

Implementing a Basic Income Guarantee in Canada: Prospects and Problems[†]

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Abstract

We outline the case for a basic income guarantee and characterize the alternative forms it could take. We argue that implementing such a program in the Canadian federation should involve collaboration between federal and provincial governments, with each level having some discretion over the size of the guarantee within their jurisdictions. We draw on tax harmonization arrangements in Canada for guidance about how such collaboration could be managed. We propose a basic income guarantee model for Canada that is sufficient to move all persons out of poverty, that is implemented through the tax system, and that is affordable. Our proposal is virtually self-financing in the sense that it redistributes existing federal and provincial transfers and does not require any tax increases. We illustrate our basic income guarantee program using simulations based on Statistics Canada's SPSD model.

Keywords: basic income guarantee, refundable tax credits, negative income tax

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1 Introduction

The purpose of this paper is to review the case for introducing a basic income guarantee (BIG) in Canada, to outline the challenges involved in implementing it, and to propose an affordable BIG for Canada which respects the interests and responsibilities of both the federal government and the provinces. In the Canadian federation, both federal and provincial levels of government have an interest in income redistribution policies, and both levels have programs in place that have BIG-like features, albeit for targeted segments of the population. Some programs like the Canada Child Benefit (CCB) and the Canada Workers Benefit (CWB) are refundable tax credits implemented through the income tax system. Others like Old Age Security and the Guaranteed Income Supplement (OAS/GIS) are standalone programs that nonetheless rely on taxable income as one of their criteria of eligibility. In addition, provincial social assistance payments are income-contingent but fully independent of the income tax system. Our aim is to illustrate how federal and provincial governments could together move to a BIG delivered through the tax system that applies comprehensively to all persons, that does so in a way that is both universally accessible and affordable, and that respects provincial autonomy.

It is important to stress at the outset that, while in principle, either the federal government or an individual province could implement its own BIG program, such a program would necessarily be incomplete in significant ways. A federal program could not unilaterally replace provincial social assistance transfers, and so could not reach the non-working poor. Similarly, a province would find it excessively costly to finance a BIG of sufficient generosity to raise recipients out of poverty. Moreover, an individual province would face fiscal competition pressures if neighboring provinces chose not to mount their own BIG programs. Perhaps most important, to the extent that a BIG program is to be delivered through the income tax system, federal-provincial cooperation is mandatory given that both levels of government co-occupy the income tax field and most rely on a common tax-collecting agency.

Our proposal builds on the principles and practice of the well-established income Tax Collection Agreements (TCAs), including the ability of provinces to exercise

some discretion over tax rates. It is an ambitious proposal since it involves both a substantial income tax reform and the cooperation of both levels of government. It represents a natural rationalization of redistribution policy through the tax system and would be fully compatible with the spirit of Canadian federalism. Our focus will be on the federal government and the provinces, leaving aside the territories for simplicity, although they raise no additional problems. Importantly, we also set aside the First Nations since the institutional means for the delivery of BIG to their members would need to be agreed upon.

The idea of a BIG has been around for a very long time, and proponents have been very diverse. Notable early ones include Thomas More (1516), Marquis de Condorcet (1794), Thomas Paine (1797), Charles Fourier (1836), John Stuart Mill (1849), Henry George (1871), Bertrand Russell (1918), Major Douglas (1924), George Cole (1935), James Meade (1936), and Martin Luther King (1967). Paine and George both advocated a basic income financed by land taxation, while Douglas argued for one as part of his social credit agenda for a national dividend to address what he perceived as overproduction and reluctance of banks to lend. Mill and Russell based their arguments on fairness or utilitarianism, and Russell emphasized that it should be available to all regardless of whether they work. Cole and Meade viewed basic income as a social dividend resulting from a common social heritage that all citizens should share.

More recently, many economists have advocated a BIG. Some, like Friedrich Hayek (1979), Jan Tinbergen (1975), Milton Friedman (1962) and Herbert Simon (2000), propose a negative income tax (NIT) or flat tax. Simon, following Cole and Meade, argued that upwards of 70% of incomes originate in social capital, that is, in scientific knowledge and social institutions that increase productivity and that should be treated as jointly owned by all members of society. Others like John Kenneth Galbraith (1986), James Tobin (1966) and Robert Reich (2016) favor a more progressive version of NIT. Anthony Atkinson (2015) has recently proposed a participation income, which would be available to all who participate in a meaningful way in society rather than being unconditional like most BIG proposals. This has been en-

dorsed by Lars Osberg (2018). The concept of BIG is implicit in academic models of normative optimal income taxation beginning with James Mirrlees (1971), of equality of opportunity by John Roemer (1998), and of fairness by Marc Fleurbaey and François Maniquet (2011). Other leading academic proponents include the Belgian philosopher Philippe van Parijs (1995) and the British social economist and founder of the Basic Income Earth Network Guy Standing (2017). Supporters also include the entrepreneurs Elon Musk, Eric Schmidt and Mark Zuckerberg. The International Monetary Fund (2017) recently endorsed the idea of a BIG.

In Canada, forms of BIG have been recommended at various times in the past beginning with the Special Senate Committee on Poverty (the Croll Report) and the Castonguay-Nepveu Report in Quebec both in 1971.¹ In that same year, the Status of Women Committee recommended a BIG administered as an NIT (but oddly not for singles under 40 years of age). This was followed by the National Council of Welfare's guide to guaranteed annual income in 1976. In 1985, the Macdonald Royal Commission recommended a limited form of BIG called the Universal Income Security Program, which was echoed by the Forget Commission on unemployment insurance in 1986. A BIG was later supported in 2006 by the Women's Livable Income Working Group and the Standing Committee on Agriculture and Forestry, and in 2008 by the Senate report on poverty.

Perhaps the strongest endorsement of the principle of BIG is found in the United Nations Universal Declaration of Human Rights proclaimed in 1948, which has been ratified by Canada.² In Canada, Employment and Social Development Canada released the government's poverty reduction strategy in 2018. It sets out three pillars as the focus of actions to reduce poverty, called dignity, opportunity and inclusion, and resilience and security. The aim of the first of these is to lift Canadians out of

¹Good summaries of the history of advocacy for a guaranteed annual income in Canada may be found in Hum and Simpson (2001) and Young and Mulvale (2009).

²Article 25 (1) states: "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control."

poverty by ensuring basic needs are met, an objective that is fully consistent with a BIG. The public awaits an outline of actions that the government would propose for achieving these objectives.

There have been various experiments and applications of forms of BIG around the world. NIT experiments have been conducted in several US states and cities, including New Jersey and Pennsylvania in 1968-72; Indiana and North Carolina in 1967-73; Gary in 1971-74; and Seattle and Denver in 1971-82. Further pilot projects have been proposed for Oakland and Stockton in California. In 1974-79, the Canadian and Manitoba governments conducted a BIG experiment in Dauphin, Manitoba known as Mincome. Forget (2011) subsequently analyzed the results and found that education and health outcomes were improved with limited long-run effect on labor supplies. A pilot project was initiated in Ontario in 2017, but was aborted in its first year with a change in the provincial government. Pilot projects have also been run in Finland, India, Kenya and the Netherlands.

Some partial applications of BIG programs can be found around the world. Both the Alaska Permanent Fund Dividend and Iran Basic Income are payments to citizens funded by oil revenues. Temporary payments to citizens financed by new credit were made by the Social Credit government in Alberta in 1933, and in 2005 the Alberta Government of Ralph Klein paid residents a Prosperity Bonus consisting of \$400 per capita ('Ralph Bucks') implicitly financed from oil revenues. The UK government implemented a Child Trust Fund during the period 2005–11, which was a lump-sum payment at birth provided to parents. In Brazil, the Bolsa Familia is conditional and means-tested transfers to all families with children, and was intended to be a move toward basic income. As well, Greece has enacted a Social Solidarity Income. Finally, a national referendum on universal basic income was conducted in Switzerland 2016 and failed to pass.

Interest in BIG has been reinvigorated as one response to recent circumstances. The past few decades have seen an increase in inequality and a failure of public policy to deal with the associated consequences. Income and wealth inequality have both increased as productivity gains have stagnated, and those that have occurred have gone

mainly to the best-off ten percent of the population. The share of income accruing to capital has increased, leading to uneven gains in wealth, much of which is passed on as bequests. International competitiveness and the nature of technological advances have hollowed out the middle class in many OECD countries, although worldwide inequality has fallen (Milanovic 2016). Incomes and employment have become more uncertain, and full-time jobs have given way to temporary and precarious employment. Despite these changes, the tax-transfer system has become less progressive, especially at the bottom of the income distribution since real welfare incomes have decreased in most provinces (Tweddle, Battle and Torjman 2017).

Public policy initiatives that have attempted to address distributional concerns in Canada have been piecemeal and devoted to specific segments of the population, such as the elderly and children. Many groups have fallen through the cracks, especially low-income workers, those relying on provincial social and disability assistance, and those whose skills have become obsolete. A BIG program is seen by advocates in part as a comprehensive response to the perceived inadequacies of government redistributive policies. At the same time, detractors emphasize the potential adverse incentive effects of BIG and its financial cost (Kesselman 2014, 2018). All of this makes it timely to take a comprehensive look at the case for BIG and the challenging issues that would be involved in implementing it.

2 The Pros and Cons of a Basic Income Guarantee

A BIG would represent a major government social program. Since it would entail a substantial redistribution of income, it is naturally contentious. Many arguments have been marshaled for a BIG, and likewise many counterarguments have been advanced. Some arguments are value-laden, while others are pragmatic and empirical. In this section, we summarize these arguments beginning with those in favor of a BIG.

2.1 The Case for a Basic Income Guarantee

A BIG is first and foremost a program of redistribution, and modern redistribution theories have been drawn on by many proponents. There are two main streams to these theories, and they complement one another. The first is associated with utilitarianism, and is prominent in optimal redistribution approaches in public economics, including the sizeable optimal income tax literature.³ These theories judge redistribution policies by the final outcomes they generate. They base the case for redistribution from the better-off to the less well-off on the argument that the social value of an additional dollar is worth more to the latter than to the former, so social welfare—or social utility—can be increased by redistribution. The limit to redistribution is the inefficiency it induces, for example, due to adverse incentive effects on both those who receive transfers and those who pay for them.

The utilitarian approach to redistribution has been questioned on many grounds, though not necessarily with dire consequences for BIG. For one, unlike what early utilitarians believed, utility may be difficult if not impossible to measure. Instead, recourse must be had to objective measures of well-being, such as some notion of ability-to-pay. The Carter Report (1966) adopted this perspective, as did Musgrave (1959). A second argument is that utilitarianism gives no weight, or property rights, to individual outcomes before redistribution policies are enacted. Those who argue that initial (*ex ante*) situations should matter, such as Feldstein (1976), suggest that redistribution should be tempered by basing taxation on equal sacrifice, that is, on the idea that the progressivity of taxation be limited by requiring that proportional or even absolute reductions in utility from some starting point be equalized. The theories of ability-to-pay and equal sacrifice dominated normative approaches to taxation before the optimal tax revolution of the 1970s. Together they temper the optimal amount of redistribution, but they do not undermine the case for a BIG.

A more fundamental challenge to utilitarianism and the emphasis it puts on *ex post* outcomes is the equality of opportunity doctrine. This holds that what is important is that individuals be given equal opportunities to succeed rather than how they

³The optimal income tax literature and its drawbacks are summarized in Boadway (2012).

use those opportunities. Providing equal opportunities can involve many different policies, including education and training, removing the inequities of unequal inheritances, and providing a BIG that persons can use as they see fit. Unconditionality of transfers is an important consequence of this point of view. In particular, equality of opportunity doctrine holds that the taxes that individuals pay or the transfers they receive should compensate them for factors that are beyond their control—the principle of compensation—and not on factors they can control—the principle of responsibility (Roemer 1998, Fleurbaey and Maniquet 2011). Thus, the amount that persons receive should not depend on whether they choose to work hard versus whether they choose a life of leisure. While these doctrines of utilitarianism, ability to pay and equality of opportunity all support a BIG, they also involve value judgments that not all observers will accept. We return to this below.

Proponents of BIG also favor unconditionality as a way to avoid the stigma that is attached to existing welfare recipients who must apply for welfare, be monitored to ensure that they are eligible, and be looking for, or training for, work. The stigmatization of applying for welfare and being monitored for labor market search leads welfare recipients to view work as a burden that is forced on them by the program. If transfers are unconditional, it is argued that recipients would have a more favorable view of work, and social norms would change so that BIG recipients would choose to make some contribution to society through work or other means.

A related argument for BIG points to its increasing relevance as a social insurance device. Increasingly, workers have experienced higher earnings volatility, more precarious employment, an increase in temporary relative to permanent jobs, and the disruption of employment through trade and technology shocks. A BIG in conjunction with employment insurance enhances the security of workers, enables them to cope with earnings disruptions and leaves them with greater ability to spend time preparing for and searching for new jobs. Similar arguments apply to entrepreneurs whose small businesses are risky and who have limited ability to self-insure.

The final two arguments are somewhat more far-reaching than standard redistribution and social insurance arguments. One is based on the idea of a social dividend

mentioned earlier. The argument is that part of the value of output of a nation's economy reflects a return to the political, legal and social institutions that have been put in place and the accumulation of knowledge handed down to the present by past experience and investments. Among other things, these institutions protect property rights and enable a smooth functioning of the market economy. These effects account, in part, for differences in productivity among nations and over time within the same nation. To this legacy of institutions and accumulated knowledge might be added national endowments of natural resources that are collectively owned. To the extent that current output includes returns to these institutional and other factors, a case can be made that all citizens are entitled to share in their benefits, and a natural way to do this is to provide a BIG.

The other final argument for a BIG emphasizes its investment benefits. The argument, borne out to some extent by evidence gathered from experiments and pilot projects, is that unconditional money transfers to the lowest-income persons contribute not only to their short-run well-being but also lead to improvements in nutrition, health outcomes and education attainment. It improves their life chances by enhancing their independence and ability to participate in society, and to escape the self-reinforcing nature of poverty not only for themselves but also for their children. Given the not-insignificant costs of poverty, this suggests that a BIG can pay significant dividends to society rather than being part of a zero-sum game of redistribution. Similar investment gains might be registered by persons with potential entrepreneurial skills. Owing to a BIG they may be able to turn these skills into realistic self-employment opportunities. These benefits of a BIG need not come at the expense of the benefits of other social services and mechanisms for poverty reduction such as housing, employment services and employment insurance. A BIG can complement these programs rather than replace them.

2.2 The Case against a Basic Income Guarantee

Opponents of a BIG marshal several arguments against it. One prevalent argument emphasized by Kesselman (2014) and others concerns the consequences of a BIG for

labor supply. Under a BIG of reasonable size, the marginal effective tax rate (METR) of low-income persons—that is, the increase in net tax liabilities from an increment of work—will be relatively high. The BIG itself will have an METR rate of the order of 50% when the BIG taxback rate and the income tax rate are included, and the interaction of BIG with other cash and in-kind transfers, such as the CCB, OAS/GIS and social housing, can make the METR substantially higher. The argument is that these high METRs, which are necessary components of a BIG, will reduce labor supply—both hours work and labor market participation—and this will be exacerbated by the income effect of the BIG money transfer. Note however that the kind of METRs for low-income persons associated with a BIG will typically be no larger than the METRs welfare recipients already face, and usually less.

Observe that the emphasis of high METRs is entirely on the supply side of the labor market, the presumption being that if low-income persons chose to increase their work effort or to participate in the labor market in response to a lower METR, employment will be readily available. This is no evidence that this will be the case. Moreover, there is relatively little empirical evidence that low-income persons who receive a BIG that is comparable to the poverty line will be significantly deterred from increasing their labor supply to increase their disposable income. Presumably, the value of an additional dollar of income to them is relatively high.

A related argument concerns the unconditional nature of the BIG. Some persons might object in principle to the government making BIG payments to persons who purposely choose not to work. Put starkly, should leisure-lovers receive a basic income if leisure is their choice? If not, the BIG would have to be restricted to persons who either choose to work or are willing to work but cannot find employment. This concern has led some observers to propose a modified form of BIG. As mentioned, Atkinson (2015) advocates something he refers to as participation income, that is, a BIG that is restricted to those who participate in society in some meaningful form, either in the labor market or in a socially beneficial activity, such as child-rearing or volunteer work. Recently, Osberg (2018) has echoed this call for a participation income rather than an unconditional BIG. A drawback of such schemes is that they require monitoring to

enforce the participation conditions, and that induces stigmatization that can affect social norms toward working. Rather than making BIG conditional on labor market participation, incentives to supply labor can be built into the program by having a low taxback rate at lower income levels, similar to the Canada Workers Benefit (CWB) that currently exists (and replaced the Working Income Tax Benefit). See Koebel and Pohler (2018) for the analysis of such an approach.

Another concern of BIG detractors is the financial cost. A BIG that mimics the poverty rate entails a sizeable budget that must be financed by upper- and middle-income taxpayers. The financial cost of a BIG can be reduced by increasing the taxback rate, but that implies higher METRs that discourage work effort and participation. The financial cost and who bears it have implications for the political feasibility of a BIG program.

A final set of arguments against BIG comes from those who favor programs that address income inequality and poverty, but who argue that a BIG is inferior to other programs. They argue that poverty is better attacked by policies such as education, employment creation, healthcare, and in-kind transfers such as food stamps, housing support and transportation. Moreover, the more resources are devoted to a BIG, the less will be available for these other more targeted programs. We return to some of these arguments after we present a practical proposal for a BIG in Canada below.

3 Equivalent Characterizations of a Basic Income Guarantee

A distinction is often drawn between a *universal basic income* (UBI) and an *income-tested basic income* (ITBI) (Kesselman 2014). A UBI refers to a lump-sum payment of a given amount made to all persons of a given type regardless of their income. It could vary by demographic characteristics such as age or family size, but all persons with the same characteristics obtain the same UBI. An ITBI refers to a system where the amount of transfer depends on the income of the recipient. It is analogous to OAS/GIS, the CCB, or refundable tax credits (RTCs) like the GST credit. These

income-tested transfers share the property that payments decline with net income as reported for income tax purposes. Unlike BIG, eligibility for OAS/GIS and CCB is restricted to the elderly and children respectively, while RTCs are available to all persons who file a tax return. Social assistance and disability assistance are also income-tested, but unlike RTCs, eligibility is based on application and evaluation rather than self-reporting, and other restrictions apply. Social assistance is often accompanied by in-kind transfers such as free prescription drugs, subsidized public housing and subsidized public transit.

The argument is often made that the cost of UBI far exceeds that of ITBI since UBI is paid to everyone. However, as we argue in this section, that is misleading. Once the costs of financing UBI and ITBI are taken into account, their net costs are virtually identical, assuming that the ITBI uses taxable income to calculate its tax-back rate. To see this, consider the simple example of the classic NIT proposed by Friedman (1962). This is equivalent to a flat tax where negative tax liabilities are fully refunded. The solid line in Figure 1 labelled NIT depicts the budget constraint for a representative individual under an NIT, where Y represents income and C is consumption, or disposable income. For those who earn only labor income, income is $Y = w\ell$, where w is their wage rate and ℓ is their supply of labor.⁴ The budget constraint is $C = (1-t)Y + B$ and consists of a lump-sum component B and a budget line with a slope of $1 - t$, where t is the income tax rate. (It is assumed that there are no other tax credits in place, refundable or not.) Different persons will choose different points on the common budget line. In particular, those with higher wage rates will generally choose to earn more income. The total tax liability is shown as $T = Y - C$, which can be positive or negative so lower income persons will obtain tax rebates.

Under a UBI, the amount B is paid upfront to everyone, and all their income Y is taxed at the fixed rate t . The final amount they receive from the government is $B - tY$, which will be positive for persons with income below a breakeven level

⁴As mentioned, an important and non-innocuous assumption is that income is determined entirely by labor supply. Labor supplies are all automatically fulfilled by labor demand.

where the budget line crosses the 45° line. The “cost” of the UBI is B per person, but the net cost borne by higher income taxpayers is the net amount paid to the government, $tY - B$. Under this UBI, consumption is given by income plus the net amount received from the government, so $C = Y + B - tY = (1 - t)Y + B$.

The procedure under an ITBI is different. The payment of B is not made upfront. Instead, persons who earn Y calculate their tax liability to be $T = tY - B$ and either pay taxes if that is positive or receive a transfer if it is negative. That is, they receive the basic amount B which is taxed back at the rate t . The ultimate amount received by each person is their income less their tax liability, or $Y - tY + B$, which is the same as under the UBI. The difference is that under the UBI the government makes an upfront payment of B to all persons, and recovers part or all of it later from taxes paid on income. With the ITBI, transfers are only made after tax liabilities have been calculated, and are equivalent to RTCs like the GST credit. This makes the ITBI scheme appear to be less costly, but ultimately the two schemes are equivalent. In what follows, we use the ITBI version of BIG as our working model.

The NIT in Figure 1 is restrictive in the sense that the tax rate t is the same for all persons. A more progressive form of BIG can be achieved by allowing the marginal tax rate to vary with income levels. Two effects should be distinguished here. First, the total cost of making transfers to those entitled to receive them can be reduced by increasing the tax rate applicable to BIG recipients, that is the taxback rate. The tax rate on higher-income persons can then be reduced since less transfers have to be financed. The dashed line in Figure 1 depicts this case.

Second, the financing of the ITBI can be made more progressive by creating more tax brackets with increasing tax rates as depicted by the solid budget line in Figure 2. This corresponds with the case whose implementation we discuss further below. The case depicted in Figure 2 is also equivalent to that prescribed under standard optimal income tax models (e.g., Tuomala 2016). These typically have the property that the marginal tax rate is higher for the lowest income persons than for others. The high initial METR facilitates higher transfers to the lowest income persons at the least cost to other taxpayers.

The dashed line in Figure 2 shows a further case of interest. The METR for the first amount of income earned is very low, possibly even negative. A negative METR can be used to encourage participation on the labor market. The CWB is similar to the case depicted except that the low METR applies only after some initial income has been earned. For a negative METR at low incomes to be revenue-neutral, it must be accompanied by higher METRs as the subsidy is phased out.

For future reference, one further distinction is relevant for the schemes depicted in the solid lines of Figures 1 or 2. The budget constraint depicted in Figure 3 gives the same outcome as in Figure 2 but using slightly different policy instruments. The quantity N along the vertical axis refers to an NRTC. It gives rise to the dashed budget line indicating that N is non-refundable. The amount R reflects a RTC. If no RTC is in place, the budget line facing the representative individual follows the 45° axis until income level S_1 is reached. Since the NRTC is non-refundable, those earning less than S_1 pay no taxes and receive no tax credit. When the refundable tax credit R is introduced, the budget line is the solid line starting at R and reaching the 45° line at income S_1 . The slope of this portion of the budget line is one minus the taxback rate of the RTC. If R is set to B , the same budget line as in Figure 2 is achieved.

If N were made refundable, the budget line starting at N would now be a solid line and those with incomes below S_1 would receive a refund. An RTC could then be imposed over and above that. The slope of the budget line starting at R would be one minus the METR, where the latter is the sum of the tax back rate on the RTC and the tax rate in the first income tax bracket.

Before describing a proposed approach to implementing a BIG in Canada, it is worth reviewing the current situation. That will help us to appreciate the extent of the reform involved in moving to a BIG.

4 The Status Quo

The existing tax-transfer system in Canada offers some minimum income support to most persons. Some income support programs are enacted by the federal government, and some by the provinces. The mechanisms and institutional arrangements for delivering transfers varies by program and level of government, and the experience gained from some approaches offers valuable lessons for how a BIG might be implemented. Roughly speaking, the federal government has assumed major responsibility for the elderly, children and the involuntary unemployed, while the provinces have assumed responsibility for the long-term unemployed and the disabled. Support in some cases is adequate, and in other cases it is deficient. Some mechanisms are more burdensome than others, both for the government and for recipients. And, some groups receive relatively little financial support from government, such as workers employed at income levels below Statistics Canada poverty measures. Our proposal builds on the best elements of the current system and on mechanisms that rely on the income tax system for delivering income transfers.

At the outset it is critical to reiterate that both the federal and provincial governments have an interest in, and assume responsibility for, income redistribution under the current system. Realistic proposals for a BIG will be obliged to take account of this joint responsibility. Ours puts particular emphasis on a cooperative approach.

We can characterize the main approaches to low-income support as being of three main types. One consists of transfer programs that are integral elements of the tax system. Another consists of stand-alone transfer programs that are administered through the income tax system. The third are programs that are virtually independent of the income tax system but that use income as a criterion for determining assistance. A key institution that is involved in the first and second of these is the Canada Revenue Agency (CRA). It is a quasi-independent agency that administers the federal tax system and some elements of provincial ones. Relevant to that are federal-provincial agreements that govern tax-transfer programs that are administered by the CRA. These are the TCAs in the case of the individual income tax. The federal government has signed separate TCAs with all provinces except Quebec (QC)

according to which the CRA collects income taxes for both the federal government and agreeing provinces, provided the provinces agree to abide by the federal income tax base. Provinces are free to choose their rate structures and tax credits subject to minimal restrictions. Similarly, five provinces have harmonized their sales taxes with the federal GST by implementing HSTs. The CRA administers both federal and agreeing provinces sales taxes, and the provinces are able to choose their own HST rates. These tax harmonization arrangements combine the administrative and efficiency benefits of common tax bases with the advantages of provincial discretion in setting rates. We shall exploit these tax harmonization arrangements in the design of our BIG proposal.

Stand-alone programs that are administered through the income tax system include OAS and GIS payments to seniors. These programs are essentially BIG programs for seniors aged 65 and over. They provide a guarantee level analogous to B in the previous section, which is taxed back based on net income at a separate rate from the income tax rate. In 2018, the maximum OAS payment is about \$7200 per senior per year, which is indexed annually and is taxable. Once annual net income reaches about \$71,600, OAS is subject to a recovery tax of 15% so it falls to zero at an income of about \$123,000. In addition to OAS, GIS is available to the lowest-income seniors and is non-taxable. The maximum annual amount for a single senior is about \$10,680, and it falls to zero at about \$18,100 (which reflects a tax-back rate of about 50%). Most provinces provide a top-up for GIS recipients. For example, NL provides a Seniors Benefit of up to \$1313 per year. In ON, the Guaranteed Annual Income System provides up to about \$1000 per year to low-income seniors. Overall, the system of OAS/GIS benefits combined with provincial supplements offers an effective basic income guarantee for seniors.

The income tax system contains a number of RTCs, that is, transfers delivered through the transfer system. These include the CCB for children, the GST or HST credit that is available to all individuals, and the CWB for low-income workers. Each of these have provincial supplements. These programs all base transfers to individuals on taxable income reported by taxpayers or their families. The most generous of these

is the CCB, a tax-free payment to families based on the number and age of children and which falls with net family income. The basic amount for 2017–18 is \$6,496 per year for each child up to age 5 and \$5,481 per child aged 6 to 17. The CCB is reduced when net family income exceeds \$30,000, and the tax-back rate varies with the number of children. With one child, the tax-back rate is 7% for family incomes between \$30,000 and \$65,000, and 3.2% above that, and corresponding tax-back rates are 13.5% and 5.7% for two children, 19% and 8% for three children, and 23% and 9.5% for four or more children. For families with one child, the CCB falls to zero when family incomes reach over \$120,000, and similarly for more than one child. Provinces also supplement the CCB. The NL Child Benefit provides a maximum payment of \$33.16 per month for the first child rising to \$40.50 for the fourth. The ON Child Benefit is a maximum of \$116.91 per child per month. Both these child benefit supplements are administered by the CRA and paid out with the CCB.

The GST/HST credit and the CWB are relatively small in size. The GST credit compensates low-income persons for GST paid on their consumption purchases. For provinces who have harmonized their sales taxes, an HST credit applies that differs by province. The GST credit varies by family size and family net income, and is indexed annually for inflation. For a single person with no children the maximum amount is \$421 per year on incomes starting at \$20,000, and falls to zero at \$46,000. (The credit is less than \$421 if income is less than \$20,000.) With two children, the maximum GST credit is \$842 starting at zero income and falls to zero at \$54,000. Amounts are slightly higher with two adults and more children. The CWB is a modest RTC given to low-income workers aged 19 and above, and encourages labor force participation. It can include a disability supplement, and can vary by provinces. For single persons in most provinces, the annual CWB for 2019 is 26% of earned income above \$3,000 until incomes reach \$12,820. The maximum benefit is \$1,355. It is reduced at the rate of 12% when income exceeds \$12,820 and falls to zero at \$21,153. The maximum amount for families is \$2,335, which applies when family income reaches \$17,025. It falls to zero when family working income reaches \$25,358. The maximum CWB disability supplement is \$700. The provinces also offer some refundable tax credits,

but like the GST credit and CWB these are relatively small.

Besides the RTCs there are a large number of nonrefundable tax credits (NRTCs), such as the basic personal amount, the spousal credit, the dependent credit, the age credit, and the employment credit, to name a few. The basic personal amount is unique in not being income-tested for taxpayers above the basic income level. Most others decline with net income or net family income. These NRTCs will place a crucial role in our BIG proposal.

In terms of generosity, OAS/GIS, the CCB and the basic personal amount stand out. The OAS/GIS system provides an amount comparable to Statistics Canada poverty measures, and has a relatively low taxback rate. The consequence is that seniors with above-average incomes are eligible for a least some amount of OAS. This will be relevant when we consider BIG options below. Similarly, CCB is generous enough to be considered a reasonable BIG for children, but it too has a relatively low taxback rate. The basic personal amount is worth the same value to all taxpayers in a given province regardless of income. The value of the tax credit to taxpayers from the federal basic personal amount was \$1,771 per person in 2018.⁵ For ON taxpayers, the provincial basic personal amount is worth an additional \$523 so the combined federal and ON basic personal amounts are worth \$2294. In NL, the basic personal amount is worth \$804 leading to a combined federal-provincial value of \$2,375. While these values are substantial, they are non-refundable so are only available to taxpayers whose incomes and taxes are large enough to take advantage of them.

Finally, provincial social assistance programs provide a basic income of sorts to the long-term unemployed and those unable to work. Unlike transfer programs delivered through the tax system and administered by the CRA, these programs are administered by provincial agencies. Recipients must apply for the transfers, and their eligibility is determined by program administrators. The amount of social assistance differs between employable persons and those who are disabled. Eligibility criteria include limits on asset ownership and require that employable social assis-

⁵It is calculated as the basic personal amount of \$11,809 times the tax rate in the first income tax bracket, which is 15%.

tance recipients engage in labor market search. Those receiving social assistance are allowed to earn a minimal amount of income and face relatively high taxback rates on their earnings that vary by province.

Social assistance rates are well below poverty lines and have been falling in real terms since the mid-1990s. For example, in NL single employable persons receive \$11,410 annually, and those who are disabled receive \$11,501. This compares with a market basket measure (MBM) of \$19,531 in St. John's. Employable couples with two children fare better, receiving \$27,876 compared with the MBM of \$39,062. In ON, single person social assistance rates are only \$9,178 for employables and \$14,433 for the disabled, compared with an MBM of \$20,725 in Toronto. Couples with two children receive \$29,160, and the MBM is \$41,449. Other provinces tend to offer considerably lower social assistance rates. The taxback rate in NL is 80%, and in ON is 50%, both applying to incomes above a small minimum. Other provinces have higher taxback rates. Provincial welfare and disability transfers are not indexed for inflation, and have been trending downwards in real terms since the early 1990s.

Provinces also offer low-income persons a variety of in-kind transfers, such as free pharmaceuticals and subsidized housing and public transportation, and training programs for the unemployed. And, of course, universal health care and education is available to all citizens.

The federal and provincial governments provide contributory social insurance programs, such as employment insurance (EI), the Canada Pension Plan (CPP), the Quebec Pension Plan (QPP) and provincial workers compensation plans. These are not regarded as basic income substitutes since their function is to insure against unexpected job loss and longevity. Our proposal envisions leaving social insurance intact as well as non-transfer provincial public services.

Overall, basic income coverage is uneven in its scope and in its unconditionality. Programs delivered by the federal government for the elderly (OAS/GIS) and children (CCB) resemble BIG programs, albeit with low taxback rates. Programs delivered by the provinces, especially welfare and disability assistance, tend to be both inadequate relative to poverty line measure and administratively onerous for both the government

and the recipients. Significant amounts of stigma and dependency are the result, and work effort is heavily discouraged.

5 The Need for Federal-Provincial Collaboration

The principles and practice of Canadian federalism virtually dictate that a program as consequential as a BIG should involve collaboration by the federal government and the provinces. The Canadian constitution does not assign responsibility for income redistribution to one level of government or the other. Both levels share that responsibility by implementing redistribution programs either separately or cooperatively. The federal and provincial governments each have the right to levy income taxes, and do so in a highly harmonized way. Income TCAs have been negotiated bilaterally between the federal government and all provinces except Quebec. According to these TCAs, the nine participating provinces agree to accept the federally legislated tax base and agree to have their taxes administered by the CRA. They also agree to the allocation mechanism for assigning tax revenues to provinces, which is based on the province of residence as of December 31 in the tax year. In return, the federal government bears the cost of tax collection and enforcement, and the provinces have considerable discretion for choosing their own rate structures and tax credits. Though Quebec has not signed a TCA and it administers its own income tax system, its tax base does not diverge markedly from that of the federal government and it abides by the same allocation process. The income taxes of the agreeing provinces contain similar NRTCs and RTCs as that of the federal government albeit at different rates.

As noted, the federal government also implements OAS/GIS and CCB, which are income-tested transfers targeted at seniors and children respectively. These are very successful components of federal income redistribution policy that are also closely aligned with the tax system, and are equivalent to RTCs. As well, the provinces implement welfare and disability assistance programs that provide minimal payments to persons who are unable to find work and are not eligible for EI. These programs are administered by the provinces and vary widely among them. However, they do have

elements in common. They have varying asset ownership limitations, and have varying but typically rigid restrictions on earning income. (Details may be found in Tweddle, Battle and Torjman (2017).) They expect recipients to search for jobs and accept them if offered. Importantly, unlike the income tax system which is based on self-reporting, welfare and disability systems are managed by case workers and eligibility is assessed both on application and throughout receipt of payments. Notably, although welfare and disability assistance are provided exclusively by the provinces for their residents (although the federal government finances welfare programs for first nations residents), it is not a constitutionally assigned responsibility. There is nothing to preclude the federal government from making transfers to low-income and disabled persons.

Given the interdependencies between the federal government and the provinces in implementing redistribution programs in the current system, it is reasonable to expect that a national BIG program should involve federal and provincial collaboration. In particular, a BIG program is most effectively delivered through the income tax system following the precedent set by OAS/GIS, CCB, CWB and the GST/HST Credit. These programs are efficiently administered and flexible enough to allow the provinces to supplement federal programs. The case for delivering BIG through the tax system is further enhanced by noting that much of the financing of a BIG will come from funds that are already disbursed through the tax system, such as NRTCs and RTCs. Since both the federal government and all provinces except QC share the same income tax system and its associated tax credits, any BIG delivered through the tax system would inevitably involve some federal-provincial collaboration.

The case for provincial participation in a national BIG is driven by two further considerations. First, a BIG will in part replace provincial welfare and disability transfers, and funds from the latter will contribute to financing a BIG. Second, the principles of federalism support the notion that the provinces should have some discretion in determining the size of a BIG in their jurisdictions. Both levels of government have an interest in income redistribution policy, and citizens in different provinces may have different preferences about program design.

The requirement for federal-provincial collaboration in the design of a BIG poses significant challenges. However, they are not insuperable. The following section draws on experience with income and sales tax harmonization to suggest how a national BIG could be designed that achieves the objective of a national BIG while allowing provincial discretion. The key feature of our proposal is that the national BIG would consist of separate federal and provincial components, and, like the income tax and HST, it could be administered by the CRA.

6 A Federal-Provincial Basic Income Guarantee

Our BIG proposal draws on that studied in Boadway, Cuff and Koebel (2018a). It can be viewed as a reform of the income tax-transfer system with a number of key features. In particular, the form of the BIG is analogous to existing RTCs applying to all adults and suitably enriched. We begin with a general discussion of the basic principles contained in our proposal using as a benchmark a uniform national BIG. Later, we turn to the roles of the federal and provincial governments in implementing a BIG for Canada.

6.1 Benchmark Case: A National Basic Income Guarantee

The design of our national BIG has two main elements. One is the guarantee level that is available to adults with no income. The other is the benefit reduction rate, or taxback rate, that is based on a measure of net income to be specified below. The BIG would apply over and above the income tax system whose parameters will be reformed in order to finance the BIG. Like existing RTCs, the BIG would be administered by the CRA, implying that to be eligible, recipients must file an income tax form. (We return below to provincial participation in the scheme.) The scheme would apply only to persons over 17 years of age. For those under 18, the CCB would remain in place and would serve as a BIG for children.

The guarantee level for a single adult would be chosen to be comparable to poverty lines measured by Statistics Canada (2016), either the MBM preferred by Employ-

ment and Social Development Canada (2018) as part of its poverty reduction strategy or the slightly more generous Low Income Measure (LIM). In principle, the basic amount could vary by province and region, but for purposes of exposition we assume that there is a single national guaranteed minimum. When we consider federal-provincial collaboration we allow provinces to choose their own provincial components as discussed below. The guaranteed minimum amount would vary by the number of adults in the family unit using the so-called square-root family equivalence scale (OECD 2008, Statistics Canada 2016). That is, if B is the BIG amount for a single adult, a family of n adults would be entitled to $\sqrt{n} \cdot B$ in total. Since BIG payments would go to each individual, each adult family member would receive an equal share, or $\sqrt{n} \cdot B/n$. Children would not count in the square-root scale since the CCB would take account of them.

The minimum amount B could vary by other personal characteristics, such as disability. For example, the Ontario basic income pilot program provided a larger guarantee for the disabled. Doing so adds a layer of administrative complexity to the program, and the possibility of stigmatization. For simplicity, we assume that only the number of adults is used to condition the BIG minimum. When we consider the possibility of provincial participation below, provinces could choose to offer disability supplements.

Given the minimum guarantee level B , the tax back-rate would affect both the cost of the program and the extent of the disincentive to work. In our illustrative example given below, the taxback rate is chosen such that the METR of BIG recipients is about 50%, where the METR includes both the BIG taxback rate and the income tax rate applied to BIG recipients. This is comparable to the taxback rate in Ontario's social assistance system, which is lower than that in most other provinces. For purposes of discussion, we assume the BIG scheme has a single taxback rate that applies at all income levels. (As we discuss later, it may be desirable to allow the taxback rate to vary in order to influence labor market participation decisions.) Unlike with the income tax system where the income tax rate applies to individual net income, we assume that family net income is pooled and split equally among adult family

members for the purposes of applying the BIG taxback.

For example, consider a two-adult family whose members have net incomes of \$80,000 and zero, and suppose the maximum BIG is \$20,000 with a taxback rate of 30%. If the BIG taxback were based on individual net income, the first family member would not be eligible for any BIG payment while the one without any income would receive the maximum BIG of $\sqrt{2} \cdot \$20,000 = \$14,142$. In our scheme, total family net income of \$80,000 is split equally between the two adults. Each would receive a BIG payment of \$2,142 (that is, $\$14,142 - 0.3 \times \$40,000$). If one of the adults earns \$1,000 more income, half of that is attributed to both adults for the purposes of taxback thereby reducing the BIG entitlement of each by \$150 and the aggregate entitlement of both by \$300. We suppose that the individual family member cares about the fall in shared family income when choosing their labor supply. As a result, income-splitting of family incomes for the purposes of taxing back BIG enhances the fairness of the system, while keeping the effective taxback rate to all recipients at 30%.

Our BIG program can be viewed as a reform of the existing tax-transfer system. It would replace a number of programs that currently provide transfers to individuals either explicitly or implicitly. These include provincial welfare and disability transfers, various RTCs like the GST/HST credit and the CWB, and most NRTCs. The latter would include the basic personal amount and credits for age, married, married equivalent, employment, pension income, caregiver, disability, education credits, volunteer firefighters, home buyers, and medical expenses. Those NRTCs that reflect contributions to EI and CPP/QPP or that are intended to provide incentives to contribute to social or political activity, like charitable and political tax credits, would remain in place. In fact, the basic personal amount accounts for more than 75% of the value of all NRTCs, and its use alone would finance a BIG of reasonable size.

We assume for expositional purposes that our BIG would replace OAS/GIS, though that would be controversial. As mentioned, OAS/GIS serves as a BIG for seniors, but its parameter vary from our BIG in an important way. The taxback rate in these programs is significantly lower than that envisaged for our BIG, and harmonizing the two would be problematic. On the one hand, if we eliminate OAS/GIS and

provide our BIG to seniors, seniors would be treated on a par with all other adults and the minimum guarantee level B would be comparable to the existing OAS/GIS maximum. On the other hand, because the BIG taxback rate is higher than that in the OAS/GIS system, higher-income seniors who were eligible for OAS would not be eligible for BIG and some would be worse off. Retaining the OAS/GIS system would avoid this outcome, but would reduce the revenue available to finance the BIG. Our illustrative calculations will indicate the importance of this problem.

The BIG program would replace transfers that exist for redistributive purposes, but would not replace contributory social insurance schemes like EI or CPP/QPP. Other social programs and in-kind transfers would remain in place when the BIG is introduced. That is not to say that these programs should not be reformed. Good arguments could be marshaled for reforming EI or for changing the tax treatment of CPP/QPP contributions, but these reforms could be done independent of BIG. We also take the view that while reforms of social and employment programs are important in their own right, they do not substitute for the cash transfers inherent to a BIG.

A final and critical element of our BIG is that it can be virtually self-financing in the sense that the cost of the BIG is largely covered by the funds saved by the elimination of most RTCs and NRTCs, OAS/GIS and provincial welfare and disability systems. Our illustrative example presented below confirms this possibility. This reflects the fact that NRTCs are significantly regressive. For example, the basic personal amount, which comprises the bulk of the value of NRTCs, is essentially a combination of an equal per capita transfer to all those whose tax liabilities are large enough to take full advantage of it, a lesser transfer for those with smaller tax liabilities than the value of the credit, and a zero transfer to those with no tax liabilities.

Converting the basic personal amount into a progressive income-based credit and making it refundable would be a significant step toward a BIG. Indeed, simply making the basic personal amount refundable so that it has the same value for all persons regardless of taxpaying status is a natural evolution of tax reforms begun in 1987 when the federal government converted most tax deductions into tax credits. The

rationale for this conversion was an equity one: tax deductions rise in value with one's taxable income whereas tax credits do not. While the merit of that argument can be debatable for some types of deductions—for example, those reflecting horizontal equity considerations—it is less so for those credits that are viewed as part of the progressive rate structure, such as the basic personal amount. However, the conversion of deductions to credits was not relevant for low-income persons as long as the credits were non-refundable. The advent of RTCs which began in 1991 with the GST credit opened up the possibility of the refundability of existing NRTCs, a possibility that has not been pursued. Our proposal goes beyond making NRTCs like the basic personal amount refundable. It also involves making them income-tested and so progressive.

There are, of course, other ways of financing a BIG besides using funds from existing NRTCs, RTCs, OAS/GIS and social assistance. We have restricted ourselves to those for two reasons. First, these are policy instruments whose main purpose is to transfer funds to individuals: they are the 'transfer' components of the tax-transfer system. Our proposal simply makes them considerably more progressive than they are now. Second, our use of these sources of finance illustrates the affordability of a BIG. In a sense, our BIG proposal is self-financing since no additional tax revenues need to be raised through increasing tax rates.

There are limitations to our approach. Replacing these programs with an income-tested BIG results in a progressive system of transfers for low-income persons who are eligible for receiving some BIG transfers. However, the loss of NRTCs, RTCs and OAS/GIS results in a pattern of disposable income reductions for higher income persons that is not progressive. That is because the value of these programs to above-average income persons is close to equal per capita regardless of income. To address this anomaly would require adjustments in the structure of tax brackets and rates that, while feasible, are beyond what we have studied carefully.

Other sources of revenues that could be used to finance a BIG would involve a more substantial tax reform. Three examples come to mind. First, tax expenditures other than NRTCs could be reduced. These could include base-broadening measures

such as restricting the sheltering of capital income through Registered Retirement Savings Plans, Registered Pension Plans, Tax Free Savings Accounts and housing, eliminating the dividend tax credit, and taxing a higher proportion of capital gains. Second, increasing tax rates could be used to find more revenues. Substantial amounts of revenue could be raised by increasing the GST rate (which would be regressive) or personal income tax (PIT) rates. The general corporate income tax (CIT) rate or the small business tax rate could also be increased. Third, new sources of revenue could be found that might be earmarked to finance a BIG, such as an reinstating an inheritance tax, taxing financial transactions, or using revenues from a carbon tax. All of these alternative approaches could all yield substantial sums of revenue that could be used to finance a BIG, but they would also involve important tax policy and political economy considerations. Indeed, a case could be made for any of the three alternatives independent of their usefulness of financing a BIG. Since our BIG proposal is virtually self-financing, we leave the merits of finding ways of raising additional revenues for another occasion.

6.2 The Roles of the Federal and Provincial Governments in Implementing a Canadian BIG

So far we have considered the design of a national BIG program that would be financed by funds from eliminating existing transfer programs, and that would be administered by the CRA. The transfer programs include some delivered by the federal government (NRTCs, RTCs, OAS/GIS) and some delivered by the provinces (NRTCs, RTCs, social assistance, OAS/GIS supplements). Both levels of government except for Quebec already rely on the CRA to administer their income tax systems. Moreover, the federal government provides some financial support for provincial social assistance programs through the Canada Social Transfer (CST) program. This interdependency reflects the fact that both levels of government share an interest in income redistribution policy, and both have the constitutional right to enact such policies. The implementation of a BIG that replaces existing federal and provincial government transfers and tax credits and that is administered through the CRA

would necessarily involve both levels of government. In this section, we outline a possible mechanism for implementing a BIG of the form just discussed, and the extent of federal-provincial cooperation that would be required to achieve such a system.

Our proposal is inspired by the income and sales tax harmonization arrangements that have been achieved through the personal and corporate TCAs and the HST. In each case, tax harmonization involves a series of bilateral agreements between the federal government and each province in which the federal government assumes a leadership role. For each of the PIT, the CIT and the GST, the federal government chooses a tax base and its own rate structure, and invites the provinces to harmonize their taxes with the federal ones. Harmonization involves the province abiding by the federal base while retaining significant discretion over the choice of a rate structure, including province-specific NRTCs and RTCs. As well, the rule for allocating taxpayers' tax bases among provinces is determined. For example, in the case of persons, their tax base is assigned to the province in which they resided on December 31 of the tax year. For agreeing provinces, the CRA administers both federal and provincial taxes and credits, and bears the cost of tax administration including losses from unpaid taxes and overpaid credits.

This system combines the efficiencies associated with having common tax bases with the benefits of allowing provinces the discretion to choose their own tax rates. The success of the system is reflected in the fact that most provinces have signed TCAs. Five provinces have adopted the HST and Quebec's QST is highly harmonized with the GST. Three provinces retain their own single-stage retail sales taxes, while one (Alberta) has no sales tax. Our proposal aims to emulate the income tax TCAs for a BIG. We envision a two-stage process.

6.2.1 Stage 1: A Federal Basic Income Guarantee

In the first stage, the federal government implements a federal BIG financed largely by the elimination of federal RTCs, NRTCs and OAS/GIS. The size of the federal BIG would be chosen with reference to the size of a national BIG that could be implemented using funds diverted from federal and provincial NRTCs and RTCs, OAS/GIS

and provincial social assistance. In our illustrative calculations, the national BIG for a single adult is set at \$18,771 per year, which is based on the latest calculations by Statistics Canada for 2015. That is scaled down using the square-root scale for multiple-adult families as discussed above. This amount is based on the MBM, which is the federal government's stated poverty line. It is the national average of all regional MBMs across Canada. Naturally, this will be less than the actual MBM for individuals in regions with above-average MBMs.

The federal single adult BIG is a proportion of the national BIG of \$18,771, where the proportion is determined by the share of federal transfers relative to the sum of federal and provincial transfers. Thus, federal transfers saved includes federal NRTCs and RTCS as well as OAS/GIS, which amounts to \$119.58 billion in 2018. Provincial transfers saved includes provincial NRTCs and RTCs and social assistance, which are worth about \$44.58 billion. The federal share of transfers eliminated is then about 72.8%, leading to a federal BIG of \$13,672 per year.⁶

In Stage 1, since existing provincial transfers remain in place while federal OAS/GIS is eliminated, the size of the BIG offered by the federal government differs for seniors, provincial social assistance recipients and all other adults. The federal BIG for seniors is the full national BIG of \$18,771 adjusted for family size. (Recall that we have chosen for illustrative purposes to eliminate OAS/GIS when we implement BIG, although we could have left it in place and removed all seniors from the BIG.) For social assistance recipients, the federal government BIG is reduced by the average size of provincial social assistance payments, which they continue to receive. Thus, all social assistance recipients receive the same federal BIG even though their provincial social assistance payments will differ. The alternative of simply topping up provincial social assistance levels to the federal BIG level would give provinces an incentive to reduce their social assistance rates. Even so, provinces might choose to undo the effect of the federal BIG by reducing their social assistance rates. This can only be

⁶Alternatively, since the federal government contributed to provincial social assistance programs through the CST, a share of the latter could be attributed as a saving to the federal government assuming that CST is reduced when the provinces introduce their BIGs. This would increase the size of the federal relative to the provincial BIG. We neglect this refinement in our calculations below.

avoided by the federal government appealing to the provinces not to do so, as was the case when national child benefits were first introduced. In the event that provinces chose that course of action, the federal government could always threaten to adjust CST transfers. Assuming the provinces do not reduce social assistance rates, there is no need to adjust federal-provincial CST transfers in this stage since the federal BIG is roughly financed by federal NRTCs, RTCS and OAS/GIS. The federal BIG for adults who are neither seniors nor social assistance recipients is the full federal BIG of \$13,672 per year.

In addition to the maximum BIG amount, the federal BIG is subject to a taxback rate. In our illustrative example, we set that at 30% of each adult's share of pooled net family income. We exclude social assistance from net income so that the BIG taxback rate and social assistance taxback rates are not applied to the same earnings. Since all NRTCs have been eliminated, BIG recipients will also pay income tax on the first dollar they earn. They would face the lowest federal income tax rate of 15%, so their METR would be 45%. Provincial NRTCs would continue to apply, so provincial taxes would not kick in until NRTCs are exhausted. Beyond that point, the provincial income tax rate would be added to the METR. In Ontario, the lowest provincial tax rate is 5.05%, so the METR would be approximately 50%, which is the lowest effective tax rate now being faced by provincial social assistance recipients.⁷

The CRA would continue to administer federal income taxes and, except for Quebec, provincial income taxes. In particular, it would administer the NRTCs and RTCS of the provinces even though the federal government has abandoned most of its tax credits.

6.2.2 Stage 2: Provincial Participation

In the second stage, individual provinces decide if and when to join the BIG. A province that opts in signs a bilateral national BIG agreement, analogous to a TCA for

⁷As Kesselman (2018) notes, some BIG recipients could be in the second tax bracket, in which case their METR would be somewhat higher. This could be avoided by adjusting the BIG taxback rate once income reach that level. This is discussed in Boadway, Cuff and Koebel (2018b).

income taxes. An agreeing province eliminates its NRTCs, RTCs and social assistance, and uses the proceeds to finance the provincial BIG. The federal BIG that has been chosen is consistent with provincial BIGs such that a combined federal-provincial BIG of \$18,771 could be roughly financed by the funds released from all federal and provincial transfer programs. This would entail a provincial BIG of about \$5,099. Provinces could choose to deviate from that amount, and those who did would fully bear the costs (or receive the savings) of any deviation above (or below) that.

Harmonization with the federal BIG would require that the basic federal and provincial BIGs be added together and a single taxback rate applied by the CRA to each individual's share of pooled net family income, where in our example the taxback rate would be 30%. With both federal and provincial NRTCs eliminated, BIG recipients would pay both federal and provincial income tax on the first dollar of their earnings, where the provincial rate in the first tax bracket is 5.05% in ON and 8.2% in NL. Thus the full METR paid on net income by low-income BIG recipient would be 50.05% in ON and 53.2% in NL.

The provincial BIG would apply uniformly to all adults in the province including seniors, subject to the square-root equivalence scale for adult family size. The federal BIG would now have to be adjusted so that it also goes to all adults. That is, instead of receiving the full \$18,771 national BIG of the first stage, seniors would receive the \$13,672 federal BIG plus the provincial BIG where they reside. In addition, the full federal BIG would now go to those previously on provincial social assistance.

A number of design details would have to be addressed. In addition to the federal and provincial BIGs being harmonized and subject to a single 30% taxback rate, any other refundable tax credits should also be aggregated to avoid the stacking of taxback rates. For example, for families the CCB should be aggregated with federal and provincial BIGs and a single taxback rate applied. As well, the possibility that some BIG recipients are in higher tax brackets could be addressed if it is deemed that the combination of the BIG taxback rate and the marginal income tax rate in the higher bracket leads to an excessive METR. The BIG taxback rate could be reduced as incomes reach beyond the first tax bracket. More generally, it might be

desirable to consider non-constant taxback rates for other reasons. An example would be to replicate the effects of the CWB to encourage labor market participation, as illustrated earlier in Figure 2. Policymakers might also choose to adjust tax brackets and rates at higher income levels to make the financing of the BIG fairer. Without doing so, the elimination of NRTC, RTC and OAS/GIS results in a relatively higher loss in disposable income to middle-income persons than to upper-income persons.

Finally, the federal CST transfer to agreeing provinces could be adjusted to offset any net revenue losses from participating in the harmonized BIG. This would involve differential CST payments to participating and non-participating provinces so would deviate from the existing practice of equal per capita CST payments to all provinces. Differential provincial treatment would not be unprecedented. When Quebec opted out of some federal shared-cost social programs in the early postwar period, it received unconditional grants instead. Since all provinces had the choice of opting out but no others chose to do so, this arrangement was not seen as discriminatory.

7 Illustrative Calculation

To get a rough idea of the feasibility of a national BIG in Canada, we present the results of a simulation of the above model. The simulation uses Statistics Canada's Social Policy Simulation Database and Model (SPSD/M) version 26.0, based on 2018 data. The data used in SPSD/M includes individual data from federal and provincial income tax returns, the Survey of Labour and Income Dynamics, unemployment and EI claimants histories, and the Survey of Household Spending, and is ideal for tax-transfer policy simulations. It includes all persons resident in the ten provinces with the exception of those on First Nations reservations and armed forces personnel in barracks. It is a one-year static snapshot of individual attributes and does not incorporate any behavioral responses. We discuss labor supply responses later.

Our simulation computes the effect on households of a reform to the federal-provincial tax-transfer system from the status quo to the national BIG outlined above. We set aside the two-stage process involving separate federal and provincial BIGs and

focus solely on a national BIG. (Boadway, Cuff and Koebel (2018a) use an earlier version of SPSD/M to simulate the separate consequences of the federal government first implementing a federal BIG followed by the provinces all implementing a common provincial BIG.)

As we outlined above, our national BIG has the following features. The basic amount of the national BIG, based on the average value of the MBM, is \$18,771 per single adult. Nuclear family units with n adults are each entitled to equal share of a total family BIG of $\sqrt{n} \cdot \$18,771$. The existing CCB serves as the BIG for children so remains in place. The BIG entitlement of each adult is taxed back at the rate of 30% based on an equal share of aggregate family income.⁸ The same BIG applies regardless of province of residence for the purposes of our illustrative simulation.

At the same time as the national BIG is introduced, several federal and provincial transfers are eliminated. At the federal level, the GST credit and the Working Income Tax Credit are eliminated, as well as the following NRTCs: basic personal amount, age, married, married equivalent, employment, pension income, caregiver, disability, education, medical expenses, volunteer firefighter amount and home buyers' amount. The CCB is the only RTC retained, and NRTCs for charitable and political donations, and contributions to EI and CPP are kept. Both OAS and GIS are eliminated. At the provincial level, social assistance for both employables and the disabled are eliminated as well as the same set of RTCs and NRTCs as for the federal government. Note that the basic personal amount is by far the most important credit: it accounts for three-quarters of the value of all NRTCs.

The elimination of most tax credits implies that the first dollar of income earned is subject to taxation at the federal rate of 15% and various provincial rates, including 5.05% in ON and 8.2% in NL. Taking the BIG taxback rate into account, this leads to METRs of 50.05% in ON and 53.2% in NL as mentioned above.

According to our SPSD/M simulations of this reform to a national BIG, the total

⁸Thus, for a two-adult nuclear family unit, the per adult BIG is $\sqrt{2} \cdot \$18,771/2 = \$13,273$. Suppose the two adults earn \$50,000 and \$20,000, respectively. Total family income is \$70,000, so each adult's share for BIG taxback purposes is \$35,000. Each adult's BIG transfer is therefore $\$13,273 - 0.3(\$35,000) = \$2,773$.

cost of the BIG transfers is \$172.33 billion. The amount of funds recovered by eliminating the various federal and provincial transfers is \$164.14 billion. This leads to a program deficit of \$8.19 billion, which would have to be funded from other sources. Such a deficit is a very small proportion (about 0.048%) of the cost of BIG, so we characterize the BIG proposal as virtually self-financing.

We now turn to the effects of the BIG reform on the disposable incomes of households by income groups. We report effects separately for Canada as a whole, for Ontario and for Newfoundland. In each case, families are divided into deciles by nuclear family income. For the cases of Ontario and Newfoundland, separate results are presented for the cases where deciles are defined at the national level and at the provincial level. For each decile, the absolute change in average family income and the percentage change in average family income as a result of the BIG reform are reported. In addition separate results for those below age 65 and those 65 years of age and older are reported to highlight the effect of replacing OAS/GIS with a BIG.

7.1 Canada-wide Effects of a National BIG

Table 1 shows changes in family disposable income by family income decile for the full sample of Canadians. The first two columns of changes include all adult households, while the second and third pairs are for adults below age 65 and 65 and over, respectively.

For the full sample, households in the bottom five deciles of the family income distribution have increases in disposable income with both the absolute and the proportionate gains decreasing with family incomes. This reflects both the progressive nature of the BIG itself and the regressive nature of the various tax credits that it is replacing. The gains in the lowest deciles are particularly striking and collaborate the extent to which low-income persons fall below the MBM poverty level in the existing tax-transfer system.

Outcomes are much less progressive for the top five deciles. Since these households will not receive a BIG transfer, their loss in disposable income is entirely due to the elimination of tax credits and OAS/GIS. The absolute loss is highest for the top three

deciles indicating just how regressive the existing system of credit is. The reduction in disposable incomes in deciles seven, eight and nine are between 6.76% and 9.11%, and this would presumably be the source of political concern. The reductions in disposable income could be made more progressive by adjusting the rate structure so that the losses increased with family income.

The changes in disposable income for those under 65 and for those 65 and over show an interesting contrast since the latter group lose OAS/GIS transfers. Comparing these two groups, several things stand out. For one, the BIG reform leads to much higher disposable income gains for lower-income families and lower losses for higher-income families for younger adults relative to those 65 and over. The average gain over all households is over 4.5% of disposable income for the former, while the latter lose on average over 10%. Equally striking is the fact that among the 65 and over families, all but the bottom decile lose, and the losses are over 10% in deciles six to nine. These large losses are due to the elimination of OAS/GIS. Since it has a relatively low taxback rate, OAS/GIS beneficiaries are found well into the higher-income deciles. Moreover, some NRTC's, such as the age and pension income credits, are targeted at this group. (Had we chosen to eliminate family pension income-splitting to finance the BIG, the elderly would have been hit even harder.)

The fact that a relatively generous OAS/GIS system is being eliminated to finance a BIG that, while generous in its basic amount, has a much higher taxback rate is an obvious concern for political feasibility. The option of leaving OAS/GIS in place and applying the BIG only to non-elderly adults has the advantage of avoiding this problem but does so with two significant adverse consequences. One is that the BIG system would treat the elderly much differently than the non-elderly and that might be thought of as inequitable, especially given the more general tendency of the fiscal system to redistribute from the young to the old. The second consequence is that the BIG system we have proposed would no longer be self-financing. Other sources of funding would have to be found to supplement the elimination of NRTC's and RTC's.

7.2 Effects on Ontario and Newfoundland & Labrador

Tables 2 and 3 show the changes in disposable family income in ON by Canada-wide family disposable income deciles and provincial family disposable income deciles, respectively. Tables 4 and 5 show the same results for NL. The qualitative results are similar using both characterizations of family disposable income deciles. The last row of these tables show that the changes in disposable income for all categories of ON households exceed that for all of Canada, while those of NL fall considerably short. Seniors fare considerably worse in NL than elsewhere, perhaps reflecting the fact that a higher proportion of NL seniors are eligible for some OAS/GIS. Non-senior adults in NL also do not do as well as those elsewhere, possibly because NL has relatively generous social assistance rates. On average, disposable income for all adults falls in NL when the BIG is introduced, whereas it rises for both ON and Canada as a whole.

In our simulations, differential levels of provincial social assistance are replaced by a uniform national BIG. That means that the proportionate savings in social assistance payments in NL would be relatively higher than in other provinces. In the two-stage federal-provincial BIG proposal we outlined earlier, we allowed for the possibility that provinces could adopt different BIG levels. Contrary to what our simulations assume, NL could choose to offer a more generous BIG with its social assistance savings, and undo the difference in outcomes for low-income non-senior adults reported in Table 3.

8 Other Considerations

The simulations reported in the last section are illustrative only. They adopt a specific form of BIG and do not take into consideration a number of relevant issues. What follows is a catalogue of issues that could be addressed in future work.

8.1 Design issues

Our simulations apply for a specific and rather simplified form of BIG. Among the possible extensions are the following. The size of the BIG was chosen to be uniform across provinces and types of persons. Different provinces have different levels of generosity of their transfer programs, and we could allow those differences to affect the provincial components of BIG. For example, we could choose the provincial BIG with reference to the amount of provincial funding that is released when social assistance and tax credits are eliminated. This would entail doing separate simulations for the two stages of our simulations as in Boadway, Cuff and Koebel (2018a). This approach would also allow for the possibility that some provinces may choose not to join the federal-provincial BIG program.

We could also allow the size of the BIG to vary for disabled persons as is done with provincial social assistance schemes (and with the short-lived Ontario basic income pilot project). This would entail an extra amount of administrative complexity since individuals would have to apply for disability status as is the case with social assistance programs and with the disability provisions in the income tax system.

We have chosen a fixed taxback rate for simplicity. It would be straightforward to allow the taxback rate to change. For example, in order to encourage labor market participation, the taxback rate could be reduced and even made negative for some initial amount of earnings. This would amount to incorporating the analogue of the CWB into the BIG system. (Stevens and Simpson (2017) have assumed a zero taxback rate for an initial amount of earnings in their basic income proposal.) As mentioned earlier, reducing the taxback rate allow incomes entails increasing it at higher income levels is revenue-neutrality is to be maintained.

Finally, we have chosen to include seniors in our BIG proposal and to eliminate OAS/GIS to finance it. This has led to anomalous distributional impacts since the income level at which OAS is phased out is much higher than that at which our BIG is phased out. The BIG proposal could apply only to non-seniors, though that would entail finding additional revenue from other sources.

8.2 First Nations residents

Residents of First Nations have been left out of our BIG program. They are not included in the SPSD/M database, but more important their participation raises issues of governance that would have to be addressed. Since our BIG would be administered by the CRA through the income system, it would be necessary for First Nations residents to be subject to income tax, which is not the case at the moment. Even if the federal government were to be responsible for implementing a national BIG for First Nations, income data would be needed to determine entitlements. These are nontrivial issues that would require close attention.

8.3 Retention of social services and other programs for low-income persons

Proposals for BIG typically suppose that it would replace some existing programs. In some cases, following the spirit of Friedman's (1962) negative income tax proposal, the BIG is viewed as taking the place of virtually all programs for low-income persons, including not only social assistance but also Employment Insurance, the Canada Pension Plan and various social services. An example of this is the study done for the Fraser Institute by Lammam and MacIntyre (2015).

The alternative approach, and the one that we take, is that BIG would only replace cash-transfer programs whose intent is redistributive. It would not replace social insurance programs or in-kind transfers. The argument is that the BIG is essentially a cash-transfer program with redistributive objectives.

Retaining social insurance programs alongside a BIG poses no particular difficulties. However, retaining social services does entail some administrative considerations. Eligibility for social services is often restricted to social assistance recipients so some new administrative mechanism would be required if social assistance is abolished. Retaining the social assistance eligibility apparatus has the disadvantage of perpetuating the stigmatization that is said to accompany social assistance. The alternative is to relate social service eligibility to income as determined by tax reporting, but the

details of this would have to be worked out.

8.4 Responsiveness to changes in income

Refundable tax credits that are delivered through the tax system rely on self-reported income to determine eligibility. Since income is only reported once per year and takes several months after the end of the tax years to become available for use, there is an inevitable delay in determining eligibility. This raises concerns for the ability of a BIG program delivered through the tax system to respond to changes in income of potential BIG recipients. Many of these are persons with volatile incomes or precarious employment situations who typically find it difficult to self-insure against changes in their circumstances. For example, it can be very expensive for them to obtain loans of short notice to finance necessary expenditures.

The EI system is responsive to unexpected changes in employment, and is only available to those who lose their job through no fault of their own. EI is not available to those with temporary employment who have not satisfied eligibility requirements. There is some scope for reforming EI so that it is available to more part-time workers and the self-employed, but it is unlikely to be sufficient to address the problems faced by the lowest-income workers with spotty employment opportunities.

Improving the ability of income-reporting to respond to short-term changes would be a useful objective for program administrators and the CRA to pursue, but a perfect solution is unlikely to emerge. Nonetheless, a BIG program is in a better position to address the problem of precarious incomes than the existing system. Since BIG is available to family members, responding to income shocks through the family is possible. As well, over a longer period of time, the BIG for low-income workers with variable incomes will eventually settle at a level that is roughly compatible with average eligibility.

8.5 Work responses

A major concern of economists about a BIG is its effect on labor supply (e.g., Kesselman 2014, 2018). There are various dimensions to this issue. A BIG has both income and substitution effects. Our proposal involves a redistribution of income from higher- to lower-income persons through the tax system. Conventional economic principles would suggest that this would encourage labor supply of the former and discourage it by the latter. The BIG also affects net wages through its effect on the METR. In our proposal, the METR of BIG recipients was slightly above 50%. For persons who were previously social assistance recipients, this represents no larger an METR than they previously faced, and often lower. The METR for low-income workers and other non-recipients of social assistance would be higher under a BIG. For higher-income workers who are not eligible for any BIG payment, the METR is roughly unchanged. Using standard estimates of labor supply elasticities, Boadway, Cuff and Koebel (2018a) calculated the effect on the BIG simulations from taking these income and METR effects into account. They found that earnings for the bottom deciles fell and for the top deciles rose, and that overall earnings fell by 1.5% due to the BIG. This leads to an increase in the cost of a BIG by about 3%, which is relatively modest.

A number of other considerations lead one to be cautious about estimates such as these. For one, the empirical estimates of income and substitution elasticities of labor supply do not focus particularly on the lowest-income persons, which are those that face the largest work disincentive. Given that such persons are close to the poverty line, one might expect that an extra dollar of income is of relatively high value and they may be anxious to earn more despite the significant METR. As important as the incentive to change the intensity of labor supply is the effect on labor market participation. The BIG is like a participation tax on those who move from not working to earning a significant income. Any reduction in participation due to the BIG would add to its cost.

On the other hand, social norms influence labor supply decisions. Recipients of social assistance may respond to stigmatization and rules that require them to be actively involved in labor market search and training activities. This may lead them

to think of labor supply as punishment and cause them to resent being required to work. A BIG program offers an unconditional transfer free from the burdensome administrative reporting functions that can be demeaning. As a result, BIG recipients might have a more favorable view of work, and may even feel a responsibility to contribute to society in return for a BIG entitlement. As well, receiving a BIG may help low-income individuals overcome fixed costs associated with joining the labor market.

Finally, as mentioned earlier, the effect of BIG on labor supply decisions is only part of the story. Willingness to participate in the labor market and the desire to increase one's earnings do not automatically translate into actual employment. That depends on there being an employer willing to hire and flexible enough to accommodate decisions to work more hours. For BIG recipients, the ability to decide one's own earnings is highly unlikely.

8.6 Political feasibility

To the extent that a BIG program creates as many losers as gainers, the political hurdles are quite challenging, especially if there is a perception that a BIG will reduce the labor supply of recipients or if there is resentment about paying a BIG to those who choose to be idle. The willingness of the higher-income contributors to willingly accept a BIG might be enhanced if they could be persuaded that it is not a zero-sum game. For example, if BIG improves food security and health outcomes, facilitates educational attainment and entrepreneurship, reduces crime and lessens dependency, it might be seen as a socially beneficial investment.

The BIG proposal that we have outlined above constitutes a large tax reform. Political feasibility might be enhanced by phasing it in gradually. This would also serve as a learning experience akin to a basic income experiment whereby the responsiveness of BIG recipients can be observed and used to inform its future development. The incremental approach can take various forms. The two-stage process we have outlined above is incremental. The federal government first implements its BIG, leaving the provinces to decide if and when to join. The federal BIG could itself be introduced

at a lower level than the one finally planned for. The program could initially involve reforming only the basic personal amount and choosing the level of BIG that the funds redirected from the basic personal amount would support. It could also be introduced for a subset of the population, for example, non-senior adults.

9 Conclusions and Provincial Implications

The perspective we have adopted in this paper is that a BIG would preferably involve both federal and provincial levels of government. That is because both have an interest in redistribution policies, and both deliver them in complementary ways to various parts of their resident populations. Moreover, a BIG would most reasonably be delivered through the income tax system in which both levels of government are involved. A national BIG implemented with the collaboration of federal and provincial governments would represent a major policy initiative. An approach we have suggested would build on existing tax credits in the income tax system and would be roughly self-financing in the sense that no significant additional revenue-raising would be required.

We have summarized the arguments for and against a BIG, and have briefly discussed the issue of political feasibility. Even if a consensus exists for implementing a BIG over the medium term, some preference might exist for an incremental approach. One such approach would rely on the federal government to institute a federal BIG, thereby putting the policy administrative machinery in place on which provincial participation could eventually be built. This would allow more time for federal-provincial collaboration to take effect.

A natural question is whether a province could go it alone and initiate a BIG without federal participation. In principle, there seems to be little to prevent this. However, a stand-alone provincial BIG would face significant obstacles. For it to be self-financing by reallocating existing provincial transfers and tax credits, its size would be considerably below the MBM poverty line. For it to approach the latter would require substantial new tax revenues. As well, in order to deliver it through

the income tax system the federal government would need to agree to revise the relevant federal-provincial TCA so that the provincial structure of NRTCs and RTCs could differ considerably from the federal ones. Given the impracticality of this, the provinces would practically be obliged to withdraw from the income tax TCA and administer its own income tax. The alternative of delivering the BIG outside the income tax system would not be appealing. It would seem more fruitful for a province that wanted to institute a BIG to seek the agreement of like-minded provinces to lobby the federal government to participate. Unlike with the earlier example of medicare, provincial innovation is not a promising starting point for implementing a sizeable BIG program.

List of Abbreviations

BIG: Basic income guarantee
CCB: Canada Child Benefit
CIT: Corporate income tax
CPP: Canada Pension Plan
CRA: Canada Revenue Agency
CST: Canada Social Transfer
CWB: Canada Workers Benefit
EI: Employment Insurance
GIS: Guaranteed Income Supplement
GST: Goods and services tax
HST: Harmonized sales tax
ITBI: Income-tested basic income
LIM: Low Income Measure
MBM: Market Basket Measure
METR: Marginal effective tax rate
NIT: Negative income tax
NL: Newfoundland and Labrador
NRTC: Refundable tax credit
OAS: Old Age Security
ON: Ontario
PIT: Personal income tax
QC: Quebec
QPP: Quebec Pension Plan
RTC: Refundable tax credit
TCA: Tax Collection Agreement
UBI: Universal basic income
WITB: Working Income Tax Benefit

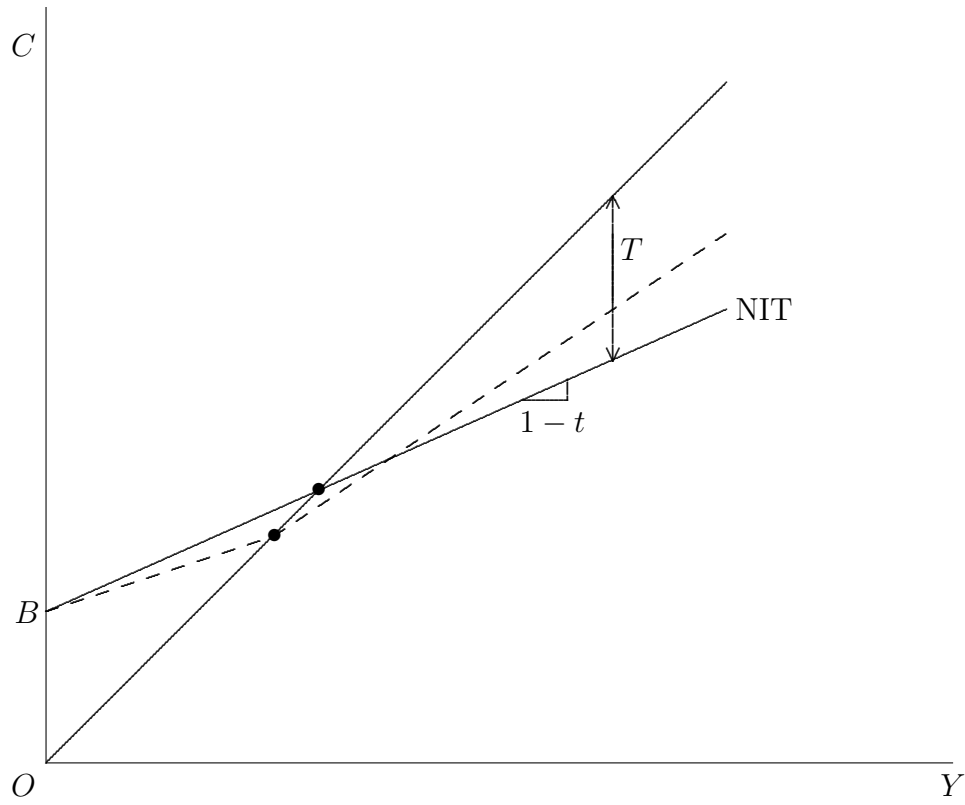


Figure 1. Negative Income Tax

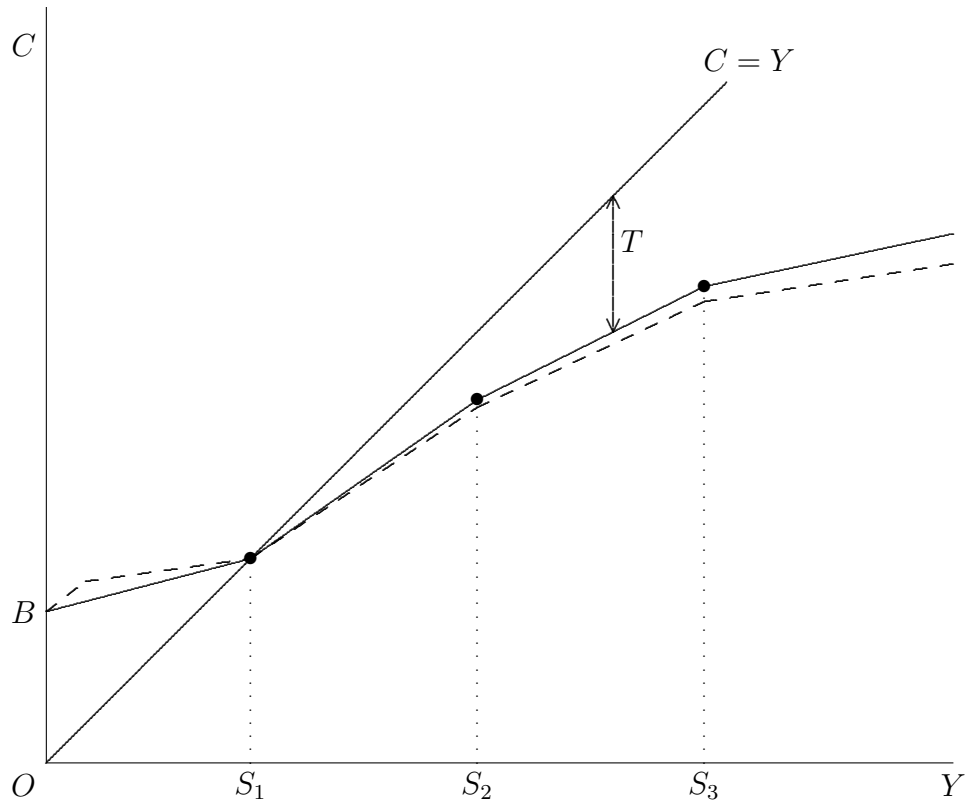


Figure 2. Progressive Income Tax

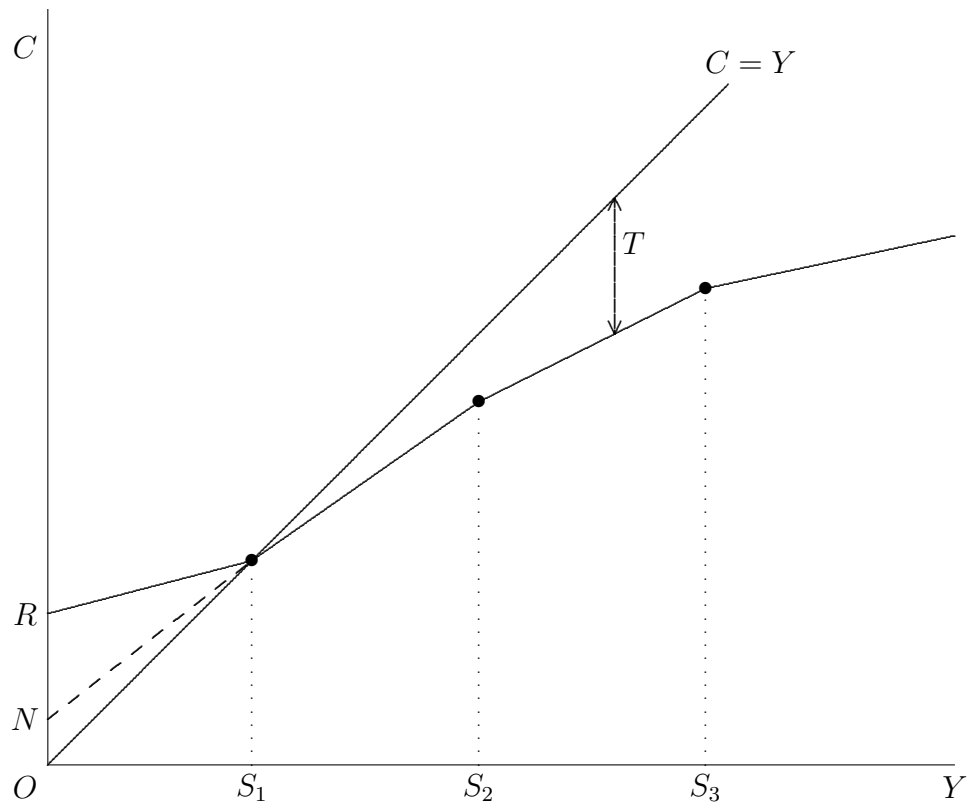


Figure 3. Progressive Income Tax with NRTC and RTC

Table 1: Effect of BIG for All Canadian Households

Changes in Family Disposable Income						
Decile	All Adults		Adults<65		Adults 65+	
	(\$)	(%)	(\$)	(%)	(\$)	(%)
1	\$12,301	130.90%	\$12,946	148.68%	\$2,259	12.42%
2	\$9,266	63.26%	\$12,659	105.07%	-\$1,431	-6.54%
3	\$6,343	28.86%	\$9,947	48.67%	-\$551	-2.29%
4	\$4,529	15.28%	\$7,332	25.73%	-\$1,155	-3.80%
5	\$2,068	5.50%	\$4,485	12.52%	-\$3,425	-8.98%
6	-\$605	-1.28%	\$1,622	3.58%	-\$6,394	-14.02%
7	-\$4,022	-6.76%	-\$1,548	-2.72%	-\$10,016	-17.76%
8	-\$6,883	-9.11%	-\$4,856	-6.67%	-\$12,476	-18.23%
9	-\$7,419	-7.46%	-\$6,012	-6.24%	-\$13,018	-14.91%
10	-\$7,126	-3.76%	-\$6,254	-3.56%	-\$9,885	-4.80%
Avg	\$758	1.29%	\$2,640	4.51%	-\$5,362	-10.21%

Source: Statistics Canada SPSD/M Version 26.0

Table 2: Effect of BIG for ON Households by CDN Disposable Income Deciles

Changes in Family Disposable Income						
National deciles	All Adults		Adults<65		Adults 65+	
	(\$)	(%)	(\$)	(%)	(\$)	(%)
1	\$11,913	121.96%	\$12,706	142.65%	\$2,194	12.08%
2	\$10,322	69.66%	\$12,963	104.81%	-\$876	-3.77%
3	\$7,027	31.71%	\$10,201	49.21%	-\$155	-0.63%
4	\$5,645	18.87%	\$8,169	28.48%	-\$125	-0.41%
5	\$2,694	7.15%	\$5,386	14.93%	-\$2,761	-7.14%
6	\$67	0.14%	\$2,137	4.76%	-\$5,618	-12.40%
7	-\$3,462	-5.77%	-\$986	-1.72%	-\$9,499	-16.41%
8	-\$6,307	-8.24%	-\$4,130	-5.61%	-\$11,461	-16.24%
9	-\$6,574	-6.52%	-\$5,110	-5.20%	-\$12,048	-13.83%
10	-\$6,480	-3.38%	-\$5,493	-3.07%	-\$9,992	-4.74%
Avg	\$1,655	2.79%	\$3,609	6.24%	-\$4,945	-8.81%

Source: Statistics Canada SPSD/M Version 26.0

Table 3: Effect of BIG for ON Households by ON Disposable Income Deciles

Changes in Family Disposable Income						
ON deciles	All Adults		Adults<65		Adults 65+	
	(\$)	(%)	(\$)	(%)	(\$)	(%)
1	\$12,088	126.63%	\$12,541	138.50%	\$4,224	25.84%
2	\$10,736	78.93%	\$13,395	120.23%	-\$1,041	-4.59%
3	\$7,393	35.18%	\$10,533	54.73%	-\$210	-0.86%
4	\$5,911	20.46%	\$8,481	30.57%	-\$44	-0.15%
5	\$2,858	7.70%	\$5,592	15.69%	-\$2,578	-6.77%
6	\$217	0.46%	\$2,355	5.34%	-\$5,373	-11.92%
7	-\$3,328	-5.60%	-\$848	-1.50%	-\$9,413	-16.43%
8	-\$6,199	-8.09%	-\$4,137	-5.60%	-\$11,331	-16.04%
9	-\$6,623	-6.45%	-\$5,119	-5.11%	-\$12,363	-13.95%
10	-\$6,485	-3.30%	-\$5,518	-3.02%	-\$9,773	-4.54%
Avg	\$1,655	2.79%	\$3,609	6.24%	-\$4,945	-8.81%

Source: Statistics Canada SPSPD/M Version 26.0

Table 4: Effect of BIG for NL Households by CDN Family Disposable Income Deciles

Changes in Family Disposable Income						
CDN Decile	All Adults		Adults<65		Adults 65+	
	(\$)	(%)	(\$)	(%)	(\$)	(%)
1	\$9,176	66.49%	\$9,296	68.98%	-\$578	-1.44%
2	\$4,599	26.87%	\$12,913	110.66%	-\$2,808	-13.34%
3	\$3,710	16.07%	\$10,376	52.60%	-\$2,343	-9.26%
4	\$2,839	9.40%	\$7,110	25.98%	-\$3,197	-9.91%
5	\$1,700	4.64%	\$4,216	12.09%	-\$4,266	-11.02%
6	-\$920	-1.99%	\$1,894	4.31%	-\$6,846	-14.58%
7	-\$4,944	-8.59%	-\$924	-1.73%	-\$10,765	-19.43%
8	-\$5,980	-8.13%	-\$4,343	-6.24%	-\$13,117	-19.43%
9	-\$7,452	-7.79%	-\$5,444	-5.93%	-\$15,203	-17.85%
10	-\$6,323	-3.90%	-\$5,907	-3.81%	-\$9,307	-4.95%
Avg	-\$1,037	-1.68%	\$1,004	1.55%	-\$6,183	-13.58%

Source: Statistics Canada SPSPD/M Version 26.0

Table 5: Effect of BIG for NL Households by NL Family Disposable Income Deciles

Changes in Family Disposable Income						
NL Decile	All Adults		Adults<65		Adults 65+	
	(\$)	(%)	(\$)	(%)	(\$)	(%)
1	\$8,446	59.87%	\$9,770	75.33%	-\$2,780	-12.61%
2	\$4,649	25.61%	\$12,215	87.24%	-\$2,533	-11.81%
3	\$2,944	11.57%	\$9,063	41.24%	-\$2,575	-9.48%
4	\$2,741	8.32%	\$6,152	19.77%	-\$3,538	-10.28%
5	\$247	0.61%	\$3,142	8.24%	-\$5,464	-12.55%
6	-\$2,991	-5.76%	\$296	0.60%	-\$9,407	-18.14%
7	-\$5,426	-8.05%	-\$3,013	-4.73%	-\$11,774	-19.54%
8	-\$7,661	-9.13%	-\$5,353	-6.74%	-\$14,578	-20.02%
9	-\$6,980	-6.55%	-\$5,631	-5.47%	-\$14,319	-14.26%
10	-\$6,280	-3.60%	-\$5,932	-3.57%	-\$8,736	-3.97%
Avg	-\$1,037	-1.68%	\$1,004	1.55%	-\$6,183	-13.58%

Source: Statistics Canada SPSPD/M Version 26.0

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