SOME EVIDENCE OF THE ECONOMIC RETURN TO DREE'S INDUSTRIAL DEVELOPMENT ACTIVITY*

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Introduction

The recent report from the Economic Council of Canada entitled "Living Together" [7, pp. 164-6] provides a cursory analysis of the aggregate economic effects of attempts by the Department of Regional Economic Expansion (DREE) to create new employment under the Regional Development Incentives Act (RDIA). The report concludes that for the years 1970-72 the program would have been profitable so long as at least 18 per cent of jobs created were incremental.** It also makes the claim that the incrementality ratio was probably high enough for profitability, implying that no trade-off appeared to be involved between aggregate economic efficiency and the principal distributinal objective of the DREE program - to reduce regional disparities in material well-being.

This paper questions the confidence of that conclusion. It notes some serious shortcomings of the Economic Council analysis, in particular its partial nature, and shows that on data available the outcome of a more detailed cost-benefit exercise on the issue remains ambiguous. Thus it is not possible to assert anything clearly about the aggregate economic return to DREE's industrial development activity.

It is stressed at the outset that considerable approximation is unavoidable in the exercise. The problems associated with estimating the costs and benefits of a single project are usually severe enough, and they are compounded when the framework is applied at the program level. The order of magnitude of results, however, argues against the possibility of drawing firm conclusions about the effect of DREE activity on the economy as a whole. The method is to review DREE operations under contrasting sets of favourable and unfavourable assumptions. Negative (positive) results under the first (second) set of assumptions would provide decisive evidence concerning the return to the program. But such results do not emerge; and stringent as the test undoubtedly is, the verdict on the aggregate economic effect of DREE activity must remain open, pending further research and provision of improved information.

Before proceeding to the analysis, it may be necessary to justify restricting attention to the economic efficiency aspect of a program whose main objective is distributinal equity. While the distributional impact of DREE activity obviously requires analysis, its aggregate economic effect must be of interest as well, given the inevitable presence of resource constraints. It is important to have some idea about

*Helpful comments on earlier drafts from F. M. Bradfield and G. R. Walter are acknowledged.

**Incrementality is defined in terms of jobs which would not have materialized where they did in the absence of the policy.
whether or not pursuit of the distributive objective involves a trade-off in terms of economic efficiency, and if so, to what extent. Without such information, decisions concerning the level of program implementation cannot be as firmly based as they might be.

The next section of the paper provides a brief review of the Economic Council analysis. Following that, the alternative model is developed; in the next section it is estimated; and conclusions are drawn in the final section.

Economic Council Report

In order to gauge the economic return to DREE activity, the Economic Council report compares expenditure on RDIA grants during the period 1970-72 with the value of output attributable to labour which would have been unemployed in the absence of RDIA assistance. Results are embodied in the first two programs. Although central attention is directed towards the job creating impact of the RDIA program, infrastructure improvement is recognized as an adjunct to that program. The effect of the rural development and social adjustment program could be the subject of a separate exercise.

As with most cost-benefit appraisals, aspects of the analysis may be questioned. It is not clear that jobs which were merely diverted locationally from elsewhere in the country (as distinct from those which were generated anew by the program) are removed from the number of jobs defined as incremental; clearly they should be so removed in an analysis conducted from the national or overall economy point of view. In addition, it is not clear what adjustments, if any, are made to account for lags in the process of job creation.

Aside from these shortcomings, the analysis remains limited in the sense that several items of cost and benefit are omitted. First, no attempt is made to incorporate the effect of infrastructure expenditure, despite the fact that some portion of such expenditure would doubtless serve to aid the creation of jobs under RDIA. Second, no account is taken of the costs of administering the job creation program. Third, privately incurred removal costs as faced by enterprises relocated under the impetus of the program are not given explicit consideration. On the benefit side, incremental output includes only output attributable directly to labour (as reflected in labour earnings), excluding non-labour income associated with job creation. Finally, a multiplier effect on incremental income is omitted.

For various reasons, then, there is cause to doubt the value of the Council's findings. In what follows, an alternative, more detailed framework is presented for assessing the economic return to DREE's industrial development activity.

Cost-Benefit Model of DREE's Industrial Development Program

Despite revisions of stated approach since it came into existence, DREE has always in practice administered three principal programs:

- The incentives program, designed to create new employment under RDIA by subsidizing industry to invest in slow growth areas.

- The infrastructure assistance program, designed to complement the incentives program by helping selected centres in slow-growth areas to develop infrastructure facilities in order to make them attractive as sites for development.

- The rural development and social adjustment program, designed to improve incomes in rural areas through more efficient resource utilization.

Focus here is on the industrial development aspect of DREE activity as embodied in the first two programs. Although the viewpoint of the nation or economy as a whole is adopted, and not that of any particular region or province.

The benefits and costs of the program may be estimated for any expenditure period on the basis of the following simple expressions:

$$\text{Present Value Benefits} = \sum_{t=1}^{m} \left( \frac{(LTI)_{t} + (NLI)_{t}}{(1 + i)^t} \right)$$

$$\text{Present Value Costs} = \sum_{t=1}^{m} \left( \frac{(PRX)_{t} + (PUX)_{t} + (MV)_{t} + (0)_{t}}{(1 + i)^t} \right)$$

where

- \(LTI\) = labour income due to direct job creation under the program.

*Included in this definition is activity under the Area Development Incentives Act (ADIA) Insofar as expenditure commitments under ADIA and RDIA overlapped.

**Included here is the Special Areas Program and ancillary endeavours, such as the PEI Development Plan and special highways agreements within Atlantic provinces.

*** Included here is action under a variety of initiatives: the Agricultural and Rural Development Act (ARDA), the Prairie Farm Rehabilitation Act (PFRA), the Fund for Rural Economic Development (FRED), the Canada New-Start Program.
growth and on the degree of unemployment rate dispersion would increase the rate of interest and could jeopardize the curve will be displaced upwards to an extent dependent on the level of regional demand, the aggregate Phillips curve will be quantitatively important, given that the dispersion of unemployment between regions. Thus, the rate of unemployment will be lower for any income inflation rate, the lower the degree of dispersion. In the second case, if high-demand markets spill over union parity claims into low-demand markets, a lower rate of unemployment will obtain for any rate of income inflation, again the lower the degree of dispersion between (regional) markets.

Empirical Estimation

Development of estimates of the model in face of extensive data problems is based on the following procedure. A question of choice arises as to the basis of an estimate, assumptions are used which cast the program alternatively in a favourable and unfavourable light. If results show a negative return under favourable assumptions or are positive under unfavourable assumptions, it will be possible to conclude that the program is unambiguously either not worthwhile or is worthwhile from the overall national economic point of view. If results remain unclear under the adopted procedure, then judgment will have to be resolved until developments in data provision and research permit more refined estimates to be made.

It should be observed that for certain few items it is not possible to provide both favourable and unfavourable estimates. These cases are noted in the body of the analysis and their effects on results considered under "Conclusions". It is emphasized that, rather than being distorted, conclusions are expected to be reinforced by these exceptions. It should also be said that in certain cases clear alternative values are unavailable but where reasonable values over a range may be determined, then a range is applied to both favourable and unfavourable alternatives.

The period of expenditure chosen for review is 1969 through 1972, a period conforming closely to that used by the Economic Council (1969-72) and one for which estimates of detail is available regarding implementation of DREE's industrial development program. A summary of basic data is given in the Appendices.

The influence on the position of the aggregate Phillips curve may be felt through either the "aggregation" effect or through the "wages drift" mechanism. In the first case, if Phillips curves in individual regions are convex or display slopes which are positively correlated with the level of regional demand, the aggregate Phillips curve will be displaced upwards to an extent dependent on the degree of unemployment rate dispersion between regions. Thus, the rate of unemployment will be lower for any income inflation rate, the lower the degree of dispersion. In the second case, if high-demand markets spill over union parity claims into low-demand markets, a lower rate of unemployment will obtain for any rate of income inflation, again the lower the degree of dispersion between (regional) markets.
Labour Income (L)

Labour income derived in any year \( t \) from direct jobs created under the program may be expressed as follows:

\[
L_t = \sum_{j=1}^{n} \sum_{r=1}^{n} \sum_{t=1}^{k} \alpha_j \gamma_j r \text{ average annual earnings (before direct tax and superannuation payments) in Industry } j \text{ in region } r \text{ in year } t
\]

where \( \alpha_j \gamma_j r \) = proportion of expected direct jobs actually realized.

This formulation does not subtract the (unknown) value of lost leisure time to formerly unemployed persons from estimates of labour income generated. In this sense, the procedure involves an exception to the principle of placing the program in an unfavourable as well as a favourable light. Its effect, along with others, is discussed under "Conclusions".

Basic data for the series on \( \alpha_j \gamma_j r \) are published on a monthly basis [20, Table 3]. * Data from which the series on \( \alpha_j \gamma_j r \) may be estimated are provided by DREE [4, Tables 3 and 11]. This last information is presented on the basis of jobs associated with acceptances of grant offers, the lag between acceptance and job creation remaining unknown. Evidence from the British regional program is that it takes typically from three to four years for the main bulk of jobs (75-88%) to come into existence [17], the time lag being rather shorter in the case of expansions and modernizations than in new plants, and the rate of build-up declining over time. In the absence of information on the rate of build-up for RDIA jobs, it may be appropriate as a basis for a conservative estimate to spread expected jobs over the year of grant acceptance and the three following years (at a constant rather than a declining annual rate). This involves the assumption that if jobs failed to materialize within three years of the end of the year in which offers were accepted they would not materialize at all. For purposes of casting the program, by contrast, in a favourable light, it is assumed that fifty per cent of jobs are created in the year that grants are accepted and the remaining fifty per cent in the following year.

The series on \( \alpha_j \gamma_j r \) is already corrected for known reductions up to December 1972 in job creation plans, as agreed at the time of acceptance of DREE's offer of an incentive grant. Such reductions result from withdrawals, declines, or revisions of offers, and from closures of supported projects subsequent to acceptance of a DREE offer. For jobs associated with price levels during the period 1969-72, however, further adjustments would be anticipated after December 1972, the job materialization factor \( a \) being designed to capture this. DREE's best estimate of further adjustment is 0.28 [4, p. 37], adoption of which implies that \( a = 0.80 \), a value likely to be rather favourable to the policy. In order to present the program in a less favourable light, a value of 0.70 is used. This is based on some corrections to DREE's calculations undertaken by Gillespie and Kerr [8, Appendix D] and is likely to be quite conservative since the job erosion factor \( (1 - a) \) of 0.30 is based, so far as can be determined, on initially announced jobs rather than jobs already adjusted for some erosion prior to December 1972. In the absence of information regarding the spread of required adjustments over years and provinces, values for \( a \) are applied without variation to jobs associated with accepted offers in each year.

It is to be noted that as a result of data constraints no account can be taken here of the possibility that subsidized projects might have displaced other projects which could have developed in the absence of additional inducements in local factor and product markets. While this creates no difficulty in the presentation of the program in a favourable light, it represents an exception in the case of an examination in an unfavourable light. Given the depressed state of economic activity in areas qualifying for assistance, however, it may not be a very significant exception.*

Of the estimated direct job creations adjusted for overstated, a proportion would have materialized anyway, some in the same region, others elsewhere in the country. Only those which were truly incremental from the national point of view can be attributed to the program. Thus, jobs which in the absence of the program would have materialized anyway in other regions are merely diverted rather than generated by the program and, despite being termed "locally incremental" in the literature, are to be removed in the latter (using the term \( \alpha_j \gamma_j r \) in expression (3)). Jobs which would have materialized autonomously in regions of job creation are also to be removed (using the factor \( \gamma \)). Only jobs resulting from the effect of incentives on the size, timing,

*For a few industries, earnings data are not available on a provincial basis. In these cases, estimates are based on the ratio for Canada as a whole of earnings in industries. In question to earnings in manufacturing Industry [20, Table 2]. This ratio is then applied to provincial data for earnings in manufacturing industry. Neither at nor at any other point in the analysis, it should be noted, is an adjustment made for inter-regional price differentials. This is because it is more or less impossible, given the data available, to match regional prices closely to the regional distribution of benefits or costs.

*Use of DREE [4, Table 11], involves the assumption that the proportion of employment associated with each industry in each region was constant from year to year. It is to be stressed as well that considerable refinement could be achieved were job creation estimates disaggregated according to sex and grade.

*The Economic Council is of the opinion that this so-called "crowding-out effect" would be unlikely to be very significant [7, p. 163].
and viability of projects require to be counted, the availability of grants being expected to have increased the size of some projects, brought forward in time some other projects, and made viable some otherwise marginally unprofitable projects.

Available evidence on incrementality is of limited value [1;18;4;2;7;8]. APEC's questionnaire fails to identify different types of incrementality, so it is not possible to separate out non-locational incrementality effects. The same problem attaches to the AEC and Economic Council findings. Although it distinguishes between different types of incrementality, DREE provides what are probably optimistic estimates based on procedures lacking theoretical validity. Gillespie and Kerr merely adjust the DREE figures on a judgmental basis. Hence it is hazardous to rely too heavily on evidence from these studies.

Rather than fabricate another guess as to the extent of incrementality, the procedure in this analysis is to estimate the non-locational incrementality factor required for the program to break even under favourable and unfavourable assumptions, and then to assess the reasonableness of these values in light of the approximate evidence from the above studies. If values seem feasible, inferences may be drawn about the likely sign of the return to the program; if not, judgments about the economic viability of the program are to be reserved.

Non-Labour Income (NLI)

Just as labour income would have been increased by the program, so would non-labour income. This comprises corporate profits as well as interest and indirect taxes (net of subsidies) which are additional claims against revenue. To the extent that subsidized enterprises are domestically owned, depreciation expenses also require to be added back to profit to measure gross non-labour income. In the case of foreign-owned businesses, however, the value of output reflected in depreciation is not appropriated as domestic income. To provide a favourable estimate of the item NLI, therefore, it is assumed that all subsidized firms are domestically owned, the basis of the estimate being the ratio of total output (exclusive of military pay and net income of farm operators and unincorporated businesses) to employment income (on average 1.67 during the appropriate period) [19, Table 1]. As the basis for an unfavourable estimate, depreciation is removed from total income, giving a ratio of adjusted total income to employment income of 1.47 [19, Table 1].

Multipliers (6)

It is reasonable to expect that the funds saved on social assistance payments as a result of the program would have been redirected to some alternative government purpose so, as in other studies [1;12], a full multiplier is attached to labour income. A multiplier is also attached to non-labour income. Since estimates of separate multipliers are not available for different types of income increase, it is perhaps acceptable to assume that \( b_1 = b_2 \) so that a generalized income (GNP) multiplier may be used.

Use of the national multiplier is appropriate, since the analysis is being conducted from the point of view of the economy as a whole rather than from that of a single region. Thus spillover effects from one region to another require to be taken into account. Increases in income generated in one region produce nationwide increases through the mechanism of inter-regional trading relations. While the national multiplier assumes away differential regional propensities to import from abroad, differential distributions of income and hence marginal consumption propensities within regions, and differential input-output relations within regions, the simplifications are not out of line with conventional use of multiplier estimates at the national level.

The generalized GNP multiplier for the period in question may be estimated at 1.1 - 1.5 (as approximated from [21]). Use of these bound values places the policy respectively in an unfavourable and a favourable light.

Private Capital Formation (PRX)

So far as private expenditure (inclusive of DREE subsidies) on factory construction under the program is concerned, it may be valued at zero. If development would not have occurred elsewhere in the absence of the program, resources which would otherwise have remained idle were brought into use, involving thereby no real resource cost. If, on the other hand, development would have occurred elsewhere in the absence of the program, investment spending was merely diverted from one area to another, and no net real resource cost was involved.

Public Expenditure (PUX)

Real resources committed by government to the incentives program include the cost to DREE of administering the program and the costs to the Department of Finance and the Treasury Board of overseeing administration of the Act. If taxes used to contribute towards the cost of the program would not have been raised in the absence of the program, it would in addition be necessary to include the cost of tax collection to the Department of National Revenue. That part of the cost of infrastructure expenditure incurred by DREE in the process of creating the additional income measured on the benefit side should also be included along with any administrative cost associated with that expenditure. It is emphasized here that only a proportion of DREE's infrastructure expenditure requires to be captured, because much of the assistance for infrastructure would have had broader objectives than to serve the specific plants aided under RDIA. Finally, any infrastructure expenditure and associated administrative costs by municipalities or provinces in the costs of generating measured job creations should also be included.

Since nominal expenditures in the identified categories of public expenditure should be adjusted in light of the real costs incurred on resources which would otherwise have remained idle, it follows for any year \( t \) that:

\[
G_t = a_1 G_{t+1} + a_2 G_{t-2} + a_3 G_{t-3} + a_4 G_{t-4}
\]

where \( G_t \) = cost to DREE of administering the incentives program and the relevant portion of the infrastructure assistant program.
Data for $G_2$ may be derived from federal government data, adjusting from the fiscal to the calendar year basis [9]. Program overhead expenditure on miscellaneous Items (e.g., payments to other departments for services rendered) and developmental planning and administration are allocated to the incentives and infrastructure assistance programs on the basis of the proportion of the expenditure total program attributable to these particular activities. In the absence of information on the administrative costs borne by other departments or levels of government ($G_4$), it is necessary to exclude this item, recognizing that $G_2$ represents an exception to the guiding principle of conservatism when casting the program in an unfavourable light. It is fortunate that the item $G_2$ is likely to be quite minor.

So far as DREE contributions towards incremental Infrastructure expenditure ($G_1$) are concerned, information is available in federal government estimates [9,10]. As it is not possible to separate out that proportion of expenditure associated specifically with jobs created under RDIA assistance, this item is alternatively excluded and included in full in order to present the program respectively in a favourable and an unfavourable light. So far as incremental infrastructure costs are borne by the municipal and provincial levels of government ($G_4$) are concerned, information is unavailable. It is, therefore, necessary to exclude this item, recognizing that $G_4$ represents an exception to the principle of placing the program in an unfavourable as well as a favourable light. It will be argued in the "Conclusions" section of the paper that this and other exceptions are unlikely to alter conclusions about the economic return to the program. Indeed, they are likely to reinforce them.

In estimating the shadow price adjustment factor ($\eta_1$), each unit of input employed through government spending should be traced to its source to determine the extent to which any otherwise idle resource of labour and capital are brought into employment by the spending. Exact values will vary with unemployment levels and other economic conditions in regions, as well as with amounts, kinds, and origins of labour and materials used in each area of expenditure. In the absence of even moderately sound data necessary to implement this counsel of perfection, the model is estimated on the basis of a range of values for $\eta_1$ applied to both favourable and unfavourable assumptions. At one end of the range, no shadow price adjustment is made, so that $\eta_1 = 1.0$. This is in deference to economists who are of the opinion that the hazards of estimating shadow prices may lead to more misleading results than use of nominal values [13]. At the other end, $\eta_1 = 0.7$ may be appropriate, a value emerging as reasonable from available studies on regional shadow prices [18,14].

Private Movement Cost (MV) and Locational Disadvantage ($D$)

These items may be dealt with together as they are by a common proxy. In the process of relocating under the program, those items affected would have been faced with some one-for-all costs of movement: training labour in the new location, moving key personnel, records, and office equipment, and general settling-in costs. In addition, plants that would otherwise have developed elsewhere in the subvention policy and were attracted to slow growth areas by the availability of subsidies may have incurred some increase in continuing operating costs over and above levels that would have been faced elsewhere. If any such locational disadvantage arose, it is necessary to include it in the analysis.

On the grounds that grants in connection with relocation decisions presumably reflect some judgment of the present worth of both initial movement cost and continuing locational disadvantage, an appropriate basis of measurement is to employ them as surrogates. Thus, application to grant offers across regions of the proportion of subsidies affecting location decisions is a reasonable alternative present value estimate of one-for-all costs of movement and of locational disadvantage. The DREE estimates that 59.2% of subsidies paid 1969-72 were, in respect of locational options [4, p. 42], double, an optimistic estimate of locational impact which can serve as the basis for the unfavourable value for the items MV and $D$. Another estimate [10,14] reduces the DREE figure by half, implying that a substantial proportion of grants were in the nature of windfall gains. This lower estimate may be used as the basis of the favourable value for Items MV and $D$.

Estimated Total Benefits and Costs

Favourable and unfavourable estimates of the benefits and costs of the industrial development program from the point of view of the economy as a whole are shown in Table 1.

*Neither source is ideal. The one relates to U. S. regions and the other to the resource costs of coal-mining labour in the U. K.

**In the absence of published annual data for grant offers, total offers for the period 1969-72 are prorated over years on the basis of expected jobs associated with accepted offers. For reasons of job erosion other than closure, estimates should be adjusted downward in accordance with adjustments to expected job creations. The extent of the required adjustment, however, is unknown, but it would be minor enough for omission not to distort results significantly. It should also be noted that another minor degree of conservatism is built into estimates, inasmuch as an element of windfall gains in the payment of grants attaches to intramarginal developments.
Non-locational incrementality ratios required for the program to break even are also shown. A range of discount rates from 8% to 16% is employed, together with alternative time horizons of five and ten years. Year 5 (favourable assumptions) or year 7 (unfavourable assumptions) or year 6 (equivalent) for each year in which all or part of the program expenditures would have been on stream for a whole year, although it is to be noted that this would be the case only under the favourable set of assumptions. Under unfavourable assumptions, on-stream operation would not be completed until year 7. The time horizon is extended to ten years, assuming the benefit estimate for year 5 (favourable assumptions) or year 7 (unfavourable assumptions) to be applicable in subsequent years.* All data are in terms of 1969 prices.**

Conclusions

In assessing results for evidence of the return to DREE's industrial development program, a principle criterion that unambiguously negative (positive) returns will obtain only if under the favourable (unfavourable) set of estimates the benefit-cost ratio is less (greater) than unity. Otherwise, conclusions must remain guarded. This criterion is a highly stringent one, as estimates defining favourable and unfavourable conditions are of necessity fairly extreme, given the data available.

On the basis of the above criterion, there does not appear to be unambiguous evidence either as to other factors presenting serious difficulties of estimation (e.g., the appropriate shadow price for costs, the extent of locational disadvantage involved in moving under the program, the full expenditure involvement of other departments and levels of government). In addition, it would be useful to have access to some data which are currently, and not altogether understandably, withheld (e.g., disaggregation of job creations by sex and grade; greater detail concerning lags in the process of job creation). This, and information generated from further research, would facilitate the determination of less ambiguous conclusions concerning the return to the program, either by clarifying the question of incrementality or by enabling the spread between favourable and unfavourable estimates (the area of ignorance) to be narrowed. As matters stand at present, the verdict must remain open.

Finally, what emerges as a clear implication of the study is the need for further research on the question of incrementality as well as on other factors presenting serious difficulties of estimation (e.g., the appropriate shadow price for costs, the extent of locational disadvantage involved in moving under the program, the full expenditure involvement of other departments and levels of government). In addition, it would be useful to have access to some data which are currently, and not altogether understandably, withheld (e.g., disaggregation of job creations by sex and grade; greater detail concerning lags in the process of job creation). This, and information generated from further research, would facilitate the determination of less ambiguous conclusions concerning the return to the program, either by clarifying the question of incrementality or by enabling the spread between favourable and unfavourable estimates (the area of ignorance) to be narrowed. As matters stand at present, the verdict must remain open.

In summary, then, it does not seem possible on the data available to assert without question that, in pursuit of its principal distributional objective, the program did or did not involve any trade-off in terms of aggregate economic efficiency (at least for the expenditure period 1969-72). Assertions one way or the other to that effect should therefore be received with some caution, unless it can be shown that the non-locational incrementality ratio is either next to zero or is sufficiently high to render the benefit-cost ratio greater than unity under appropriate parameter values. As yet, reliable evidence on this matter is simply not in.

*The implicit assumption that the full extent of job erosion occurs within the first five or seven years introduces a possible upward bias to results, both favourable and unfavourable.

**Benefit estimates are deflated by the GNE implicit price index. Costs estimates are deflated by either the government or business implicit price index for capital formation, or by the government index for current expenditures.
Table 1

ESTIMATED BENEFITS AND COSTS OF BREE'S INDUSTRIAL DEVELOPMENT PROGRAM

<table>
<thead>
<tr>
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<th>Break-Even Non-Locational Incrementality Ratio**</th>
<th>Benefits($)</th>
<th>Costs($)</th>
</tr>
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<tr>
<td></td>
<td><strong>Ratio</strong></td>
<td>= 0.7</td>
<td>= 1.0</td>
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<tr>
<td>Favourable Estimates</td>
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<tr>
<td>5 yrs.</td>
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<tr>
<td>8%</td>
<td>1750.8</td>
<td>18.95</td>
<td>27.04</td>
</tr>
<tr>
<td>16%</td>
<td>1401.25</td>
<td>16.91</td>
<td>24.13</td>
</tr>
<tr>
<td>10 yrs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8%</td>
<td>4736.03</td>
<td>18.95</td>
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<td>3246.75</td>
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</tr>
<tr>
<td>Unfavourable Estimates</td>
<td></td>
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</tr>
<tr>
<td>5 yrs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8%</td>
<td>426.57</td>
<td>314.76</td>
<td>449.60</td>
</tr>
<tr>
<td>16%</td>
<td>339.08</td>
<td>281.39</td>
<td>401.94</td>
</tr>
<tr>
<td>10 yrs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8%</td>
<td>1605.76</td>
<td>314.76</td>
<td>449.60</td>
</tr>
<tr>
<td>16%</td>
<td>1065.17</td>
<td>281.39</td>
<td>401.94</td>
</tr>
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</table>

*Benefit estimates exclude adjustment for incrementality.

**Incrementality is defined as exclusive of locational incrementality so that the required break-even ratio relates to the effect of incentives on the size of projects, their timing, and the viability of projects which in the absence of incentives would have remained unprofitable.

Source: [4], Tables 3 and 4.

Note: Favourable estimates based on fifty percent of above values.
### UNADJUSTED CUMULATED ESTIMATES OF DIRECT JOBS CREATED

<table>
<thead>
<tr>
<th></th>
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<tbody>
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<td>Atlantic</td>
<td>502 (253)</td>
<td>2255 (1130)</td>
<td>5879 (3191)</td>
<td>11171 (5711)</td>
<td>14089 (9981)</td>
<td>14089 (12626)</td>
<td>14089 (14085)</td>
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<td>3608 (1805)</td>
<td>15184 (7813)</td>
<td>36589 (20100)</td>
<td>49151 (32168)</td>
<td>49151 (42870)</td>
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<tr>
<td>Ontario</td>
<td>-</td>
<td>618 (311)</td>
<td>1925 (1116)</td>
<td>4995 (2889)</td>
<td>6775 (4501)</td>
<td>6775 (5885)</td>
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<td>Prairies</td>
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<td>1625 (915)</td>
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</tbody>
</table>

Source: DREE, 1973a: Table 3.

Note: Unfavourable estimates in parentheses. Minor differences in 1975 totals due to rounding.

### ESTIMATED PUBLIC EXPENDITURES ($M)

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>G</td>
<td>5.48 (18.04)</td>
<td>6.72 (15.84)</td>
<td>11.34 (20.74)</td>
<td>10.56 (20.87)</td>
</tr>
<tr>
<td>G</td>
<td>-- (58.58)</td>
<td>-- (150.93)</td>
<td>-- (140.47)</td>
<td>-- (136.49)</td>
</tr>
</tbody>
</table>

Source: (9)

Note: Unfavourable estimates in parentheses.
References


2. Atlantic Development Council, Regional Development Incentives Program, St. John's, 1976.


