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DISTRIBUTIONAL AND FISCAL ANALYSIS OF A NATIONAL GUARANTEED BASIC INCOME



OFFICE OF THE PARLIAMENTARY BUDGET OFFICER
BUREAU DU DIRECTEUR PARLEMENTAIRE DU BUDGET

The Parliamentary Budget Officer (PBO) supports Parliament by providing economic and financial analysis for the purpose of raising the quality of parliamentary debate and promoting greater budget transparency and accountability.

Several parliamentarians requested that the PBO prepare a distributional analysis of Guaranteed Basic Income using parameters set out in Ontario's basic income pilot project, examine the impact across income quintiles, family types and gender, and identify the net federal revenue increase required to offset the net cost of the new program. This analysis also accounts for the behavioural response.

This analysis is based on Statistics Canada's Social Policy Simulation Database and Model. The assumptions and calculations underlying the simulation results were prepared by the PBO; the responsibility for the use and interpretation of these data is entirely that of the authors.

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Executive Summary

This report responds to parliamentarians’ continuing interest in a Guaranteed Basic Income (GBI). Specifically, it builds on the earlier work of the Parliamentary Budget Officer (PBO) to address questions regarding distributional analysis, revenue offsets and behavioural reactions.

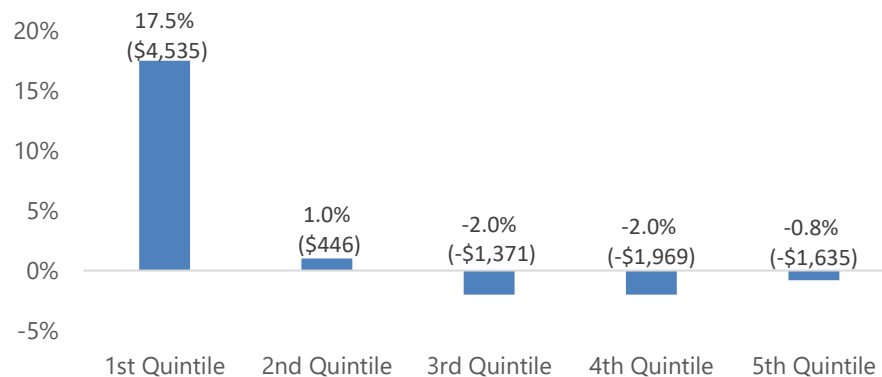
As a first step in addressing this question, the PBO continues to use the parameters set out in Ontario’s 2017 basic income pilot project. In 2018, the project ensured that participants received up to 75 per cent of the low-income measure (LIM), estimated at \$16,989 for a single person and \$24,027 for a couple. Individuals with a disability would receive a universal additional amount of \$6,000 per year. The GBI is reduced as an individual receives more employment earnings, at a rate of \$0.50 for every dollar of earnings.¹

Also, the PBO uses the potential federal and provincial sources of revenues defined in its previous GBI report to fully fund the basic income program, including the universal disability basic income.^{2,3}

The impact of GBI on disposable household income is progressive. The greatest benefit is observed in the lowest income quintile, with an average amount of \$4,535 (+17.5%). Households in the third, fourth and fifth quintiles see a small drop in their average disposable income between \$1,371 (-2.0%) and \$1,969 (-0.8%) (Summary Figure 1). This loss is incurred when active working individuals face an increase in taxes paid because of the elimination of many refundable and non-refundable tax credits with a relatively low GBI transfer.

Summary Figure 1

Change in average household disposable income



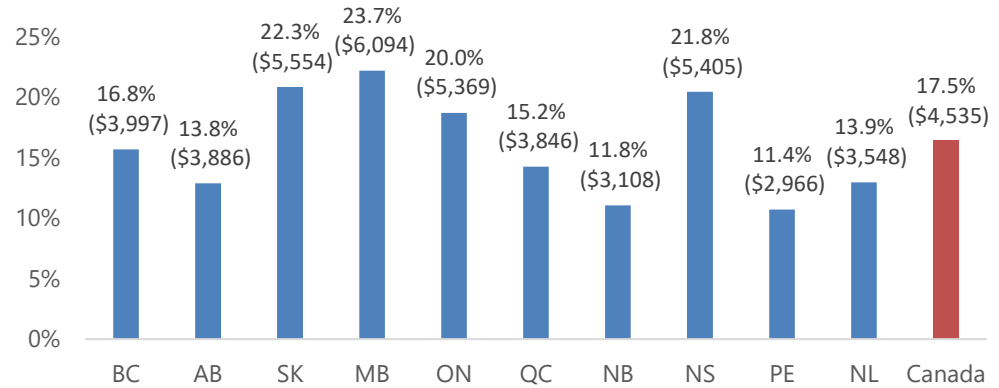
Source: PBO calculations.

With regard to the provincial breakdown of the GBI impact, Summary Figure 2 shows a significant provincial variation. For example, households at the bottom of the income

spectrum in Manitoba benefit from the highest increase in their disposable income of \$6,094 (+23.7%), while low-income households in Prince Edward Island will see the smallest increase (\$2,966 or +11.4%) in their household income.⁴

Summary Figure 2

Change in average household disposable income among households in the lowest-income quintile, by province



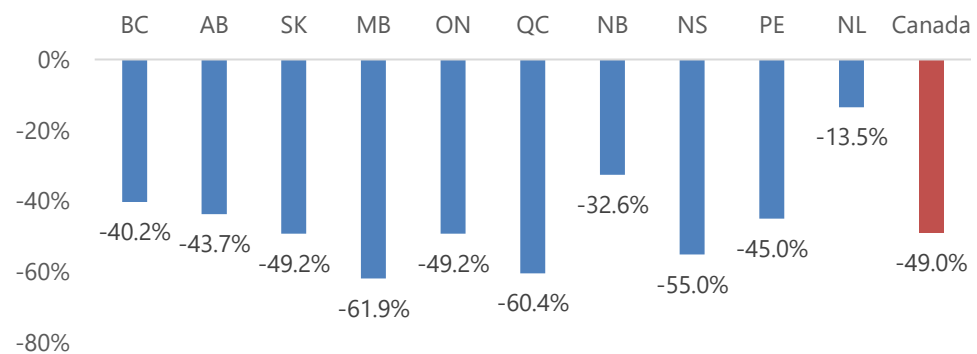
Source: PBO calculations.

At the national level, as shown in Summary Figure 3, GBI significantly reduces poverty rates in Canada. The Market Basket Measure (MBM) indicates that GBI would cut poverty rates by almost half in 2022, although this varies across provinces.

Poverty reduction is most notable in Manitoba (-61.9%) and Quebec (-60.4%). In the latter’s case, this is despite the fact that the GBI impact on disposable income at the bottom of the income spectrum is one of the lowest across all provinces (15.2% in Quebec as shown in Summary Figure 2). This result suggests that many low-income individuals in Quebec are close to the upper bound of the poverty line (Summary Figure 3).

Summary Figure 3

GBI impact on poverty rates based on MBM, by province

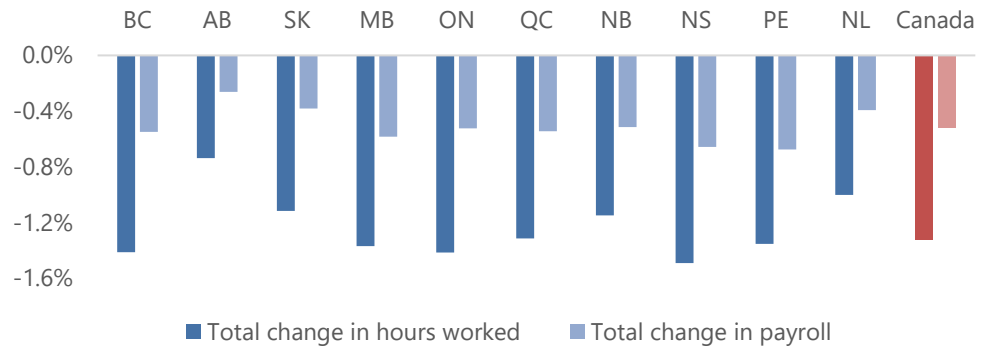


Source: PBO calculations.

Across provinces, GBI impacts on labour supply are small (Summary Figure 4). Estimates indicate that recipient households in Nova Scotia will reduce their hours worked by 1.5%, the greatest reduction across the provinces. By comparison, recipient households in Alberta will reduce their hours worked by 0.7%, the lowest reduction across the provinces. The effect on payroll (-0.5% at the national level) is weaker than the effect on hours worked (-1.3% at the national level).

Summary Figure 4

GBI impact on Canadian labour supply

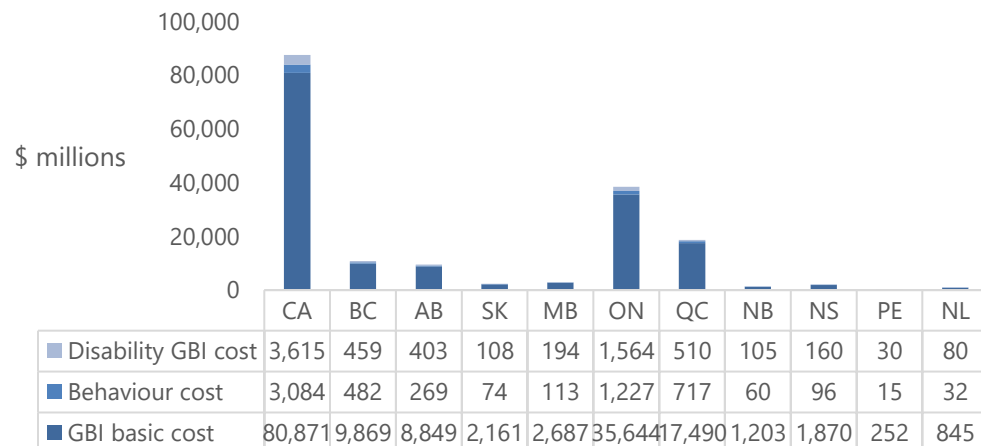


Source: PBO calculations.
 Notes: PBO calculations based on estimated changes to METRs, PTRs and disposable income in response to GBI implementation, using exogenous elasticities based on Green’s (2020) review.
 The impacts on hours worked are estimated assuming there is no change in the hourly average wage in response to the GBI.
 Behaviour is sensitive to the choice of labour supply elasticities.

Based on estimated reductions to households’ labour supply in response to the GBI, the PBO estimates that the cost of this behavioural change alone (lower tax revenues and higher GBI expenses) will amount to between \$3.1 and \$3.3 billion per year for the period between 2021–22 and 2025–26 (Summary Figures 5 and 6).

Summary Figure 5

GBI cost by province in 2022–23

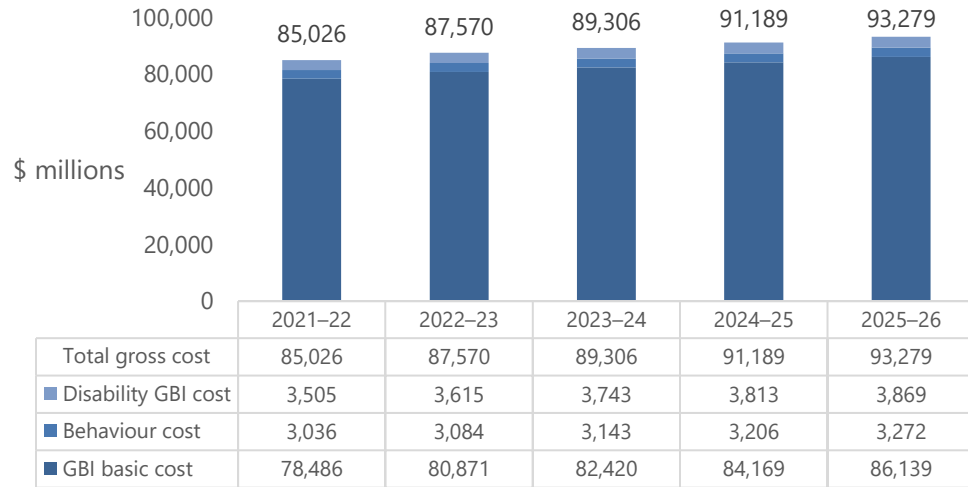


Source: PBO calculations.

Notes: The basic cost is the GBI gross cost before using the offsets to fund the basic income program.
 To calculate the behaviour cost, the PBO calculates the change in federal/provincial income taxes due to the change in the total payroll and the rise in GBI expenses due to the decrease in the employment earnings of low-income individuals.
 The total offsets consist of 31% refundable tax credits and 69% non-refundable credits, including the total federal basic personal amount and a portion of the provincial basic personal amount, for those aged 18 to 64.

As presented in Summary Figure 6, the overall cost of a GBI would rise from \$85 billion in 2021–22 to \$93 billion in 2025–26. These figures reflect the top-up for disability benefits and the behavioural impact. As noted earlier, the pre-behaviour gross costs could be fully offset by existing federal and provincial tax credits. The elimination of these credits would respectively increase net federal and provincial personal income tax revenues by about 25% and 23% annually.⁵

Summar Figure 6 GBI gross cost



Source: PBO calculations.

1. Introduction

In July 2020, the Parliamentary Budget Officer (PBO) published a gross cost estimate of the Guaranteed Basic Income (GBI) and the fiscal offsets that could be generated by cancelling existing federal and provincial programs for low-income individuals and families.⁶

In the previous report, the PBO took the policy parameters of Ontario's basic income pilot project and applied them across the country to estimate the cost of a GBI. This pilot guaranteed individuals and couples at least \$16,989 and \$24,027 of income per year, respectively. This benefit is phased out at a rate of \$0.50 for every dollar of employment income. The methodology relies on Statistics Canada's Social Policy Simulation Database and Model (SPSD/M), which is a statistically representative database of Canadian individuals in their family context.

This report builds on that analysis by including a distributional analysis of GBI, examining the impact across income quintiles, family types and gender. In addition, this analysis accounts for behavioural responses in labour supply to changes in effective income tax rates due to the GBI.

In keeping with our previous report, our GBI estimate uses the parameters of the 2017 Ontario pilot project. The fiscal offsets are the same as in our previous report, including full cancellation of the federal basic personal amount (BPA) and a 44 per cent reduction of the provincial BPA (including the married and equivalent-to-married amount).^{7,8}

Similar to the approach in our previous reports, we limited the measure of the fiscal offsets to individuals eligible for GBI, namely Canadians aged 18 to 64. In other words, even though we assume that the entire program or transfer will be cancelled, we presume that any resulting losses to seniors and children will be compensated via transfers from the government(s). This ensures a net-zero change for persons 17 years of age or younger and 65 years of age or older.

2. Results

2.1. Impact of a guaranteed basic income on income distribution and poverty rates

In this section, we provide insight on the impact of GBI on the distribution of household disposable income and poverty rates. The distributional analysis is conducted by household total income quintile using SPSDM v. 28.0 for the 2022 calendar year. We also discuss the effect of GBI by family type and gender, as well as a provincial delineation.⁹

Table 2-1 shows that the impact of GBI on disposable household income is progressive. The greatest benefit is observed in the lowest income quintile, with an average amount of \$4,535 (+17.5%). Households in the third, fourth and fifth quintiles see a small drop in their average disposable income of between \$1,371 (-2.0%) and \$1,969 (-0.8%).

Among households in the first and second quintiles, families with two working-age adults benefit from the biggest rise in disposable income (+64.5% and +9.4% for couples without children, and +31.6% and +4.9% for couples with children in the first and second quintiles, respectively) (Table 2-1).

Families with a single working-age adult between the second and fifth quintiles of the income spectrum incur the biggest loss among all families (a percentage loss between -9.5% and -2.7% for a single adult with children and between -7.0% and -1.4% for a single adult without children). This loss is incurred when active working individuals face an increase in taxes paid because of the elimination of many refundable and non-refundable tax credits with a relatively low GBI transfer (Table 2-1).

Households with seniors experience little to no change in their disposable income, regardless of quintile. This is because seniors do not qualify for basic income payments and continue to benefit from existing transfers (Table 2-1).

Table 2-1 Change in average household disposable income, by household type and quintile

	1 st Quintile	2 nd Quintile	3 rd Quintile	4 th Quintile	5 th Quintile
With children, 1 adult	12.3% (\$4,210)	-9.5% (-\$5,315)	-6.9% (-\$5,018)	-5.1% (-\$5,082)	-2.7% (-\$4,819)
With children, 2+ adults	31.6% (\$13,797)	4.9% (\$2,950)	-3.2% (-\$2,601)	-2.9% (-\$3,174)	-1.1% (-\$2,084)
With senior, 1 adult	0.0% (\$0)	0.0% (\$0)	0.0% (\$0)	0.0% (\$0)	0.0% (\$0)
With senior, 2+ adults	9.6% (\$3,416)	1.6% (\$794)	0.3% (\$226)	0.1% (\$86)	-0.2% (-\$503)

Other, 1 adult	32.1% (\$5,453)	-7.0% (-\$2,634)	-4.5% (-\$2,659)	-3.1% (-\$2,683)	-1.4% (-\$2,617)
Other, 2+ adults	64.5% (\$17,057)	9.4% (\$4,346)	-1.8% (-\$1,256)	-2.2% (-\$2,134)	-0.9% (-\$1,666)
All	17.5% (\$4,535)	1.0% (\$446)	-2.0% (-\$1,371)	-2.0% (-\$1,969)	-0.8% (-\$1,635)

Source: PBO calculations using SPSD/M.

Table 2-2 presents the effects across provinces. For example, households at the bottom of the income spectrum in Manitoba benefit from the highest disposable income increase of \$6,094 (+23.7%), while households in Prince Edward Island benefit from the lowest income increase of \$2,966 (+11.4%). Saskatchewan would have the highest decrease in income at the top of the household income spectrum, with an average net income decrease of \$3,218 (-1.7%).

This variability in average net impact by recipient across provinces is explained by the distribution of employment earnings and federal and provincial transfers among Canadians. The highest disposable income increase at the bottom of the income spectrum in Manitoba indicates that a representative low-income beneficiary in this province has lower employment earnings, combined with low provincial refundable and non-refundable tax credits, than in other provinces.

Table 2-2 Change in average household disposable income, by quintile and province

Province	1 st Quintile	2 nd Quintile	3 rd Quintile	4 th Quintile	5 th Quintile
BC	16.8% (\$3,997)	1.4% (\$616)	-1.2% (-\$877)	-2.3% (-\$2,331)	-0.3% (-\$675)
AB	13.8% (\$3,886)	0.9% (\$395)	-2.7% (-\$1,880)	-2.3% (-\$2,294)	-1.2% (-\$2,486)
SK	22.3% (\$5,554)	-0.3% (-\$130)	-3.0% (-\$2,064)	-2.2% (-\$2,230)	-1.7% (-\$3,218)
MB	23.7% (\$6,094)	1.6% (\$733)	-2.2% (-\$1,514)	-1.5% (-\$1,524)	-0.8% (-\$1,444)
ON	20.0% (\$5,369)	3.1% (\$1,464)	-1.0% (-\$682)	-1.2% (-\$1,269)	-0.6% (-\$1,153)
QC	15.2% (\$3,846)	-1.7% (-\$788)	-3.5% (-\$2,389)	-3.0% (-\$2,840)	-1.3% (-\$2,350)
NB	11.8% (\$3,108)	-1.1% (-\$480)	-3.1% (-\$2,029)	-2.4% (-\$2,332)	-1.1% (-\$1,844)
NS	21.8% (\$5,405)	1.0% (\$410)	-1.3% (-\$827)	-1.0% (-\$969)	-1.2% (-\$2,004)
PE	11.4% (\$2,966)	0.4% (\$149)	-2.3% (-\$1,559)	-1.4% (-\$1,333)	-0.9% (-\$1,615)
NL	13.9% (\$3,548)	-0.3% (-\$155)	-2.4% (-\$1,576)	-2.2% (-\$2,166)	-1.5% (-\$2,437)
Canada	17.5% (\$4,535)	1.0% (\$446)	-2.0% (-\$1,371)	-2.0% (-\$1,969)	-0.8% (-\$1,635)

Source: PBO calculations using SPSPD/M.

Table 2-3 shows that more than 6.4 million individuals (16.4% of the population) see a rise in their disposable income due to the GBI, with a net positive impact of \$8,227 (+49.6%). However, around 16.8 million individuals would have a net income loss of \$3,114 (-5.4%), on average.

It is clear that the percentage net impact of the replacement of defined offsets by GBI on beneficiaries' disposable income is broadly positive (+49.6%), whereas it is negative for individuals with income losses (-5.4%). This comparison indicates that the latter are high-income individuals and their loss is mainly due to the reduction in the personal basic amount (Table 2-3). There are also more than two and a half individuals losing from this measure for every person benefitting.

Among beneficiaries, there is a net gain among 119,000 (1.9%) more women than men. This comparison shows that women are more likely than men to be living with low income in Canada.

Conversely, men see a slightly greater dollar increase, receiving \$175 more than women. This result suggests that women benefit more than men from existing supports for low-income individuals. Since the GBI replaces a large portion of these supports, women incur a higher replacement cost than men (Table 2-3).

Table 2-3

Net gainers and net losers from the GBI, by gender

	Sex	Men	Women	Both
Net beneficiaries (000)		3,121	3,240	6,361
Beneficiaries' percentage share of population		8.0%	8.4%	16.4%
Change in disposable income of net beneficiaries (\$)		\$8,316	\$8,141	\$8,227
Change in disposable income of net beneficiaries (%)		50.4%	48.7%	49.6%
Individuals with income losses (000)		8,609	8,185	16,794
Population's percentage share of individuals with income losses		22.2%	21.2%	43.4%
Change in disposable income of individuals with income losses (\$)		-\$3,018	-\$3,216	-\$3,114
Change in disposable income of individuals with income losses (%)		-4.5%	-6.7%	-5.4%

Source: PBO calculations using SPSPD/M.

Table 2-4 represents the impact of GBI on low-income Canadians using different poverty lines: the MBM; the low-income cut-off (LICO); and the low-income measure (LIM).¹⁰

Box 1: Defining poverty

The Market Basket Measure (MBM) is used as Canada's official poverty line. The MBM is a measure of low income, which is based on the cost of a basket of goods and services that individuals and families require to meet their basic needs and achieve a modest standard of living.

The low-income cut-off (LICO) is the income threshold below which a family must devote 20 per cent more of its income than the average family spends on the necessities of food, shelter and clothing. Statistics Canada provides LICOs that vary by seven family sizes and five community populations.

The low-income measure (LIM) is 50 per cent of the median household income. It is often used to make international comparisons.

At the national level, GBI has a significant positive impact on poverty rates based on the various low-income measures. Using the MBM, the poverty rate is reduced by almost half. The impact of a GBI on poverty is smaller when using the LIM, with a reduction of 31% of the poverty rate. This is because the threshold for the LIM is calculated based on "equivalent household income," dividing household income by its "adjusted size" assigned to each individual in the household. Thus, the LIM sets a relatively high bar for poverty in comparison with the other measures (Table 2-4).

The impact of GBI on poverty rates varies broadly across provinces since its impact on the lowest-income quintile differs from one province to another, as shown in Table 2-2. Based on the MBM, poverty reduction is most notable in Manitoba (-61.9%) and Quebec (-60.4%) despite the fact that the impact of a GBI on disposable income at the bottom of the income spectrum is one of the lowest across the provinces (15.2% in Quebec, as shown in Table 2-2). This result suggests that many low-income Quebec residents are close to the upper bound of the poverty line (Table 2-4).

Table 2-4 GBI impact on poverty rates, by province

Province	Change in poverty rates based on MBM	Change in poverty rates based on LICO	Change in poverty rates based on LIM
BC	-40.2%	-45.6%	-25.4%
AB	-43.7%	-48.7%	-28.2%
SK	-49.2%	-88.4%	-32.3%
MB	-61.9%	-54.3%	-24.4%
ON	-49.2%	-63.6%	-39.5%
QC	-60.4%	-44.8%	-28.4%
NB	-32.6%	-90.8%	-10.7%
NS	-55.0%	-77.2%	-21.4%

PE	-45.0%	-83.8%	-4.6%
NL	-13.5%	-76.5%	-9.2%
Canada	-49.0%	-55.6%	-31.0%

Source: PBO calculations using SPSPD/M.

Note: The change in MBM is calculated using the 2008 MBM threshold.

2.2. Fiscal and behavioural impact of a guaranteed basic income

Impact on marginal and participation tax rates

The introduction of a GBI will provide a disincentive to work (also known as “supplying labour”). This disincentive will materialize in one of two ways.

First is the decision of individuals to potentially cut back their hours worked because the net amount resulting from each additional hour of work is lower, also known as the marginal effective tax rate (METR). This can occur because of the phase-out of the GBI, the reduction of other income-tested benefits, the elimination of certain personal income tax credits to pay for the GBI or income taxes. The second potential impact is the decision of lower-wage workers to opt out of the labour force entirely as a result of a guaranteed income. This is known as the participation tax rate (PTR).

Box 2: What is METR and PTR?

The marginal effective tax rate (METR) represents the percentage of income lost through taxes and reduced benefits due to an extra dollar of earned income.

The participation tax rate (PTR) measures the total impact of additional taxes and reduced benefits for a person moving from unemployment or unpaid work to a given level of income by having at least some hours of paid work.

For those employed, a substitution effect takes place where workers can increase the size of their GBI (a means-tested benefit) by reducing their hours. In other words, they can trade off some of their earned income for transfer income. Consequently, the METR becomes higher if the clawback rate is more aggressive, as it incentivizes working fewer hours.

As well, the PTR faced by non-workers becomes higher if the clawback rate is high. Accepting a job with a given level of earnings has the effect of reducing the benefit

amount that would have been received and incurring income taxes on earned income.¹¹ These two facets combined represent a disincentive for the individual to work, giving rise to the term “welfare wall,” a situation in which there is a high effective tax rate that strongly discourages entering the paid workforce (Milligan 2020).

The GBI impact on effective tax rates is more observable for low-income families. At national and provincial levels, Table 2-5 shows a rise in METR and PTR by more than 53% at the bottom of the income spectrum, while the change is less than 11% at the top of the income spectrum. In a pre-GBI scenario, many families at the low end of the income scale receive more government benefits than they pay in income taxes (Laurin and Poschmann 2013). However, by replacing a good portion of these benefits with the GBI, their marginal tax rate becomes very high.

Table 2-5 GBI impact on METRs and PTRs for active working individuals, by quintile and province

		1st Quintile	2 nd Quintile	3 rd Quintile	4 th Quintile	5 th Quintile
CA	Change in METR	55.3%	26.4%	11.3%	10.1%	9.3%
	Change in PTR	57.5%	24.4%	14.5%	10.6%	6.8%
BC	Change in METR	57.1%	26.0%	12.1%	7.6%	9.9%
	Change in PTR	57.8%	26.8%	12.4%	11.1%	8.6%
AB	Change in METR	60.0%	24.2%	11.6%	10.1%	8.5%
	Change in PTR	57.6%	27.0%	18.0%	12.5%	8.2%
SK	Change in METR	59.4%	24.2%	8.1%	8.3%	8.0%
	Change in PTR	63.0%	21.7%	8.1%	10.0%	5.4%
MB	Change in METR	55.0%	25.7%	9.3%	9.4%	9.8%
	Change in PTR	60.4%	29.1%	13.0%	10.0%	7.6%
ON	Change in METR	53.6%	33.2%	13.1%	8.1%	10.6%
	Change in PTR	56.5%	28.3%	16.0%	11.1%	7.2%
QC	Change in METR	54.9%	21.3%	8.4%	10.1%	7.5%
	Change in PTR	57.6%	15.8%	10.4%	8.5%	2.6%

NB	Change in METR	54.1%	19.2%	8.1%	-7.0%	8.6%
	Change in PTR	62.4%	18.3%	5.4%	11.2%	6.5%
NS	Change in METR	55.2%	20.0%	11.4%	11.3%	5.5%
	Change in PTR	57.9%	26.0%	12.0%	8.3%	4.7%
PE	Change in METR	51.2%	27.8%	10.3%	9.3%	8.5%
	Change in PTR	61.2%	19.5%	9.7%	7.3%	-0.9%
NL	Change in METR	59.3%	18.1%	17.7%	6.5%	7.6%
	Change in PTR	64.2%	22.3%	13.4%	9.6%	7.8%

Source: PBO calculations using SPSDM.

Notes: The estimates are for individuals aged 18 to 64.

The change in METR and PTR does not reflect changes in social assistance.¹²

Behavioural cost

The magnitudes of individuals' responsiveness to changes in benefits and tax structures are defined in terms of labour supply elasticities. Green (2020) defines four elasticities that are relevant for calculating the behavioural response from GBI-like schemes:¹³

- (i) **Elasticity of hours worked with respect to after-tax wage**, which estimates the effect of METR on hours worked, at a given level of after-tax wage.
- (ii) **Elasticity of participation with respect to after-tax wage**, which estimates the effect of PTR on the likelihood of participation, at a given level of after-tax wage.
- (iii) **Elasticity of hours worked with respect to after-tax income**, which estimates how much workers will reduce their hours worked in response to a boost in income from GBI, while maintaining the same level of after-tax wage.
- (iv) **Elasticity of participation with respect to after-tax income**, which estimates the effect of any increase in the GBI amount on the likelihood of participation.

While there have been previous estimates of elasticities from GBI-like experiments, the results of these may not be easily applicable to current labour markets. As such, the PBO relies on estimates from recent non-GBI studies, such as the ones mentioned in Green (2020).

Based on studies by Dostie and Kromann (2013) and Lemieux and Milligan (2008), Green's (2020) review revealed that Canadian elasticities have been historically low for men, while estimates for women seem to have converged toward men's.¹⁴ This finding is similar to the trend observed in the United States (McClelland and Mok 2012).¹⁵

As such, this report employs the elasticities found in Green (2020) to evaluate the household behaviour impact. The PBO concludes that labour supply responses are small

and inelastic at either margin, where changes to the METRs, PTRs and disposable income faced by households are expected to slightly influence labour supply decisions (Table 2-6).

Across provinces, Tables 2-6 shows that the impacts on labour supply are small. Estimates indicate that households in Nova Scotia will reduce hours worked by the highest percentage (1.5%), compared to Alberta where this reduction will be the lowest (0.7%) of all the provinces.

The effect on payroll (-0.5% at the national level) is weaker than the effect on hours worked (-1.3% at the national level). This gap is because the behavioural impact is more pronounced among low-wage workers (Table 2-6).

Table 2-6 GBI impact on Canadian labour supply of individuals between the ages of 18 and 64

Province	Total change in hours worked	Total change in payroll
BC	-1.4%	-0.5%
AB	-0.7%	-0.3%
SK	-1.1%	-0.4%
MB	-1.4%	-0.6%
ON	-1.4%	-0.5%
QC	-1.3%	-0.5%
NB	-1.1%	-0.5%
NS	-1.5%	-0.7%
PE	-1.4%	-0.7%
NL	-1.0%	-0.4%
Canada	-1.3%	-0.5%

Source: PBO calculations using SPSD/M.

Notes: PBO calculations based on estimated changes to METRs, PTRs and disposable income in response to GBI implementation using exogenous elasticities based on Green's (2020) review. The impacts on hours worked are estimated assuming there is no change in the hourly average wage in response to the GBI.

Based on the estimated changes in households' labour supply in response to the GBI, the PBO calculates two aspects of the behavioural GBI costing. First, the PBO estimates the change in federal/provincial personal income taxes due to the change in total payroll. Second, the PBO calculates the increase in GBI expenses due to the decrease in the employment earnings of low-income individuals.

This behavioural cost is added to the status quo GBI cost calculated and included in the report published in November 2020.¹⁶ The PBO estimates the fiscal costs of the labour

supply effect to range between \$3.0 and \$3.3 billion annually for the period between 2021–22 and 2025–26 (Table 2-7).

Excluding the disability cost, the highest share of the behavioural cost relative to the gross amount will be in Prince Edward Island (5.7%), while the lowest share is presented in Alberta (3%). This variability in the GBI behaviour cost shares across the provinces could partially be explained by the unequal provincial distribution of low-income individuals. For example, the data show that workers belonging to the first and second income quintiles in Alberta have proportionately one of lowest employment incomes.¹⁷

Table 2-7 Gross GBI cost using the defined offsets

\$ million		2021–22	2022–23	2023–24	2024–25	2025–26
Canada	GBI basic cost	78,486	80,871	82,420	84,169	86,139
	Behaviour cost	3,036	3,084	3,143	3,206	3,272
	Disability cost	3,505	3,615	3,743	3,813	3,869
	Total gross cost	85,026	87,570	89,306	91,189	93,279
BC	GBI basic cost	9,721	9,869	10,037	10,216	10,401
	Behaviour cost	474	482	491	501	511
	Disability cost	448	459	473	471	452
	Total gross cost	10,642	10,810	11,001	11,188	11,364
AB	GBI basic cost	8,583	8,849	9,138	9,462	9,822
	Behaviour cost	265	269	274	280	285
	Disability cost	385	403	423	438	454
	Total gross cost	9,233	9,521	9,835	10,180	10,561
SK	GBI basic cost	2,080	2,161	2,220	2,288	2,363
	Behaviour cost	73	74	76	77	79
	Disability cost	104	108	113	117	120
	Total gross cost	2,257	2,344	2,409	2,482	2,563
MB	GBI basic cost	2,623	2,687	2,742	2,806	2,878
	Behaviour cost	111	113	115	118	120
	Disability cost	188	194	202	207	212
	Total gross cost	2,922	2,995	3,059	3,130	3,210
ON	GBI basic cost	34,338	35,644	36,414	37,250	38,184
	Behaviour cost	1,208	1,227	1,250	1,275	1,302
	Disability cost	1,514	1,564	1,621	1,656	1,693
	Total gross cost	37,060	38,435	39,285	40,182	41,179
QC	GBI basic cost	17,017	17,490	17,686	17,943	18,256
	Behaviour cost	705	717	730	745	760
	Disability cost	499	510	525	534	542
	Total gross cost	18,221	18,717	18,942	19,222	19,558
NB	GBI basic cost	1,190	1,203	1,205	1,209	1,216
	Behaviour cost	59	60	61	62	63

	Disability cost	103	105	108	110	111
	Total gross cost	1,352	1,369	1,374	1,381	1,391
NS	GBI basic cost	1,832	1,870	1,883	1,898	1,918
	Behaviour cost	94	96	98	99	102
	Disability cost	157	160	164	166	168
	Total gross cost	2,083	2,126	2,145	2,163	2,187
PE	GBI basic cost	246	252	257	263	270
	Behaviour cost	15	15	15	16	16
	Disability cost	29	30	31	32	32
	Total gross cost	289	297	304	311	318
NL	GBI basic cost	857	845	839	835	832
	Behaviour cost	31	32	32	33	34
	Disability cost	80	80	82	83	83
	Total gross cost	968	957	953	950	948

Source: PBO calculations.

Notes: To calculate the corresponding income guarantees for 2025–26, we use the GBI annual average growth rate from 2021 to 2025.

To calculate the behavioural cost, the PBO calculates the change in federal/provincial income taxes due to the change in total payroll and the increase in GBI expenses due to the decrease in the employment earnings of low-income individuals.

The basic cost is the GBI gross cost before using the offsets to fund basic income.

Appendix A – Potential Federal and Provincial Fiscal Offsets When Including Basic Personal Amounts

The following table provides an overview of the inclusive list of tax measures.

Table A-1 List of selected federal and provincial credits

Basic personal exemption/amount*	fed	non-refundable
Caregiver tax credit	fed	non-refundable
Disability tax credit	fed	non-refundable
Family Caregiver Tax Credit	fed	non-refundable
Medical expense non-refundable tax credit	fed	non-refundable
Provincial BPA**	prov	non-refundable
Provincial Caregiver Tax Credit***	prov	non-refundable
Provincial maximum disability deduction/amount	prov	non-refundable
Provincial medical expense tax credit	prov	non-refundable
NS tax on taxable income	prov	non-refundable
QC flag for tax credit for experienced worker	prov	non-refundable
QC married exemption/amount	prov	non-refundable
Canada training credit	fed	refundable
GST credit	fed	refundable
Maximum expenses allowed for medical expense supplement	fed	refundable
Proportion of expenses allowed for medical expense supplement	fed	refundable
Workers compensation benefits	fed	refundable
Working income tax benefit	fed	refundable
BC sales tax credit	prov	refundable
MB cost-of-living credit‡	prov	refundable
NB home heating benefit	prov	refundable
NB refundable HST credit	prov	refundable
NL income supplement	prov	refundable
NS Affordable Living Tax Credit	prov	refundable
NS Home Heating Assistance Rebate	prov	refundable
NS Poverty Reduction Credit	prov	refundable
ON Electricity Support Program	prov	refundable
ON sales tax credit amount per adult (post 2009)	prov	refundable
PE HST credit	prov	refundable
QC Adapted work premium for disabled refundable tax credit	prov	refundable
QC Natural Caregivers Tax Credit	prov	refundable
QC refundable tax credits for medical expenses	prov	refundable
QC solidarity tax credit	prov	refundable
QC work premium refundable tax credit	prov	refundable
SK Low Income Tax Credit	prov	refundable
Social assistance	prov	refundable

Notes: * - includes the amount transferred from a spouse or common-law partner or an eligible dependent.

** - includes the amount transferred from a spouse or common-law partner or an eligible dependent. It also includes the Ontario basic tax reduction, Quebec's combined age, living alone and retirement credit, and Nova Scotia's BPA enhancements.

*** - all provinces except Quebec.

¥- includes the basic, married, married equivalent, old disabled dependant, spouse disabled and young dependants' credit.

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Notes

1. Ontario Government. (2019). Archived - Ontario Basic Income Pilot. Retrieved from <https://www.ontario.ca/page/ontario-basic-income-pilot>
2. A full list is provided in Table A-1 in Appendix A.
3. The total chosen offsets are used to fund the pre-behaviour GBI gross cost. The behaviour cost is defined as a net cost of the GBI.
4. PBO estimates are heavily based on the SPSPD/M data which does not include the territories, persons residing on reservations, or armed forces personnel residing in barracks.
5. This estimate also includes the savings from cancelling provincial social assistance programs.
6. Office of the Parliamentary Budget Officer. (2020). Costing a Guaranteed Basic Income During the COVID Pandemic. Retrieved from <https://www.pbo-dpb.gc.ca/en/blog/news/RP-2021-014-M--costing-guaranteed-basic-income-during-covid-pandemic--estimation-couts-lies-un-revenu-base-garanti-pendant-pandemie-covid-19>
7. Ibid., note 2.
8. The PBO reduced the provincial BPA by 44 per cent to ensure that the total offsets did not exceed the gross cost of the GBI. In other words, the reduction was made to ensure that there were no net savings.
9. The distributional analysis is conducted in the status quo state using the SPSPD/M microsimulation. Thus, the GBI impact on household income does not account for the behavioural reaction since the SPSPD/M is a static model. Despite this limitation, our simulation provides a good picture of the basic income distributional impacts and related fiscal policy changes because of the small behaviour effect, as shown in subsection 2.
10. Statistics Canada. Table 11-10-0135-01 Low income statistics by age, sex and economic family type. Retrieved from <https://doi.org/10.25318/1110013501-eng>
11. The calculated PTR and METR baseline scenarios contained in this report do not reflect resulting changes to social assistance. This is because social assistance is not modelled in SPSPD/M. As a result, the change in the PTR and METR between our baseline scenario and a scenario where GBI exists is likely overestimated. However, since social assistance is typically provided to those with low income and the income base of low-income households is relatively small, the overall effect on our estimated behavioural response is expected to be negligible.
12. See not above.
13. Green, D. A. (2020). Labour Supply Issues Related to Basic Income and Income Assistance. Research paper commissioned by the Expert Panel on Basic Income, British Columbia. Retrieved from <https://bcbasicincomepanel.ca/>
14. Dostie and Kromann (2013) find that married women have an hours worked elasticity of 0.03 and a participation elasticity of 0.01, both with respect to wage. Furthermore, they provide a breakdown of the hours worked elasticity with respect to wage by decile. Their paper also provides estimates of elasticities with respect to income, estimating the elasticity of hours worked to be 0.01 and the elasticity of participation to be 0. Lemieux and Milligan (2008) study the change in Quebec's social assistance policy to find the response

mostly concentrated at the extensive margin, with little response at the intensive margin. Green (2020) derives an implied participation elasticity of income with a lower bound of -0.026 and upper bound of -0.13.

15. Outside Canada, US estimates are also of limited magnitude (Bargain et al. 2014). The wage elasticities at the intensive margin for women and men are small, ranging from 0 (married men) to 0.03 (single women). Furthermore, the wage elasticities at the extensive margin for the same groups vary from 0.04 (married men) to 0.19 (single women). For the income elasticities at both the intensive and extensive margin, all groups have an elasticity of about 0.

16. Office of the Parliamentary Budget Officer. (2020). Update: Five-Year Cost Estimate of the Guaranteed Basic Income. Retrieved from <https://www.pbo-dpb.gc.ca/en/blog/news/BLOG-2021-004--update-five-year-cost-estimate-guaranteed-basic-income--mise-jour-estimation-cinq-ans-cout-revenu-base-garanti>

17. This finding is based on the SPSDM 28.0 database for the 2022 calendar year.