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How Much Could a Guaranteed Annual Income Cost?

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Summary

- The recent implementation of the Canada Emergency Response Benefit (CERB) has sparked renewed interest in an old policy idea known as the Guaranteed Annual Income (GAI). There are many variants of the GAI concept. All of them, however, involve using cash transfers from government to ensure a minimum annual income for all individuals.

- This bulletin uses four different policy design options to estimate the cost to the federal government of implementing a permanent GAI program. We use the $2,000 per month CERB framework as a starting point.

- We find that providing a taxable $24,000 a year benefit to all working age Canadians (aged 18-64) regardless of their income level through a universal basic income structure generates a total net annual cost of $464.5 billion. This option would increase federal program spending from 2019/20 levels by 132.4 percent.

- Our second scenario considers reducing program costs by "clawing back" the GAI benefit as an individual's income rises. Specifically, we model a claw-back rate of 15 percent, with the claw back being applied once an individual's income reaches a threshold of $77,580. This approach reduces the net annual cost to $447.2 billion. Increasing the claw-back rate to 50 percent and lowering the minimum income threshold at which the claw back begins to apply to $50,000 would reduce the net cost of the program further—to $381.4 billion.

- If the federal government structured the GAI to operate similar to Old Age Security (OAS) by reducing the maximum annual benefit from $24,000 to $7,272, the total net annual cost would be $131.9 billion.

- In addition to estimating the cost of various GAI designs, this bulletin briefly discusses the tradeoffs these design options entail between various possible policy objectives, specifically, cost control, work incentives, and adequacy as an anti-poverty tool for individuals and families with very low incomes.

Introduction

During the COVID-19 recession, the federal government implemented a number of policies intended to provide short-term income support for individuals who had suffered job loss or significant income reductions. Specifically, the Canada Emergency Response Benefit (CERB) program provided direct financial assistance of up to $2,000 per month.[1] Although the CERB program was explicitly intended to be temporary, its implementation has sparked a renewed discussion about an old policy idea known as a "basic income," or Guaranteed Annual Income (GAI).[2] Although there are many proposed variants of the GAI concept, the fundamental idea is that the government would ensure a minimum annual income to all individuals through cash transfers.

Many of its proponents suggest that a GAI could simplify the transfer system, improve the dynamics and incentives in the labour market, and help alleviate poverty.[3] However, there are many different forms of GAI and each has practical challenges with program design and implementation that proponents frequently overlook. Further, because there are so many variants of the GAI proposal, an analysis of the costs and benefits of implementing any specific GAI version is sometimes at the periphery or entirely absent from public debate of the concept.

This report aims to provide context on the potential expense of implementing a GAI by estimating the price tag of four straightforward and clearly defined possible models. Having estimated the cost of these models, we examine options for reducing program costs by "phasing out" the benefit as an individual's income rises. Through this analysis, we illustrate an inherent tension associated with efforts to reduce costs through an income-based phase-out. Specifically, rapid phase-outs designed to reduce costs create strong work disincentives, whereas more gradual phase-outs do less to reduce costs and are less effective at targeting resources to lower-income families.

Our analysis demonstrates that the various possible GAI program designs have different cost estimates, effects on work incentives, and generosity to low-income Canadians. We briefly discuss the inherent tension in program design between these objectives.

Methodology

One obstacle to serious analysis of the basic income policy is that there are countless possible variants of the idea.[4] Both proponents and critics of the idea are often unclear about what exactly is being debated, which inhibits an effective cost-benefit analysis. GAI proposals include straightforward flat benefits paid to all citizens, "negative income taxes" that supplement labour income in one way or another, and income floors below which an individual or family's income is "topped up" to reach a guar-

[1] See Service Canada (2020) for further details on the CERB.

[2] Articles from Carreiro (2020), Eggleton and Segal (2020), and Shah (2020) have outlined the main arguments in favour of a guaranteed annual income. The federal New Democratic Party has also endorsed the concept, as detailed in Wright (2020).

[3] Milligan (2016) and Green et al. (2020) outline these objectives as potential reasons why proponents support a basic income.

[4] For a detailed but still only partial description of the different types of GAI that have been considered and in some cases implemented on trial or case study bases, see Annex B of Gentilini et al. (2020).

anteed lower bound level. These are a few of the broad categories into which the GAI variants can be placed.

Several critical questions arise when governments attempt to design their desired type of GAI. Some of the more notable ones are:

- How large should the cash transfer be?
- Is the transfer taxable or non-taxable?
- Who should receive the transfer?
- Are we replacing other income support systems or adding the GAI on top of the programs?
- How much will it cost?
- How will this change the labour market and work incentives?

All of these questions need to be answered in any serious analysis of the cost-effectiveness of a GAI. This paper attempts to estimate the financial cost to government of implementing four possible and clearly specified variants of the GAI concept.

The first three models in this report explore different variants of a guaranteed annual income using the $2,000 per month cash transfer ($24,000 annually) from the Canada Emergency Response Benefit (CERB) as a starting point. The fourth model uses a smaller monthly cash transfer to illustrate an alternative scenario. All four models assume the cash transfer is included as taxable income and is only paid to working-age individuals between the ages of 18 and 64. By focusing exclusively on the working-age population, we can limit overlaps and complications that would arise were the GAI to interact with existing programs for seniors such as the Guaranteed Income Supplement (GIS) and Old Age Security (OAS).

Furthermore, we assume that rather than replace employment insurance (EI), the Canada Child Benefit (CCB), and other income support systems, the GAI is added to them. This is to say that we assume no policy changes surrounding these existing programs. Of course, for specific individuals, the GAI payments in our models influence taxable income and therefore affect the eligibility amounts for some of these programs.[5]

Model 1 is structured as a universal basic income (UBI) wherein all working age Canadians receive an unconditional cash transfer of $2,000 per month, regardless of their income level.

Model 2 of the GAI operates in a way similar to the current form of Old Age Security by adopting the same minimum net income threshold ($77,580 in 2019) and reduction rate (15 percent) after which the GAI is phased out. However, it modifies the design so that the GAI is only available for working age individuals and provides a higher cash transfer ($24,000 annually) than the OAS (for which the annual maximum benefit in 2019 was $7,272).[6]

Model 2 dictates that an individual's cash transfer starts to be clawed back once his or

[5] A GAI could also influence the lowest wage rate at which a worker would be willing to accept a particular type of job (called the reservation wage), which could negatively impact employment rates and raise employment insurance payouts.

[6] If the cash transfer for the GAI is higher than the OAS maximum benefit for people over 65, there will also likely be political pressure exerted on the federal government to increase the OAS maximum benefit to at least a similar dollar value to the GAI cash transfer. Consequently, program spending could rise considerably beyond the expected cost of just implementing the GAI.

her income exceeds the minimum threshold of $77,580. Canadians with income above the threshold would have their benefit phased out at a rate of 15 percent (the reduction rate) based on the difference between their income and the threshold. For instance, the government would claw back the cash transfer by $3,363 for an individual earning $100,000 (15 percent of $22,420—the difference between the individual's income and the threshold). Put differently, this particular Canadian's annual cash transfer of $24,000 will decline to $20,637. High-income Canadians would continue to receive some level of the cash transfer until they reach the maximum income threshold of $237,580. At that point, the cash transfer is completely phased out.

Model 3 illustrates how the cost of the second model changes when the reduction rate increases and the minimum income threshold declines. Under this approach, the reduction rate is 50 percent and the minimum income threshold beyond which the GAI will begin to be clawed back is $50,000. This means that the maximum income threshold to receive the GAI is $98,000, resulting in fewer high-income earners being eligible for the benefit.

Finally, Model 4 examines the effect of reducing the annual cash transfer from $24,000 to $7,272 while maintaining the same minimum income threshold ($77,580) and reduction rate (15 percent) as Model 2. The cash transfer amount of $7,272 in Model 4 is the same maximum benefit that OAS recipients are eligible to receive in 2019. In this scenario, the maximum income threshold is $126,060.

This bulletin relies on data from Statistics Canada's Social Policy Simulation Database and Model (SPSD/M), a micro-analysis system that includes detailed information for more than 1 million Canadians in over 300,000 households across the country. The analysis calculates the cost estimates for the four GAI models for individuals between the ages of 18 and 64 based on 2019 data from SPSD/M. Our calculations use static estimates for all four models, which means that we calculate the cost estimates assuming no change in personal behaviour after the GAI is implemented. In fact, behavioural responses are to be expected, so actual gross and net costs are likely to vary from these estimates.[7]

These four models are not meant to be exhaustive or demonstrate all the potential designs for a guaranteed annual income in Canada. Instead, they are simply intended to give Canadians an idea of how much such a program could cost and describe the trade-offs and implementation problems that would exist no matter how GAI is designed.

Variants of GAI—measuring an "add on" variation

One obstacle to conducting a cost-benefit analysis of the GAI is that there are countless variants of the GAI concept. Of specific relevance, proposals for implementing the GAI in various jurisdictions have ranged from being nearly complete replacements for the existing welfare system to being additions to pre-existing welfare state programs without the elimination of other major programs.

In the United States, for example, detailed proposals have been developed for a GAI that es-

[7] Potential behavioural responses include people choosing to work fewer hours than before, remaining unemployed for longer durations, and taking on additional tax avoidance activities to reduce tax liabilities.

sentially replaces the entire welfare state, including health care and retirement savings programs (Murray, 2016). Near the other end of the spectrum, a proposal by US presidential candidate Andrew Yang received significant attention. Yang proposed that a "freedom dividend" of $1,000 per month be provided to all Americans while leaving several of the largest elements of the existing welfare state (health care, education, and social insurance for retirement savings) in place (Yang, 2020). However, Yang's proposal did call for recipients of current recipients of welfare programs to choose between continuing to receive existing services or the "freedom dividend."

Countless variants somewhere between these two ends of the spectrum have been presented over the years. Proposals for creating a GAI in other countries around the world have similarly existed across this same spectrum.

In Canada, the idea of a GAI as primarily an "add-on" to existing welfare state programs has attracted significant attention in recent months during the implementation of the CERB program, which provided a cash transfer to individuals who suffered an income loss during the COVID-19 pandemic and recession. Calls from politicians and activists to "make CERB permanent" reflect increased interest in the idea of implementing a permanent GAI (McGuckin, 2020).

One prominent proponent of a GAI, NDP house leader Peter Julian, explicitly stated his view that any GAI should add to rather than replace existing benefits while also criticizing proponents of a "replacement" model by stating "… they propose universal basic income as a way of eliminating all the other social programs that exist. In that sense, I reject the principle that universal basic income should be used to diminish the benefits that so many people survive on today" (Schisler, 2020).

In short, proposals for implementing a GAI in developed countries including Canada have ranged from being nearly complete replacements for the welfare state to essentially being an addition to existing programs. In this paper, we model the cost of implementing an "addition" style GAI program that supplements rather than replaces existing programs for all working age adults.

Modeling the cost of different GAI variants that replace rather than supplement existing programs is an important avenue for future research. More comprehensive considerations of the feasibility and desirability of a "replacement" type GAI would require an analysis of implementation challenges (which are particularly significant in a federal state such as Canada) (Lammam and MacIntyre, 2015). It would also require a consideration of the extent to which the replacement of existing welfare state programs with a GAI would affect the well-being of high-need families and individuals (Moffatt, 2020).

In this bulletin, we limit our analysis to modeling the cost of a straightforward GAI "add-on" to existing welfare state programs, while recognizing that this represents one end of a spectrum of GAI proposals. Other GAI variants that replace existing programs with a GAI rather than simply adding onto them would have different implications for the net cost of a GAI.

Estimating the costs of a GAI

The cost of implementing a GAI can vary significantly depending on the design of the program. Our four models only provide basic cost estimates for a few specific design proposals. However, all of these models help assess both the number of Canadians who would potential-

Table 1: Design Summary of the Four GAI Models

	Maximum Cash Transfer	Reduction Rate	Minimum Income Threshold	Maximum Income Threshold
Model 1	$24,000	0%	N/A	N/A
Model 2	$24,000	15%	$77,580	$237,580
Model 3	$24,000	50%	$50,000	$98,000
Model 4	$7,272	15%	$77,580	$126,060

ly be eligible to receive cash transfers and how much money the federal government would have to spend if it chose to implement some variation of GAI. Table 1 summarizes the design of each model this report uses.

The universal nature of Model 1 means that more Canadians receive the cash transfer than with any of the other three models. In Model 1, approximately 23.3 million individuals between the ages of 18 and 64 would receive the GAI of $24,000.

When these Canadians receive the $24,000 GAI, their taxable income also increases. As a result, individuals either remain in the same tax bracket while paying additional tax on their increased income or they are pushed into higher marginal tax brackets. In both situations, the federal government generates additional personal income tax (PIT) revenue. This means that the gross annual cost of implementing the GAI is equivalent to the total expense the federal government incurs before accounting for the additional tax revenue it generates by including the cash transfer as taxable income.

The net annual cost of implementing the GAI is calculated by subtracting the additional tax revenue generated from the gross cost. This provides a more accurate cost of a guaranteed annual income program than just considering the gross cost alone. The gross annual cost of executing Model 1 is $558.8 billion and the total net annual cost is $464.5 billion after accounting for the additional tax revenue generated. A cost of this magnitude would more than double the size of program spending by the federal government, resulting in a 132.4 percent increase from 2019/20 levels (Canada, Department of Finance, 2020).

Model 2 introduces a minimum income threshold of $77,580 and a reduction rate of 15 percent, after which the GAI is phased out. Under these circumstances, the number of working-age Canadians receiving some benefit from the GAI declines marginally from 23.3 million to 23.1 million people. The net annual cost of implementation is only slightly lower than the first model at $447.2 billion. Put differently, Model 2 reduces net GAI expenses by approximately $17.4 billion and more than 185,000 higher income individuals are no longer eligible to receive any level of the cash transfer.

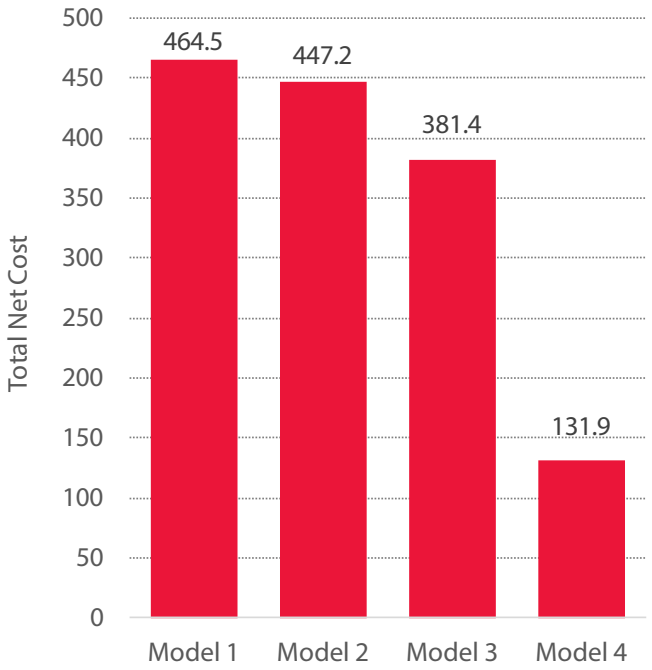
Model 3 presents another possibility for the program design, which is to lower the minimum income threshold to $50,000 and increase the reduction rate to 50 percent. This design results in substantially fewer Canadians receiving

the GAI because it phases out the benefit faster and more aggressively. Notably, implementing Model 3 cuts nearly 2.4 million working-age Canadians from among those receiving the GAI (a decline to 20.9 million Canadians). Moreover, under Model 3, the total net cost of the GAI declines substantially from the previous two models. If the federal government chose to pursue Model 3, then its net annual cost would be $381.4 billion.

Model 4, the final model discussed here, details the cost estimate for a GAI that includes a 15 percent reduction rate and a $77,580 minimum income threshold, but reduces the maximum cash transfer to $7,272 in attempt to restrain costs to a greater extent than in the first three models. The net annual cost estimate under this approach—$131.9 billion—is significantly lower than under the other models; roughly 22.2 million Canadians would be eligible to receive some portion of the cash transfer.

Each of the four models provides a different estimate both for the net cost of implementing the GAI and the number of Canadians receiving it. Figure 1 recaps the net cost estimate of the GAI under each approach while table 2 indicates the number of Canadians who would or would not receive the benefit. The total net annual cost under these models ranges from $131.9 billion to $464.5 billion.

Figure 1: Total Net Cost Estimates for GAI ($ billions)



Sources: Statistics Canada SPSD/M V.28; calculations by authors.

Balancing work incentives and cost control

The previous section estimated the net costs of implementing a GAI in Canada using four similar but distinct options. The net cost of the GAI under any of the models would substantially increase government spending. In 2019/20, total federal program spending was $350.8 bil-

Table 2: Estimated Number of Working-Age Canadians Receiving GAI (in thousands)

	Recipients	Non-Recipients
Model 1	23,283.3	0.0
Model 2	23,097.9	185.3
Model 3	20,900.4	2,382.9
Model 4	22,184.3	1,099.1

Sources: Statistics Canada SPSD/M V.28; calculations by authors.

lion (Canada, Department of Finance, 2020). The four GAI proposals costed above would increase federal program spending from 2019/20 levels by a range of 37.6 to 132.4 percent.

Theoretically, these costs could be reduced by implementing or accelerating (depending on the model) the phase-out of the payment to individuals. However, efforts to address the cost of such programs by increasing the rate of phase-out inevitably creates bigger work incentive problems.

The key features of any GAI model—the cash transfer, reduction rate, and income threshold—are especially difficult to design because governments must balance three competing interests: providing a large enough cash transfer to alleviate poverty, minimizing costs, and avoiding the GAI's negative work incentives. However, as Milligan (2016) notes, it is impossible to achieve all three objectives at once.

A universal basic income structured like Model 1 provides a large cash transfer and has less of an adverse effect on work incentives than other models because the cash transfer is not clawed back as labour income rises. However, this model is also the most expensive one since every working age Canadian would receive the cash transfer for a total net cost of $464.5 billion. Moreover, high-income Canadians would also receive the UBI despite not needing the assistance.

To restrain program costs and primarily target low-income Canadians, governments could choose to claw back some of the cash transfer after an individual's net income passes a specific threshold (i.e., $77,580)—in other words, implement a reduction rate for high income earners. However, trade-offs arise when selecting a reduction rate. A high reduction rate reduces the cost of the GAI but discourages recipients from working more because they keep less of the cash transfer when they earn additional employment income (Lamman and MacIntyre, 2015).

Specifically, a high reduction rate effectively imposes a higher marginal tax rate on Canadians once they reach the minimum income threshold because it reduces their reward for earning more income.[8] This concept is known as the "welfare wall" because it discourages recipients from moving off social assistance. In contrast, a low reduction rate would provide the GAI to more Canadians—higher income earners in particular—but it would also raise program costs (Lamman and MacIntyre, 2015).

Generally, the higher the claw-back rate, the greater the disincentive for working. In addition, if the income threshold is relatively low, an individual may have a disincentive to work full-time (or even part-time) due to the imposition of a higher effective tax rate. On the other hand, if the income threshold is relatively high (i.e. $77,580), then individuals at this level of income are likely already employed in full-time positions. Rather than facing disincentives for seeking employment at all, Canadians around that income level could face disincentives to work additional hours.

Model 2 uses a low reduction rate of 15 percent and the same minimum income threshold as Old Age Security ($77,580). Although the program costs slightly less than a universal basic income (total net cost of $447.2 billion), it harms work incentives by increasing marginal tax rates (due to lost net income from the GAI claw-back). It also still provides some level of cash transfer to higher income Canadians earning between $77,580 and $237,580.

[8] See Palacios and Harischandra (2008) and Murphy et al. (2013) for explanations about how high marginal tax rates discourage working.

The design of Model 3 encounters similar incentive problems. By raising the reduction rate to 50 percent and lowering the minimum income threshold to $50,000, the program costs less than the first two models (total net cost of $381.4 billion) but discourages working to an even greater extent. Once an individual reaches the minimum income threshold, the cash transfer is scaled back by 50 percent for every dollar earned above that threshold. This would increase the marginal effective tax rates (METRs) for individuals in this income range, which are already high (Bazel, 2019), and would further weaken their incentive to work.[9]

Another option is to significantly lower the amount of the cash transfer to reduce the program's cost. Model 4 provides a reduced cash transfer of $7,272 to individuals with employment income below $77,580 and phases out the benefit at a rate of 15 percent for each dollar earned beyond the threshold. Model 4 is the least expensive of all the scenarios: lowering the cash transfer has the most substantial impact on limiting the program's cost. In fact, implementing Model 4 costs nearly $250 billion less than the next closest proposal.

However, this option introduces yet another trade-off. A sharp decline in the basic benefit could make the payment insufficient to help those in poverty achieve a desired income level (Milligan, 2016). In other words, the tension between work incentives and program costs can only be "resolved" by making the maximum benefit much lower than in any of the first three models considered in this report. Of course the shortcoming of a much smaller cap on the GAI is that it would lose much of its potential as an anti-poverty tool because lower-income Canadians would receive less money.

In summary, there is an inherent tension in the design of any guaranteed annual income that its proponents need to address. At the heart of this tension is the unavoidable trade-off between reducing costs by aggressively phasing out payments as income rises on the one hand and avoiding severe negative work incentives on the other. One possible solution to this tension is to make the maximum cash transfer much smaller, but this results in significantly less support for lower-income Canadians. Policy options outside of the GAI may be more effective at alleviating poverty and should be explored in greater detail.

Conclusion

Following the federal government's recent decision to provide Canadians with short-term income support through the Canada Emergency Response Benefit there has been renewed interest in and discussion of a policy idea known as a guaranteed annual income. The GAI concept has many different design proposals, but proponents generally aim to provide a minimum annual income to Canadians to alleviate poverty while avoiding severe negative work incentives.

However, the proponents of such programs frequently do not clearly specify their details, which prevents a careful analysis of their costs, benefits, and implementation challenges. This report estimates the cost of four possible models. Those estimates suggest the total net cost of a GAI could range from $131.9 billion to $464.5 billion. The analysis in this report shows that reductions in program costs can be achieved only through a reduction in the maxi-

[9] The federal government may also need to increase its marginal tax rates for middle and upper income taxpayers to help pay for the guaranteed annual income program given its high cost of implementation.

mum size of the benefit or an acceleration in the pace of the claw-back on the benefit. As such, it reinforces the insight of other analysts that there is an inherent trade-off between the objectives of cost control, favourable effects on work incentives, and generosity for low-income earners. This tension creates program design and implementation challenges that are too often overlooked in broad policy debates in Canada that discuss the GAI concept.

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