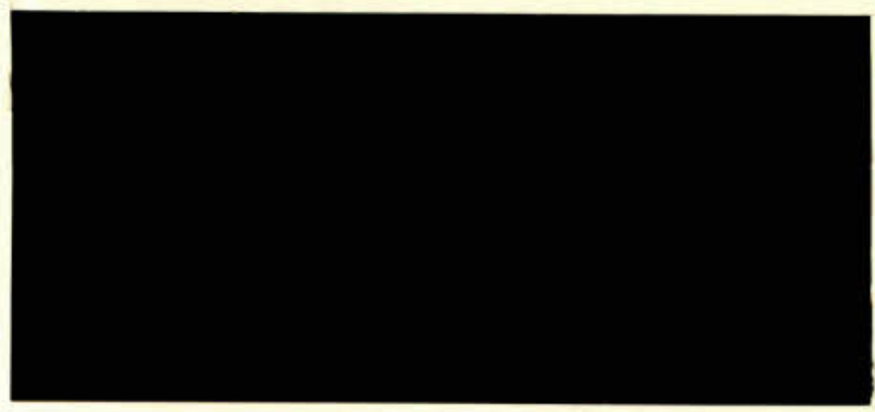


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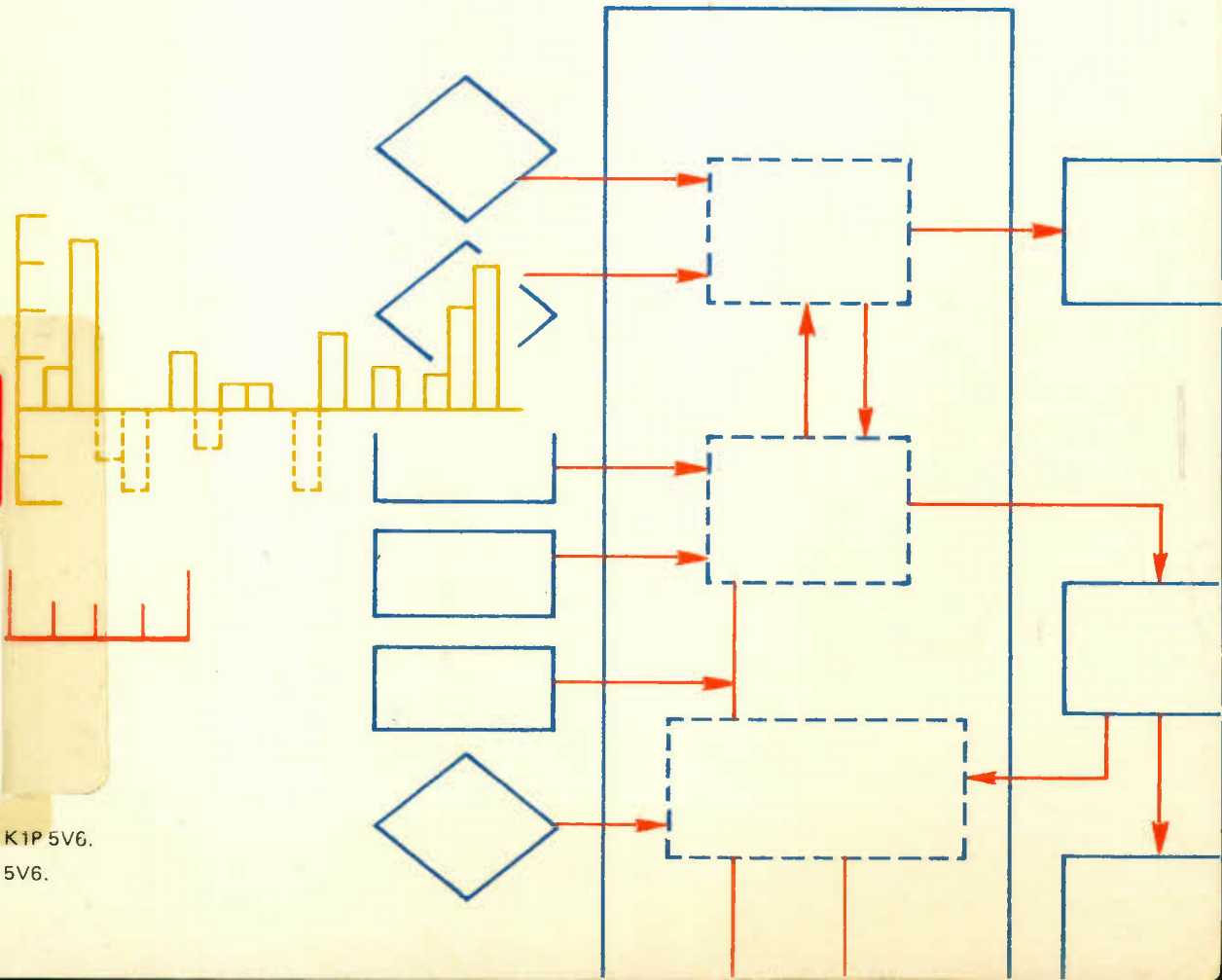


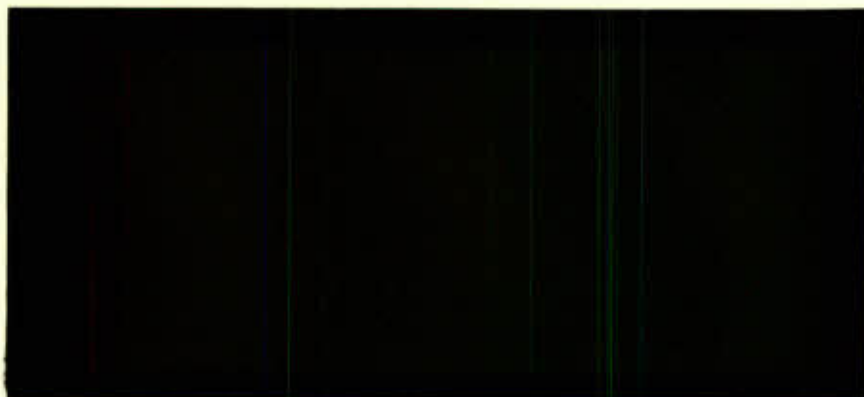
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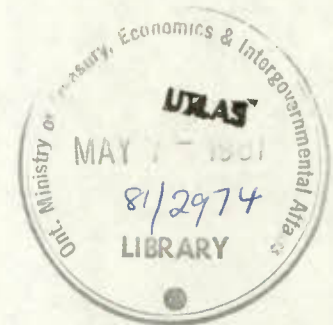
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DISCUSSION PAPER NO. 195

Simulating Some Income Supplementation  
Programs for Newfoundland

by

R.C. Zuker



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Comments by persons on an earlier draft of this paper were much appreciated. The author accepts ultimate responsibility for the contents of this paper.

## Résumé

Le présent rapport fait état de simulations de programmes de suppléments de revenu qui pourraient possiblement remplacer les prestations d'assurance-chômage spéciales pour les pêcheurs et les prestations régionalisées. Certains sont d'avis qu'un tel changement du système de sécurité sociale permettrait d'arriver à un meilleur équilibre entre les prestations et les besoins, et contribuerait à améliorer la performance économique. L'étude examine aussi certains aspects de la combinaison possible d'un programme de supplément de revenu au programme actuel d'assurance-chômage et au régime provincial d'assistance sociale.

## Abstract

This paper reports on simulations of some alternative income supplementation programs for Newfoundland in replacement of regional extended and fishermen's unemployment insurance benefits. It is argued that such a change in the social security system would lead to greater correspondence between the incidence of benefits and need and contribute to improved economic performance. Some aspects of interfacing an income supplementation program with the regular unemployment insurance program and the provincial social assistance plan are discussed.

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## I Introduction

In the course of undertaking the research for the Newfoundland Reference, evidence began to accumulate that the structure of the Unemployment Insurance Program as it applies in (high unemployment areas such as) Newfoundland was contributing to some already serious economic performance problems.<sup>1</sup> Some of the deleterious effects identified were overentry and low productivity in the inshore fishery; and the high degree of seasonality in many industries, particularly fishing and fish processing, resulting in low productivity of labour and capital. More generally, one of the important effects of the unemployment insurance program is that it causes the net private benefits for a given type of work to diverge from its social counterpart and for the difference to vary under different circumstances. Regional extended benefits and benefits for self-employed seasonal fishermen were considered to be the two aspects of the unemployment insurance program which were contributing most significantly to these problems. In addition it is likely that these two component programs could and probably are resulting in inequities in the distribution of net benefits in relation to need.

The search for some alternatives to these two components of the unemployment insurance program was not included in the original research outline of the Newfoundland Reference. Some work in this area was requested at a very late stage in the study after

it became apparent that these two components programs were contributing to Newfoundland's economic problems. The objective was not to devise an alternative income supplementation program in great detail. Such an exercise is best left to legislators and program designers. Rather the purpose of this exercise was merely to explore the extent to which the funds currently spent on regional extended and fishermen's unemployment insurance benefits in Newfoundland could finance a reasonably generous income supplementation program. The objectives of such a program would be to provide protection against income inadequacy for families with labour force attachment, to do so in a more equitable fashion, and to contribute to an improved allocation of labour and capital and thus higher productivity.

A review of some of the programs which had been proposed in the past in Canada, and which have been implemented in other provinces indicated that an income supplementation program for working poor families with children might serve as a basic design for an income supplementation program in Newfoundland. When this issue was raised with members of the Economic Council in the course of their deliberations, they requested that some further research be undertaken to explore the cost implications of some alternatives. Fortunately the BENTAX model developed at Health and Welfare Canada provided a means by which the cost and distributional implications of some alternative programs could be simulated quite quickly.

The first part of this paper presents a discussion of the two major reasons underlying the proposal to replace regional extended and self-employed fishermen's benefits of the unemployment insurance program with an income supplementation program. The two reasons are greater equity in the distribution of benefits and less distortion in economic behaviour.

The second part of this paper reports on the simulations, specifically with a view to providing some rough answers to the following questions:

- a) For the alternative programs considered, how would costs vary with alternative design features and under alternative assumptions?
- b) How generous could an income supplementation program be if financed from regional extended and fishermen's benefits?
- c) What would be the likely effect of such a change on the distribution of income?

There are inherent limitations to this simulation analysis for several reasons:

- 1) Time and resources only allowed for a limited number of programs to be simulated;
- 2) The BENTAX model and the data base to which it was applied imposed some limitations on the consideration of certain

features in program design and in terms of providing more accurate and more comprehensive results.

These aspects of the simulations will be discussed in greater depth in the paper. But the main point is that the programs simulated and the results should be considered only for demonstration purposes and as a basis for further discussion. More research would be required to design an appropriate income supplementation program for Newfoundland taking into account a variety of factors including the effect on labour market behaviour.

The third part of the paper presents a discussion of some aspects of the problem of integrating an income supplementation program with the regular unemployment insurance program and the provincial social assistance program.

## 1. Rationale For an Income Supplementation Program

In 1973 the Working Paper on Social Security in Canada (12) noted that:

"A second major deficiency in Canada's income security system arises from the fact that the incomes of people who are employed oftentimes are not adequate to meet the family's needs."

In response to this deficiency the Working Paper proposed:

"That the incomes of those who are working but whose incomes are inadequate by reason of family size (even after the increase in family allowances proposed above) or by reason of the nature of their employment (low-paying self employment or intermittent or partial employment should (sic) be supplemented under a single, general income supplementation plan, with built-in work incentives."

The subsequent federal-provincial discussions on revising the social security system did not lead to a consensus and no nation-wide income supplementation plan for the working poor has been introduced in Canada. The federal government did raise family allowances substantially and subsequently introduced a refundable child tax credit which benefits lower income families to a greater extent than higher income families. Some provinces, such as Saskatchewan and Quebec have introduced modest low income supplementation programs for families with children and other provinces have modified their social assistance programs to incorporate greater work incentives.



Perhaps one reason that the federal and provincial governments could not agree on a low income supplementation program is that the discussions took place when budgets were becoming very tight, and this program was viewed as an addition to existing social security programs. If instead it had been viewed as a replacement for components of other transfer programs with overlapping objectives, such as the unemployment insurance program, a nation-wide program might have been successfully implemented.

Despite the changes in social security which have been implemented in recent years the problem persists in Canada, and what is true for Canada as a whole, is true for Newfoundland to an even greater degree. The problem of low income as a result of low wages or intermittent or partial employment is quite widespread in Newfoundland and coexists with a high level of government transfer payments to persons.

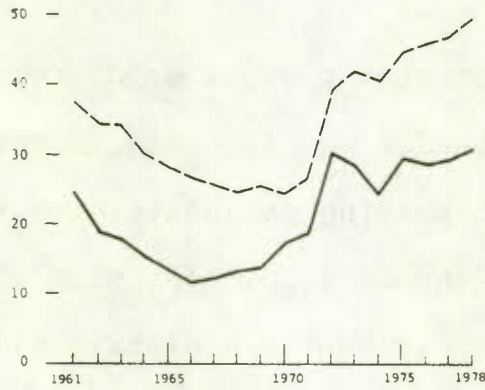
In 1978 benefits paid under the Unemployment Insurance Program represented close to 50 per cent of federal government transfer payments to persons in Newfoundland, 37.7 per cent of all government transfers to persons (excluding provincial government transfers to benevolent associations, most of which is for schools), 17.1 per cent of federal government expenditures and 8.3 per cent of personal income. These percentages have been rising steadily over the last decade and, as would be expected, they are notably higher in Newfoundland than for the nation as a

Chart 1

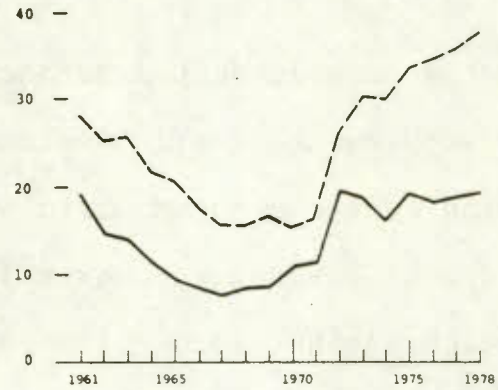
Unemployment Insurance Benefits in Relation to Government Transfers to Persons and Personal Income, Newfoundland and Canada, 1961-78

----- Newfoundland  
————— Canada

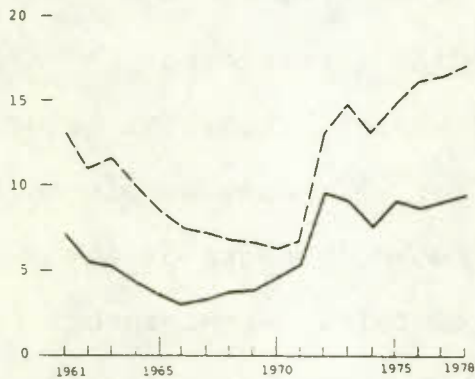
(a) Unemployment Insurance Benefits as a Percentage of Federal Government Transfers to Persons



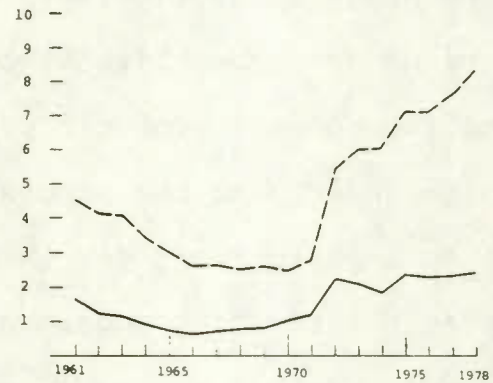
(b) Unemployment Insurance Benefits as a Percentage of all Government Transfers to Persons (Excl. Provincial Government Grants to Benevolent Associations)



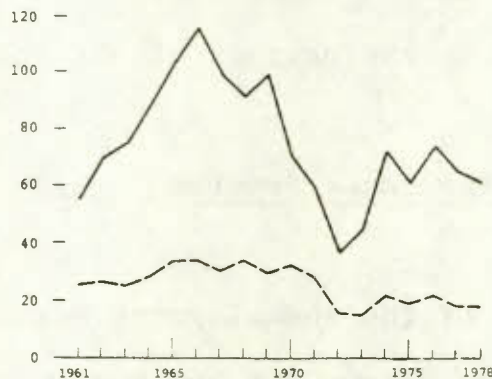
(c) Unemployment Insurance Benefits as a Percentage of Federal Government Current Expenditures



(d) Unemployment Insurance Benefits as a Percentage of Personal Income



(e) Unemployment Insurance Premiums as a Percentage of Benefits Paid



whole (Chart 1). Unemployment Insurance Premiums contributed by employees and employers in Newfoundland were only about 18.3 per cent of benefits paid in the province in 1978, compared to 62 per cent nationally.

Thus the unemployment insurance program plays a major role in income supplementation in Newfoundland. As discussed in the following sections the problem with relying extensively on the unemployment insurance program for income supplementation and protection against income inadequacy is that the distribution of benefits will not necessarily be in correspondence with need. Secondly, it will be also argued below, that the unemployment insurance program, particularly as it applies in high unemployment provinces like Newfoundland, reinforces the factors contributing to poor economic performance. Thus, the major rationales underlying the proposal for an income supplementation program as a replacement for these two components of the unemployment insurance program are twofold. First such a program change would provide a greater assurance that funds would be distributed in a fashion that was more responsive to need. Secondly, such a program would contribute to improved economic performance compared to the current situation.

## 2. The Unemployment Insurance Program

The two components of the unemployment insurance program with which this paper is concerned are regionally extended benefits

and fishermen's benefits. Expenditures under these two programs in Newfoundland in 1978 were \$81.5 million and \$19 million respectively or together about 40 per cent of the total unemployment insurance benefits of \$251 paid in the province that year.

Regional extended benefits are available after exhaustion of regular and labour force extended benefits for between 2-32 weeks depending on the amount by which the regional (sub-regions within provinces) unemployment rate exceeds 4 per cent. Above an unemployment rate of 11.5 per cent, benefits are available for up to 32 weeks. This is the case throughout Newfoundland. Unemployment insurance benefits for self-employed fishermen were introduced in 1956, supposedly on a temporary basis. Benefits can be received in Newfoundland for up to about 26 weeks, within the period November 1 to May 15.

Regional extended benefits are not financed from contributions on either an aggregate basis or from additional premiums from the class of claimants or employers whose operations are highly seasonal in nature. Rather they are financed from federal general revenues. The rationale for this form of financing is that the federal government accepts responsibility for high rates of unemployment. But viewed from a slightly different perspective, the fact that these benefits are not financed from contributions reflects the fact that payments under this program do not constitute insurable risk even under national pooling. Thus they are a form of income supplementation.

In the case of the unemployment insurance program for self-employed fishermen, premiums paid by fishermen and their "employers" have constituted only a fraction of benefits paid in recent years (Table 1). There is no reason to suppose that the situation has been any different throughout the lifetime of the program. Thus payments under this program have also constituted a form of income supplementation. The data in Table 1 also indicate that the recovery of the fishery in recent years has resulted in a significant increase in benefits paid to fishermen.

Table 1

Unemployment Insurance Program for Self-Employed Fishermen,  
Newfoundland and Canada, Selected Statistics, Selected Years

	1972	1975	1977	1978
<u>Benefits Paid</u>				
		(\$ Millions)		
Newfoundland	4.47	4.42	13.21	18.95
Canada	20.40	23.62	48.40	63.46
<u>No. of Claims Allowed</u>				
		(Number)		
Newfoundland	5,936	14,248	6,540	8,331
Canada	20,625	18,238	23,215	25,012
<u>Premiums as a Percentage of Benefits</u>				
		(Per Cent)		
Newfoundland	7.4	11.8	7.7	7.4
Canada	6.9	11.4	8.5	8.3

### 3. The Question of Equity

If one accepts the premise that these two components of the Unemployment Insurance program constitute forms of income supplementation, the question which is immediately raised is what is the degree of equity in the distribution of net benefits. There are two aspects to the equity issue -- vertical and horizontal. Vertical equity would require that benefits to lower income groups be relatively greater than to higher income groups. Horizontal equity would require that similar family units in essentially similar financial circumstances receive similar benefits.

The following discussion will present some available evidence surrounding this issue which unfortunately is not sufficient to provide a conclusive answer. Hypothetical situations (many of which undoubtedly occur in practice) will be presented that suggest that neither vertical nor horizontal equity are likely features of regional extended and fishermen's benefits.

In an analysis of the total unemployment insurance program based on data from the Survey of Consumer Finances for 1975, Cloutier (2) found that there was overall progressivity in the program taking benefits and 75 per cent of the financing into account. Families in the lowest quintile were generally an exception in that the net benefits they received tended to be relatively less than that received by families in the second and

third quintiles. Part of the reason for this result is that a relatively high proportion of families in the lowest quintile are those without a member who is an active labour force participant (e.g. senior citizens).

Some evidence on the distribution of all unemployment insurance benefits in Newfoundland in 1977 based on the survey of Consumer Finances is presented in Appendix Table A-1. Unfortunately this data base does not provide specific information on regional extended and fishermen's benefits. These data should be viewed with some caution as in many cases the data are based on small sample sizes. Also, these data relate only to the distribution of benefits.

To assess the degree of progressivity in the distribution of benefits reference will be made to benefits per capita rather than benefits as a percentage of gross income.<sup>2</sup> Statistics on per capita benefits for various types of family units in various gross income ranges are reproduced in Table 2 from Appendix Table A-1. They suggest the following:

- 1) For all units combined, per capita benefits increase with income between income ranges of \$5-10 thousand and \$20-30 thousand. Average per capita benefits in the less than \$5 thousand income range, at \$262, were relatively low -- about half that received by families in the \$5-10 thousand range;

- 2) The above conclusion holds for families with children less than 18 years of age. Of the families with incomes less than \$5 thousand, almost half are single parent families (and more than half the single parent families were in this income range) with per capita benefits of \$51 (not shown) compared to \$104 overall. For two-parent families in this lowest income range, per capita benefits averaged \$126. The benefits per capita received by families in the less than \$5 thousand income range was less than for families in any other income range and only about 25 per cent of the per capita benefits received by families in the \$5-10 thousand income range.
- 3) In the case of couples, per capita benefits increased with income up to the \$20 thousand income level. The low per capita benefits in the lowest two income ranges reflects the fact that about half of the couples in both income ranges were headed by persons over 65 years of age. In most income ranges, per capita benefits for couples were greater than for families with children.
- 4) In the case of persons not in families (individuals), average per capita benefits in the \$5-10 thousand income range were about three times as high as in the less than \$5 thousand dollar range. This is the case because almost 46 per cent of the individuals in the lowest income range were over 65 years



Table 2

Unemployment Insurance Benefits Per Capita by Gross Income Levels and Type of Family Units, Newfoundland, 1977<sup>1</sup>

	Gross Income Level (\$000)						All
	5	5-10	10-15	15-20	20-30	30+	
	(dollars per capita)						
Families	104	398	320	274	149	173	268
Couples	165	377	578	733	—	175	383
Persons not in Families (Individuals)	237	768	208	—	49	—	310
Children <sub>≥18</sub>	543	1,260	1,095	—	n.a.	—	831
Total	262	508	358	305	150	190	330
Fishermen/ Farmers	425	517	552	—	623	—	539

<sup>1</sup> Based on the Survey of Consumer Finances. See Appendix Table A-1.

of age, and close to 25 per cent were 25 years of age or less (it might be the case that many were students).

5) Children 18 years of age and over living at home received the highest per capita benefits of all types of family units up to \$15 thousand. In total it is estimated that these children received about \$36 million in benefits, which was about 20 per cent of total estimated benefits received based on the survey.

6) The last row in Table 2 presents per capita benefits for all units for which the head identified himself or herself as a fisherman or farmer. (The number of farmers in Newfoundland

is very small.) For these units, per capita benefits increase slightly with income. In all income ranges, per capita benefits for families of fishermen were greater than for all families with children.

Without data on the incidence of costs, one cannot derive estimates of the incidence of net benefits. However, as noted, in 1978 premiums in Newfoundland represented only 18.3 per cent of benefits paid. Adding an estimate of Newfoundland's contribution to the deficit of the unemployment insurance program nationally (Newfoundland contributed 0.9 per cent of total federal government revenues in 1978) raises the net cost to the province to only 24.5 per cent of benefits paid. This suggests that consideration of financing would not have a major impact on the pattern of benefits presented in Table 2.

While the aggregate statistical results reported upon above are of some interest they do not reveal the types of vertical and horizontal inequities that can occur and which inevitably must be quite prevalent in practice. For example, consider the following:

Average weekly regional extended benefits increase with average insured earning. Consider the case of two individuals working seasonally for the same number of weeks one with average weekly earnings less than maximum insurable earnings and the other

with average weekly earnings at or above the maximum. The latter would receive higher weekly seasonal benefits, i.e., as argued previously, a higher supplement than the former. A similar situation would arise in the case of fishermen's benefits.

The amount of regional extended and fishermen's benefits do not take into account family circumstances, e.g., either family size or other sources of income. For example, in the case above, the lower income earner might be the sole worker in a large family while the higher income earner might be a member of a smaller family with other workers. This type of vertical inequity in the distribution of benefits could be compounded if, for example, a second worker in the higher income earner's family was also a recipient of regional extended benefits.

It has been suggested that recipients of regional extended benefits must by definition be low income earners by virtue of the fact that they have worked relatively few weeks. This may or may not be the case on an individual level depending on the wages rate of the recipient during the time of employment. But while this may be the case on an individual basis it may not be the case at all on a family basis. Unfortunately the data are not available to explore this matter.

With regard to horizontal equity there can also be great inequities in the distribution of benefits. This question of horizontal equity is masked in the data in Table 2, because variations in the level of benefits within income categories and family sizes are not shown. Consider for example a low income family worker who is steadily employed throughout the year and would thus not receive any benefits. In comparison a seasonally employed higher wage earner in Newfoundland with a similar sized family could receive regionally extended benefits, and have a greater annual income for less work effort than the year-round worker. In addition the seasonal worker, while unemployed, may also have opportunities to earn unrecorded income (which is not taxable) while he is collecting benefits. The disparities compared to the family of the year-round worker would be even greater if there was a second member in the family of the seasonal worker who was also seasonally employed and received regionally extended benefits as well.

In summary, while it can be argued at a broad level that benefits are paid to individuals in need, i.e., those unemployed, the program is rather insensitive to relative need within the class of recipients and families with equally inadequate incomes may not be eligible for benefits.

#### 4. The Question of Economic Performance

The extent to which regional extended benefits and fishermen's benefits are hampering economic performance in Newfoundland is a

most complex (and contentious) issue and a complete discussion of this question is beyond the scope of this paper. The study by Ferris and Plourde(4) conducted for the Newfoundland Reference provides an insightful discussion of the effects of unemployment insurance on the fishery sector. The Newfoundland Reference Consensus Document(3) provides a discussion of many aspects of the effect of the unemployment insurance program, for an example on productivity and migration.

This section will attempt to summarize briefly how the structure of regional extended and fishermen's benefits are likely affecting economic behaviour in a manner which reinforces the already high degree of seasonality in the provincial economy. The high degree of seasonality in the fish processing sector, for example, was found to be a major contributing factor to the low level of labour and capital productivity in the industry. In the case of the inshore fishery sector, overentry, which is encouraged by the availability of unemployment insurance benefits (there are many other factors involved as well) has contributed to low productivity and low incomes. In addition the structure of the unemployment insurance program for self-employed fishermen has likely exacerbated the high degree of seasonality in this sector. It is important to note as well that seasonality in fishing and fish processing (and construction which is subject to similar influences) is transmitted to other sectors of the provincial economy.

As well, the opportunities for participating in unrecorded income-producing activities while receiving unemployment insurance benefits results in the perception by individuals that these activities are much more productive than would be the case without this implicit subsidization. If these activities were not subsidized to the degree they are, production of the goods and services now provided individually might come to be supplied in a more specialized and efficient manner.

The argument is not being advanced here that the availability of these types of unemployment insurance benefits are the root cause of Newfoundland's high unemployment - low income economy. These problems have existed before the unemployment insurance program came into effect. The Consensus Document of the Newfoundland Reference has indicated that there are many factors contributing to these problems which are unrelated to the unemployment insurance program. Thus changing the unemployment insurance program without addressing these other important factors would likely not lead to major improvement in the economy. On the other hand, the potential benefits of improvements in other areas would unlikely be fully realized without changes in the unemployment insurance program.

It is not being argued either that people in Newfoundland would rather receive unemployment insurance benefits than work. On the contrary, the Labour Market Comparison Study conducted for the Newfoundland Reference (3) provides strong evidence that

Newfoundlanders desperately want to work. Thus given the structure of the unemployment insurance program in Newfoundland one cannot fault individuals for arranging their work patterns in such a way as to maximize their incomes (more precisely to choose the most preferred combination of income and leisure) both from work and from benefits available under the program. Thus the fault lies not with individuals who are acting rationally given the income opportunities open to them, but with the structure of the program which leads to individual behaviour which collectively is hampering the economic performance of the province.

To provide some examples of how the structure of regional extended and fishermen's benefits can affect work patterns consider the following.

A seasonal worker with 10 weeks (the minimum required to qualify for benefits) of insurable employment is eligible for 42 weeks of benefits, one week for each week of insurable employment plus 32 weeks of regional extended benefits. If this worker returns to work for some period of time during the first 10 weeks that benefits are received, the benefit period will be lengthened by that number of weeks worked up to a maximum of 8 weeks (since benefits under a claim cannot be received for more than 50 weeks). If this worker returns to work for a short period of time after receiving benefits for 10 weeks, however, the benefit period will not be extended. Additionally any weekly income earned above 25 per cent of weekly benefits is deducted from

benefits dollar for dollar. Thus net income after tax, other deductions, and employment expenses, may not exceed weekly benefits by very much. As well since a seasonal worker even with only 10 weeks of insurable employment is eligible for benefits beyond the beginning of the same season in the following year (taking the 2 week waiting period into account), if he/she can expect to find at least 10 weeks of work then in order to be eligible for benefits thereafter, there is little financial incentive to seek or accept work during any benefit period.

It has been suggested that the fact that insurable employment during the benefit period can be used toward the establishment of a new claim has the effect of providing a strong incentive to seek work in the off-season despite the high tax rate on income earned at that time. The importance of this effect would seem to depend on the degree of uncertainty associated with being able to find a job when benefits expire. In the case of a seasonal workers who can expect, with a high probability, to find a job each season which will allow him/her to establish a new claim, this feature may be of little relevance.

As a second example, average weekly benefits are based on average weekly insurable earnings during the last 20 weeks (or less) of employment. Thus a seasonal fish plant worker, for example, who may find weekly income falling toward the end of the season (when there are less opportunities for overtime than during the height of the season) may be eligible for lower weekly



benefits if he/she continues to work. In any case, as described in the first example, a week of work at this point would be at the cost of a week of benefits.

Under the special program for seasonal fishermen, fishermen are eligible for about 26 weeks of benefits providing they have 10 weeks of insurable employment. Because weekly benefits are based on the maximum of average weekly insurable earnings during the season and during the last 20 weeks worked, (the two may, of course, be the same) fishermen can often find it to their financial advantage to cease working toward the end of the season when catch rates decline. For example, the data in Table 3 indicate that since 1971-72 there has been a trend in the five eastern provinces towards fewer weeks of insurable fishing employment for fishermen receiving benefits. These latter two examples suggest that the unemployment insurance program is likely reducing the length of work seasons in the fishing and fish processing and perhaps in other sectors such as construction.

It should also be noted that whereas the unemployment insurance program is intended in principle to protect against loss of income due to unemployment, in the case of seasonal workers it is providing income supplementation. That is, a person who works seasonally year after year, will not have had earned income in the off-season which can be considered to be "lost".

Table 3  
 Self-Employed Seasonal Fishermen; Average Insured Weeks of  
 Fishing Employment of Beneficiaries, by Province, 1971-72 to 1978-79

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
1971-72	18.55	17.28	19.67	16.54	17.36	24.53	13.00	--	12.00	16.97	18.14
1972-73	17.24	15.51	19.61	16.55	15.68	22.05	13.59	14.71	19.25	17.48	17.63
1973-74	17.56	17.07	20.14	17.08	17.30	25.82	14.16	14.60	--	16.69	18.01
1974-75	16.42	16.24	19.88	16.67	16.81	26.15	13.59	12.92	9.33	14.83	17.24
1975-76	16.93	15.83	19.49	16.42	17.27	27.98	14.02	14.47	13.50	14.23	17.22
1976-77	16.50	14.50	18.22	13.73	14.14	24.73	13.24	15.50	14.00	15.84	16.38
1977-78	15.70	13.34	18.38	13.04	14.43	27.28	13.78	15.75	21.00	15.64	16.27
1978-79	15.82	13.28	18.04	12.91	14.73	22.93	13.40	13.00	--	15.76	15.67
Overall during period	16.69	15.25	19.19	15.21	15.74	25.56	13.67	14.57	16.36	15.93	16.99

Source UI administrative data.

One of the major problems with the current structure of the unemployment insurance program in terms of its effects on work patterns, is that from the individual perspective, it creates the situation where dollars earned under different circumstances may have very different values to the individual.<sup>3</sup> For example in the case of a fish plant worker, a dollar earned in the glut season which contributes to earnings to the weekly insurable maximum within the first ten weeks of employment can increase weekly unemployment insurance benefits in the off-season. A dollar earned above this maximum will not have this leverage effect. (Nevertheless workers put in much overtime during the glut season because this is a major opportunity to earn large amounts of cash income.) A dollar earned toward the end of the season by a fish plant worker would be worth less to the individual since this may lower weekly unemployment insurance benefits. If benefits are being received, the value of a dollar of income may be worth only a small fraction because of the tax back rate on benefits.

A dollar's worth of unrecorded income in the off-season when unemployment insurance benefits are being received is worth much more than a dollar of paid employment which would require foregoing some or all unemployment insurance benefits.

This phenomenon, that a dollar's worth of earned income can, under different circumstances, have very different values to the individual will almost assuredly result in major distortions in

individual economic behaviour. Thus the actual costs and benefits of the same or different activities at different times viewed socially and privately can be very different because from the individual private perspective a transfer is viewed as an increase in income, while from an aggregate social perspective it does not represent an increase in real income at all.

Under an income supplementation program, such as those described in the next section, there would remain some distortion in the relative value of a dollar's worth of income in different circumstances, mainly because the tax back rate on benefits would vary over different income ranges. But the distortion would be much less than under the current regional extended and fishermen's benefit programs because a dollar earned at a given income level would be treated the same regardless of how or when it was earned within a year. (The problem of unrecorded income would however not be eliminated.)

## II The Simulations

### 1. The Simulation Model and the Data Base

The model used to perform the simulations was the Health and Welfare, Canada BENTAX model. The data base for the model is the 1977 Statistics Canada Survey of Consumer Finances adjusted and projected to 1978 to reflect factors such as:

- i) underreporting of unemployment insurance and other transfer program benefits;
- ii) market income components are inflated to take into account increases between 1977 and 1978;
- iii) family units are defined on a census family basis, except that children 18 years of age and over living at home are classified as separate units;
- iv) simulations by the BENTAX model reflect the structure of taxes and transfers in effect in 1978.

The BENTAX model performs calculations on averages for various categories, e.g., by market income category and family size. Intra-group variations within these categories are thus ignored. The model is currently being modified to operate on individual records.

### 2. The Income Supplementation Programs Simulated

The target population for the income supplementation programs simulated was restricted to one and two parent families with

children under 18 years of age. This restriction was invoked mainly because the plans in effect in Saskatchewan and Quebec on which the programs simulated were modelled apply to this target population. One of the plans simulated was modified to apply to individuals and couples as well. These results will be reported after the main simulation results have been presented.

The simulation results assume a 100 per cent take-up rate, that is, that all families eligible for benefits will receive the full benefits to which they are entitled.

The program simulated are formed by combinations of the following features.

#### A. Program Type

##### 1. Program Type I

A family must have an annual market income of at least \$2000 to be eligible for benefits. Maximum benefits are paid at family net income levels of \$5200 or less. (\$5200 is about the annual net income earned by someone working all year for 40 hours per week at the minimum wage of \$2.50 per hour in Newfoundland in 1978.) Above net income of \$5200, benefits are reduced (see tax back rate feature (D) below).

This program type is modelled to some extent on the Saskatchewan Family Income Plan (FIP). It is similar to the Saskatchewan plan in that benefit levels remain unchanged up to

some income level. It is different than the Saskatchewan plan because in the programs simulated some minimum market income is required to be eligible for benefits. There is no income level required for eligibility in the Saskatchewan plan because it is integrated with the provincial social assistance program. Integration of the Type I supplementation program with the social assistance program in Newfoundland is discussed in the third part of this paper.

A brief description of the Saskatchewan Family Income Program is provided in Appendix B.

## 2. Program Type II

Program benefits begin to be paid as soon as family net income is positive. Benefits increase linearly with net income until \$5200 at which maximum benefits are paid. Above net income of \$5200 benefits decrease in the same way as under Program Type I. This program is modelled on the Quebec Work Income Supplement Program which is outlined in Appendix B.

### B. Benefit Levels

1. Low benefits: - maximum annual benefits are:
  - \$1000 per family plus
  - \$550 per child under 18 years of age.

2. High benefits: - maximum annual benefits are:  
\$2000 per family plus  
\$1000 per child under 18 years of age.

While the benefit levels under the high benefits level case, for example, could equivalently be specified as \$3000 for the first child and \$1000 for each additional child, they are specified as above for the purpose of these simulations in recognition of the fact that funds are required to provide support for someone to look after the children. For example in a two parent family with one working spouse such funds would be provided in support of the non-working spouse. In a single-parent family such funds could be utilized, for example, for baby-sitting or day-care services.

C. Simulated Reduction in Unemployment Insurance Benefits to Reflect Elimination of Regional Extended and Fishermen's Benefits

The effect of these reductions is to lower family income levels and thus to increase estimated benefits under the supplementation programs.

Three across-the-board percentage reductions are simulated.

1. 40 per cent: This would reduce overall unemployment benefits received in the province by the amount of regional extended and fishermen's benefits actually paid in 1978.



2. 60 per cent: To examine the effect if families who are potential recipients under the income supplementation program receive more than a proportional share of regional extended and fishermen's benefits, thus resulting in higher costs for the supplementation program relative to the 40 per cent assumption.
  
3. 30 per cent: To examine the effect if potential recipient families receive less than a proportional share of regional extended and fishermen's benefits, thus lowering costs for the supplementation program relative to the 40 per cent assumption.

D. Tax-back Rate on Benefits for Families with Net Income Exceeding \$5200

1. 50 per cent tax back rate. For each dollar of family net income above \$5200, supplementation benefits are reduced by 50 cents.
  
2. 33.3 per cent tax back rate. For each dollar of family net income above \$5200, supplementation benefits are reduced by 33.3 cents.

For the purpose of determining benefits in the simulations family gross incomes included the following:

- i) Market income; wages, salaries, net income from self-employment, and interest and dividends.
- ii) Unemployment insurance benefits (reduced as indicated in program feature (C)).
- iii) Other transfer income, such as workmen's compensation, Canada Pension Plan benefits, but neither family allowance nor social assistance payments is included in income.

Net income is gross income less income tax, unemployment insurance premiums, and Canada Pension Plan contributions.

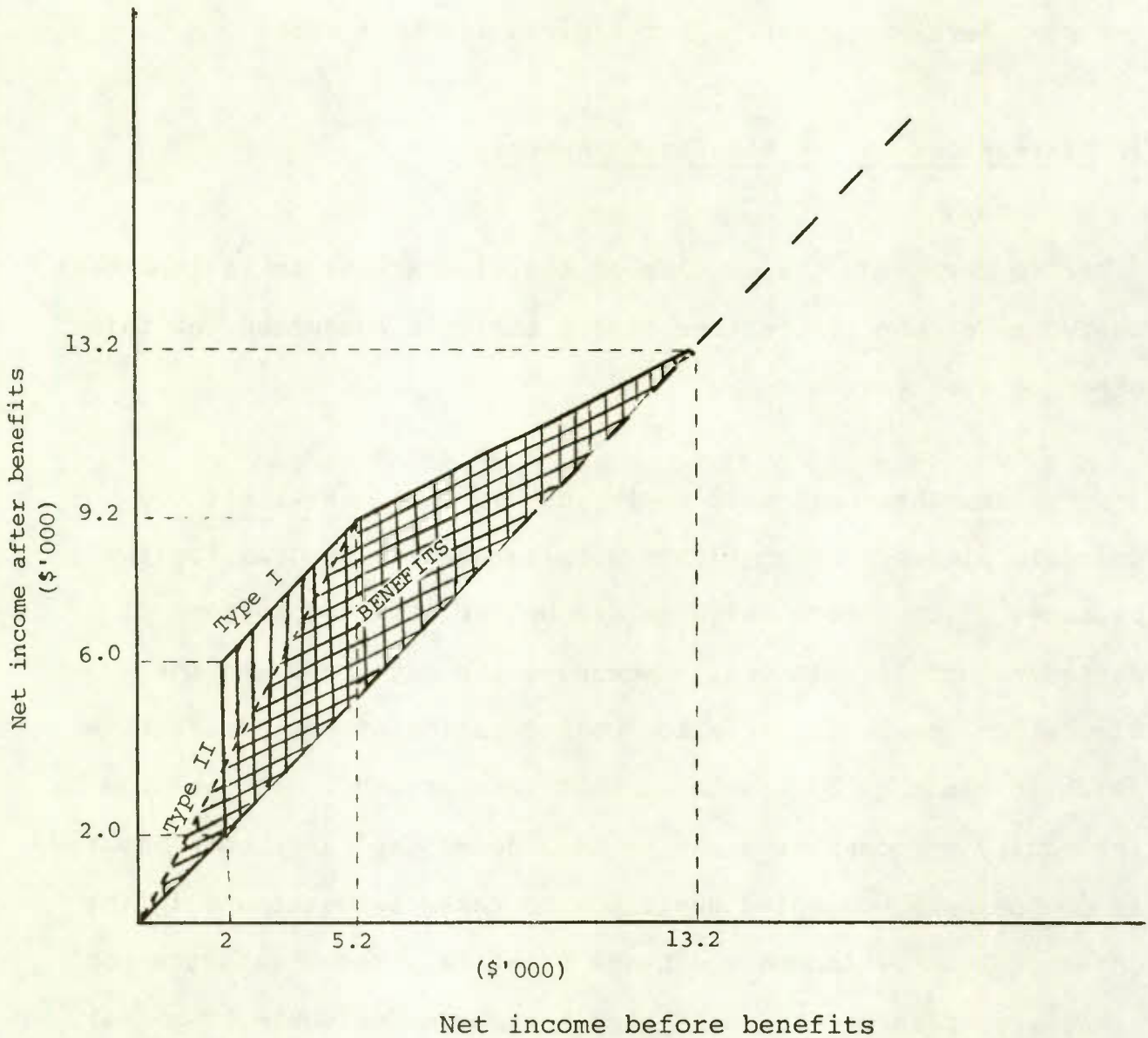
### 3. Comparison of the Two Types of Programs

A schedule of income and benefits for a family of two adults and two children, with high benefit levels, and a 50 per cent tax back rate above \$5200 net income for both program types is shown in Chart 2.

A comparison of the two program types indicates the following. Program Type II provides benefits, although very low, below \$2000 net income while Program Type I does not. With Program Type I there is a strong incentive to meet the minimum net income requirement for eligibility. Between net income levels of \$2000 and \$5200 benefits are higher under Program Type I, with the

Chart 2

Schedule of Income and Benefits for a Two-Parent Family of Four under Two Hypothetical Income Supplementation Programs<sup>1</sup>



<sup>1</sup> Maximum benefits - \$2,000 per family plus \$1,000 per child. 50 per cent tax back rate on net income above \$5,200.

difference in benefits decreasing as net income increases. It is quite likely that in this income range, work incentives would be greater under Program Type II, because benefits increase with income. Above net income of \$5200, the two program types provide the same level of benefits for a given tax back rate.

#### 4. Limitations of the Simulation Exercise

Before reviewing the results of the simulations it is important that some of the limitations of the analysis conducted for this paper be reviewed.

No attempt has been made to lay out in full detail all the specific elements of an income supplementation program for two reasons. First, such features are better left to program designers and legislators. Secondly, the data base and the simulation model did not allow consideration of certain factors which it might be desirable to take into account. For example for equity purposes it might be considered desirable that imputed income on owner-occupied dwellings be taken into account in the determination of income and hence benefits. These data are not readily available. It would also have been desirable if social assistance benefits had been taken into account in the determination of benefits under the supplementation program (or vice-versa) in order to estimate the extent to which one type of

supplementation might replace the other. But this could not be easily done with the simulation model.

Perhaps most important, under the Type I program, a minimum market income is required for eligibility for benefits. Such a criterion would result in inequities as a worker who could earn a higher rate of pay than another would require less work time to qualify for benefits. A minimum net income constraint for eligibility also creates problems with regard to the self-employed, for example fishermen, who may work for lengthy periods but earn little net income. Thus it might be preferable to determine eligibility based on some minimum period of employment, or perhaps gross income levels in the case of self-employed workers, rather than net income. Given the limitations imposed by the data and the model it was not possible to apply such criteria. Finally, the income supplementation programs in Saskatchewan and Quebec involve an asset as well as an income test. No asset test has been applied in the programs simulated.

##### 5. Funds Available to Finance the Income Supplementation Program

As noted previously, in 1978 regional extended and fishermen's benefits in Newfoundland amounted to about \$81.5 million and \$18.9 million respectively for a total of \$100.4 million. It is estimated by the BENTAX model that federal income tax on these benefits amounted to about \$10 million.

Premiums paid by fishermen and their "employers" in Newfoundland were about \$1.4 million in 1978. (The fact that these premiums are deductible for income tax purposes will be ignored.) No additional premiums are paid for eligibility for regional extended benefits which are financed from general revenues. In 1978, Newfoundland contributed just under one per cent of federal government revenues. On this basis Newfoundland's contribution toward regional extended benefits paid in the province would have amounted to about \$0.75 million. Taking all these factors into account net federal expenditures for regional extended and fishermen's benefits in 1978 were of the order of \$88 million.

Social assistance payments (financed equally by the federal and provincial governments) amounted to about \$52 million in 1978. It is not clear to what extent social assistance benefits would be reduced with the introduction of the types of income supplementation program simulated.

There are a host of subsidy programs in Newfoundland from which some funds might be taken and allocated toward a low income supplementation program. In particular the Gulf Subsidy amounts to about \$60 million currently. One of the main rationales for this program is to reduce prices of imports to the province. The extent to which these expenditures are reflected in lower prices is certainly open to question. Given normally sloped supply and demand curves, producers, shippers, importers, retailers would

all share some of the subsidy. To the extent as well that the transportation subsidies have eliminated import-competing activities which lost their natural protection as a result of these negative tariffs, economic activity and incomes in Newfoundland have been adversely affected. For example much of the agricultural sector, most of it consisting of small farms, was wiped out. Furthermore the growth of competing transportation modes with less subsidy than the railroad (or even no subsidy) suggests that much of the Gulf Subsidy may be economically wasteful. Additionally eliminating excessively subsidized modes might lead to reduced costs on less or non-subsidized modes through higher capacity utilization rates and economies of scale. In summary, some of the funds currently expended on transportation subsidies might be much more beneficially allocated to Newfoundland through a low income supplementation program.

## 6. Simulation Results

### A. Gross Program Costs

Table 4 presents estimates of gross program costs for the 24 programs formed by combinations of the two Program Types, two benefit levels, three assumed reduction rates for unemployment insurance benefits, and two tax back rates.

Gross program costs vary from as little as \$25.9 million (for the Program Type II, Low Benefit Levels, 30 per cent assumed

Table 4

Estimates of Gross Program Costs for Alternative Hypothetical Income Supplementation Programs for Newfoundland, 1978

Assumed Percentage Reduction in U.I. Benefits Received (%)	Tax Back Rate (%)	Program Type I		Program Type II	
		Low Benefits	High Benefits	Low Benefits	High Benefits
(\$ million)					
30	33.3	A-47.8 <sup>1</sup>	B-156.1	C-42.81 <sup>1</sup>	D-146.3
	50.0	E-30.9	F-108.8	G-25.9	H- 99.0
40	33.3	I-48.3	J-160.1	K-43.2	L-150.4
	50.0	M-33.0	N-112.4	O-27.9	P-102.7
60	33.3	Q-51.8	R-164.2	S-46.7	T-154.5
	50.0	U-36.2 <sup>1</sup>	V-119.4	W-31.1 <sup>1</sup>	X-109.7

1 These cases were not simulated and their costs were estimated from those of other cases as follows:

Case A (estimated) = Case Q - .5 (Case R - Case B).

Given cost of Case A:

Case C (must be) = Case G + (Case A - Case E).

Case U (estimated) = Case E + .5 (Case V - Case F).

Given cost of Case U:

Case W (must be) = Case S - (Case Q - Case U).

reduction in unemployment insurance benefits, 50 per cent tax back rate case) to \$164.2 million (for the Program Type I, High Benefit Levels, 60 per cent assumed reduction in unemployment insurance benefits, 33.3 per cent tax back rate case).

The sensitivity of program costs to the four variables can be briefly summarized as follows:



- 1) Costs are about 10 per cent (or less) higher for Program Type I than for Program Type II for all combinations of the other three variables.
- 2) Program costs are not very sensitive to the different percentage rate reductions assumed for unemployment insurance benefits.
- 3) Program costs with a 33.3 per cent tax back rate on net income above \$5200 are about 50 per cent higher than with a 50 per cent tax back rate for all combinations of the other three variables.
- 4) Program costs are most sensitive to maximum benefit levels. High benefits (roughly a doubling of low benefits) result in a more than tripling in program costs for all combinations of the other three variables.

#### B. Effect on the Distribution of Income

As part of the simulation results, the BENTAX model produces a table showing the average change in disposable income by market income categories and family size. Unfortunately the model cannot produce a similar table by total income categories.

The results for only one of the cases simulated (Case N-Program Type I, High Benefit Levels, 40 per cent reduction in U.I.

benefits, 50 per cent tax back rate) are presented for illustrative purposes in Table 6.

It is important to note that the change in total disposable incomes of families with children in this simulation (and the others) are a result of a redistribution of income to them from individuals and couples who lose unemployment insurance benefits, and a change in expenditures and revenues of the federal and provincial governments. In this particular case, for example, total disposable income of families with children under 18 increases by \$67.3 million with children 18 and over living at home, individuals and couples losing \$35.9 million, and the difference of \$31.4 requiring additional financing by governments (see Table 5). Thus the changes in average disposable income of families with children reflect these additional injection of funds as well as redistribution of income amongst these families. Nevertheless, the pattern of average changes in disposable income by family size and market income levels provides some idea of the redistributive effects of the program.

Before reviewing the results in Table 6 it is also important to realize that they are derived from the results of the Survey of Consumer Finances. Because the results in the table are very disaggregated by income level and family size, the number of family units surveyed in any category may be very small - in some cases only one family. Thus the reliability of some of the estimates in the table may be very poor.



Table 6

Average Change in Disposable Income of Families with Children Under 18 Years of Age by Market Income and Family Size<sup>1</sup> (Case N - Program Type I, High Benefits, 50 Per Cent Tax Back Rate, 40 Per Cent Reduction in U.I.)

UPPER LIMIT OF INCOME	----- FAMILY SIZE -----										TOTAL
	1	2	3	4	5	6	7	8	9	10+	
0.	0.00	-0.01	-101.72	-401.26	-348.10	(dollars) -0.01	-0.01	-0.01	-871.12	-0.01	-158.65
500.	0.00	-726.17	-1935.83	-2542.43	-889.47	-885.88	-0.01	-0.01	-1843.11	0.00	-1342.96
1000.	0.00	-37.01	-595.47	-1388.45	-1015.80	-18.12	0.00	0.00	-1841.34	0.00	-804.03
1500.	0.00	-645.74	-498.17	-982.73	-1607.61	-1068.68	0.00	0.00	-824.68	0.00	-831.63
2000.	0.00	-732.68	-454.88	-1548.90	-1750.11	-51.55	-925.37	-1266.68	-882.01	0.00	-1109.69
2500.	0.00	2269.98	1584.49	2208.96	3490.07	1812.16	4880.24	7359.99	0.00	0.00	2682.93
3000.	0.00	1108.64	1265.14	2592.10	3437.42	4376.07	5440.00	7916.66	6707.69	0.00	2683.25
3500.	0.00	1841.98	1716.73	2450.61	2848.93	4025.06	5299.87	6513.57	0.00	0.00	2585.78
4000.	0.00	2602.67	1378.41	1805.44	3149.45	3444.21	5256.95	0.00	0.00	0.00	2478.43
4500.	0.00	2660.08	1568.48	2824.96	3312.93	4092.54	5105.44	0.00	0.00	9336.66	3563.51
5000.	0.00	2648.76	1004.72	2130.43	3395.55	2969.11	5144.58	6236.69	0.00	9133.53	3044.94
6000.	0.00	2687.84	885.23	1659.08	3207.37	4746.93	4280.19	5013.56	0.00	0.00	2446.00
7000.	0.00	2409.93	505.49	1491.22	2449.49	4106.39	4661.17	5697.60	0.00	0.00	1822.27
8000.	0.00	1285.95	795.55	1513.73	2165.05	4166.74	5105.33	5522.89	0.00	4724.45	1833.27
9000.	0.00	1024.53	331.47	1299.92	2548.64	4006.68	4583.46	4854.64	0.00	4384.04	1796.47
10000.	0.00	1069.67	391.56	146.32	2486.52	3421.17	4834.94	5628.32	0.00	7848.11	1525.71
11000.	0.00	971.04	-52.40	929.39	2048.43	3323.92	4076.47	2987.08	6664.00	7484.79	1395.13
12000.	0.00	618.13	-208.84	227.76	1466.70	2384.57	4176.71	4642.27	4865.68	9402.96	1059.06
13000.	0.00	-489.13	-265.91	86.93	717.99	2237.76	3872.00	4224.25	5711.52	9051.37	409.33
14000.	0.00	-489.13	-366.54	71.38	887.39	1943.90	3059.26	3384.52	5576.26	0.00	370.49
15000.	0.00	0.00	-313.63	6.89	511.81	2132.49	2905.95	3605.26	0.00	0.00	472.77
16000.	0.00	0.00	-267.17	-239.48	356.41	1862.65	1151.61	3562.54	4867.59	0.00	118.02
17000.	0.00	0.00	-287.76	-346.74	303.41	1324.08	704.11	2930.28	4524.34	0.00	4.15
18000.	0.00	0.00	-233.63	-311.99	109.27	922.42	1359.05	2417.86	0.00	5760.83	-67.61
19000.	0.00	0.00	-174.75	-192.75	-205.30	624.42	-656.64	0.00	0.00	5430.74	-174.16
20000.	0.00	0.00	-170.86	-207.47	-237.06	412.69	-702.96	0.00	0.00	0.00	-74.42
22000.	0.00	0.00	-152.15	-297.20	-94.00	20.78	788.90	0.00	3022.61	0.00	-174.71
24000.	0.00	0.00	-149.23	-371.07	-18.93	-235.00	213.95	153.45	2387.97	0.00	-121.69
26000.	0.00	0.00	-118.95	-194.92	-58.98	-106.07	-172.54	417.69	0.00	0.00	-74.69
28000.	0.00	0.00	-86.65	-106.34	-37.78	-0.82	-121.85	-59.24	0.00	0.00	-98.55
30000.	0.00	0.00	-184.97	-31.34	-226.34	-0.01	-0.01	-85.88	0.00	0.00	-22.35
32000.	0.00	0.00	-157.03	-0.01	-231.67	-0.01	-0.01	0.00	0.00	0.00	-166.67
34000.	0.00	0.00	-0.01	-31.72	-0.01	-0.01	0.00	0.00	0.00	0.00	-159.45
36000.	0.00	0.00	-366.15	-33.37	-0.01	0.00	0.00	0.00	0.00	0.00	-10.31
38000.	0.00	0.00	-220.16	-0.01	0.00	-66.60	0.00	0.00	0.00	0.00	-0.01
40000.	0.00	0.00	-0.01	-0.01	-0.01	-63.41	0.00	0.00	0.00	0.00	-0.01
45000.	0.00	0.00	-0.01	-0.01	-0.01	-0.01	0.00	0.00	0.00	0.00	-0.01
50000.	0.00	0.00	-0.01	-0.00	0.00	-0.01	0.00	0.00	0.00	0.00	-0.01
50000.+	0.00	0.00	-0.01	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	-0.00
TOTAL	0.00	517.71	92.12	253.35	1036.21	1766.90	2805.24	3356.48	2616.49	6299.40	727.87

<sup>1</sup> For families with children less than 18 years of age only.

The results in Table 6 will now be reviewed with these important considerations in mind. The results suggest that above market income levels of \$2000 (the criterion for eligibility) the program is generally progressive with increases in disposable income increasing with family size and as market income decreases. When losses in disposable income do occur they are generally at relatively high income levels and for smaller families and the losses are generally not large in relation to market income (and would be even smaller in relation to gross income).

As noted previously, the two types of programs simulated have been modeled to some extent on those operating in Saskatchewan and Quebec, both of which target benefits to children. Thus the programs simulated to this point in this paper did not provide benefits for low income individuals or couples, it being implicitly assumed that they would continue to rely on the social assistance program for support. As indicated in Table 5, individuals and couples would lose income if the two components of the unemployment insurance program were eliminated and not be compensated in any way if the supplementation program were targeted only to families with children. Given the major objectives of an income supplementation program, namely income adequacy, greater equity, and stronger work incentives, it would seem that there would be merit in extending the program to individuals and couples without children as well.

In order to explore the implications of this possibility in a limited fashion, the Case N plan was modified to provide benefits of \$1000 per person to individuals and couples in the \$2000-5200 net income range, with a tax back rate of 50 per cent for net income in excess of \$5200. Such family units which received Old Age Security benefits, children 18 years old and over living at home and full-time students were not eligible for benefits.

In this case gross program costs increased by about \$11.5 million, from \$112.4 million to \$123.9 million. (Correspondingly the additional financing from governments increased by \$11.5 million to \$42.9 million.) The loss of \$8.9 million (see Table 4) in disposable incomes of individuals (excluding those who received OAS) is reduced to a loss of only \$3.1 million. Similarly the loss in disposable incomes of couples (excluding those that received OAS) falls from \$9.3 million in Case N to \$3.6 million.

The estimated average changes in disposable incomes of these individuals and couples by market income level as a result of extending the program to them is shown in Table 7. As expected such family units with market income levels below \$2000 would remain worse off because they would not be eligible for benefits but would lose unemployment insurance benefits. In the case of individuals the results in Table 7 suggest that they would be better off between market income levels of \$2000 to \$7000. In the case of couples the results suggest they would be better off only up to market income levels of about \$4500.

It should be noted however that the position of these family units would be substantially improved compared to Case N where the program does not apply to them. (Unfortunately comparable results for these family units were not produced in the Case N simulation.)

It is important to note, as well that these results because they are presented by market, and not gross, income levels can be deceiving. In fact the families might be quite a bit better off than appears to be the case from Tables 6 and 7.

For example, consider the case of couples between income levels of \$4500-5000 where it is estimated in Table 7 that an average reduction of \$483 in disposable income would be incurred. On average, these couples must have received unemployment insurance benefits in order for them to have suffered a net loss in disposable income under the program. It can be demonstrated that unemployment insurance benefits must be in the order of \$4000 in order for a couple in this market income category to suffer a net loss of \$483 (assuming that there were no other significant source of income). Thus the gross income of such an average couple must have been in the order of \$8500-\$9000 of which close to half may have derived from unemployment insurance benefits.

As noted above, the \$2000 market income eligibility criterion results in net losses in disposable incomes for family units

Table 7

Average Change in Disposable Income by Market Income of Individuals and Couples by Market Income (Case N Extended to Individuals and Couples)

Upper Limit of Income	Individuals <sup>1,2</sup>	Couples <sup>2</sup>
	(dollars)	
0.	-94	-657
500.	-707	-58
1000.	-469	-1569
1500.	-496	-1357
2000.	-597	-1520
2500.	-122	719
3000.	417	603
3500.	335	668
4000.	476	859
4500.	124	84
5000.	724	-483
6000.	693	-194
7000.	405	226
8000.	196	-241
9000.	28	4
10000.	71	-347
11000.	-86	-358
12000.	-46	-151
13000.	-88	-476
14000.	63	-385
15000.	-27	-732
16000.	45	-613
17000.	-40	-236
18000.	0	-163
19000.	0	-125
20000.	45	-70
22000.	-33	-91
24000.	0	-147
26000.	0	-56
28000.	0	-109
30000.	0	-78
32000.	0	-205
34000.	0	-145
36000.	0	-3
38000.	-3	-
40000.	-	-
45000.	-	-
50000.	-	-
50000.+	-	-
Total	-88	-192

- 1 Excluding children 18 years old and over living at home.
- 2 Excluding family units receiving OAS.
- 3 A - indicates that there were no family units in this income range.



with less than this market income level. It is interesting to note with reference to Tables 6 and 7 that in many of these cases the average loss in disposable income (40 per cent of unemployment insurance benefits less associated income tax) is quite large in relation to market income and sometimes even in excess of market income levels. Since actual employment insurance benefits are about 2.5 (1/.4) times the estimated loss, this implies that in many cases unemployment insurance benefits exceeded market incomes by a wide margin.

There are at least three possible explanations for this situation. The first is that there was employment only for a short part of the year. (A variant of this possibility is that unemployment insurance benefits received in the year were based partially on insurable employment in the previous year.) The second possibility is that one family member may have been self-employed and had a low (or negative) net income, while another family member may have been unemployed and received unemployment insurance benefits for a major part of the year. A third possibility is the case of self-employed fishermen who experienced a low or negative net income and received unemployment insurance benefits. (Combinations of the above possibilities could also have occurred of course.)

There is an important implication of the possibility that low self-employment income may be a significant reason for this phenomenon. The use of a market income criterion, such as \$2000,

for eligibility for benefits under the program may make many families ineligible even though a self-employed family member may be working for a large part of the year. Thus in the case of self-employed fishermen for example, unemployment insurance premiums and benefits are based on some proportion of gross income (in particular, fish landed value) rather than net income. It would seem that, in the case of an income supplementation program, eligibility for families of the self-employed should be based on some measure of work effort of the self-employed other than net income, while income levels for determining the level of benefits should include net income from self-employment.

### III Interface with Other Social Security Programs

The interfacing of various social security programs often presents tremendous problems with regard to equity and work incentives. It is for these reasons that suggestions have often been made to combine many, if not all, social security programs into one comprehensive program, such as a guaranteed annual income program. Such integration would require massive changes in the current social security and personal taxation systems and is beyond the scope of this paper.

The following two sections present a discussion of some issues with regard to equity and work incentives which would arise in interfacing the Type I supplementation program with the regular unemployment insurance program and the social assistance program in Newfoundland. In order to focus on the essence of the interface questions the following discussion will be confined to the case of a two parent family with two children.

#### 1. Interface with the Regular Unemployment Insurance Program

The receipt of unemployment insurance benefits is widespread in Newfoundland given its high rate of unemployment and the seasonal nature of production in many industries. While these problems are expected to moderate in future years they will likely still remain significant features of the provincial economy. It is thus important to examine the interface of the proposed income

supplementation program with the regular unemployment insurance program with regard to equity and work incentives.

The first aspect of the question is quite straightforward and concerns only the equity issue. In determining the level of benefits under an income supplementation program, the goal of equity would be served by including as broad a measure of income as is feasible. (This is of course very difficult given the importance of unreported income in Newfoundland.) Exclusion of certain sources of income in the measurement of net income would tend to result in a higher level of supplementation benefits. Thus similar families that have the same level of real income but derived from different sources might be eligible for different levels of benefits. Thus for equity purposes regular unemployment insurance benefits should certainly be included in the measurement of net income for determining supplementation benefits.

The second aspect is more complex and involves both the equity and work incentive issues. It concerns the tax back rate which should be applied to regular unemployment insurance benefits. It revolves fundamentally around the question of how regular unemployment insurance benefits are viewed - as insured earnings or as (largely) a transfer payment.

Under the first viewpoint regular unemployment insurance benefits are viewed as a form of income for which the individual

has insured himself by paying premiums. Under this view, regular benefits should be viewed as insured income and treated the same as income from employment or other forms of income for the purpose of determining supplementation benefits. Thus for equity purposes the tax back rate applied to regular unemployment insurance benefits should be the same as, and in particular not higher than, that applied to other forms of income.

From the perspective of work incentives however, this could create problems. In particular it could have the effect of raising the tax back rate on income from employment as perceived by the individual relative to that intended under the supplementation program.

The nature of the problem is that (depending on the employment opportunities open to the individual) income from employment and regular unemployment insurance benefits can be close substitutes.<sup>4</sup> This would tend to be the case for the individual who has a fairly high degree of freedom in choosing how many weeks he wishes to work and how many weeks he wishes to collect unemployment insurance benefits and partake of other activities. If the individual views the availability of regular unemployment insurance benefits in this way, then, from his perspective, the tax back rate on income from employment would generally be much greater than that intended under the supplementation program (equivalently the increase in total income as a result of a dollar increase in employment income would generally be lower than that intended).

An example illustrating this situation is presented as Case 1 of Table 8. Here it is implicitly assumed that the individual can work for as many weeks during the year as he wishes, that he will receive the regular unemployment insurance benefits to which he is entitled, and that he evaluates the change in his total income from these sources and from the income supplementation program in determining whether he should work an additional number of weeks. As can be seen, the increase in total income as a result of a one dollar increase in employment income is generally much less than that intended under the program.

Under the alternative viewpoint, regular unemployment insurance benefits would be viewed partially as a pure transfer payment (for example, because the premiums paid were not sufficient to cover the actual risk of unemployment). In this case, some proportion of regular unemployment insurance benefits and benefits under the income supplementation program would be viewed as perfect substitutes. In particular, according to this viewpoint supplementation benefits should be reduced dollar for dollar for some proportion of unemployment insurance benefits.

For example, in the extreme case, where the full amount of regular unemployment insurance benefits is viewed as a transfer and a perfect substitute for supplementation benefits and taxed back at 100 per cent, the tax back rate on employment income would be exactly as intended under the program. Case 2 in Table 8 provides an example of this situation.

Table 8

An Example Comparing a Hypothetical Low Income Supplementation Program under Alternative Treatments of Unemployment Insurance Benefits

Weeks Worked	Employment Income	U.I. Benefits	Income before Supplement		Total Income	Change in Total Income per dollar change in	
			Supplement	Supplement		Employment Income	Income before Supplement
(dollars)							
Case 1 -- Unemployment Insurance Benefits Treated Similar to Earned Income							
5	750	0	750	0	750	2.20	1.00
10	1500	900	2400	0	2400	1.60	1.00
13	1950	1170	3120	0	3120	28.27	17.67
14	2100	1260	3360	4000	7360	1.60	1.00
21	3150	1890	5040	4000	9040	1.33	.83
22	3300	1980	5280	3960	9240	.65	.50
26	3900	2160	6060	3570	9630	.20	.50
34	5100	1440	6540	3330	9870	.20	.50
35	5250	1350	6600	3300	9900	.20	.50
45	6750	450	7200	3000	10200	.20	.50
52	7800	0	7800	2700	10500	.20	.50
Case 2 -- Unemployment Insurance Benefits Taxed Back at 100 per cent							
5	750	0	750	0	750	2.20	
10	1500	900	2400	0	2400	1.60	
13	1950	1170	3120	0	3120	19.87	
14	2100	1260	3360	2740	6100	1.00	not relevant
21	3150	1890	5040	2110	7150	1.00	
22	3300	1980	5280	2020	7300	1.00	
26	3900	2160	6060	1840	7900	1.00	
34	5100	1440	6540	2560	9100	.83	
35	5250	1350	6600	2625	9225	.50	
45	6750	450	7200	2775	9975	.50	
42	7800	0	7800	2700	10500	.50	

Notes: The following assumptions are made in compiling this table.

- a) Family worker earns \$150 per week.
- b) Differences between gross and net income are ignored.
- c) Regular unemployment insurance benefits are received beginning after a two week waiting period for up to the number of weeks worked but within the same year. Weekly benefits are 60 per cent of earnings - 90 dollars per week.
- d) Maximum supplementation benefits are \$4,000 -- for a family of four.
- e) \$2,000 earned income is required to be eligible for benefits.
- f) In Case 1 -- all income above \$5,200 is taxed back at 50 per cent.
- g) In Case 2 -- earned income above \$5,200 is taxed back at 50 per cent and all Unemployment Insurance benefits are taxed back at 100 per cent.

In this case, however, a family of four with a given level of net income (in the relevant range) consisting of employment income and regular unemployment insurance benefits would receive less supplementation benefits than a similar family with the same level of net income derived solely from employment. For example a family of four with \$5000 net income - \$3000 from employment and \$2000 from regular U.I. - would receive \$2000 (= \$4000 - \$2000) in supplementation benefits, while a family with net income of \$5000 from employment only would be eligible for \$4000 in benefits (and have a final income of \$9000 versus \$7000 for the former family).

Thus the tax back rate which should be applied to regular unemployment insurance benefits may involve a fundamental conflict between equity and work incentives depending on how one views the national pooling of risk in, and how individual workers respond to, the regular unemployment insurance program.

## 2. Interface with the Provincial Social Assistance Program

In 1978, a family of four in Newfoundland with no monthly income would have been eligible on a monthly basis for \$317 plus a maximum of \$150 for mortgage payments or a maximum of \$175 for rent. Using the rental maximum, annual social assistance benefits would have been \$5904, say \$6000. This amount does not include other benefits which could be received for special circumstances.



The provincial social assistance plan also incorporates a work incentive feature. Under this feature, monthly social assistance benefits are reduced by 50 cents for each dollar earned, up to \$200 monthly. Above \$200 of monthly earned income, benefits are reduced by one dollar for each dollar of earnings.

This work incentive feature is quite weak as attested to by the fact that only about 500 families have been using this feature at any point in time. One reason is quite clear from Table 9. While this feature can result in additional income up to an earned income of \$200 monthly, between \$200 and \$600 of monthly earned income, total income after benefits is fixed at

Table 9

Schedule of Social Assistance Benefits for a Two Parent Family with Two Children, Newfoundland, 1978<sup>1</sup>

Earned Income		Social Assistance Benefits		Total Income	
Monthly	Annually	Monthly	Annually	Monthly	Annually
(dollars)					
0	0	500	6,000	500	6,000
50	600	475	5,700	525	6,300
100	1,200	450	5,400	550	6,600
150	1,800	425	5,100	575	6,900
200	2,400	400	4,800	600	7,200
300	3,600	300	3,600	600	7,200
400	4,800	200	2,400	600	7,200
500	6,000	100	1,200	600	7,200
600	7,200	0	0	600	7,200
700	8,400	0	0	700	8,400

<sup>1</sup> For a family with no income, Social assistance benefits were \$317 per month plus a maximum of \$175 per month for rent, or a total of \$492 monthly, which is rounded to \$500 in the table.

Earnings up to \$200 monthly are taxed back at 50 per cent. Earnings in excess of \$200 monthly are taxed back at 100 per cent.

\$600 monthly or \$7200 on an annual basis. Thus, there is no financial incentive under this feature to earn more than \$200 monthly unless one can earn more than \$600 monthly.

Perhaps a more important reason that this work incentive feature and the social assistance program in general has not been used by more families is that in many cases unemployment insurance benefits would render a family ineligible for social assistance benefits. For example as noted above, for a family of four which owns its own home outright, maximum social assistance benefits (under normal circumstances) would be \$317 monthly or about \$80 weekly. Weekly unemployment insurance benefits of \$80 would be paid on average weekly insurable earnings of about \$133 not a high wage by provincial standards. Thus in many cases a family receiving unemployment insurance benefits (which can be for a minimum of 42 weeks based on insurable employment for only 10 weeks) would not be eligible for social assistance benefits and thus this work incentive feature would not be a particularly relevant option.

It should also be noted that, because social assistance benefits are determined on a monthly basis, inequities can arise when viewed from an annual perspective. Specifically a family using the work incentive feature would often be better off earning a given amount of income in a shorter period of time, rather than on a consistent basis throughout the year as shown in Table 10. In fact with the unemployment insurance program the

disparities in the annual incomes of the two families in Table 10 could be much greater. This is because the Case 1 family in Table 10 would have been eligible for maximum unemployment insurance benefits of \$160 per week in 1978 or about \$4800 within the year (taking the two week waiting period into account). Thus the total annual income of the Case 1 family could have been about \$9600 compared to \$7200 for the Case 2 family, even though both families have the same level of earned income within the year.

Table 10

Social Assistance Benefits and Total Income Under Two Monthly Patterns of Earned Income, Newfoundland, 1978<sup>1</sup>

Month	Case 1			Case 2		
	Earned income	Social assistance	Total income	Earned income	Social assistance	Total income
	(dollars)					
1	1,200	0	1,200	400	200	600
2	1,200	0	1,200	400	200	600
3	1,200	0	1,200	400	200	600
4	1,200	0	1,200	400	200	600
5	0	0 <sup>2</sup>	0	400	200	600
6	0	500	500	400	200	600
7	0	500	500	400	200	600
8	0	500	500	400	200	600
9	0	500	500	400	200	600
10	0	500	500	400	200	600
11	0	500	500	400	200	600
12	0	500	500	400	200	600
Total	4,800	3,500	8,300	4,800	2,400	7,200

1 Maximum monthly social assistance benefits for a family of four is about \$500 per month. Earned income up to \$200 monthly is taxed back at 50 per cent. Earned income in excess of \$200 monthly is taxed back at 100 per cent.

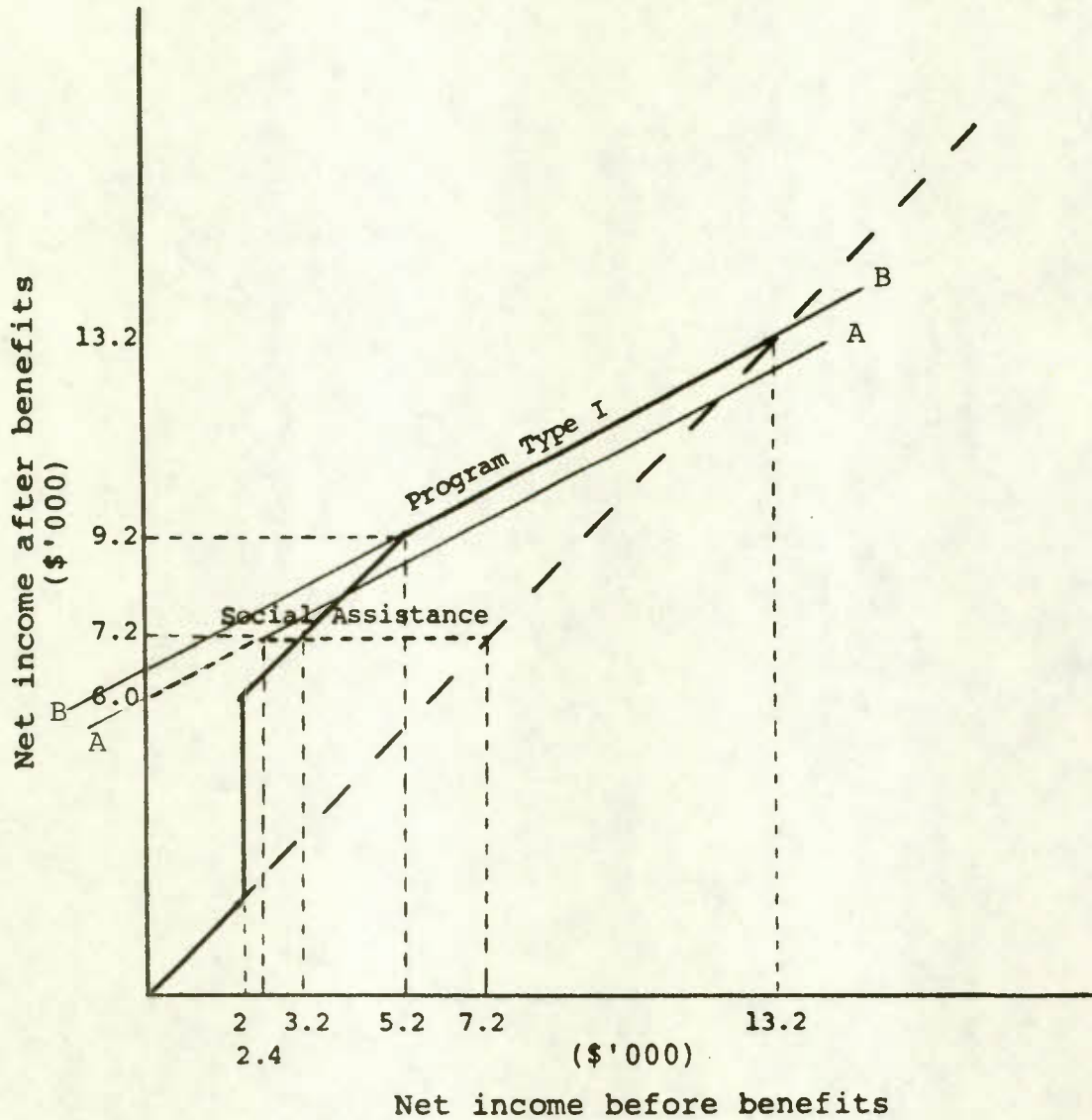
2 There is normally a 30 day waiting period for social assistance benefits.

The income levels that can be attained at various levels of earned income under the social assistance program (assuming that earnings are at a constant rate monthly - see Table 8) and the Type I income supplementation program (Case N) are shown in Chart 3. (Chart 3 ignores unemployment insurance benefits.) As indicated in this chart, a two-parent family with two children would be better off financially under social assistance below net earned income of \$3200 annually. Between annual net earned income levels of \$3200 and \$13,200, the family would be better off financially under the Type I income supplementation program with high benefit levels.

Chart 3 suggests that it would not be difficult to integrate the current social assistance program with the Type 1 income supplementation program. Specifically, a structure of benefits which would yield income levels along lines AA or BB (or some line in between these two) would effectively integrate the two programs.) For purposes of integration and also for equity considerations it would seem that benefit levels under an integrated program should be determined on an annual rather than on a monthly basis.

Chart 3

Interface between Social Assistance and a Hypothetical Income Supplementation Program<sup>1</sup> for Newfoundland, 1978



1 With high benefits levels, and a 50 per cent tax back rate on net income above \$5,200.

#### IV Summary and Conclusions

This paper has reported on the results of simulations of some alternative income supplementation plans for Newfoundland as a replacement for regional extended and self-employed fishermen's unemployment insurance benefits.

The first part of the paper presents the rationale for this type of change in the current structure of social security programs. It is first argued that the benefits under these two components of the unemployment insurance program are forms of income supplementation. Based on some available data and an examination of the structure of these two components of the unemployment insurance program, the view is advanced that they are unlikely contributing to the goals of equity in the distribution of benefits and improved economic performance.

The second part of the paper reviews some income supplementation plans simulated using the National Health and Welfare Canada BENTAX model based on the 1978 Survey of Consumer Finances. These plans were assumed to apply only to families with children under 18 years of age and were formed by combinations of the following four features:

1. Program Type

i) Type I Market income of \$2000 is required for eligibility. Maximum benefits are received between net income levels of \$2000 and \$5200. Benefits are reduced as net income increases above \$5200.

ii) Type II No market income requirement for eligibility. Benefits increase with net income to \$5200 where maximum benefits are received. Above \$5200 net income, benefits are reduced as under Program Type I.

2. Maximum Benefit Levels

i) Low benefits - \$1000 per family plus  
\$ 500 per child

ii) High Benefits - \$2000 per family plus  
\$1000 per child

3. Tax Back Rate on Net Income in Excess of \$5200

i) 50 per cent tax back rate  
ii) 33.3 per cent tax back rate.

4) Percentage reduction in unemployment insurance benefits received by eligible families as a result of elimination of regional extended and fishermen's benefits.

- i) 30 per cent
- ii) 40 per cent
- iii) 60 per cent

The gross program costs of these 24 plans were estimated to vary from \$25 million to \$164 million dollars in 1978. It is estimated that the net savings of the federal government as a result of eliminating regional extended and fishermen's unemployment insurance benefits would have been about \$88 million in 1978.

The estimated changes in disposable income by market income level and family size for one of the plans simulated - Type I, High Benefit Levels, 50 per cent tax back rate, 40 per cent reduction in U.I. - suggest that the program would be progressive amongst families with children under 18 years of age who have sufficient market income to qualify for benefits. It is estimated that this plan would have resulted in a loss of \$18 million in disposable income of individuals and couples not receiving OAS benefits.

Extending this program to individuals and couples with maximum benefit levels of \$1000 per person would have cost about \$11.5



million in 1978 and this change would have had a progressive effect on income distribution of these family units.

The large reductions in disposable income often incurred by families with less than \$2000 in market income (which would render them ineligible for benefits) led to the suggestion that eligibility for families of the self-employed should be based on some measure of work effort other than net income.

Hence, it is reasonable to conclude that the amount of federal government expenditures for regional extended and fishermen's unemployment insurance benefits in Newfoundland in 1978 could have financed a major portion of a reasonably generous income supplementation program that would be more equitable and that would contribute to improved economic performance. If some of the funds for other transfer programs, for example the Gulf Subsidy, were also diverted to such an income supplementation program, it would appear that a more effective solution to the problem of income deficiency of Newfoundlanders could be attained without a significant increase in existing transfer expenditures. It may be speculated as well, that with such an income supplementation program in place, governments may have greater latitude to undertake additional changes to improve the performance of the provincial economy.

The third part of the paper presents a discussion of some of the problems which would arise in interfacing an income

supplementation program with the regular unemployment insurance program and the provincial social assistance plan. With regard to unemployment insurance there could be a conflict between the objectives of equity and work incentives. In the case of the provincial social assistance plan, integration and equity would seem to require that benefits be determined on an annual rather than a monthly basis.

The implications of replacing regional extended and fishermen's unemployment insurance benefits with an income supplementation program in other provinces was not examined in this paper. It is likely that reductions in federal government expenditures arising from elimination of these two components of the unemployment insurance program could finance a major portion of a reasonably generous income supplementation program in the Maritime provinces. Such would not be the case in other provinces, however. Some form of differential federal-provincial financing with the provinces would be required if federal government expenditures were not to increase greatly.

This paper has, by necessity, been limited in scope. It has examined the implications of replacing certain selective components of the social security system with a different but also selective program. The paper has not addressed the wider question of selectivity versus universality in social security. Kesselman (11) has identified some of the pitfalls of selectivity in income security programs. Universality would, however,

require broad changes in the existing social security system, the structure of taxation and the broad range of tax expenditures in Canada. An income supplementation program in replacement of the supplementation components of the unemployment insurance program should, in the author's opinion, be viewed as an interim step pending such changes.

Notes

1 Some of the major problems identified are summarized in Chapter 9 of the Economic Council's Consensus Document of the Newfoundland References - Newfoundland: From Dependency to Self-Reliance. The estimated costs of some alternative income supplementation which are presented in Chapter 9 of the Consensus Document are based on the results reported in this paper.

2 There are two reasons for this. First benefits per capita allow for a comparison of the level of benefits received by individuals in family units of different sizes.

Secondly, and more fundamentally, the author is of the view that when assessing the distribution amongst individuals or families of an external transfer (as noted most of the benefits received in Newfoundland are financed outside the province), equal per capita benefits should be taken as the neutral position. The conventional view is that neutrality occurs when benefits are a constant proportion of income, that is when the absolute amount of benefits increases with income, since this would leave the distribution of income unchanged. This author has difficulty with this conventional notion - that higher income individuals must receive higher absolute benefits in order for "neutrality" to hold.

Thus according to this non-conventional view progressivity requires that the absolute amount of per capita benefits decrease with income. According to the conventional view increasing absolute per capita benefits with increasing income could be progressive.

3 This phenomena is not by any means confined to the unemployment insurance program. The many tax expenditures, which at the federal level have been estimated to be substantial (see 5), have a similar effect. The existence of different tax rates on different types of income can result in both inequities and in changes in the pattern of economy activity that would otherwise occur. With regard to the latter effect, one of the objectives of tax expenditures is to encourage or discourage the level of certain activities. It is unlikely however that this phenomenon is an objective of the unemployment insurance program.

4 In contrast, the level of income from certain other sources would tend to be independent of the level of income from employment. For example, within a given year, interest and dividend income and the imputed income on an owner - occupied dwelling would tend to be unrelated to income from employment. In the case of non-market activity, however, the degree of substitutability with income from employment would tend to be high.

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Appendices

Table A-1

INCIDENCE OF UNEMPLOYMENT INSURANCE BENEFITS IN NEWFOUNDLAND, 1977

	GROSS INCOME LEVELS (\$'000)						
	<5	5-10	10-15	15-20	20-30	30+	All
<b>Number of All Units</b>							
Families	9,560	20,200	22,490	18,840	18,340	4,430	93,860
Couples	4,570	13,920	4,880	3,050	4,620		31,040
Persons not in Families (Individuals)	37,810	9,130	4,350		3,630		54,920
Children ≥ 18	25,800	14,220	3,130		500		43,650
Fishermen/Farmers	2,470	4,260	2,750		2,290		11,770
<b>Number of All Units (Per cent Distribution)</b>							
Families	10.2	21.5	24.0	20.1	19.5	4.8	100
Couples	14.7	44.8	15.7	9.8	14.9		100
Persons not in Families (Individuals)	68.8	16.6	7.9		6.6		100
Children ≥ 18	59.1	32.6	7.2		1.1		100
Fishermen/Farmers	21.0	36.0	23.4		19.4		100
<b>Number of Persons in All Units</b>							
Families	34,660	86,380	101,200	82,820	80,710	16,540	402,310
Couples	9,140	27,840	9,760	6,100	9,240		62,080
Persons not in Families (Individuals)	37,810	9,130	4,350		3,630		54,920
Children ≥ 18	25,800	14,220	3,130		500		43,650
Total	107,410	137,570	118,440	90,860	89,920	18,760	562,960
(%)	(19.1)	(24.4)	(21.0)	(16.1)	(16.0)	(3.4)	(100)
Fishermen/Farmers	5,230	15,800	10,940		9,690		41,660
(%)	(12.6)	(37.9)	(26.3)		(23.3)		(100)
<b>Number of Persons in Families (Per cent Distribution and average Family Size)</b>							
Percentage Distribution	8.6	21.5	25.2	20.6	20.1	4.2	100
Average Size	3.63	4.28	4.50	4.40	4.40	3.73	4.29
<b>Total Unemployment Insurance Benefits (\$'000)</b>							
Families	3,616	34,417	32,426	12,012	2,434	2,854	107,997
Couples	1,506	10,499	5,648	4,473	1,621		23,747
Persons not in Families (Individuals)	8,949	7,010	903		177		17,039
Children ≥ 18	14,018	17,913	3,426		932		36,289
Total	28,089	69,839	42,403	27,711	13,460	3,570	185,072
Fishermen/Farmers	2,224	8,166	6,040		6,041		22,471
<b>U.I. Benefits as a Percentage of Gross Income</b>							
Families	12.8	22.6	11.7	7.0	2.7	n.a.	
Couples	9.1	11.2	9.3	8.4	n.a.		
Persons not in Families (Individuals)	9.6	10.4	1.6		n.a.		
Children ≥ 18	21.5	18.5	9.5		n.a.		
Fishermen/Farmers	29.6	26.9	18.5		n.a.		
<b>U.I. Benefits per Unit (\$)</b>							
Families	378	1,704	1,442	1,203	655	644	1,151
Couples	330	754	1,157	1,467	351		765
Persons not in Families (Individuals)	237	768	208		49		310
Children ≥ 18	543	1,260	1,095		n.a.		831
Fishermen/Farmers	900	1,917	2,196		2,638		1,909
<b>U.I. Benefits per Person (\$)</b>							
Families - total	104	398	320	274	149	173	268
Couples	165	377	578	733	175		383
Persons not in Families (Individuals)	237	768	208		49		310
Children ≥ 18	543	1,260	1,095		n.a.		831
Total	262	508	358	305	150	190	330
Fishermen/Farmers	425	517	552		623		539



Source: Statistics Canada Survey of Consumer Finances, 1977 (MUFIL M0026). Tabulations provided by Income and Economic Policy Directorate, Health and Welfare, Canada.

Notes to Table A-1

	Number of Family Units Surveyed						All
	Gross Income Levels (\$'000)						
	5	5-10	10-15	15-20	20-30	30+	
Families	138	307	329	249	227	53	1303
Couples	77	215	69	43	— 58 —	—	462
Persons not in Families (Individuals)	373	87	37	—	28	—	525
Children $\geq$ 18	389	201	42	—	8	—	640
Fishermen/ Farmers	32	69	47	—	34	—	182

All data in Table A-1, except the one item indicated by "r" (residual), are based on more than 25 surveyed units. The author was advised by Statistics Canada that 25 sampled units was about the minimum number for which reasonably reliable estimates could be derived.

The total number of all units does not correspond to the Survey of Consumer Finances' estimate because children 18 years old and over living at home are treated here as separate units. In some cases this would change families with children into "couples" or into "persons not in families".

"Families" are families with children under 18 years of age.

"Couples" are married couples without any children.

"Children  $\geq$  18" are children 18 years old or over living at home.

"Fishermen/Farmers" are all units with heads who are fishermen or farmers.

In estimating number of persons, families with 9 or more members were assumed to have exactly 9 members.

The data on number of units by gross income categories were available as follows: gross income of zero or less; by \$500 intervals up to \$5,000; by \$1,000 intervals between \$5,000 and \$10,000; by \$2,000 intervals between \$10,000 and \$40,000; by \$5,000 intervals between \$40,000 and \$50,000; and over \$50,000. Accordingly gross income estimates for all units in the income ranges shown in the table were estimates using the mid-point of the more detailed income ranges. Gross income all of units with incomes of \$0 or less was taken as zero. Total gross income could not be estimated for those units in the highest income range.

Based on the survey the value of unemployment insurance benefits paid in Newfoundland was about \$185 million in 1977. This is 84.5 per cent of the \$219 million in benefits actually paid that year.

The estimates of unemployment insurance benefits per unit are derived by dividing benefits by the number of all units in each category. Correspondingly the estimates of unemployment insurance benefits per person are derived by dividing benefits by the estimated number of all persons in each category.

For couples and persons not in families, the number of units in each gross income categories were available by various age categories (<25, 26-35, 36-45, 46-55, 56-65, >65). The following supplementary table provides additional information which might be helpful in reviewing the data above.

Number of Family Units by Selected Income and Age Categories

Income Categories (\$000)	Age			All
	≤25	56-65	>65	
(No. of family units)				
<u>Couples<sup>1</sup></u>				
<5	0	1,430	2,170	4,570
5-10	680	3,590	7,490	13,920
<u>Persons not in Families (Individuals)</u>				
<5	9,050	6,250	17,210	37,810
5-10	3,400	910	1,880	9,130

1 Age of head of household.

Saskatchewan's Family Income Plan (FIP)

With the introduction of this program, social assistance benefits for children under 18 years of age began to be paid under the FIP plan. Thus a family with children receiving social assistance would receive benefits from two sources: the Saskatchewan Assistance Plan (SAP) basically for adults and FIP for children. FIP employs an annual accounting period for determining benefits.

Monthly benefits under FIP in 1978 were \$50 for the first child and \$40 for subsequent children for families with annual net incomes below \$5,700 (roughly the amount that could be earned by a full-time worker at the minimum wage). For the purpose of determining benefits under the plan, the following deductions were allowed in determining net income: CPP contribution; U.I. premiums; Registered Pension Plan and Savings Plan Contributions up to \$500 per family; union, professional or like dues; alimony, maintenance support paid; employment expenses (the lesser of 6 per cent of employment income or \$600); income tax. Above \$5,700 net income benefits are reduced at a rate of 50 cents for each dollar increase in net income.

Benefits under the FIP program are paid monthly based on income projections for the year. Net income from self-employment for

the previous year is used to estimate income in the current year. Reconciliation between benefits paid and benefits due occurs at year end.

There is an asset test for eligibility. Families with gross assets exceeding \$130,000 in 1978 (excluding principal residence and some limited land on which it is built, household furnishings, and one automobile) were ineligible for benefits.

For the purpose of determining benefits under FIP all sources of income including unemployment insurance benefits, are treated on the same basis as income from employment.

The fact that benefits under the Saskatchewan Assistance Plan were periodically adjusted for inflation while those under FIP were not resulted in problems with regard to adequacy of FIP benefits, equity between working and non-working low income families, and work incentives. It was recommended in a Working Group Report in 1977 that to resolve these problems a strong interrelationship should be maintained between the Saskatchewan Assistance Plan, the Family Income Plan, and the employment system.

Much of the correspondence with beneficiaries under FIP is conducted by mail and it appears that this has encouraged eligible families to participate in the program.

Quebec's Work Income Supplement Program

Under this plan supplementation is available for dependent children (under 18 years of age or over 18 years of age if in full-time attendance at a secondary school), as soon as work income is positive - there is no minimum income required for benefits. The schedule of benefits for 1978 is shown in Table B-1.

Several aspects of the program should be noted. First benefits are determined based on work income levels before taxes and other deductions, so that the rate of change of benefits with respect to net earned income at different levels would differ from those with respect to gross earned income. Secondly benefits are reduced dollar for dollar of most forms of non-work income, such as unemployment insurance benefits, pension incomes, interest and dividend income, workmen's compensation benefits, social assistance benefits, and old age security and guaranteed income supplementation benefits. Thus the program is designed specifically to supplement work income and not income in general.

There is an asset test for eligibility. In 1978, the value of assets, excluding principal residence and the land on which it is built, furniture and household furnishings, and one automobile, had to be less than \$50,000 for eligibility.

Table B-1: Characteristics of Quebec's Work Income Supplement Program, 1978

	Number of Eligible Children		
	One	Two	Three or More
Maximum benefits (\$)	1,341	1,446	1,473
At work income levels of (\$)	5,370	5,790	5,900
Rate at which benefits increase with income below maximum	.25	.25	.25
Rate at which benefits decrease with income above maximum	.33	.33	.33
Income levels at which benefits are reduced to zero (\$)	9,400	10,130	10,310

Benefits based on income in one calendar year are paid in four quarterly installments; September 15 and December 15 in the following year and March 15 and June 15 of the year thereafter.

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