

**The Cost of Eliminating Poverty in Canada:
Basic Income with an Income Test Twist**

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Introduction

How much would it cost to completely eliminate poverty in Canada? This is the much-maligned “bottom line” that inevitably turns polite discussion about anti-poverty proposals into acrimonious disagreements about fiscal possibilities. At the same time, the cost of eliminating poverty is sensitive to the details of program design and administrative delivery. Would cash transfers be universal and unconditional? Would they be limited solely to citizens? Would landed immigrants be eligible without a residency requirement? What adjustments would be made for persons with disabilities? Persons with pre-school children or special family responsibilities? Most important of all, would there be a work requirement, with earnings subject to tax? The relationship between cash transfers to reduce poverty and the desire to foster work attachment in labour markets is a perennial concern, not only in order to contain program costs but also to promote what many see as a moral duty for citizens.

The idea of a Basic Income (BI) is quite simple --- that everyone should receive from the state an adequate income on which to live “extremely modestly”, granted unconditionally and tax-free as a right of citizenship (Lerner 2002:34). With this formulation, there would be no work requirement, and the details of taxing income above this BI can be left unspecified. Assertions of rights often safely ignore the costs of financing.

The above notion of a BI is viewed in Canada as wishful fantasy. After all, no modern industrial country has anything close to a BI in place. Further, the view that generous unconditional transfers should be given to able-bodied persons who simply

choose not to work is too controversial in a market economy that must still rely on labour input to produce goods and services. Rather, a more moderate position might be the guaranteed income (GI) alternative in which some basic amount (G) is guaranteed unconditionally, but progress towards escaping poverty completely would be tied to the individual's labour market earnings. The G amount in the GI is invariably less than the BI level envisioned by those who would wish to eradicate poverty with one single transfer. Since the BI is unconditional, and requires no obligation to work, the BI amount must be set at society's stipulated "poverty line" (PL) to accomplish this. At this general level of formulation, what distinguishes a BI from a GI is simply: (1) the amount of cash transfer given to the citizen, and whether the BI or G is sufficient to allow the individual to escape poverty? In other words, is BI set equal to the poverty line standard? (2) Is there a work incentive or earnings obligation, which, working in tandem with the unconditional grant portion, will allow an individual to escape poverty through participation in the labour market.

This essay provides cost estimates of a BI and GI that eliminates poverty among Canadians. The specification of cost estimates, alternatively in BI and GI terms, is necessary for several reasons. First, adoption of a "classical" BI is not remotely contemplated by Canada at the moment; consequently, an alternative GI estimate is helpful for policy discussion. Cost calculations for a BI are primarily for exercise purposes and to satisfy curiosity at this point. Second, Canada has seriously considered GI proposals in the past and, some would argue, already has in place a limited GI for some population groups (e.g., the elderly), albeit with partial testing and delivered through the personal income tax system. Third, the issue of work attachment remains

salient in Canadian policy debates, and the current mechanism of refundable tax credits (RTC) to combat poverty testifies to Canada's commitment to income-testing delivery. Consequently, a cost estimate of eliminating poverty through a GI is instructive. One could even interpret current Canadian policy stance either in terms of an incomplete BI or as a transitional towards a future GI.

The next section sketches various poverty measures employed in Canada. This is followed by a brief outline of how BI and GI are related to the objective of eliminating poverty. We then examine the relationship between BI and GI, showing that GI is a form of BI with an added income test and equivalent to a RTC. Cost estimates for various BI and GI plans are then presented. We conclude with some limited remarks concerning administrative design and delivery issues.

Poverty in Canada and its Measures

Unlike the United States, Canada does not have an official poverty line although Statistics Canada regularly publishes a set of measures called the Low Income Cut Offs (LICO). Many non-governmental organizations (NGO) regard the LICOs as an unofficial poverty line in Canada. The LICOs represent levels of gross income such that families must spend a disproportionate amount on the basic necessities of food, clothing and shelter. The LICOs vary by the size and composition of the family as well as the population of the area of residence. Understandably, a larger family will need more income for necessities. For example, a family of four living in a community with a population less than 30,000 people has a LICO of \$27,197 while a family of two persons has a LICO of \$18,017 in 2000. Similarly, the cost of necessities, especially housing, will vary depending on the particular city or rural community. For example, the LICO for

a family of four living in a city with a population over 500,000 people is \$34,226 annually. The comparable figure for this family living in a rural area is only \$23,653.

Through often employed by NGO and social policy advocates, the LICOs are typically viewed as “unrealistically high” by government program designers.

Without an official line for policy purposes, and the lack of transparency in calculating the LICO lines, Canada has recently introduced an alternative line based upon the market basket approach (MBM). This approach simply calculates the actual cost to a family of purchasing food, shelter, clothing and other items for comfort, using actual market prices and rents in that family's area of residence. This “market basket” approach is more intuitive than the statistical calculation of the LICO and, as well, avoids regional distortions. For example, high rents in cities such as Vancouver and Toronto no longer affect housing cost calculations in, say, Winnipeg or Regina. For example, the MBM for a household in a city over 500,000 people is \$26,901 in B.C. (Vancouver) but only \$23,218 in Manitoba (Winnipeg). This MBM will, of course, affect the determination of poverty rates. Adopting the market basket approach instead of the LICOs reduces Quebec's poverty rate from 21.2% to 10.8% in 1996, and Manitoba's rate from 18.8% to 11.1%. On the other hand, Newfoundland's poverty rate increases slightly (National Council of Welfare, 1999).

Another popular indicator of poverty is the Low Income Measure (LIM). The LIM is simply one half the median income of Canadians, and a “head count” of persons whose income fall below the LIM is indicative of both income inequality and low-income prevalence. Nonetheless, a “low income” measure in Canada is commonly employed when discussing policy issues in Canada. The LIM is an attractive definition because of

its “portability” across countries since, for international comparisons, all one needs is households incomes in each country to calculate comparable LIMs.

Existence of poverty in a country is indicative of social inequality. The poorest 20% of Canadians, or the bottom quintile, only receives about 4% of Canada's total income. Canada's richest 20%, or top quintile, receives more than 40% of total income. In other words, the top fifth has more than ten times as much money to spend as the bottom fifth. And there has been virtual constancy in these income shares for half a century. Because society is concerned with those who cannot purchase the basic necessities, as well as those who cannot earn enough to live “decently”, there is more policy attention on eliminating poverty. Low-income status can reasonably be associated with inadequate housing, food and clothing, unstable employment, poor health care or education opportunities, and even civic participation. Thus, the idea of a Basic Income or a Guaranteed Income to elevate individuals above low-income status (or simply, poverty) is usually attractive.

Simple Algebra of Three Cash Transfers: BI, GI and RTC

It is tedious, but necessary, to be precise about the programs designed to eliminate poverty. The Basic Income (BI) proposal is the easiest to describe. Cash transfers (\$) equal to the poverty line (PL) are granted to each citizen on an unconditional tax-free basis (see Lerner et al. 1999 for an interpretation of BI within the Canadian context).

A Guaranteed Income typically grants an amount of unconditional support, G , to those with zero income. If G were set at the PL, then the BI and GI plans would be identical in eliminating poverty. Typically, GI plans set G below the PL while simultaneously reducing \$ payments by some tax rate on earnings (strictly income). The

tax rate is kept “low” so that individuals will always be financially better off working than not working. At some income threshold (B), cash payments cease. There are many ways to combine the G amount and the tax rate. One could set G such that the remaining poverty gap (PL- G) could be eliminated by working some number of hours and the earnings taxed at the (negative) rate t-." In this case, the GI assumes implicitly that poverty is eliminated by a combination of unconditional support (G) and the earnings achieved by working some “socially expected” level.

A third plan concerns the Refundable Tax Credit (RTC), and is particularly useful to consider because it relates both the BI and GI to positive income taxpayers (PIT) who must finance the \$ transfers to the poor. Further, the RTC has become the major technique adopted in Canada to alleviate income poverty. The familiar positive income tax (PIT) calculates tax liabilities (L) by applying a tax rate (t*) to taxable income (Y - E); that is, income Y after allowable exemptions E, assuming Y exceeds E. Canada also grants a variety of tax credits (C) against tax liabilities. Hence actual tax paid (R) is determined by $R = L - C = t^*(Y - E) - C$; in other words, after inclusion of applicable credits. Low income tax payers whose credits exceed their liabilities (C exceeds L) normally receive benefits only to the extent of their taxes owed. However, refundable tax credits (RTC) actually “refund” a portion of the credit that is not exhausted by the tax liability. Characterizing these amounts as “negative taxes” (since $N = -R = C - L$) highlights the symmetry with the positive tax system. The advantage of this portrayal is twofold. Not only does it illustrate the relationship between different segments of the tax regime, particularly the income-testing feature, but it also emphasizes the fiscal financial aspect of proposals to eliminate poverty; that is, connecting the “generosity” of the

proposals to alleviate poverty with the “affordability” of the fiscal financing.

A summary of the payment formulas of the BI, GI and RTC proposals is given below. It demonstrates the close resemblance of these proposals if specific values are chosen. In particular, a GI is simply a BI with an income test twist, and is formally equivalent to a RTC except for nomenclature (see Hum 1988 for formal details).

Basic Income:	$\$ = BI = PL (= G?)$	PL = Poverty Line
Guaranteed Income:	$\$ = G - tY$	B = G/t = Poverty Line
Refundable Tax Credit:	$\$ = -R = C - L$	$R = L - C = t * (Y - E) - C$

Refundable Tax Credits and the Income Testing Principle

Poverty may be alleviated by various means. Government could pay all individuals an identical amount (universal demogrant) and raise the necessary funds by a (progressive or flat) income tax. This demogrant could be paid on an unconditional basis, subject perhaps only to a restriction on age, residency duration or citizenship status, but with “no requirement, no record keeping, no wondering whose shoes were under whose bed, not anything like that.” (Lerner in Clark, et al. 2002: 34). This would constitute the “classic BI”. If the BI were set equal to the poverty line, PL, all citizens would be assured of a cash transfer (\$) sufficient to rise above poverty. On the other hand, government might give different amounts to individuals based upon their pre-tax income. Characterizing transfers as part of the personal income taxation system, the most general formulation is the refundable tax credit (RTC) method. This is a key ingredient of Canada’s present system. RTC/GI plans can be succinctly characterized by two elements: an unconditional basic support or refundable credit amount, G, that is given to those with no taxable income; and some benefit reduction tax rate, t-, by which the cash

transfer (\$) is reduced for each dollar of taxable income. A RTC/GI plan is conveniently represented by its combination of unconditional support level, G , and benefit reduction tax rate, t_- . The “tax credit threshold” level, B , is the income threshold, or breakeven level, at which cash payments cease. For a constant reduction rate, B is simply G/t_- . Clearly, the higher the level of G selected and/or the lower the value of t_- chosen, the higher will be the threshold, B , and consequently, the greater the proportion of the population that will receive payments. Viewing B as the program’s “taxable” income threshold, individuals with income exceeding B might be taxed at a flat rate of t_+ percent on the excess; similarly, units with incomes below B pay no taxes but are instead given refundable tax credit payments, again at a fixed rate of t_- percent.¹ If one were to set the threshold B at the poverty line, PL , poverty would then be eliminated for those individuals who work the (implicit) “social norm” hours.

What implications for poverty (and inequality reduction) can we draw concerning this type of refundable tax credit plans? For our purposes the following two propositions are stated without proof: (1) Given only the mild restriction that the credit threshold level B exceeds the average income of the poor, the mean income of the poor will be always raised; in other words, these RTC/GI plans will always reduce poverty; and (2) These RTC/GI plans will always result in a more equal distribution of income.²

¹ The reduction rate (t_-) below B need not be equal to the tax rate (t_+) above B . Indeed, equal tax and reduction rates will not guarantee a purely redistributive result in the sense that post-tax aggregate income equals pre-tax aggregate income. (For further discussion see Hum 1983). There will also be economic efficiency effects accompanying any redistribution so that calculating tax and subsidy rate combinations which achieve pure redistribution is a bit artificial without a full modeling of the output and incentive changes brought about in the economy. Our intent here is to illustrate various RTC plans, their costs to government, and their redistributive effects.

² See Kakwani, 1980, for formal proofs.

Our discussion may be summarized as follows: the BI completely eliminates poverty if it is set at the PL. A RTC/GI with G less than PL can be viewed as a mini-BI with an income test twist. It requires some work performance by individuals to escape poverty completely. Finally, by restricting cash transfer plans to the refundable tax credit design; poverty (and income inequality) will always be unambiguously reduced. It is important to emphasize just what principle is at stake when we restrict attention to the RTC design. It involves the acceptance to scale benefits in inverse relation to income; that is, the lower the income, the higher the transfer payment.³ This may not be too difficult to accept as a starting point.

Estimated Cost of Eliminating Poverty in Canada

Our calculations of the cost of eliminating poverty are based on the latest publicly available data from the Survey of Labour and Income Dynamics (SLID).⁴ SLID is a panel survey that follows each enrolled household for six years, adding a new wave of respondents every three years. Thus, each cross-section of SLID consists of respondents from two waves. Respondents are contacted in January to capture information on labour market activity (wages, hours worked, etc.) and demographic details (e.g. changes in marital status or location) in the previous year. They are contacted again in May to gather information on incomes, transfers and earnings for the previous calendar (and taxation) year, which is the focus for our analysis. For most respondents, the income data

³ The term ‘income testing’ is used simply to mean that net benefits are inversely related to pre-tax income. In other contexts, such as discussing the administrative design of programs, or the universality issue, the term income testing is often used interchangeably with ‘selective’. We retain the label ‘income testing’ to avoid the cumbersome phrase ‘net benefits inversely related to income’, believing that no confusion will arise.

⁴ A good overview of SLID can be found at:

<http://www.ssc.uwo.ca/sociology/longitudinal/giles.pdf>

is obtained by accessing their tax records. Those who refuse permission to access their tax records are asked equivalent questions about income sources and tax deductions. There are 30,212 “economic family” respondents in SLID for the calendar year 2000 which, when appropriately weighted, represent some 12,538,249 economic families across Canada.⁵ Statistics Canada defines an economic family as a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common-law or adoption. We adopt this definition of a household and use the terms interchangeably in our discussion.

The top two rows of Table 1 show the state of poverty in Canada in 2000, excluding and including existing government transfer payments to families (Child Tax Benefits, Old Age Security/Guaranteed Income Supplement, Unemployment Insurance, Social Assistance, Goods and Services Tax Credits, Canada/Quebec Pension Plan, and Workers Compensation). We employ two definitions of poverty: (1) the Low Income Measure (LIM), and (2) the Market Basket Measure (MBM) developed recently by the federal government. The first row portrays the situation without existing government transfer payments. Our estimates indicate that 28.8% of families would have lived below the poverty line established by the LIM in 2000, compared to 26.3% of families using the MBM, in the absence of the government transfer programs now in place. The difference in the poverty rates under the LIM and MBM definitions simply reflects the generally lower poverty line thresholds of the MBM. The poverty gap is \$40.2 billion using the

⁵ Ninety respondents replied “don’t know” when asked about province of residence. As a result, a MBM measure of poverty could not be estimated for these families. The remainder of the sample was reweighted to account for these 90 missing families when the MBM measure of poverty is used. In practice, the reweighting makes little difference to the results because 90 missing observations is only a small percentage (0.3%) of the total.

LIM and \$31.5 billion using the MBM. These figures can be used to establish an initial benchmark for discussion; that is, a perfectly targeted anti-poverty transfer program could eliminate poverty for \$40.2 billion under the LIM definition of poverty and \$31.5 billion under the MBM measure if there were no adverse behavioural consequences of the transfers.⁶

[Table 1 about here]

The second row of Table 1 shows the effect on alleviating poverty of existing government transfer payments, which amount to \$75.8 billion according our estimates. The current transfer payments leave 15.3% of families below the poverty line established by the LIM in 2000 and 11.9% of families below the line established by the MBM. Existing transfers reduce the poverty gap to \$11.6 billion using the LIM and \$7.7 billion using the MBM. Therefore, a second benchmark can be what the current transfer system accomplishes at a cost of \$75.8 billion and what remains to be done in terms of poverty reduction.

We now turn to the following question: what is the cost of a BI program set at the Canadian poverty line that would, by definition, eliminate poverty entirely? The third row of Table 1 provides estimates of the cost of a BI that replaces existing government transfer payments to households. Since we are using the LIM and MBM definitions of poverty, we adopt their equivalence scales as ones that would be used in the design of a BI; that is, citizens would receive a BI that would vary according to their household size in the same fashion as the LIM or MBM measure of poverty. At the poverty line

⁶ That is, if the transfers did not induce some families with low incomes to reduce earnings or other income components. We are neglecting the behavioural effects of transfers throughout our discussion.

established by the LIM, the BI would cost an estimated \$251.7 billion. At the lower MBM poverty line, the cost would be \$217.1 billion. With current transfer savings of \$75.8 billion, this implies that the net cost of a BI would be \$175.9 using the LIM and \$141.3 billion using the MBM. This represents an additional expenditure of 16.4% of GDP under the LIM and 13.1% under the MBM.⁷ This is a considerable sum.

A BI plan would transfer income to families regardless of existing income. By definition, the BI plans above would eliminate poverty as currently defined, but would not be targeted: Since the BI is universal, it provides the same benefit to all families with incomes above the poverty line as well as to all poor families regardless of the depth of their poverty. Even among poor families, circumstances differ considerably between the “working poor”, where the family may have significant earnings, and other poor families. Taking advantage of SLID’s labour market activity profiles, we find that the labour force participation rate for poor families is 50%; that is, half of all poor families have some income from employment to augment whatever transfers they receive. These families work an average of 814 hours per year using the LIM definition and earn an average of \$3,719; they work 783 hours using the MBM measure and earn \$3,133.⁸ For a family of four, these earnings represent about 15% of the LIM.

More modest transfers to the poor are involved in a Guaranteed Income, which allows the poor to retain only a portion of their earnings in determining the transfer they ultimately receive. A GI plan consists of a guarantee (G) and a negative tax (or “claw

⁷ The Canadian GDP on an expenditure basis was \$1,075.6 billion in 2000 according to Statistics Canada’s web site (<http://www.statcan.ca/english/Pgdb/econ04.htm>).

⁸ Earnings include paid wages and salaries and any self-employed earnings where annual hours worked are reported. Self-employed earnings are not subject to Canadian minimum wage legislation and appear to depress hourly earnings for this group.

back”) rate (t), that determines the reduction in the amount transferred as income rises ($G - tY$). Families with incomes below the threshold, or breakeven level, defined earlier as $B = G/t$, receive a benefit, that decreases as the family’s non-transfer income approaches B . Families with incomes at or above B receive no GI benefit. From the GI perspective, a BI plan is simply a special case of the GI in which the negative tax rate is zero and the tax credit threshold or breakeven level is infinite; everyone receives an untaxed benefit. In our GI calculations, we again subtract existing transfer payments from family income, since a GI comparable to the BI would also probably be designed to replace existing transfer programs.

The final three row of Table 1 present very modest GI plans which are perfectly targeted at the poor by setting the Breakeven level at the poverty line; that is, $B = G/t = PL$ or $G = t * PL$. For the LIM and a tax rate of 30%, the cost of a GI plan is \$12.1 billion; the cost rises to \$20.1 billion with a tax rate of 50%, and with a tax rate of 70% the cost rises further to \$28.2 billion. All these cost estimates are well below the current transfer budget of \$75.8 billion because only the poor receive payments. As a result, there is no reduction in poverty below the 28.8% level of incidence established by pre-transfer incomes. Note that the effect of a higher negative tax is to raise the guarantee relative to the poverty level and tax back more of all income received: i.e., to both raise and flatten the income profile for the poor. This increases transfers to the poor and the cost of the GI plan, and reduces the poverty gap accordingly. Thus, for a tax rate of 70% the poverty gap is reduced to \$12.1 billion, only slightly higher than the poverty gap of \$11.6 billion

under existing transfer payments.⁹ For the MBM, the cost of the GI plans is more modest, since there is less poverty to begin with: \$9.4 billion for a tax rate of 30%, \$15.7 billion for a tax rate of 50% and \$22.0 billion for a tax rate of 70%. Again, the 70% tax rate provides a poverty gap of \$9.4 billion for a cost of \$22.0 billion, only slightly higher than the gap of \$7.7 billion under the current transfer system that costs \$75.8 billion, although the incidence of poverty is 26.0% compared to 11.9% with existing transfers. Thus, these plans provide a very modest level of expenditure from which to consider improvements in the circumstances of the poor.

We now look at a set of intermediate plans; that is, BI plans that are less generous than the plan in Table 1 that eliminated poverty entirely, as well as GI plans that are more generous than those in Table 1 that were directed only at poor families. In this way we examine plans that might be more politically and socially acceptable both in terms of cost and poverty reduction. Although the LIM and MBM poverty lines are both now widely used, they are not controversial. More modest lines based on basic needs have been suggested by Sarlo (1996). These lines are about 70% of the MBM for a family of four (CCSD, 2003). Since working families who are poor generate, on average, earnings equal to 15% of the poverty line, we might use 85% of the MBM or LIM poverty line as yet another benchmark. These plans are presented in Table 2.

[Table 2 about here]

The BI plans are presented in the top two rows of Table 2. Reducing the transfer to 70% of the poverty line reduces costs accordingly (pro rata) to \$176.2 billion using the LIM and \$152.0 billion using the MBM definition. The incidence of poverty is 14.2%

⁹ That is, a much larger proportion of families are poor under the GI plan but the plan ensures that no one is very far below the poverty line.

using the LIM, and 13.4% using the MBM, while the poverty gap is \$7.1 billion and \$5.9 billion, respectively.¹⁰ Note that these results for poverty incidence are about as good as is currently obtained by the existing transfer system, albeit at some additional cost. A BI set at 85% of the poverty line would cost \$213.9 under the LIM and result in poverty incidence of 11.4% and a poverty gap of \$3.1 billion; the corresponding figures using the MBM instead of LIM are \$184.5, 11.0% and \$2.6 billion. This BI clearly does a better job of fighting poverty by these indicators than the existing transfer program, although at considerable additional cost.

The GI plans are presented at the bottom of Table 2. We again use plans with guarantees of 70% and 85% of the adopted poverty line and a negative tax rate of 50%, which is consistent with both the top positive tax rates in Canada and the flat tax rate that we calculate would be necessary to harmonize negative and positive taxes (Hum and Simpson, 1995, Table 2). These plans are more generous than those considered earlier because they involve breakeven levels of 1.4 and 1.7 times the poverty line, respectively, thereby transferring more income to both poor and non-poor families. Setting the income guarantee at 70% of the poverty line with a tax rate of 50% costs \$35.2 billion and results in poverty incidence of 20.6% and a poverty gap \$9.1 billion using the LIM; the corresponding figures using the MBM are \$27.1 billion, 18.9%, \$7.3 billion. This plan reduces the poverty gap compared to current transfer programs, but leaves poverty incidence higher. At a guarantee set at 85% of the poverty line, however, poverty incidence using the LIM definition is reduced to 14.2%, less than current poverty incidence, and the poverty gap is reduced further to \$3.6 billion for a total cost of \$49.4

¹⁰ Of course, if the poverty line were redefined to 70% of the existing standard, as Sarlo would suggest, the incidence of poverty and the poverty gap would be zero.

billion. Under the MBM definition, poverty incidence is 13.4%, slightly above the level experienced under the current transfer system, although the poverty gap is much lower at only \$2.9 billion under this plan at a total cost of \$37.8 billion. Notice that this GI plan does better than the BI plan at 70% of the poverty line in the first row of Table 2. The GI plan generates the same poverty incidence but lower poverty gaps at less than one-third the cost.

One final plan might be considered to illustrate the gains in cost reduction that can be realized by adopting a GI plan with a tax-back rate. Consider a plan with a guarantee set at 100% of the poverty line and a negative tax rate of 50%. By definition, such a plan will eliminate poverty in Canada. The cost of this plan would be \$66.2 billion under the LIM definition of poverty and \$50.3 billion under the MBM definition. These represent significant savings, and a significantly improved chance of political acceptance, compared to the BI plan. At the same time, they represent a reduction in what Canadians pay (and receive) under current transfer arrangements.

Difficulties of BI/GI Implementation

What is one to make of all these calculations? Undoubtedly, one may produce many more calculations, using a variety of poverty line standards and different assumptions. We believe that the following conclusions are robust to further simulations. First, the “pure” BI consisting of a tax free universal transfer set at the poverty level so as to eliminate poverty completely is too expensive and politically unacceptable in Canada. The drawback of the BI is its lack of selectivity. Since the incidence of poverty is in the order of 10-20%, universal mechanisms without clawback are highly target-inefficient. An apple-a-day program for every child when only one of possibly ten children cannot

afford an apple would be a very costly method to ensure that poor children have an apple for school lunch,

Second, if the BI is set at any level less than the poverty line, then some indication of the tax or transfer system is necessary to determine the degree to which poverty will be alleviated beyond the contribution of the BI. This is unavoidable, since the BI cannot exist in a vacuum, and while the BI may be “zero tax rated”, amounts above the BI will have to be taxed. So, at what rate do we do this? The rate will have a major influence on the degree of poverty alleviation.

Third, we have demonstrated that the BI and GI are technically conformable; that is, a BI may be viewed as a GI with a zero tax back rate, or a GI may be viewed as a BI coupled with a non-zero tax rate on income above the BI (or guarantee, G) amount. The demonstration that BI and GI are members of a more richly specified family of income transfer mechanisms should help to clarify language, eliminate confusion about the relative merits of partially specified designs, and increase understanding about the reasons why cost estimates often differ so widely among proposals aimed at alleviating poverty.

Finally, as stated at the outset, these calculations have been an exercise, in the sense that no concrete proposal for either a BI or GI is under active discussion in Canada. Accordingly, there seems little point in fine tuning further cost estimates based upon tax structure, accounting rules, and the like.

Our discussion has also ignored a great many other important issues: the behavioural responses in terms of work effort (Hum and Simpson, 1991, 1993), the possibility of alterations in family living arrangement (Hum, 1986), or marital instability

(Hum and Choudhry, 1992) and the like. Also not considered are the technical difficulties of integrating taxes and transfers (Hum, 1988), the problems of administrative delivery (Hum, 1981), the desirability and consequences of a flat rate tax, the degree of inequality that is optimal from the standpoint of economic efficiency (Hum and Simpson, 1995), the complications of combating poverty in a federal state (Hum, 1983), the limitations of both the BI and GI to life course planning, the role of assets, and so forth. Even so, the crude estimates of costs alone should give us cause to reflect more seriously about the best way to alleviate poverty.

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Table 1. Estimates of the Extent of Poverty and the Cost of Basic Income and Guaranteed Income Plans for Canada

Transfer Program	Low Income Measure of Poverty (LIM)			Market Basket Measure of Poverty (MBM)		
	Cost (\$billion)	Poverty Incidence	Poverty Gap(\$b)	Cost (\$billion)	Poverty Incidence	Poverty Gap(\$b)
No Transfers	\$0	28.8%	\$40.2	\$0	26.3 %	\$31.5
Current Transfers	\$75.8	15.3%	\$11.6	\$75.8	11.9%	\$7.7
BI=PL						
	\$251.7	0%	\$0	\$217.1	0%	\$0
GI: $G=t*PL$						
t=30%	\$12.1	28.8%	\$28.2	\$9.4	26.0%	\$22.0
t=50%	\$20.1	28.8%	\$20.1	\$15.7	26.0%	\$15.7
t=70%	\$28.2	28.8%	\$12.1	\$22.0	26.0%	\$9.4

Notes: (1) The Basic Income (BI) proposal gives every economic family in Canada an amount equal to the poverty line (PL=LIM or MBM) to replace existing transfers to families.

(2) The Guaranteed Income (GI) proposal provides a guaranteed income equal to the negative tax rate times the poverty line ($G=t*PL$) and taxes earnings (only) at the negative tax rate (30, 50, or 70%).

(3) All cost and poverty gap (poverty depth) estimates are in billions of Canadian dollars.

Source: Survey of Labour and Income Dynamics Public File 2000. Calculations by the authors, weighted to reflect the population of economic families in Canada.

Table 2. Additional Estimates of the Extent of Poverty and the Cost of Intermediate Basic Income and Guaranteed Income Plans for Canada

Transfer Program	Low Income Measure of Poverty (LIM)			Market Basket Measure of Poverty (MBM)		
	Cost (\$billion)	Poverty Incidence	Poverty Gap(\$b)	Cost (\$billion)	Poverty Incidence	Poverty Gap(\$b)
BI=0.7PL	\$176.2	14.2%	\$7.1	\$152.0	13.4%	\$5.9
BI=0.85PL	\$213.9	11.4%	\$3.1	\$184.5	11.0%	\$2.6
GI: t=50%						
G=0.7PL	\$35.2	20.6%	\$9.1	\$27.1	18.9%	\$7.3
G=0.85PL	\$49.4	14.2%	\$3.6	\$37.8	13.4%	\$2.9

Notes: (1) The Basic Income (BI) proposal gives every economic family in Canada an amount equal to the specified proportion of the poverty line to replace existing transfers to families.

(2) The Guaranteed Income (GI) proposal provides a guaranteed income equal to a specified proportion of the poverty line and taxes earnings at 50%.

(3) All cost and poverty gap (poverty depth) estimates are in billions of Canadian dollars.

Source: Survey of Labour and Income Dynamics Public File 2000. Calculations by the authors, weighted to reflect the population of economic families in Canada.