



Queen's Economics Department Working Paper No. 49

TOWARDS A NEW TAX-TRANSFER SYSTEM IN
CANADA:AN ANALYSIS OF THE CHANGES
PROPOSED IN THE WHITE PAPERS ON INCOME
SECURITY,UNEMPLOYMENT INSURANCE AND
TAXATION

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6-1971

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DISCUSSION PAPER NO. 49

June, 1971

I. INTRODUCTION

Recent issues of the Canadian Tax Journal have included analyses of each of the federal government's three major programmes for reform of Canada's tax-transfer payment system. Much space has, of course, been devoted to the 1969 White Paper on Taxation, Proposals for Tax Reform (henceforth W.P. Tax); L.A. Kelly has analyzed Unemployment Insurance in the 70's,¹ (henceforth W.P. Unemployment Insurance); A. Deutsch and C. Green² have discussed the proposed reforms of the welfare system put forward in Income Security for Canadians (henceforth W.P. Income Security) and have outlined an alternative to the Family Income Security Plan's (FISP's) revamping of the family allowance programme.

In this article we offer additional analysis of the government's latter two reform proposals, paying particular attention to tax-like effects of the programmes and to issues that were important in the tax reform debate: questions of equity and questions of the impact on incentives for individuals to work, save, etc. In a number of instances we examine the combined effects of the proposals from these points of view. Finally, we discuss the "negative income tax" method as an alternative to some of the major components of the unemployment insurance and income security reforms.

1. Lawrence A. Kelly, "Unemployment Insurance in the 70's: A Look at the White Paper," Canadian Tax Journal, July-August 1970, pp. 301-309.

2. Antal Deutsch and Christopher Green, "Income Security for Canadians: A Review Article," Canadian Tax Journal, January-February 1971, pp. 8-16.

Much of the following analysis could be viewed as an attempt to determine the effectiveness of the various reform programmes in meeting three of the objectives stressed by the government in setting forth these programmes:

1. The promotion of horizontal equity: "persons in similar circumstances should carry similar shares of the tax load". (W.P. Tax, p. 6).
2. A redistribution of income from the better off to the poor, especially the very poor: "...persons who are better off should be required to pay in taxes a larger share of their incomes than persons with lower incomes." (W.P. Tax, p. 6).

"Greater emphasis should be placed on anti-poverty measures. This should be done in a manner which enables the greater concentration of available resources upon those with the lowest incomes." (W.P. Income Security, p. 1).

"... the government now believes that a revamped unemployment programme should provide higher benefits with less emphasis on employees' labour force attachment." (W.P. Unemployment Insurance, p. 5).

3. The improvement of work incentives through the lowering of very high marginal effective rates of tax: "Canada needs the full effort of those with outstanding ability... there is a danger that rates (of tax) higher than 50% applied to earned income of professional workers and executives would tend to some slackening of work effort..." (W.P. Tax, p. 20).

"Income security programmes must be designed (so that) they encourage employment in place of continued dependence on the programme benefits." (W.P. Income Security, p. 8).

"...it (the new unemployment insurance plan) will provide a pipeline to services designed to improve the employment potential of the individual." (W.P. Unemployment Insurance, p. 8).

II. QUESTIONS OF EQUITY

The government proposes to revise unemployment insurance so that it will provide more assistance to the unemployed; old age pensions plus the guaranteed income supplement are to be revised to provide more assistance to the low-income elderly; family allowances are to be revised to provide more assistance to low-income families. Each of the proposed revisions raises problems of equity: fair treatment of those with similar annual earnings but different amounts of unemployment, fair treatment of the elderly who had similar lifetime incomes but made different savings choices, fair treatment by the combined tax-family allowance system of families of different sizes and different incomes.

A. Unemployment Insurance

In many industries unemployment for a certain fraction of any given year is almost a certainty. Workers in these industries draw some unemployment insurance benefits as a matter of course during the year and have come to regard these drawings as a normal component of their annual income. The time not spent at work may be used productively in the home or simply used for recreation. In any event, it is clear that of two persons who normally earn 4,000 dollars per year, gross, one by working 50 weeks at \$80 per week, and the other by working 40 weeks at \$100 per week, the latter is "better off" in some very real sense. Being better off, the latter should, according to principles of vertical equity, be taxed more heavily than the former. In fact, of course, under both the current and proposed unemployment insurance systems, the former is taxed

much more heavily than the latter. As is shown in Table II.1, the differential treatment of equal employment incomes is somewhat less under the proposed system than under the current one comparing two workers with the same earned income, one who worked 40 weeks and the other who worked 50. On the other hand, the differential is much greater under the proposed system when comparing two workers with the same earned income, one who worked 30 weeks, the other who worked 40.

Any unemployment insurance scheme inevitably involves some "differential treatment" of this type. If there were a random incidence of unemployment across individuals, one might argue that the unemployment insurance system was fair in the sense that everyone had an equal chance of benefiting. If expectations of unemployment differed, but premiums differed in a corresponding way, one might again argue that no serious divergence from the principle of "horizontal equity" arose. However, neither of the above conditions holds. As can be seen from Tables II-2, II-3, II-4, the incidence of unemployment by industry and occupation is far from random over the course of a year or over the course of the business cycle. By increasing the level of benefits, and reducing the period of employment necessary to qualify for them, the government is certainly aiding the unemployed - and no doubt raising some families above the "poverty line." However, it is also in effect systematically taxing some of the fairly poor (among others) and systematically providing benefits to some not-so-poor (among others).

B. The Old Age Pension and the Guaranteed Income Supplement.

The W.P. Income Security proposes two major changes in Canada's transfer payment system for people sixty-five years of age and older. The

TABLE II-1

For Head of Family of Five Net Income and Average Rate of
Tax (Effective) on Equal Gross Incomes From
Different Weeks of Work

Weeks Worked	Weekly Rate	Annual Gross Income From Employment	CURRENT SYSTEM		PROPOSED SYSTEM	
			Net Income	Average Effective Tax Rate	Net Income	Average Effective Tax Rate
40	\$200	\$8,000	\$7,502	6.2%	\$7,510	6.1%
50	160	8,000	6,959	15.0	6,992	12.6
40	100	4,000	4,503	-12.6	4,722	-18.1
50	80	4,000	3,974	0.6	4,318	- 8.0
30	160	4,800	5,408	-12.7	6,157	-28.3
40	120	4,800	5,129	- 6.8	5,338	-11.2
30	80	2,400	3,295	-37.3	3,933	-63.9
40	60	2,400	2,956	-23.2	3,324	-38.5

Source: Table III-3.

TABLE II-2

Ratio of Unemployment Rates by Industry
To Overall Unemployment Rate
Canada - 1954 - 1964

Industry	1954	1956	1958	1960	1962	1964
Agriculture	0.1	0.1	0.2	0.2	0.3	0.3
Forestry, F. & T.	2.8	3.8	4.1	3.8	4.4	4.0
Mining	1.0	1.2	1.3	1.0	1.5	0.9
Manufacturing	1.1	0.9	1.0	0.9	0.8	0.8
Construction	3.1	2.9	2.7	2.9	2.8	2.7
Transport & Utility	1.0	1.0	1.0	0.9	0.9	0.9
Trade	0.6	0.6	0.5	0.6	0.6	0.7
Service & Finance	0.5	0.5	0.4	0.5	0.5	0.5

Source: The Labour Force, D.B.S., Selected Issues.

TABLE II-3

Quarterly Unemployment Rates by Industry,
1969

Industry Group	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Primary	8.1%	5.2	2.5	3.9
Manufacturing	5.2	4.3	3.4	4.7
Construction	18.2	11.4	6.5	10.4
Transport & Utilities	6.0	4.4	2.7	3.8
Trade	4.0	3.5	2.8	2.9
Service	3.3	2.4	2.5	2.7

Source: The Labour Force, D.B.S., Selected Issues.

TABLE II-4

Ratio of Unemployment Rate by Occupation to
Overall Rate: Canada, Selected Years

Year Occupation	1957	1961	1963	1966	1969 ¹	1970 ²
Office & Professional	.3%	.4%	.4%	.4%	.4%	2.6%
Transport	1.5	1.4	1.4	1.3	1.2	5.6
Service	.8	.8	.9	.9	.9	4.7
Primary	.9	1.0	1.0	1.1	1.0	3.2
Operatives & Pro- duction Process, Craftsmen	1.3	1.3	1.2	1.2	1.2	6.0
Labourers	2.9	3.1	3.2	3.3	2.8	11.1
Overall Rate	4.6%	7.1%	5.5%	3.6%	4.7%	5.3%

Source: The Labour Force, D.B.S., Selected Issues.

1. Average of quarters.

2. Actual 3rd quarter rates.

Guaranteed Income Supplement,¹ which for 1971 was scheduled to be \$32.47 per month for a single person and \$64.94 for a married couple (where both husband and wife are over 65) will be increased to monthly payments of \$55 and \$95 respectively. The universal Old Age Pension which was \$79.58 per month in 1970 and which under the former legislation would have increased by 2% per year is frozen at a monthly payment of \$80 per person. We support the first change - increased assistance to the very low income retired, and the continued use of a form of the "negative income tax" method to provide the assistance. In this section, we wish to concentrate on the second change - the decision to end the partial adjustment for inflation in the universal Old Age Pension, and more generally on the question of whether an attempt should be made to compensate all the retired for inflation.

In choosing to meet a significant portion of the cost of increased payments to the very low income retired at the expense of previously scheduled Old Age Pension increases for the remainder of the retired, rather than at the expense of the general taxpayer, the government raises the issue of the rationale behind the universal Old Age Pension Programme. This programme could be regarded as a means of reducing poverty among those over sixty-five which has been surpassed in efficiency by the G.I.S., but which must be retained since "many people have planned their retirement on the expectation that they will get Old Age Security at age 65, and to deny them this benefit would be extremely unfair and a breach of faith."

1. This is a payment made in full to those with no private pensions or other private income, and reduced by 1/2 of any such income so that no payment is made to those with private income levels greater than twice the value of the maximum payment.

(W.P. Income Security, p. 42). If this view is taken, the proposed increase in the relative importance of the G.I.S. makes sense, though it might be argued that a continuation in the increase of Old Age Pension rates by at least 2% annually would be more consistent with the expectations on which retirements have been planned. The Old Age Pension may also be seen as a way of providing a degree of compensation to all the elderly for the effects of inflation. If this view is adopted - we discuss whether or not it should be in the next few paragraphs - the freezing of the Old Age Pension becomes even more questionable.

In our economy, people are free to choose the amount they will save and the way they will invest their savings. The fact that some of these investments turn out badly - due to inflation or to any other reason - might be considered to be no concern of the government. There are, however, a number of arguments in support of the opposing view, that commonly held standards of "fairness" make appropriate some compensation for inflation:

- (i) The "disappointment of legitimate expectations" argument. The substantial increases in the general level of prices which occurred in the immediate post-war years and in the late 1960's could be regarded as causing a "disappointment of the legitimate expectations" of savers - expectations of reasonable price stability, which governments have encouraged.
- (ii) The quid pro quo argument. (Unanticipated) increases in the general level of prices and money incomes lower the real amount of taxes that must be levied to service the government debt (much of which is held, directly or indirectly, to provide income in retirement).
- (iii) Sharing the costs of achieving high employment. The costs of securing the general benefit of either price stability or high employment tend to be imposed on particular segments of society, the "marginal worker" and the worker in the cyclically sensitive

industry in the case of price stability, and people on fixed incomes - largely the retired of modest income - in the case of full employment. The government has recognized that rates of unemployment over four percent may have to be tolerated from time to time to secure better price performance and has, in effect, provided for some sharing of the burdens imposed by this unemployment through the revisions in the unemployment insurance scheme which extends benefits during periods of high unemployment, and which calls for financing from general revenues of the costs of insurance against unemployment rates higher than four percent. These changes in the unemployment insurance system improve it in terms of our concepts of equity. The same concepts lead us to believe that the government ought to compensate those who bear the heaviest costs of the rising prices associated with expansionary fiscal and monetary policies designed to induce full employment.

The present universal Old Age Pension may be viewed as compensating the average retired Canadian for past inflation. The above assertion depends on certain assumptions: an assumption about the unknowable - what would have happened in the absence of inflation, and an assumption about the difficult-to-discover - what average patterns of the amount and form of savings for retirement have been. We assume that, in the absence of inflation, real wage and salary earnings would have been the same as they actually were, and that it would have been possible to obtain a real rate of return of 3% on savings. We examine two cases which we believe to be representative of substantial portions of the retired population: (Case A) - the case of "the average Canadian" retiring in 1970 who had earned the average Canadian manufacturing

weekly wage throughout the last forty-five years and who had saved three weeks' earnings (6% of annual income) every year in a fixed interest savings plan or annuity scheme;¹ (Case B) - the case (perhaps typical of school teachers) of someone who had earned 150% of the average weekly wage throughout the last forty years and had saved (perhaps in part through matching employer contributions) 10% of annual income in the same form. If these earnings could have been invested to yield a real (after inflation) return of 3% per annum, they would have produced capital sums at retirement of \$19,200 and \$48,000 (1970 dollars) respectively. At current rates these sums would purchase life annuities of \$180 and \$450 per month (1970 dollars) respectively.² In fact, most plans in which savings were actually invested over this period were fixed interest plans, similar to the Government of Canada annuity scheme, which yielded savers a current dollar return of about four percent per annum. Thus persons retiring in 1970 would have capital sums of only \$13,200 (Case A) and \$33,200 (Case B) with which, at current

1. While "average" Canadian's earnings stream is indeed typical, we have assumed a rate of savings which may be slightly higher than the rates of saving in the form of fixed interest securities that were actually achieved in the past. That the extent of our overestimate is not great can be most easily seen from the following comparison: Our "typical Canadian" retiring in 1960 would have been able to purchase a life annuity of approximately \$920 with the capital sum from 3 weeks savings each year at average manufacturing weekly male wage from 1921-1960. In fact, in 1961, the estimated mean income from retirement pensions and investments (about 75% of investment income was bank, bond and annuity interest) was over \$800 for families in which the head was over 65 years of age. The estimated income from pensions and investment for single persons was approximately \$600 per year. (See J.R. Podoluk, Incomes of Canadians, Ch. 9, for a further description of income from savings by the aged.

2. Current annuity rates for registered savings as quoted by Empire Life Insurance Company.

rates, they could purchase life annuities of approximately \$120 and \$300 per month respectively.¹ Thus, according to our assumptions, full compensation for inflation for cases A and B would require monthly payments of \$60 and \$150 respectively in 1970. The present old age pension of \$80 per month per person (when received by husband and wife) is adequate (Case B), or substantially more than adequate, (Case A), compensation for the losses caused by inflation in these "typical" cases. However, at least some degree of inflation can be expected to persist. As the final step in this exercise, we consider what might be the position of individuals in Case A and Case B ten years from now if inflation continues at annual rates of 2% or of 4%. As shown in Table II-5, the monthly payments required for full compensation would in most cases be above an Old Age Pension held constant at \$80, and also above the higher values the monthly Old Age Pension would reach if escalated at 2% as under the former scheme, or if escalated at the full inflation rate for the 4% example. Maintaining the level of rough approximation which has characterized this exercise up to now, one might be willing to conclude that a tendency to "overcompensate" at the beginning of retirement is about balanced by some tendency to undercompensate in the later years of retirement.

We would be the first to admit the limitations of the above line of reasoning. More sophistication could have been shown in the actuarial calculations. Substantially different results could have been obtained if different assumptions had been made. Finally, a flat rate Old Age

1. Of course, some persons may have bought into schemes from which they could not withdraw the capital sum at retirement to purchase an annuity at the going rates. These persons would fare somewhat worse than is indicated by our example.

TABLE II - 5

Monthly Annuities and Required Compensation
for Inflation

	CASE A	CASE B
1. Monthly pension required to yield a real 3% return on real savings	\$180	\$450
2. Actual life annuity purchasable if savings had been accumulated at 4% money return	120	300
3. Full monthly compensating for inflation required at retirement. (1) - (2)	60	150
4. Real value of actual annuity (2) 10 years hence assuming rate of inflation of 2% p.a.	95	240
5. Monthly compensation for inflation (2% p.a.) required 10 years hence (1) - (4)	85	210
6. Real value of annuity (2) 10 years hence assuming rate of inflation of 4% p.a.	80	200
7. Monthly compensation for inflation (4% p.a.) required 10 years hence (1) - (6)	100	250

Notes: Case A: Monthly annuity purchasable by the capital sum from lifetime savings at the annual rate of three times male average weekly earnings - manufacturing for the last forty years.

Case B: Monthly annuity purchasable from capital sum from lifetime savings at the annual rate of five times 150% of male weekly earnings in manufacturing for last forty years (typical of school teachers' earnings and savings).

Pension is obviously an extremely crude compensation device for losses which would have varied significantly from one individual to another. Nonetheless, we believe there are strong equity arguments for providing compensation at least up to the amount which the "average" retired person may be considered to have lost through inflation, the strongest equity argument being that inflation is to an extent a matter of government policy choice, a degree of inflation being considered a lesser evil than higher unemployment. We believe that the former Old Age Pension plan provided such compensation to an acceptable degree of approximation, and that it should be maintained, or preferably changed in the opposite direction from that chosen by the government, to provide for increases in the universal monthly pension by the full amount of price level changes. In other words, rather than absorb a portion of the cost of increases in the G.I.S. by reductions in the amounts scheduled to be spent on O.A.S., we believe it would be more equitable to meet the full cost of the G.I.S. increase, plus the cost of annually increasing both G.I.S. and O.A.S. by the full amount of price level changes, out of general taxation. The price to be paid for what, in our view, is a substantial improvement in equity, might be in the order of a 1/4 percentage point increase in all personal income tax rates in the first year, plus the renunciation of the tax reductions that would have been possible in future years.

Thus far in this section, we have argued that it would not be equitable to allow the average retired Canadian over sixty-five to suffer the full effects of inflation, and that a substantial degree of compensation could be provided at a cost that is not impossibly high. There is another factor which seems to us to militate in favour of reasonably generous treatment for those about to retire and especially for those already retired.

This is the very generous treatment being accorded those who are a few years younger - whose needs are presumably no greater and who may well have suffered less as a result of inflation - under the Canada Pension Plan. Table II-6 is based on rough calculations and somewhat arbitrary assumptions, but it does illustrate the pattern of the subsidies for people of different ages. (We have included the employer's matching contribution in calculating the "Compounded Value of Contributions at Retirement"). As can be seen, the C.P.P. payment to those who retire in 1976 involves an annual subsidy of more than \$1,000. W.P. Income Security proposes to raise the ceiling on contributions, and the pension, by about 50% over the next few years. This will result in a large increase in the subsidy element for those who are already the "biggest winners" under the C.P.P., i.e. those who retire in 1976 and the immediately following years.

This is not the place for a full discussion of the advantages and disadvantages of the decision to allow C.P.P. pensions to reach their full level in the relatively brief period of ten years - a decision that inevitably resulted in large subsidies to contributors, five to twenty-five years from retirement. We merely wish to emphasize the contrast between the decision to increase the subsidies to people of this age group, and the decision to freeze Old Age Pensions rather than increase them by the two percent per year (approximately \$20 per person or \$40 per couple to compare with annual CPP subsidies) called for under the existing scheme, or the \$25 to \$50 (\$50-\$100) that might be called for in each of the next few years if the O.A.S. were to be adjusted fully for inflation.

TABLE II-6

Pattern of Subsidies Implicit in the Present Canada Pension Plan for Single Males of Different Ages

Age (1 Jan., 1971)	Age at Retirement (Year of Retirement in Brackets)	Compounded Value of Contributions at Retirement	Annual Payments Under a Life Annuity Purchasable With (3)	C.P.P. Annual Payment	Annual Subsidy Implicit in C.P.P. Pension
(1)	(2)	(3) (\$)	(4) (\$/year)	(5) (\$/year)	(6) = 5-4 (\$/ year)
75	70/(1966)	0	0	0	0
74	70/(1967)	160	19	125	106
71	68/(1965)	325	36	250	214
69	67/(1969)	500	52	375	323
67	66/(1970)	675	68	500	432
65	65/(1971)	860	84	625	541
63	65/(1973)	1250	122	875	753
60	65/(1976)	1880	184	1250	1066
55	65/(1981)	3090	302	1250	948
45	65/(1991)	6230	610	1250	640
35	65/(2001)	10670	1044	1250	206
25	65/(2011)	16925	1657	1250	-407

Notes:

- These calculations show contributions and pensions that would have been paid had there been no inflation since the introduction of the Plan.
- The case illustrated is that of a single male, assumed to have maximum pensionable earnings throughout the relevant part of his working life, and assumed to retire at 65 for those presently 65 or younger, or at the higher ages at which one became eligible for pension for those presently over 65.
- An interest rate of 3½% was used in compounding contributions and in calculating the annuity purchasable with the contributions. This rate is considered consistent with the constant price level assumption.
- Calculation of the life annuity is based on Canadian male life expectancy - 1965-67 (DBS 84-527). The value of the annual annuity to be paid monthly starting one month after retirement at age x was estimated using the approximation:

$$\text{approximation: } \left(\text{Compounded value of contributions} \right) \div \left(\frac{N_x + N_x + 1}{2D_x} \right)$$

C. The Combined Effects of Family Allowances and Tax Exemptions for Children.

The discussion of this section starts from the premise that a dollar of tax reduction is no more and no less advantageous to its recipient than a dollar of tax-free government transfer payment. Table II-7 shows for various pre-tax income levels the way in which alternative tax and transfer payments systems combined differentiate among families of different size. The alternatives examined are the present tax and family allowance systems, the present tax structure plus the FISP family allowance proposal, and the White Paper on Taxation tax system plus the FISP family allowance proposal. The Table compares the treatment of a childless couple and a couple with one child, but the "net tax-transfer gain" for each additional child would be very close to, if not identical to, the figures shown in column 4.

It will be noted that under the present tax - present family allowance scheme (Table II-7, Column 4a), the dollar amount of differentiation increases as income rises, the result of a flat rate family allowance plus a tax exemption whose dollar value increases as the marginal tax rate rises. Combining the FISP family allowance scheme with the present (column 4b) or White Paper on Taxation (column 4c) tax structures results in "total gain per child" that first rises as the tax exemption point is passed, then falls until the point at which family allowances would be eliminated (\$10,000 before-tax income) is reached, and then starts to rise again, reflecting the value of the exemption.

TABLE II-7
Per Child Increase in Disposable Income From Family Allowance and Tax Exemption

(1) Income Before Taxes and Transfers	(2) Value of Tax Exemption For one Child		(3) Value of Family Allowance for One Child				(4) Total Increase in Disposable Income Per Child			
	Present	W.P. Tax	Present	FISP	FISP After Present Tax	FISP After W.P. Tax	Present Tax Present F.A. (2a + 3a)	Present Tax, FISP Allow., (2a + 3c)	W.P. Tax, FISP Allow. (2b + 3d)	W.P. Tax, Alternative Taxable Allowance of \$240
0										
1,000	0	0	84	192	192	192	84	192	192	240
2,000	0	0	84	192	192	192	84	192	192	240
3,000	0	0	84	192	192	192	84	192	192	240
4,000	43	2	84	192	164	192	127	207	194	188
5,000	60	69	84	192	153	148	144	213	217	182
6,000	71	77	84	180	138	134	155	209	211	175
7,000	77	81	84	156	116	114	161	193	195	172
8,000	86	84	84	132	94	95	170	180	179	166
9,000	86	92	84	108	77	75	170	163	167	160
10,000	80	100	84	84	62	56	164	142	156	160
11,000	80	100	84	60	44	40	164	124	140	154
12,000	93	108	84	0	0	0	177	93	108	154
15,000	93	108	84	0	0	0	177	93	108	154
20,000	124	115	84	0	0	0	208	124	115	148
25,000	139	138	84	0	0	0	223	139	138	129
50,000	139	138	84	0	0	0	223	139	138	129
100,000	170	152	84	0	0	0	254	170	152	117
	201	152	84	0	0	0	285	201	152	117

Notes: All income is assumed to be employment income, earned by one member of a married couple. The Standard deduction of \$100, plus - for the cases to which the W.P. Tax rate structure applies - the proposed "employment expense deduction of 3% of income or \$150 (whichever is lower), are used in the calculation of tax payable. The calculation is based on the combined federal-provincial tax applicable in B.C., N.S., Ont., and P.E.I.

-The present family allowance is shown as \$7 per month, the (unweighted) average of the \$6 or \$8 for children of different ages.

-The W.P. Tax rate structure is that which is intended to apply after the transitional period, i.e. the top marginal rate is 51.2%.

The way in which the tax-transfer system's pattern of differentiation by family size should change as income rises is obviously a matter of taste. Many commentators appear to believe that "waste" is involved under the present system which pays family allowances to upper-income families. However, the concession which the present Canadian tax-transfer system provides to middle and upper income families with children is relatively modest by international standards. The \$600 exemption per child provided by the U.S. system yields a pattern of differentiation by family size which rises more rapidly as income increases, and reaches a higher level for upper-income families.

W.P. Income Security takes a favourable view of redirecting "... benefits now paid to higher income families who do not need income support" to lower income families (p. 27). If such a view is to be adopted, it might logically be applied to the tax-transfer system as a whole, rather than merely to the transfer (family allowance) component. A method of implementation would be to eliminate the tax exemption, increase the family allowance and make it taxable. A taxable allowance of \$20 per month per child could be financed for approximately the same amount as the FISP plan plus the "tax cost" of the \$300 deduction for children under 16. As well as providing somewhat more assistance to the poorest families, this taxable allowance scheme would have the minor virtue of consistency - it would show a pattern of differentiation by family size that continuously decreased as income rose (column 4d) in comparison with the somewhat erratic pattern created by the combined effects of the tax exemption plus FISP allowance (column 4b and 4c). Furthermore, the taxable allowance

avoids the "notch problem" at the \$10,000 before-tax income level which is a characteristic of FISP. The rather abrupt change in the monthly FISP allowance from \$5 per child for incomes between \$9,500 and \$10,000 to \$0 for incomes above \$10,000 creates the possibility that a family's after tax income could be reduced if its before tax income increased from just below \$10,000 to just above \$10,000. It also means that a large family with an income of just over \$10,000 receives less assistance from FISP (though not from the tax system) than a small family with an income of just under \$10,000. Finally, the taxable allowance would not require the filing of an additional statement, the annual FISP application, except for those not presently filing tax returns.

III. EFFECTIVE MARGINAL RATES AND WORK INCENTIVES

The third objective of the White Papers, as stated above, is the promotion of work incentives through the avoidance of very high effective marginal rates of tax. As yet there exists very little comprehensive evidence on the effect of high marginal rates of tax on work effort. The limited evidence that is available suggests that rates approaching 100% do act as a very real deterrent to work effort, at the lower end of the income scale,¹ but until the New Jersey project is completed, we have no evidence on the relative incentive effects of tax rates in the 30% to 70% range for lower income groups. Given this dearth of evidence, we make no attempt to predict the decrease in work effort that would be caused by the new system. We merely calculate the effective rates of tax and leave the reader to draw his own conclusions about the magnitude of the decrease in work effort occasioned by these changes.

A. Incentive Effects of Social Security and Tax White Papers

Compared to the present system, marginal effective tax rates under the proposed tax-transfer system are higher for almost all households in which earnings of the principal breadwinner are less than \$11,000; in some cases the new rates are substantially higher. The old and new effective marginal rates are compared in Table III.1. From this Table it will be noted that for families of four and six in which the principal breadwinner

1. For a summary of the evidence for the United States see F.H. Weymar, "The Poor Should be Paid Bonuses" in R. Theobald (ed.) Social Policy for America in the Seventies, Garden City: Doubleday, 1969.

TABLE III-1

"Marginal" Rates of Effective Tax Under Current and Proposed Tax-Transfer Systems:¹ Married Couples; One Income Earner; 0, 2 and 4 Children

Gross Earned Income	No Children		2 Children		4 Children						
	Proposed ²	Current	Proposed	Current	Proposed ³				Current		
	Total Marginal Rate	Total Marginal Rate	Total Marginal Rate	Total Marginal Rate	Income Tax	Net CPP Tax	Net FISP Loss	Total M.R.	Income Tax	CPP Tax	Total Marginal Rate
1,000	1.8	1.8	1.8	1.8	0.0	1.8	0.0	1.8	0.0	1.8	1.8
2,000	1.8	1.8	1.8	1.8	0.0	1.8	0.0	1.8	0.0	1.8	1.8
3,000	23.6	16.6	1.8	16.6	0.0	1.8	0.0	1.8	1.0	1.8	7.8
4,000	26.1	21.8	28.8	21.8	23.4	1.4	0.0	24.8	17.5	1.8	19.3
5,000	28.8	25.0	31.3	25.0	25.6	1.3	7.1	34.0	21.5	1.4	23.0
6,000	30.0	28.6	32.7	28.7	26.9	1.3	7.0	35.2	24.7	0.0	24.7
7,000	32.5	28.6	34.1	28.7	28.2	1.3	6.9	36.4	27.8	0.0	27.8
8,000	33.3	26.8	35.2	26.8	30.7	0.0	6.7	37.4	28.7	0.0	28.7
9,000	33.3	26.8	36.4	26.8	33.3	0.0	6.4	39.7	27.9	0.0	27.9
10,000	35.8	30.9	49.2	30.9	33.3	0.0	36.0	69.3	26.8	0.0	26.8
11,000	35.8	30.9	35.8	30.9	35.3	0.0	0.0	35.3	28.6	0.0	28.6
12,000	35.8	36.1	35.8	36.1	35.8	0.0	0.0	35.8	30.9	0.0	30.9
15,000	38.4	41.2	38.4	41.2	38.4	0.0	0.0	38.4	38.0	0.0	38.0
25,000	46.1	46.4	46.1	46.4	46.1	0.0	0.0	46.1	46.4	0.0	46.4

1. Unemployment insurance is excluded. "Total Marginal Rate" is the effective rate on an additional \$500 of income at each level.
2. No allowance has been made for deduction of employment related expenses in computing rates of tax according to the White Paper schedule FISP payments have been assumed to be taxable.
3. C.P.P. and F.I.S.P. loss are given net of income tax.

earns from \$5,000 to \$10,000, the effective marginal rate of tax on an additional \$500 of earnings has been increased from the 25-30% range to the 35 to 40% range. At an earned income of \$10,000 the increase is even greater as the proposed effective rate of tax exceeds 60%. Most of the increase in the effective rate is due to the changes in the family allowance program, but it is in part due to proposed increase in the C.P.P. contributions ceiling and to the changed rates of personal income tax. The relative importance of these three components is shown in Table III-1 by the detailed calculation of the effective rate for a family of six.

It is interesting to note that the effective marginal rates for families of four or more approach the proportional rate that would be necessary to finance a reasonable guaranteed income scheme.¹ In fact in the \$10,000 - \$10,500 range, the proposed effective rates might well exceed the proportional rate necessary to finance the guaranteed income scheme. It seems rather inconsistent to us that the government in its White Papers should reject the guaranteed income idea because the necessary tax rate to finance it would be too high, and then propose a tax-transfer system which implies an effective rate of tax which is almost as high for a large number of middle income households.

B. Incentive Effects of Unemployment Insurance White Paper

From the incentive point of view, the proposed system appears much worse when the proposals for revamping the unemployment insurance scheme are taken into account. In Table III-2 we examine the effective

¹. We compare the government proposals to a guaranteed income scheme in Section IV below.

TABLE III-2

"Marginal" Effective Rate of Tax on an Additional Week's
Work at Various Rates of Pay Under Proposed and
Current Systems¹

Weekly Pay Rate	40 vs. 50 weeks of employment				30 vs. 40 weeks of employment			
	Proposed		Current		Proposed		Current	
	Δ Net Y	Tax Rate	Δ Net Y	Tax Rate	Δ Net Y	Tax Rate	Δ Net Y	Tax Rate
\$ 60	\$18.50	70%	\$20.10	66%	\$13.40	78%	\$29.10	51%
80	24.90	69	17.50	78	13.60	83	50.40	38
100	30.30	70	23.60	76	13.30	57	55.30	45
120	34.30	71	37.20	69	16.50	86	67.80	44
160	44.50	72	61.70	62	36.10	78	93.40	42
200	72.30	64	90.20	55	58.70	71	117.80	41

Source: Table III-3.

1. These are the effective rates of tax on the average week of extra work if that week is the 41st to 50th or if it is the 31st to 40th. Under the proposed system we have assumed that F.I.S.P. payments are calculated on the basis of earned income ÷ unemployment insurance benefit. Under the present system we assumed that the workers entitlement to benefit was based solely on the number of weeks worked in the current calendar year. Under the proposed system we assumed him eligible for phase 3 benefits.

TABLE III-3

Net Incomes After Tax and Transfer Under Current and Proposed
(3 White Papers) Tax-Transfer Systems, Including
Unemployment Insurance¹
Family of Five

Proposed System									Current System	
Weekly Rate	Gross Earned Annual Income	Benefit Received	Premium Paid	FISP	CPP Tax	Income Tax ²	Net Income	Marginal Effective Rate of Tax ³	Net Income	Marginal Effective Rate of Tax
Fifty Weeks of Work										
60	3,000	-	-24	576	-43	0	3,509	-	3,157	-
80	4,000	-	-32	576	-61	-165	4,318	-	3,974	-
100	5,000	-	-40	540	-79	-397	5,024	-	4,739	-
120	6,000	-	-48	468	-97	-640	5,683	-	5,501	-
160	8,000	-	-62	324	-130	-1166	6,966	-	6,759	-
200	10,000	-	-62	180	-130	-1770	8,218	-	8,404	-
Forty Weeks of Work										
60	2,400	400	-20	576	-32	0	3,324	69%	2,956	66%
80	3,200	540	-26	576	-47	-106	4,137	77	3,799	78
100	4,000	666	-32	540	-61	-315	4,798	77	4,503	76
120	4,800	800	-39	468	-75	-535	5,419	78	5,129	69
160	6,400	1,000	-50	360	-103	-999	6,608	78	6,342	62
200	8,000	1,000	-50	252	-130	-1465	7,607	69	7,502	55
Thirty Weeks of Work										
60	1,800	850	-15	576	-21	0	3,190	78%	2,665	51%
80	2,400	1,140	-20	576	-32	-64	4,000	83	3,295	38
100	3,000	1,416	-24	576	-43	-265	4,660	86	3,950	45
120	3,600	1,700	-29	504	-54	-467	5,254	86	4,451	44
160	4,800	2,000	-37	396	-75	-843	6,241	77	5,408	42
200	6,000	2,000	-37	324	-97	-1174	7,016	70	6,324	41

1. We have assumed a fifty week working year, 2 weeks for holidays, and that all workers receive their two weeks holidays regardless of the number of weeks worked. FISP payments are calculated on the basis of gross earnings + unemployment insurance benefits. It has further been assumed that no entitlement to benefit has been built up during the previous year's employment.
2. No deduction has been made for allowable work expenses.
3. The effective rate of tax on an additional ten weeks earnings, i.e., net income for (X + 10) weeks work minus net income for X weeks work.

rate of tax on earnings from one additional week of employment. From these tables it can be seen that the effective rate of tax implied by the proposals ranges from approximately 70% to 85% compared with 40% to 75% under our current system. However, the new administrative procedures will make it somewhat more difficult than at present to collect benefits without undertaking manpower retraining. This may reduce somewhat the negative impact on work incentives of these very much higher effective rates of tax. Nevertheless, we believe that the increase in the effective tax from approximately 40% to approximately 80% during the 10th to 20th week of unemployment will certainly discourage vigorous search for a job.¹

In sum, the proposed tax-transfer scheme (the three White Papers) appears to impose marginal rates of effective tax on primary breadwinners of families with two or more children in the \$5,000 - \$11,000 range that are almost as high or even higher, than the marginal rates that would be necessary to finance a guaranteed income program. The effective rates faced by unemployed workers exceed 70%; the effective rates on additional income faced the head of a family with three or more children exceed 60% in one income range.

1. It is interesting to note in passing that these high rates of subsidization of the seasonally unemployed, will have the effect of reducing labour costs to "seasonal employers" in the long run. This will offset the cost of additional insurance premia levied on the "seasonal employer" under the proposed merit rating system. In all cases the increase in benefits to seasonal workers will significantly exceed the increased premia levied on employers. For example the increased cost to an employer whose employees normally suffer ten weeks unemployment per year will be about 0.4% of his annual wage bill whereas the increase in annual income due to increased benefits of employers will be about 5% of his wage bill. Thus as long as the supply of labour to any industry is at all elastic, seasonal or other "intermittent" use of labour will be encouraged.

In concluding this section we wish to draw the readers attention to three points:

- (1) The proposed effective rates of tax in the \$5,000-\$11,000 income range represent large increases over current effective rates.
- (2) These proposed rates approach closely those that would be necessary to finance a guaranteed income scheme with Economic Council of Canada poverty levels as minima.
- (3) These large increases in the \$5,000-\$11,000 earnings range are potentially the most damaging to incentives as it is in this range that we find over 70% of the (male) labour force.

We now turn to an examination of the incentive effects of the G.I.S.

C. Incentive Effects of the G.I.S.

In the preceding section, we showed that individuals in the labour force could be faced with very high effective marginal "tax" rates as a result of the combined effects of the unemployment insurance programmes, FISP, and the the regular income tax. We commented on the possible implications of such high rates for individual choice with respect to work. The Guaranteed Income Supplement, coupled with the regular income tax system, results in substantial numbers of over sixty-five being faced with high effective marginal "tax" rates. Again some

impact on choices involving work might be expected, but perhaps more important for this age group will be the impact on choices involving the amount of saving for retirement and the type of asset in which such savings are invested.

As mentioned above, the G.I.S. is a type of negative income tax which, in effect, consists of a basic annual payment of \$660 to single persons and \$1140 to married couples, less a tax at a rate of 50% on all private income so that the basic payment is reduced to zero for single persons with private income in excess of \$1320 and married couples with private income in excess of \$2280 (the "breakeven income levels"). Table III-4 shows the combined effects of the O.A.S., G.I.S., and regular income tax; the last column indicates the marginal "tax" rates which are typical of private income levels below, and immediately above, the "breakeven" point.

One inevitable result of these high marginal rates is a rather drastic reduction in the benefits from savings for those who had provided themselves with private pensions up to (and moderately above) the "breakeven income levels". The reduction will be especially pronounced if the individual had participated in a "tax-exempt" saving plan so that both the interest and principal repayment portions of his pension are taxable. Take the case of the individual who earned the average manufacturing wage over his lifetime and saved three weeks' pay each year. We assumed his savings would have been compounded at 4% to yield a capital sum of \$13,200 but that the sum could be invested at the higher rates currently available to provide a life annuity with a monthly

TABLE III-4

Combined Impact on Retirement Income of O.A.S.,
G.I.S., and Income Tax

Private Income	O.A.S.	G.I.S.	Taxable Income ¹	Income Tax	Disposable Income ²	Marginal Tax Rate ³
(1) \$/year	(2) \$/year	(3) \$/year	(4) \$/year	(5) \$/year	(6) \$/year	(7) %
1) Single Person						
0	960	660	120	26	1,594	} 61
1,320	960	0	780	173	2,107	
5,000	960	0	4,460	1,265	4,695	} 27
2) Married Couple						
0	1,920	1,140	160	36	3,024	} 61
2,280	1,920	0	1,300	297	3,903	
5,000	1,920	0	4,020	1,030	5,890	} 27

1. Tax calculations are based on W.P. Tax rates and exemption levels. They assume the standard deduction, and do not allow for the extra exemption for those over 70; thus they are only strictly applicable to single persons between 65 and 70, and married couples where both husband and wife are between 65 and 70.
2. Disposable income (6) = (1) + (2) + (3) - (5).
3. This is a measure of the marginal rate over the range shown in Column (1). It equals:

$$100\% \cdot \left\{ 1 - \frac{(\text{change in disposable income})}{(\text{change in private income})} \right\}$$

payment of \$120, resulting in a lifetime rate of return of somewhat over 4%. Assuming that entire annuity payments were counted as income for G.I.S. and income tax purposes, the net benefit to the individual from his savings - the amount by which his retirement income stream will exceed that of the individual who saved nothing - will be reduced to about \$47 a month, for a lifetime return on savings lower than 1% in money terms, and negative in real terms.¹

The G.I.S. thus substantially reduces the incentive to save for current members of the labour force who are not in a position to save enough to provide a retirement income significantly above the G.I.S. "breakeven" point. At the same time that the government affected savings incentives in this way through the G.I.S., it also introduced the Canada Pension Plan which both provides for compulsory savings and will tend to raise people's retirement incomes above the levels at which the incentive to save is low. W.P. Income Security proposes to increase C.P.P. contribution and pension levels thus further decreasing the number of people to whom the G.I.S. incentive effect will apply. However, the effect will not entirely disappear. In 1978, the higher pension levels will come fully into force. Someone who has had maximum pensionable earnings throughout the contribution period should receive an annual pension of just under \$2,000. By then, however, the G.I.S. breakeven income level

1. The example chosen is perhaps extreme. The average manufacturing worker would not have been subject to income tax during a substantial portion of his working life, thus presumably he would be allowed tax-free recovery of principal on some part of his annuity.

for a married couple will have reached \$3,200.¹

As noted earlier, the reduction in returns from saving will be particularly large for those whose entire pension is subject to tax - that is for those who initially saved through a tax-exempt plan. Normally, of course, the tax exemption is an advantage. However, when the rate at which interest and principal will eventually be taxed (61% for those with small pensions) is substantially above the rate from which savings initially gain exemption (perhaps 20%-25% for low income savers under W.P. tax rates) the advantage can easily be eliminated or reversed. If the G.I.S. rates are maintained in their present form, managers of pension plans for low-income workers should look twice before requesting tax-exempt status.

The incentive effect on savings results from the high effective marginal tax rates. Other incentive and equity effects result from the fact that the rates can vary depending on the timing of the receipt of income and the form in which it is received. The timing effect is roughly the opposite of that observed under the regular tax system with its progressive marginal rates where an income stream that fluctuates from year to year incurs a higher tax liability than a constant income

1. Under the W.P. Income Security Proposal, the O.A.S. is to be frozen but the sum of the O.A.S. and G.I.S. is to be increased at an annual rate of 2% (assuming the price level increases by at least this amount). Thus, for a married couple, the combined O.A.S. - G.I.S. would go from \$3,060 in 1971 to \$3,520 in 1978. As O.A.S. is frozen at \$1,920, G.I.S. would thus have to be increased to \$1,600 - giving the breakeven level of \$3,200.

stream of the same average level. Those over sixty-five face a marginal tax rate which starts at over 60% but soon drops to less than 30%. Substantial gains would be open to someone who could value his pension rights as a lump sum, declare them in one year, and pay tax perhaps at an average rate of 30%. From then on, the interest would be taxable at the high marginal rates at the bottom of the schedule, but the principal could be drawn down without further tax. Let us consider a specific example: the individual with the capital sum of \$13,200 at retirement. We assume that his savings had been exempt from tax when made so that the principal plus compound interest is subject to tax, and assume further that the capital sum is at the disposition of the individual now, i.e. that it has not already been used to purchase low interest annuities whose present value is less than their face value. The individual has two options. (1) He can purchase a life annuity which will yield him \$120 per month on which the effective tax rate is 61%. He thus receives \$47 (net) more per month than does the individual with no savings. (2) He can declare the capital sum of \$13,200 as income in one year - he will benefit from the "lump sum" payment provisions of the income tax act which, we understand, will result in his paying tax at a rate of about 30%. He will thus be left with \$9,200 of the original \$13,200. With this he can purchase an annuity of \$84 per month, and only the interest portion - less than \$35 - will be subject to the effective rate of 61%. He will thus be left with a net income from his annuity of approximately \$63 per month, rather than \$47 under option 1.

For some individuals, a third option will be available - use of the \$9,200 to purchase a house or condominium apartment. We do not know if the rent saving thus achieved is high enough to provide the same 7% rate of return assumed to be available on annuities, but if it is, the individual might be regarded as obtaining a benefit of roughly \$55 per month - larger than the benefit under option 1 - while keeping his capital intact.

These possibilities seem to us to raise serious issues both of equity and of distorting incentive. Horizontal (and vertical) inequities arise because not everyone's savings will be in a form that can be realized as a lump sum payment for tax purposes, and because not everyone can, or wants to, invest fairly heavily in housing. The distortion arises from the incentive created to consume housing as an owner-occupier.

It would, of course, be possible to modify the G.I.S. programme so as to alleviate these equity and incentive effects. If great importance were attached to concentrating funds available for G.I.S. payments on the poorest, G.I.S. applicants might be required to annuitize all wealth - including the market value of any real estate - and the annual annuity equivalent could be counted as income for G.I.S. purposes. Horizontal equity can be achieved by allowing universal exclusion as well as by requiring universal inclusion. If less importance is attached to confining G.I.S. assistance to the poorest, a "capital recovery" portion of all pensions and annuities could be excluded from income for G.I.S. purposes. As Deutsch and Green suggested, an additional amount could be excluded for all who are not owner-occupiers.

IV. THE GUARANTEED INCOME AS AN ALTERNATIVE TO WHITE PAPER PROPOSALS

(a) Guaranteed Income Calculations

Chapter 6 of the W.P. Income Security asks the question: Would it be, on balance, advantageous to replace the bulk of government transfer payment programmes with a single negative income tax scheme? It answers tentatively in the negative, for the following reasons: (a) cost, (b) effects on work incentives, (c) inability of such a scheme to provide such groups as war veterans and recipients of workmen's compensation with the benefits to which they are considered to have a right. In this final section, we wish to comment on estimates of the costs of negative income tax schemes in the W.P. Income Security, and then to compare the equity and incentive effects of such schemes with those of the proposals already discussed.

W.P. Income Security provides estimates of the costs of two relatively generous negative income tax schemes. We shall consider only the first which would guarantee minimum annual income levels (intended to approximate Economic Council of Canada poverty lines) of:

- \$1,800 for single persons,
- \$3,000 for two person families,
- \$3,600 for three person families,
- \$4,200 for four person families, and
- \$4,800 for five person families.

These payments would be reduced by fifty cents for every one dollar of income from other sources. Gross costs of such a plan (costs "that would be incurred in the absence of any other income support progress") are estimated at \$5 billion for 1971, and it is observed that reductions in

other assistance programmes of from \$2.4 billion to \$3 billion might be offset against this cost. The methods used in estimating the cost, and the income distribution (net of existing transfer payments) assumed to be prevail in 1971, are not specified.

One aspect of this particular negative income scheme that was mentioned but not stressed was that the 50% rate of tax back of the guarantee is to be added to "normally applicable personal income tax rate." (p. 26) If payments under the scheme were not taxable, the effective marginal "tax" rate resulting from the "tax back" of the guaranteed income payment plus the operation of the normal income tax, would range from 72% to 83% for those with earned incomes above the income tax exemption level but below the point at which guaranteed income payments were eliminated.¹ If guaranteed income payments were taxable, the marginal rates would range between 61% and 67% for earnings between \$0 and \$9,600 (for the five person family). As these marginal rates make clear, the "incentive-preserving" qualities of a negative income tax scheme are impaired if people with incomes below the "cut-off point" for the guaranteed income payment are also subject to the regular tax structure. Of course, the "cost" of a negative tax scheme (to taxpayers with incomes above this "cut-off point") is significantly increased if the exemption levels of the regular tax structure are raised to the cut-off point.

A way of avoiding the complications of interacting negative tax and regular income tax rates, and of making easy the task of cost estimation,

1. This is the income range from \$3,800 to \$9,600 for a family of five.

is to consider a system in which everyone - whether above or below the cut-off point - is subject to a common tax rate on all private income.¹ To obtain a first approximation of the tax rate which would be necessary to finance a programme guaranteeing minimum incomes equal to the Economic Council poverty lines, it is convenient to start with the fact that the poverty line for early family size group is in all cases close to 1/2 of mean income for the group.² To finance a guaranteed income payment equal to 1/2 of mean income requires a proportional tax rate of 50% applied to all income (excluding the guarantee payment). But the cost of government expenditure programmes, other than the transfer payment schemes being replaced by the guaranteed annual income, would also have to be met. In 1967, the personal income tax yielded the federal and provincial governments about \$5 billion. The transfer payments that might have been eliminated had a guaranteed annual income payment existed, were in the order of \$2.5 billion.³ To raise the roughly \$2.5 billion which the existing income tax

1. This type of system is examined in more detail (and with minor differences in some assumptions) in, Ronald W. Crowley and David A. Dodge, "Cost of the Guaranteed Annual Income," Canadian Tax Journal, November-December 1969, pp. 395-408.

2. In 1967, poverty line as a percent of mean income was:

- 53% for unattached individuals,
- 46 for families of size two,
- 47 for families of size three,
- 49 for families of size four,
- 55 for families of size five,

calculated from Dominion Bureau of Statistics, Income Distribution and Poverty in Canada, 1967, Preliminary Estimates, October 1967, pp. 5, 14.

3. Transfer payment programmes assumed eliminated are: Canada Assistance Plan and the related Mothers' Allowances and Unemployment Assistance, Old Age Security Payments, Family Allowances, Youth Allowances, Guaranteed Income Supplement, and Unemployment Insurance.

structure could be regarded as providing for "other government expenditure", would have required a proportional tax rate of about 6% on the most comprehensive tax base.¹ As this base is wider than that used for purposes of income tax, the 56% proportional rate necessary to finance the guaranteed income program and "other government expenditure", is a very conservative estimate of the actual proportional rate that would be necessary. Our calculations suggest that the actual proportional rate would lie between 60 and 65%. We feel this is a more meaningful estimate of the cost of guaranteeing everyone an income equal to the economic Council's poverty lines, but do not dispute the conclusion of the W.P. Income Security that a guaranteed income program of this nature is very expensive. Guaranteed incomes of some fraction of the Economic Council's poverty lines could of course be purchased with lower tax rates. In Tables IV-1 and IV-2, we illustrate the net incomes of individuals and five person families with different gross incomes under three schemes guaranteeing different levels of income, and under the White Paper proposals. In our discussions below we shall use Scheme #2 (a guarantee of 74% of the 1970 poverty lines) as a basis for comparison with the White Paper proposals.

(b) White Paper Proposals Compared with a Guaranteed Income Scheme

In this paper we have been concerned with the equity and incentive effects of the proposed tax-transfer schemes. Several times we have compared the effects under the White Papers to the effects under a possible

1. This is the national accounts category of "Personal Income Less Government Transfer Payments to Persons."

TABLE IV-1

Net Income of an Unattached Individual Under Three Levels of
Income Guarantee Programs and the White Paper Proposals

Gross Private Income	Net Income After Tax and Transfer				
	Guarantee Scheme #1 100% of Poverty Line	Guarantee Scheme #2 74% of Poverty Line	Guarantee Scheme #3 57% of Poverty Line	White Paper Tax Rates ⁵	White Paper Tax + O.A.S. and G.I.S. ⁶
\$ 0	\$ 1,950	\$ 1,450	\$ 1,100	\$ 0	\$ 1,590
1,000	2,300	1,950	1,700	0	1,980
2,000	2,650	2,450	2,300	1,900	2,620
3,000	3,000	2,950	2,900	2,680	3,360
4,000	3,350	3,450	3,500	3,420	4,090
5,000	3,700	3,950	4,100	4,160	4,790
7,500	4,575	5,200	5,600	5,880	6,480
10,000	5,450	6,450	7,100	7,520	8,080
15,000	7,200	8,950	10,100	10,630	11,120
20,000	8,950	11,450	13,100	13,430	13,880
100,000	36,950	51,450	61,100	52,760	53,150

- Notes:
1. Guarantee Scheme #1: Proportional Tax Rate = 65%
Guarantee = 100% of poverty line in 1970.
 2. Guarantee Scheme #2: Proportional Tax Rate = 50%
Guarantee = 74% of poverty line in 1970.
 3. Guarantee Scheme #3: Proportional Rate = 40%
Guarantee = 57% of poverty line in 1970.
 4. Poverty Lines (1970) of the E.C.C. are:
 - \$1,950 p.a.: unattached individual
 - 3,250 p.a.: family of two
 - 3,900 p.a.: family of three
 - 4,550 p.a.: family of four
 - 5,200 p.a.: family of five or more
 5. White Paper Tax Rates: The case of a person under 65 years of age with standard deduction and exemption including the deduction for the cost of earning one's own income.
 6. White Paper Rates + OAS and GIS: The case of the person over 65 years of age. Assumed that private income is not from employment and that standard deduction and exemption claimed.
 7. The income guarantee payments are calculated as a percent of the poverty line expressed in 1970 prices. However, our original calculations were based on national accounts data for 1967. Since per capita personal income has increased at a faster rate than prices since 1967, there is a slight upward bias to the cost of income guarantee that could be provided with a given tax rate.

TABLE IV-2

Net Income of a Five Person Family⁸ Under Three Levels of
Income Guarantee Programs and White Paper Proposals

Gross Income	Net Income After Tax and Transfers			
	Guarantee #1	Guarantee #2	Guarantee #3	W.P.Tax + F.I.S.P. ⁵
\$ 0	\$ 5,200	\$ 3,850	\$ 2,950	\$ 580
1,000	5,550	4,350	3,550	1,580
2,000	5,900	4,850	4,150	2,580
3,000	6,250	5,350	4,750	3,580
4,000	6,600	5,850	5,350	4,440
5,000	6,950	6,350	5,950	5,170
7,500	7,820	7,600	7,450	6,860
10,000	8,700	8,850	8,950	8,520
15,000	10,450	11,350	11,950	11,520
20,000	12,200	13,850	14,950	15,750
100,000	40,200	53,850	62,950	53,940

Notes: See Notes 1 - 5, Table IV-1

⁸Family of five includes husband, wife and three children all eligible for F.I.S.P. payments. We have assumed the husband is the sole breadwinner for the family.

guaranteed income scheme. In this concluding section of the paper we provide a brief though comprehensive comparison of the White Paper system to "Scheme #2", as an example of a guaranteed income plan. In making our comparison we deal with the topics considered in Chapter of the W.P. Income Security.

(b) Comparison of Guaranteed Annual Income and Welfare Programs

(1) Old Age Security

Old persons with no source of income other than government transfer payments would be somewhat worse off under our representative guaranteed income scheme (\$1,450 single, \$2,400 couple) than under the proposed O.A.S./G.I.S. scheme (\$1,590 single, \$3,060 couple at 1970 rates). However the effective marginal rate of tax and transfer loss would be less under our guaranteed income scheme (50% vs. 61%), and thus the incentive to save would be somewhat greater. Because our guaranteed income scheme is based on a proportional tax, it is not possible to avoid paying tax by manipulating the timing and type of income (except of course by purchasing a house) as it is under the proposed system. Hence the guaranteed income scheme appears superior on grounds of horizontal equity.

(2) Social Assistance

While special assistance programs might be necessary for certain groups of poor families (the handicapped and disabled), in general social assistance programs could be eliminated. For those who would require assistance under the proposals (except the handicapped and disabled) the guaranteed income scheme represents a great improvement in incentive to work. The effective rate of tax is 50% compared to 100% under the pro-

posals for those who would be on welfare. On the other hand, the incentive to work for the working poor who would not receive assistance under the proposals is lower under our guaranteed income scheme than under the White Paper proposals. For instance, although the net income of a man with a wife and two children earning \$4,000 per year gross (\$80 per week) is \$1,300 p.a. higher under the G.A.I. scheme, the marginal effective rate of tax is 50% compared with 22% proposed in the White Papers. However, for many of the working poor who are unemployed for part of the year, the operational incentive may be the effective rate of tax on an extra week's work. As the rate of 50% under the G.A.I. is significantly lower than the effective 70 to 80% proposed in the White Paper on Unemployment Insurance, the G.A.I. represents an improvement in work incentive for the "unemployed" poor. For those with children earning \$5,000 to \$10,000 p.a. gross (and not unemployed for part of the year) the incentive to work under the proposed White Paper rates (30 to 40%) is somewhat greater than it would be under our guaranteed income scheme.

On balance it seems to us that the guaranteed income scheme provides as strong or stronger work incentives than does the White Paper proposals while providing much larger income supplements to the working poor and floor guarantees about equal to current Canada Assistance payments. Very low income couples over 65 years of age comprise the only group of poor significantly worse off under guaranteed income than under White Paper proposals. Hence our findings are contrary to those of the W.P. Income Security (p. 25) in which guaranteed income programs were found to contain serious work disincentives. We summarize our findings in Table IV-3.

TABLE IV-3

Summary of Effects on Work Incentives of Guaranteed Income
(Scheme #2) Compared to White Paper Proposals

1. INCENTIVE TO WORK MUCH GREATER UNDER G.A.I.
 - (a) Low income families and unattached individuals currently on welfare.
 - (b) Families and individuals not normally employed all year long.
 - (c) Families of three or more in the \$10,000 to \$11,000 p.a. income range.

22. INCENTIVE TO WORK ABOUT THE SAME UNDER G.A.I. AND W.P.
 - (a) Families and unattached individuals earning \$20,000 p.a. or over.

3. INCENTIVE TO WORK SOMEWHAT LESS UNDER G.A.I.
 - (a) Families of three or more not on welfare earning \$5,000 to \$10,000 p.a. (fully employed).
 - (b) Families and unattached individuals earning \$11,000 to \$20,000 p.a. (fully employed).

4. INCENTIVE TO WORK MUCH LESS UNDER G.A.I.
 - (a) Unattached individuals and families with no children earning less than \$11,000, fully employed and not on welfare.
 - (b) Families of three or more earning less than \$5,000, fully employed and not on welfare.

(3) Administration

Administered as a demogrant, the G.A.I. has much to recommend it. Most of the administrative apparatus of the welfare system could be shelved, social workers could have the time to provide needed social services rather than serve as welfare police, the problems of policing the unemployment insurance program would be eliminated and, finally, the new administrative problems connected with the administration of F.I.S.P. would be eliminated. On the other hand, the cost of policing the income tax would increase, although it is difficult to know how great this cost would be.

In sum, and again in contradiction to the W.P. Income Security (p. 25-26), we feel that the G.A.I., run on a demogrant basis, represents a very much easier and cheaper plan to administer than do the White Paper proposals.

V. CONCLUSIONS

At the beginning of this paper we summarized three aims of the White Paper proposals:

- (1) to promote horizontal equity
- (2) to redistribute income from the rich to the poor
- (3) to improve incentives to work.

In this paper we have attempted to analyze the extent to which these aims have been met and conclude that they have not been achieved by the proposals.

- (1) Horizontal Equity has been improved somewhat by changes in the tax system but these improvements have been more than offset by proposed changes

in the unemployment insurance system, changes in the system of family allowances and changes in the guaranteed income supplement for old people.

- (2) There has been some redistribution of income from middle income groups to the poor but this redistribution has been minimal, certainly far less than could be achieved under a guaranteed income scheme.
- (3) The impact on work incentives of the proposals is large and negative compared to the current system. Not only is there no improvement in the incentives faced by those on welfare but also there is a sharp decrease in incentives to work for the unemployed and those with several children earning from \$5,000 to \$11,000 p.a.