Income

-- basic personal exemptions raised from $1,500
   to $1,600 for a single taxpayer, from $2,850
   to $3,000 for a married couple.

-- as of January 1, 1973 a 5 per cent reduction
   in the basic federal tax payable up to a
   maximum of $500 with a minimum reduction of $100.

Corporate Income

-- from January 1, 1973 the general rate
   applicable to manufacturing and processing
   income was reduced from 43 per cent to 40 per
   cent, and the special rate applicable on the
   first $50,000 of business income of Canadian
   controlled private corporations (from manufacturing

and processing activity) was reduced from
25 to 20 per cent.

-- [public corporations in nonmanufacturing were
subject to a tax rate of 49 per cent, while
Canadian controlled private corporations in
nonmanufacturing were subject to 25 per cent
tax the first $50,000 of business income and
49 per cent on the excess.]

-- the cost of all machinery and equipment
purchased after May 8, 1972 for manufacturing
or processing could be written off in two years.
This was to apply for an initial period ending
December 31, 1974 and subsequently extended
indefinitely.

Appendix Table B-1

Federal and Provincial Taxes Paid by Income Class, by Province, 1965-73

	1965	1966	1967	1968	1969	1970	1971	1972	1973
					(Millions of dollars)				
Newfoundland									
less than $5,000									
- federal	8.05	8.34	8.76	9.57	10.65	11.67	11.20	11.41	12.22
- provincial	1.59	1.87	2.71	2.95	3.06	3.62	3.27	4.23	4.40
$5,000-$10,000									
- federal	9.69	11.74	14.39	18.59	25.23	29.20	33.39	38.36	44.86
- provincial	2.11	2.99	4.27	5.35	6.99	8.78	10.35	14.24	16.15
$10,000-$15,000									
- federal	2.45	3.46	5.20	7.37	10.42	14.76	16.76	23.21	31.32
- provincial	0.63	1.05	1.72	2.35	3.37	5.21	6.05	8.61	11.28
$15,000-$20,000									
- federal	1.07	1.25	1.69	2.31	3.44	4.24	5.64	7.55	13.18
- provincial	0.29	0.40	0.60	0.79	1.23	1.64	2.26	2.80	4.99
$20,000-$25,000									
- federal	0.69	0.80	0.98	1.25	1.54	1.74	2.33	3.30	5.46
- provincial	0.19	0.25	0.36	0.44	0.58	0.70	0.98	1.23	2.07
$25,000 and over									
- federal	2.74	2.97	3.72	4.80	6.39	7.35	8.28	11.05	15.80
- provincial	0.74	0.95	1.41	1.75	2.52	3.13	3.66	4.10	5.69
Prince Edward Island									
less than $5,000									
- federal	1.78	2.00	2.07	2.24	2.97	3.28	3.19	3.25	3.45
- provincial	0.35	0.44	0.64	0.70	0.78	0.86	0.92	1.20	1.24
$5,000-$10,000									
- federal	1.48	1.64	2.34	2.88	4.18	6.36	5.73	7.58	9.55
- provincial	0.32	0.42	0.69	0.82	1.06	1.31	1.76	2.81	3.44
$10,000-$15,000									
- federal	0.42	0.48	0.68	0.84	1.40	1.85	2.16	3.23	5.26
- provincial	0.11	0.14	0.22	0.27	0.41	0.55	0.77	1.20	1.89
$15,000-$20,000									
- federal	0.37	0.35	0.38	0.43	0.55	0.87	0.94	1.36	2.05
- provincial	0.10	0.11	0.14	0.15	0.18	0.28	0.37	0.50	0.78

(cont'd)

Appendix Table B-1 (cont'd)

	1965	1966	1967	1968	1969	1970	1971	1972	1973
				(Millions of dollars)					

Prince Edward Island (cont'd)

$20,000-$25,000
	1965	1966	1967	1968	1969	1970	1971	1972	1973
- federal	0.23	0.25	0.25	0.30	0.34	0.48	0.44	0.65	1.00
- provincial	0.06	0.08	0.09	0.11	0.11	0.17	0.18	0.24	0.38

·$25,000 and over
	1965	1966	1967	1968	1969	1970	1971	1972	1973
- federal	0.51	0.61	0.61	0.79	1.05	1.25	1.98	2.46	3.72
- provincial	0.14	0.19	0.23	0.29	0.38	0.45	0.88	0.91	1.41

Nova Scotia

less than $5,000
	1965	1966	1967	1968	1969	1970	1971	1972	1973
- federal	18.88	19.55	20.26	21.18	26.08	25.78	22.82	21.70	22.25
- provincial	3.72	4.40	6.18	6.46	6.81	6.72	5.62	8.61	8.57

$5,000-$10,000
	1965	1966	1967	1968	1969	1970	1971	1972	1973
- federal	19.94	23.21	30.99	38.87	55.27	66.35	73.70	81.88	92.82
- provincial	4.34	5.90	9.16	11.13	14.04	16.91	19.40	32.50	35.74

$10,000-$15,000
	1965	1966	1967	1968	1969	1970	1971	1972	1973
- federal	4.74	5.84	8.41	11.92	18.09	24.77	32.07	48.30	68.73
- provincial	1.23	1.77	2.75	3.79	5.34	7.34	9.84	19.17	26.46

$15,000-$20,000
	1965	1966	1967	1968	1969	1970	1971	1972	1973
- federal	2.30	3.16	3.52	4.75	7.08	9.04	12.12	17.45	23.33
- provincial	0.62	1.00	1.25	1.62	2.32	2.96	4.13	6.93	9.45

$20,000-$25,000
	1965	1966	1967	1968	1969	1970	1971	1972	1973
- federal	1.76	1.79	2.11	3.03	3.74	4.55	5.62	8.12	10.71
- provincial	0.48	0.58	0.77	1.07	1.28	1.57	2.00	3.22	4.34

$25,000 and over
	1965	1966	1967	1968	1969	1970	1971	1972	1973
- federal	6.21	6.37	7.35	9.62	13.65	17.01	18.70	24.98	34.45
- provincial	1.68	2.04	2.78	3.50	4.92	6.14	7.01	9.91	13.38

New Brunswick

less than $5,000
	1965	1966	1967	1968	1969	1970	1971	1972	1973
- federal	14.35	14.76	15.12	15.95	19.17	20.25	18.08	18.04	18.31
- provincial	2.82	3.32	4.62	4.88	6.34	7.18	6.06	7.72	7.60

Appendix Table B-1 (cont'd)

	1965	1966	1967	1968	1969	1970	1971	1972	1973
				(Millions of dollars)					

New Brunswick (cont'd)

$5,000-$10,000
| - federal | 13.70 | 17.64 | 23.06 | 28.65 | 41.01 | 45.27 | 55.64 | 61.09 | 68.91 |
| - provincial | 2.94 | 4.46 | 6.82 | 8.20 | 13.20 | 15.65 | 19.88 | 26.14 | 28.60 |

$10,000-$15,000
| - federal | 3.79 | 4.04 | 6.12 | 7.35 | 11.56 | 16.17 | 21.73 | 30.67 | 43.93 |
| - provincial | 0.98 | 1.22 | 2.01 | 2.33 | 4.28 | 6.48 | 8.99 | 13.12 | 18.23 |

$15,000-$20,000
| - federal | 1.99 | 2.06 | 2.70 | 3.35 | 4.38 | 5.66 | 7.30 | 9.84 | 13.62 |
| - provincial | 0.54 | 0.65 | 0.95 | 1.14 | 1.82 | 2.51 | 3.37 | 4.21 | 5.95 |

$20,000-$25,000
| - federal | 1.14 | 1.30 | 1.50 | 1.71 | 2.27 | 2.86 | 3.51 | 4.80 | 6.83 |
| - provincial | 0.31 | 0.42 | 0.55 | 0.61 | 0.99 | 1.33 | 1.69 | 2.06 | 2.98 |

$25,000 and over
| - federal | 4.10 | 4.50 | 5.57 | 6.97 | 8.43 | 9.64 | 11.58 | 16.63 | 21.83 |
| - provincial | 1.11 | 1.44 | 2.11 | 2.54 | 3.85 | 4.72 | 5.90 | 7.11 | 9.06 |

Quebec

less than $5,000
| - federal | 143.92 | 141.08 | 143.92 | 142.80 | 174.24 | 168.40 | 160.40 | 140.05 | 117.34 |
| - abatement | 76.50 | 78.58 | 102.23 | 101.87 | 102.66 | 99.34 | 88.58 | 34.65 | 28.16 |

$5,000-$10,000
| - federal | 175.73 | 209.09 | 282.32 | 349.24 | 459.62 | 535.15 | 561.22 | 561.62 | 628.78 |
| - abatement | 106.42 | 139.95 | 195.38 | 231.41 | 260.65 | 304.41 | 332.03 | 138.96 | 150.91 |

$10,000-$15,000
| - federal | 43.07 | 55.00 | 80.61 | 105.66 | 153.98 | 201.99 | 254.25 | 328.95 | 459.20 |
| - abatement | 32.72 | 46.16 | 64.11 | 80.32 | 106.16 | 140.15 | 185.24 | 81.39 | 110.21 |

$15,000-$20,000
| - federal | 24.17 | 29.68 | 36.57 | 48.77 | 61.63 | 80.82 | 91.02 | 128.87 | 177.95 |
| - abatement | 19.50 | 26.54 | 32.24 | 40.56 | 48.63 | 63.90 | 75.82 | 31.88 | 44.96 |

$20,000-$25,000
| - federal | 15.99 | 18.02 | 22.51 | 27.69 | 33.67 | 42.91 | 43.88 | 64.87 | 88.03 |
| - abatement | 13.21 | 16.52 | 20.74 | 24.16 | 28.27 | 36.05 | 38.84 | 16.05 | 22.24 |

$25,000 and over
| - federal | 74.28 | 79.15 | 92.10 | 112.23 | 134.16 | 148.64 | 182.82 | 256.04 | 352.94 |
| - abatement | 59.67 | 71.31 | 89.23 | 102.79 | 121.00 | 133.96 | 174.73 | 63.35 | 84.71 |

(cont'd)

Appendix Table B-1 (cont'd)

	1965	1966	1967	1968	1969	1970	1971	1972	1973
				(Millions of dollars)					
Ontario									
less than $5,000									
- federal	289.94	284.92	274.31	269.29	317.77	314.07	282.26	242.20	227.68
- provincial	57.68	65.05	82.51	81.19	82.52	78.64	70.08	73.87	69.44
$5,000-$10,000									
- federal	485.58	568.83	702.81	872.72	1109.49	1185.03	1219.71	1192.68	1224.86
- provincial	109.70	150.99	208.86	251.72	284.27	304.33	322.63	363.77	373.58
$10,000-$15,000									
- federal	123.47	157.84	214.15	298.00	445.46	612.27	753.07	1013.59	1306.49
- provincial	32.05	48.02	70.80	95.42	132.92	183.49	233.90	309.15	398.48
$15,000-$20,000									
- federal	57.37	72.48	93.77	125.34	179.49	231.98	296.46	415.22	564.86
- provincial	15.52	23.00	33.34	42.94	59.01	76.37	101.23	126.64	181.35
$20,000-$25,000									
- federal	38.15	45.49	56.38	72.87	100.03	121.06	144.64	202.07	275.68
- provincial	10.50	14.70	20.68	25.74	34.36	41.62	51.64	61.63	88.51
$25,000 and over									
- federal	158.80	184.62	222.06	290.22	368.64	427.48	473.93	615.83	889.54
- provincial	42.92	58.98	84.44	106.13	133.36	154.69	178.41	187.83	271.31
Manitoba									
less than $5,000									
- federal	32.92	32.96	32.09	31.88	38.74	39.02	35.98	32.15	31.25
- provincial	8.08	9.06	11.48	11.42	11.90	14.13	12.46	14.09	13.28
$5,000-$10,000									
- federal	40.24	47.36	61.47	74.95	99.28	109.61	116.89	120.42	132.27
- provincial	11.00	14.85	21.51	25.41	29.91	39.09	43.04	52.76	56.21
$10,000-$15,000									
- federal	9.00	12.94	18.43	25.09	36.39	45.99	54.88	76.29	104.01
- provincial	2.88	4.75	7.15	9.45	12.73	19.04	23.50	33.43	44.21
$15,000-$20,000									
- federal	5.30	6.02	8.29	10.38	13.57	16.72	20.04	27.54	39.67
- provincial	1.78	2.31	3.46	4.18	5.24	7.63	9.49	12.07	17.75
$20,000-$25,000									
- federal	3.21	3.94	4.62	5.69	7.23	8.51	8.94	12.68	18.71
- provincial	1.09	1.54	2.00	2.37	2.92	4.06	4.44	5.56	8.37
$25,000 and over									
- federal	11.20	12.82	15.47	19.89	25.93	29.63	33.24	39.59	55.10
- provincial	3.75	4.95	6.92	8.56	11.03	14.90	17.40	17.35	24.65

Appendix Table B-1 (cont'd)

	1965	1966	1967	1968	1969	1970	1971	1972	1973
					(Millions of dollars)				

Saskatchewan

less than $5,000
- federal | 27.40 | 27.06 | 26.63 | 26.10 | 28.60 | 28.36 | 26.97 | 24.62 | 23.42
- provincial | 6.25 | 7.42 | 9.57 | 9.40 | 8.83 | 9.02 | 8.09 | 9.39 | 9.37

$5,000-$10,000
- federal | 38.05 | 43.67 | 55.32 | 61.70 | 69.95 | 73.92 | 81.24 | 86.37 | 93.69
- provincial | 9.69 | 13.78 | 19.35 | 20.92 | 20.99 | 22.94 | 25.95 | 32.95 | 37.48

$10,000-$15,000
- federal | 11.72 | 13.57 | 19.20 | 21.73 | 25.07 | 30.77 | 39.05 | 55.58 | 80.24
- provincial | 3.48 | 4.98 | 7.45 | 8.16 | 8.70 | 11.05 | 14.52 | 21.20 | 32.10

$15,000-$20,000
- federal | 4.90 | 5.79 | 8.09 | 8.12 | 7.48 | 8.72 | 12.32 | 18.38 | 35.15
- provincial | 1.52 | 2.22 | 3.39 | 3.27 | 2.88 | 3.46 | 5.07 | 7.01 | 14.80

$20,000-$25,000
- federal | 2.95 | 3.17 | 4.17 | 4.48 | 4.44 | 4.70 | 5.34 | 8.27 | 19.34
- provincial | 0.93 | 1.23 | 1.80 | 1.86 | 1.79 | 1.95 | 2.31 | 3.15 | 8.14

$25,000 and over
- federal | 7.27 | 7.93 | 9.70 | 10.81 | 12.01 | 13.04 | 15.04 | 21.93 | 46.98
- provincial | 2.25 | 3.07 | 4.32 | 4.64 | 5.08 | 5.68 | 6.83 | 8.36 | 19.78

Alberta

less than $5,000
- federal | 47.74 | 47.43 | 47.98 | 49.61 | 58.11 | 58.38 | 55.94 | 48.92 | 45.91
- provincial | 9.42 | 10.79 | 14.52 | 15.05 | 16.57 | 17.94 | 16.38 | 18.16 | 16.53

$5,000-$10,000
- federal | 69.20 | 85.25 | 109.45 | 131.84 | 178.29 | 191.97 | 195.76 | 201.32 | 213.87
- provincial | 15.50 | 22.48 | 32.53 | 37.98 | 49.77 | 58.10 | 61.07 | 74.72 | 76.99

$10,000-$15,000
- federal | 19.33 | 26.00 | 37.98 | 50.33 | 75.63 | 97.71 | 130.05 | 170.04 | 221.30
- provincial | 5.00 | 7.89 | 12.52 | 16.07 | 24.50 | 34.38 | 47.49 | 63.11 | 79.67

$15,000-$20,000
- federal | 8.99 | 10.67 | 15.38 | 20.03 | 27.38 | 36.56 | 46.79 | 64.57 | 97.98
- provincial | 2.43 | 3.39 | 5.46 | 6.85 | 9.80 | 14.15 | 18.79 | 23.96 | 37.13

$20,000-$25,000
- federal | 5.63 | 7.07 | 8.93 | 10.80 | 14.52 | 17.49 | 20.46 | 31.03 | 42.60
- provincial | 1.55 | 2.28 | 3.28 | 3.81 | 5.43 | 7.07 | 8.60 | 11.52 | 16.14

$25,000 and over
- federal | 15.07 | 19.16 | 26.21 | 37.27 | 46.17 | 54.00 | 63.04 | 83.43 | 120.86
- provincial | 4.09 | 6.13 | 9.94 | 13.59 | 18.12 | 22.95 | 27.90 | 30.97 | 45.80

Appendix Table B-1 (cont'd)

	1965	1966	1967	1968	1969	1970	1971	1972	1973
				(Millions of dollars)					
British Columbia									
less than $5,000									
- federal	68.44	66.36	64.21	64.49	80.53	79.56	72.85	69.18	64.76
- provincial	13.60	15.12	19.39	19.53	20.97	20.72	18.06	21.75	19.75
$5,000-$10,000									
- federal	142.39	162.75	198.83	233.91	304.94	321.73	326.69	321.24	333.60
- provincial	32.30	43.40	59.18	67.48	78.24	82.73	91.12	101.01	101.75
$10,000-$15,000									
- federal	31.37	45.64	63.41	86.84	133.80	169.04	233.24	309.46	407.76
- provincial	8.14	13.89	20.94	27.72	39.90	50.53	72.42	97.30	124.37
$15,000-$20,000									
- federal	13.14	17.51	22.66	30.68	42.74	55.61	77.62	110.13	182.04
- provincial	3.55	5.55	8.06	10.50	14.03	18.27	26.51	34.63	58.44
$20,000-$25,000									
- federal	8.87	10.34	12.89	16.42	22.94	26.94	33.45	45.77	75.21
- provincial	2.44	3.34	4.72	5.79	7.88	9.26	11.94	14.39	24.15
$25,000 and over									
- federal	29.39	33.61	41.28	54.35	73.22	84.81	94.48	133.87	220.45
- provincial	7.96	10.75	15.66	19.82	26.40	30.59	35.41	42.09	67.24

Source   Based on data from Taxation Statistics published by Department of National Revenue, Taxation.

Appendix Table C-1

Total Income Induced by a $1.00 Change in Expenditures on Construction

Region of Impact	Region of Initial Change				
	Atlantic region	Quebec	Ontario	Prairie region	British Columbia
	(Dollars)				
Atlantic region	1.0137	.0141	.0096	.0099	.0058
Quebec	.1565	1.1756	.1124	.1028	.0889
Ontario	.2799	.2571	1.3250	.2612	.2287
Prairie region	.0221	.0276	.0427	1.0861	.0598
British Columbia	.0136	.0120	.0143	.0506	1.1223
Total	1.4859	1.4863	1.5040	1.5108	1.5057

Source   See Table 5-2.

Appendix Table C-2

Total Income Induced by a $1.00 Change in Personal Consumption Expenditures

Region of Impact	Region of Initial Change				
	Atlantic region	Quebec	Ontario	Prairie region	British Columbia
	(Dollars)				
Atlantic region	.9150	.0125	.0113	.0125	.0063
Quebec	.1550	1.0613	.1188	.1263	.1038
Ontario	.2425	.2263	1.1750	.2275	.2025
Prairie region	.0275	.0375	.0425	.9575	.0700
British Columbia	.0088	.0100	.0100	.0425	.9825
Total	1.3488	1.3476	1.3576	1.3663	1.3651

Source   See Appendix Table C-1.