Policymakers and the general public have paid increasing attention to the notion of introducing a GAI program in Canada. A guaranteed annual income (GAI) is a cash transfer paid by the government to individuals or households to ensure a minimum income level for all citizens.

A recent Fraser Institute analysis (Fuss et al., 2020) modeled the cost of different GAI variants. The net cost estimate of the lowest-cost model was $131.9 billion and the net cost of the highest-cost model was $464.5 billion.

This paper builds on the aforementioned analysis by estimating the tax implications of financing these GAI variants without reducing other program costs or increasing federal debt.

Some proponents of a GAI suggest it could be financed through increased taxes on higher-income individuals. The estimates in this paper cast doubt on the feasibility of this approach. We estimate that (assuming no behavioural changes), collecting the entire disposable income of high earners (those earning $250,000 or more annually) would be sufficient to pay for only 87 percent of the lowest-cost model in our analysis. For the highest-cost model, collecting the entire disposable income from high earners would be sufficient to cover just 25 percent of the program’s cost.

Financing the type of GAI variants analyzed here without adding debt would therefore require broad-based tax hikes. We show that for the lowest-cost model, assuming no other tax increases (and no behavioral response), it would be necessary to increase the GST to 26.25 percent to finance a new GAI. For the highest-cost model, the GST would need to be raised to 105.35 percent.

The results illustrate that the tax implications from implementing a GAI, without cutting existing programs or adding new debt, would be substantial and would almost certainly require a host of tax increases affecting individuals across many income levels.
Introduction

The federal government’s policy response to the economic fallout from COVID-19, particularly, the Canada Emergency Response Benefit (CERB)—a $2,000 monthly payment aimed at providing short-term income support to those whose employment has been affected—has renewed interest in the idea of a guaranteed annual income (GAI) in Canada. Generally, a GAI (or “basic income”) is a cash transfer from the government that is paid to individuals to ensure a minimum level of income for all citizens.

Although some proponents argue that a permanent basic income is the next logical step to CERB, which is set to expire in October 2020, debates on the topic frequently ignore important implementation challenges and often do not include a detailed analysis of the costs and benefits associated with this policy idea.

A recent study (Fuss et al., 2020) analyzed the cost of implementing a federal GAI under four simple and illustrative models. The paper estimated that a flat, taxable $2,000 monthly benefit paid to all working-age adults would cost a net $464.5 billion. At the lower end, it estimated that a basic income program modeled on Old Age Security, with a lower maximum benefit and a claw-back in the benefit as income rises, would cost a net $131.9 billion.

This short analysis builds on the Fuss et al. (2020) study by illustrating the tax implications of implementing a basic income program. In other words, we consider various possible changes to tax policy that could theoretically finance a basic income in order to help demonstrate the cost implication for taxpayers. For the purposes of this analysis, we make the simplifying assumption that a GAI would be funded with current revenues rather than through borrowing (i.e., debt).

First, we consider whether it would be feasible to finance a GAI entirely by taxing high income earners. Second, we examine the cost of financing a GAI through a broader tax increase. Specifically, we estimate the extent to which the federal GST would need to be increased to finance a basic income via a straightforward increase to one of the most efficient dimensions of the Canadian tax mix.

The intention of this analysis is not to recommend raising taxes on upper-income earners or to prescribe a higher GST. Rather, through these analyses, we seek to provide context to ongoing debates surrounding the feasibility of implementing a GAI by considering the changes to tax policy that would be necessary to implement such a policy without further borrowing.

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1 Canada has a long history of debating the idea of a guaranteed annual income or “basic income.” For instance, in 1971 a special senate committee proposed a GAI and extensive pilot programs followed. However, the federal government never formally adopted a GAI (PBO, 2018). More recently, the Ontario government introduced Ontario’s Basic Income Pilot Project, which was intended to be a three-year pilot but which the Ford government canceled prematurely (Canadian Press, 2018).

2 See CBC News (2020), Wright (2020), and Ibbitson and Parkinson (2020), for example.

3 The Parliamentary Budget Officer (PBO) provided a cost estimate for a six-month GAI based on scenarios that phase-out the benefit by $0.50, $0.25 and $0.15 for each dollar of employment income. For only six months, the PBO estimates a GAI would cost between $47.5 billion and $98.1 billion (gross). However, there is still little consensus on the basic design and subsequent cost of a more permanent program. See Gentilini et al. (2020) and Lammam and MacIntyre (2015) for more information on the various potential forms and features of a GAI.
Methodology

The cost of a GAI can vary significantly depending on the design of the program. To estimate the tax implications of a GAI, therefore, this bulletin relies on the costing from Fuss et al. (2020), which uses the CERB and Old Age Security (OAS) as a basis to explore the potential cost of a guaranteed annual income.

For the purposes of this study, we focus on the lowest cost estimate based on OAS, and the highest cost estimate based on CERB. These models are not exhaustive and the cost implications would be highly sensitive to program design. Nevertheless, these estimates are a helpful and reasonable approach on which to base the potential tax implications of a GAI, particularly as the CERB has been proposed as a starting point for a GAI in Canada and OAS currently works as a universal basic income for seniors.

Both models assume that the cash transfer is included as taxable income and is paid to all working-age individuals between the ages of 18 and 64. The cost estimates provided by Fuss et al. (2020) represent the net costs of the program including the additional income tax that would be collected as a result of increased incomes from the payment of a taxable benefit. By using the working age-population, Fuss et al. (2020) limit complications that can arise from overlapping programs such as the OAS.

Both models also assume that the GAI will be an additional program, on top of employment insurance (EI), the Canada Child Benefit (CCB), and other income support systems, rather than a replacement for them. Put differently, the calculation assumes no policy changes surrounding existing programs. The first model is structured as a universal basic income, which means that any working-age Canadian would receive a flat, taxable $2,000 monthly benefit regardless of their income, level of work, or other eligibility criteria. Under this model, approximately 23.3 million Canadians would be eligible to receive the GAI. Due to its universal nature, this model is the higher cost program with an estimated total net cost of $464.5 billion.

The second model used in this essay is designed similar to the current form of Old Age Security, which is effectively a form of basic income for seniors. Similar to the first model, however, we assume the new benefit under analysis is available only to the working-age population. Based on the maximum benefit for OAS recipients (2019), this model reduces the cash transfer from $24,000 to $7,272. It uses a minimum net income threshold of $77,580 (2019) and a reduction rate of 15 percent. Put differently, above $77,580 in income the benefit is reduced or “clawed back” at a rate of 15 percent.

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4 See Table A.1 for a summary of the four models used by Fuss et al. (2020).

5 For a review of various types of GAI that have been considered and in some cases implemented, see Annex B of Gentilini et al. (2020).

6 Fuss et al. (2020) use Statistics Canada Social Policy Simulation and Database Model (SPSD/M) Version 28.0 to calculate the cost estimates. Each model uses static estimates, which means the authors assume no change in individual behaviour in response to the benefit. However, there would almost certainly be some degree of behavioural response. For example, a GAI may cause some individuals to work fewer hours or remain unemployed for longer durations, which would affect the taxable benefit’s actual gross and net costs. See Lamman and MacIntyre (2015) for a review of work incentives and evidence from experiments with a GAI.

7 A GAI would influence taxable income and therefore affect eligibility and payment amounts received for some of these programs.

8 Model 4 in Fuss et al. (2020).
percent. Under these criteria, the maximum income threshold is $126,060, after which the benefit is completely phased out.

A maximum income threshold, reduction rate, and smaller cash transfer reduces the number of eligible Canadians and leads to a lower cost program. Indeed, under this model, 22.2 million Canadians would be eligible for some amount of the cash transfer, with an estimated total net cost of $131.9 billion.

These costs estimates are the basis for calculating the tax implications of a GAI in this paper. As previously noted, we assume Canadians would incur the total net cost of the program immediately and entirely through higher taxes, rather than through borrowing.

It is worth noting one substantial challenge to a cost–benefit analysis of the GAI, which is that there are countless variants of the concept. Of specific importance, 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 essentially replaces the entire welfare state, including health care and retirement savings programs (Murray, 2016). Near the other end of the spectrum, a proposal from US presidential candidate Andrew Yang received significant attention. Yang’s proposal was to provide a “freedom dividend” of $1,000 per month 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 current recipients of welfare programs to choose between continuing to receive existing services or the “freedom dividend.” Countless variants between these two ends of the spectrum have been presented over the years. Proposals for creating a GAI all across this spectrum have similarly been put forward in other countries around the world.

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 on 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 rely on cost estimates from Fuss et al. 2020,  

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9 A maximum income threshold and reduction rate can be used to reduce program costs and target lower income individuals. Efforts to reduce costs in this manner, however, can create disincentives for work. See Fuss et al. (2020) for more information.
which 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 illustrating the tax implications of a straightforward GAI “add-on” to existing welfare state programs, while recognizing 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.

Illustrating the tax implications of a GAI

Taxing the rich

One popular sentiment is that a basic income could be funded by extracting additional tax revenue from the “wealthy.” This bulletin calculates the portion of the total net cost of the program that could theoretically be covered by the disposable income of taxpayers in the top income group, which includes Canadians earning $250,000 or more annually.10

We first calculate disposable income using data from the Canada Revenue Agency (CRA) on individual income tax and benefit returns (“T1 Final Statistics”), which includes data on total taxable income assessed and total tax payable by income group. Total tax payable includes the amount of federal and provincial or territorial income tax owed before subtracting total credits. It also includes Canada Pension Plan contributions and Employment Insurance contributions for the self-employed and social benefit repayments. We calculate the disposable income of the top income class by subtracting the total tax payable from the total taxable income assessed for individuals earning $250,000 or more in 2017 (latest year of data available).11

We then divide the total disposable income of the top income group by the total net cost of the GAI to determine the proportion of the total net cost that could be covered by the disposable income of the top income class using both models.

It is worth noting that substantial tax increases such as those modelled here would almost certainly induce behavioural responses from individuals in ways that shrink the size relevant tax bases (Ferede, 2019). This decrease in the size of the base can partially or even theoretically fully offset the entire revenue gains from the rate increase. Increases in personal income

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10 This income group represents roughly the top one percent of income earners in Canada. Specifically, the top one percent includes those earning more than $236,000 in 2017 (Statistics Canada, 2020a).

11 In 2017, 245,620 Canadians earned $250,000 or more (Statistics Canada, 2020b). Put simply, this is a very narrow tax base that would be highly sensitive to a behavioural response by taxpayers (i.e., if people in this group chose to earn less, leave Canada, or find other means to avoid the tax, not nearly as much money would be collected as calculated).
tax rates for high earners in particular induce such behavioural responses (Milligan and Smart, 2015). The behavioural response by taxpayers is not factored into this analysis and the revenue estimates are therefore undoubtedly overstated.

**Raising the GST**

Next, we consider the tax implications of financing a GAI through a tax applied to a much larger proportion of the population. Specifically, we estimate the increase to the GST that would be required to fund the two GAI models under analysis.

The federal goods and services tax (GST) is a tax paid on the purchase of most goods and services in Canada. It is a broad tax that is visible to and paid by all Canadians.

The GST rate is currently 5 percent. Relying on Statistics Canada’s Social Policy Simulation Database and Model (SPSD/M, V. 28.0), this bulletin uses a series of interactive calculations to determine the GST rate that would be required to fund the GAI for both models.

The SPSD/M model provides static estimates, which means that similar to the first calculation, it does not account for any behavioural response to a higher GST rate. For instance, it does not account for the fact that people’s consumption habits may change (i.e., they may consume less) if the government imposes a higher GST rate. As a result, this revenue estimate is likely overstated because any increase in the GST rate would likely lead to the government collecting less revenue than this calculation estimates.

The first calculation is the “status quo,” which uses the current 5 percent GST rate and related GST credit to create a baseline for net federal tax revenues (total tax revenues less total transfers). The GST credit is a tax-free payment that helps families up to a certain income level to offset a portion of the GST paid.

The GST credit is calculated based on family income and the number of dependent children. Currently, a single person with income less than $37,789 is eligible for a GST credit of $290. As incomes move higher than $37,789, the tax credit is reduced by 5 percent until the value of the tax credit reaches zero. Increasing either the adult or the child benefit amount increases the total value of the benefit and thus increases the GST credit transfer to families.

After calculating the baseline scenario (“status quo”), we calculate “alternative scenarios” to determine the GST rate and corresponding credit amount that would be required to offset the cost of the GAI.

In each iteration, the federal GST credit amounts increase proportionally to the GST rate. Put differently, the tax credit in the alternative scenario is increased as the GST rate is increased to ensure that families receive a

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12 Although the intention of this exercise is purely illustrative, it is worth noting a few points about the GST. The GST is often favored by economists as it is one of the most efficient taxes in that it imposes the least economic damage. See Clemens, Veldhuis and Palacios (2007) and Ferede and Dahlby (2016) for more information. At the same time, if the government were to use a GST to finance a GAI there would be clear distributional issues. The GST is regressive in that lower-income individuals pay a greater portion of their income in sales tax than higher-income individuals. The federal government would effectively be placing a higher tax burden on low- to middle-income individuals to fund the GAI intended to support these very income groups.

13 This does not account for the temporarily enhanced special payment through the Goods and Services Tax Credit in response to the COVID-recession.
proportionally higher tax credit and are not made worse off that under the status quo. Such an increase in the GST credit necessarily reduces the net amount of revenues collected from the GST and is therefore factored into the calculation.

**Results: Tax implications of a GAI**

**Cost of GAI covered (theoretically) by top income earners**

In 2017, top income earners in Canada—those earning $250,000 or more annually—earned approximately $115.4 billion in disposable income (after taxes). At the lower cost estimate based on OAS ($131.9 billion), the total disposable income of the top income class would cover just 87 percent of the total net cost of a GAI. Put differently, even if the entire disposable income from the top earners in Canada was paid in taxes, it would not be enough revenue to cover the annual cost of a GAI, even at its lower cost estimate. Again, we make the simplifying assumption that those taxpayers make no behavioural changes whatsoever in response to the increase in income taxes. This simplifying assumption is, of course, unrealistic, but the exercise serves to demonstrate that it would not be possible to entirely finance even a basic income program based on the OAS by taxing the income of high earners.

Using the higher cost estimate—the one based on a $2,000 flat taxable benefit paid to all working age Canadians ($464.5 billion)—the total disposable income of the top income class would cover just 25 percent of the total net cost of a GAI. In other words, even if there were no behavioural changes, and if the entire disposable income of top earners was paid in taxes, the additional income would cover just one-quarter of the net cost of a GAI (see table 1).

| Table 1: Cost of GAI Covered by Disposable Income of Top Income Earners ($ billions) |
|---------------------------------------------------------------|-----------------------|-----------------------|
| Cost of GAI ($)                                              | 131.9                | 464.5                |
| Disposable Income of top earners ($)*                        | 115.4                | 115.4                |
| Cost of GAI covered by top earners (%)                       | 87%                  | 25%                  |

* = annual income at or above $250,000


These findings indicate that any tax increase on top income earners would be insufficient—by a wide margin—to cover the cost of a GAI. Put simply, because you cannot tax more than 100 percent of income, a broader tax increase would be necessary to pay for either variant of the GAI used in this analysis.

**GST rate required to fund a GAI**

As increasing taxes on upper-income earners would be insufficient to cover the cost of a GAI, it is useful to assess the implications of a broader tax, such as the GST. Again, we assume no behavioural changes in response to the increased GST.

Under the status quo, using the current 5 percent GST rate and the corresponding GST credit, the government raises $89.9 billion in total net federal tax revenues (total tax revenues less total transfers).\(^{14}\) For the GST rate to...
raise sufficient revenue to cover the entire net cost of a GAI under the lower cost OAS model ($131.9 billion) the GST rate and corresponding tax credit would need to rise to 26.25 percent. A single person earning less than $37,789 in income would be eligible for a tax credit of $1,523 if the GST credit was raised to 26.25 percent (compared to $290 at the GST’s current 5 percent rate). With a 26.25 GST rate, the federal government would expect to raise $221.8 billion in net taxes.

For the GST rate to raise sufficient revenue to cover the total net cost of a GAI designed as a flat, taxable, $2,000 per month benefit ($464.5 billion), the GST rate and corresponding tax credit would need to rise to 105.35 percent. Put differently, the GST rate would raise the price of goods and services to more than twice their pre-GST level. A single person earning less than $37,789 in income would be eligible for a tax credit of $6,110 if the GST credit was raised to 105.35 percent (compared to $290 at the GST’s current 5 percent rate). With a 105.35 percent GST rate, the federal government would expect to raise $554.5 billion in net tax revenue. Table 2 summarizes the status quo and necessary assumptions that lead to the 26.25 percent GST rate and 105.35 percent GST rate.

We make these calculations assuming no behavioural changes in response to these GST increases. In reality, of course, there would be substantial behavioural changes, including less overall economic activity and a substantial increase in black market economic activity designed to evade the tax.

These models suggest that financing a GAI entirely through an increase to the GST would not be practical. Almost inevitably, the federal government would need to implement a host of tax increases across many income groups to effectively fund a GAI.

**Conclusion**

If the federal government were to raise the revenues today to pay for a GAI today—the GST rate would have to increase from 5 percent to between 26.25 and 105.35 percent, depending on the GAI model used. Further, the entire disposable income of the top income earners in Canada would cover just 25 to 87 percent of

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**Table 2: Assumptions for Status Quo and Alternative Scenarios for GST**

<table>
<thead>
<tr>
<th>Assumptions</th>
<th>Status Quo</th>
<th>Alternative Scenario #1 (cost estimate = $131.9 billion)</th>
<th>Alternative Scenario #2 (cost estimate = $464.5 billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GST rate</td>
<td>5.00%</td>
<td>26.25%</td>
<td>105.35%</td>
</tr>
<tr>
<td>GST credit reduction level ($)</td>
<td>37,789</td>
<td>37,789</td>
<td>37,789</td>
</tr>
<tr>
<td>GST credit amount for filer ($)</td>
<td>290</td>
<td>1,523</td>
<td>6,110</td>
</tr>
<tr>
<td>GST credit amount for spouse ($)</td>
<td>290</td>
<td>1,523</td>
<td>6,110</td>
</tr>
<tr>
<td>GST credit amount for dependent ($)</td>
<td>153</td>
<td>803</td>
<td>3,224</td>
</tr>
</tbody>
</table>

Source: Calculations by the authors based on SPSD/M, V. 28.
the total net cost of a GAI. These results show that a GAI cannot be financed entirely through higher income taxes for top earners and that financing a basic income by increasing the GST alone would require a dramatic and unrealistic increase to that generally efficient dimension of the tax mix.

Overall, the results illustrate that the tax implications from implementing a GAI would be substantial and would almost certainly require a host of tax increases affecting individuals across many income levels.

References


Appendix Table A.1: Design Summary of the Four GAI Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Maximum Cash Transfer</th>
<th>Reduction Rate</th>
<th>Minimum Income Threshold</th>
<th>Maximum Income Threshold</th>
<th>Cost ($ billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>$24,000</td>
<td>0%</td>
<td>N/A</td>
<td>N/A</td>
<td>$464.5</td>
</tr>
<tr>
<td>Model 2</td>
<td>$24,000</td>
<td>15%</td>
<td>$77,580</td>
<td>$237,580</td>
<td>$447.2</td>
</tr>
<tr>
<td>Model 3</td>
<td>$24,000</td>
<td>50%</td>
<td>$50,000</td>
<td>$98,000</td>
<td>$381.4</td>
</tr>
<tr>
<td>Model 4</td>
<td>$7,272</td>
<td>15%</td>
<td>$77,580</td>
<td>$126,060</td>
<td>$131.9</td>
</tr>
</tbody>
</table>

Source: Fuss et al. (2020).


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Acknowledgments

The authors would also like to express their appreciation to the anonymous reviewers of this paper. Any remaining errors or omissions are the sole responsibility of the authors. As the researchers have worked independently, the views and conclusions expressed in this paper do not necessarily reflect those of the Board of Directors of the Fraser Institute, the staff, or supporters.

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ISSN 2291-8620

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