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2020PE-23

PERSPECTIVES / INSIGHTS
Texte d'opinion / Opinion Piece



An Insights article is a short opinion piece presenting an informed and rigorously documented analysis. The ideas and opinions expressed in this publication are the sole responsibility of the authors and do not necessarily represent the positions of CIRANO or its partners.

ISSN 2563-7258 (online version)

[29 Mai 2020]

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Income support: the impossible trinity

Any effort to provide income support must come to terms with an impossible trinity: It cannot simultaneously be generous to those with the greatest need (without employment income), be affordable for public finances, and incentivize work. It is impossible to achieve all these goals at once, so a difficult balancing act is required. For example, a study by Godbout and St-Cerny¹ reveals that the measures undertaken in response to the pandemic have had the impact of increasing the effective income floor in Quebec for low earners. They point out potentially detrimental impacts on the incentive to work. In recent years the idea of a guaranteed minimum income has received considerable attention,² and the response to the pandemic has, in effect, amounted to something like a guaranteed minimum income, especially the Canada Emergency Response Benefit (CERB) and its student edition, the Canada Emergency Student Benefit (CESB). For example, CERB benefits for those without employment income are quite generous, but since they are only

¹ Godbout L., and S. St-Cerny (2020), [Travailler au salaire minimum au Québec et incitation au travail à l'ère de la crise de la COVID-19](#), Regard CFFP no 2020-02.

² Boccanfuso D., J.-M. Cousineau and R. Fonseca (2017), *Le revenu minimum garanti : Une Utopie? Une Inspiration pour le Québec*, vol. 1 Les principes, le diagnostic et les recommandations, Québec, novembre. https://www.mtess.gouv.qc.ca/grands-dossiers/revenu_min_garanti.asp

available to workers earning less than \$1000 / month they may create a disincentive to resuming work or to increasing the number of hours worked to a level that would raise earnings above \$1000 per month. On top of these benefits there are enhancements to the GST Credit and the Canada Child Benefit, as well as measures like Quebec's Incentive Program to Retain Essential Workers (IPREW). While several indices suggest that these supplements to the social safety net could create a disincentive to work, our team wanted to conduct an analysis that integrated these programs into the income taxes paid by Quebecers (both provincial and federal), so as to compute measures of incentivization having broad recognition among economists, the effective marginal tax rate (EMTR) and its little brother, the participation tax rate (PTR). Also, it is worth looking at the ramifications of these new programs for the cost of existing programs. In this note we present an illustrative case study to tide us over pending more detailed analyses currently underway.

The CREEi's disposable income simulator

We made use of the Disposable Income Simulator (SRD) of the Research Chair in Intergenerational Economics (CREEi). The (preliminary) documentation is available at <https://creei-models.github.io/srd> (French only). For the year 2020 the tax system includes: federal and provincial income tax (along with dozens of refundable and non-refundable credits), social assistance, and social insurance contributions (QPP, QPIP, and employment insurance). The main provisions of the tax code are modelled, in particular the various employment bonuses (Canada workers benefit and Quebec's work premium). The documentation includes a list of these measures. We added the following emergency measures to the simulator:

1. Canada Emergency Response Benefit
2. Canada Emergency Student Benefit
3. Enhanced GST Tax Credit
4. Incentive program to retain essential workers
5. Enhanced Canada Child Benefit

For our purposes we examine the case of a single, childless individual, between the ages of 25 and 54, who may be an essential worker; a student; or a regular employee. We consider five hourly wage levels that are multiples of the \$13.10 / hour minimum wage. We modelled the impact on disposable income of a change in the number of hours worked over a four month period from April 2020 to July 2020 . For the time preceding and following this period, we assume full-time work for essential and regular workers, and no employment income for students.

The simulator was used to compute two measures of incentivization for various levels of hours of work :

1. Effective marginal tax rate (EMTR): We calculated the effective marginal tax rate for a five-hour increment to the number of hours worked per week over the four month period. We repeated these calculations for each number of weekly reference hours between 0 and 40.

- Participation tax rate (PTR): For a transition from 0 to 35 hours of work per week (return to employment) we computed the effective tax rate on labour income over the four month period.

In the economic literature, the PTR is used to measure incentivization at the extensive margin (working or not), while the EMTR measures it at the intensive margin (number of hours worked). For example, if the EMTR is 40 per cent, the worker will only receive 60 per cent of the incremental income from a five hour increase in the number of hours worked per week for the four months, while the other 40 per cent will go to income and payroll taxes. On the other hand, a 50 per cent PTR means that only one-half of the gross income earned will be disposable income for the worker returning to work for the four month period.

Astronomical EMTRs and PTRs!

Both the EMTRs and the PTRs show virtually unprecedented levels of disincentives to work: Workers lose money if they increase their hours or join the labour force. However, a noteworthy and unexpected effect occurs below 20 hours of work per week, where the EMTR appears to be slightly lower. This is because the CERB—which is not clawed back for those working less than 20 hours per week, and is thus not a disincentive—crowds out other measures, like the work premium.

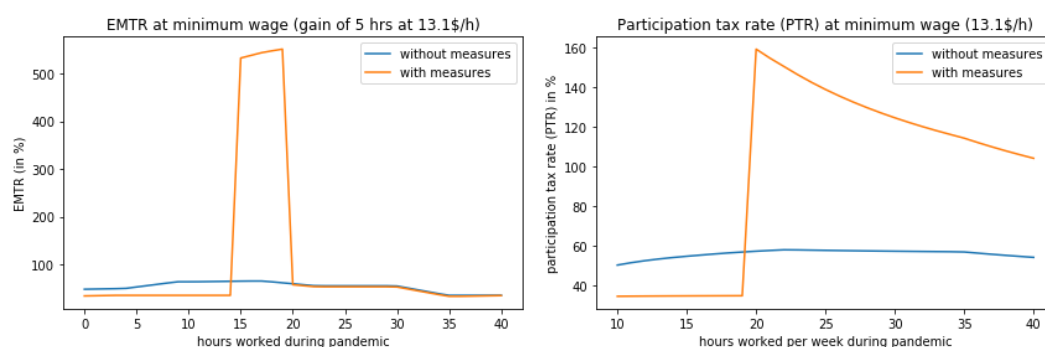


Figure 1 : Change in TEMI and TEPI for various levels of hours of work during pandemic with or without federal and provincial tax provisions

Figure : Calculation using the SRD accounting for a long list of federal and provincial tax provisions, including the work premium. Labour income during the pandemic is computed using the minimum wage, and it is assumed that the individual works 35 hour weeks before and after the pandemic. The graph on the left shows the EMTR for a five hour increase in the number of hours worked per week during the pandemic (four months). The graph on the right shows the effective tax burden on someone who is considering working a certain number of hours (horizontal axis) as opposed to staying out of the labour force. "Without measures" (pre-pandemic conditions) and "with measures" situations are presented.

Why return to work (by type of worker)?

In the following table we present the increase in disposable income of a worker returning to the labour market at 35 hours / week. We distinguish between regular workers (who receive CERB), essential workers (who receive CERB and IPREW), and students (who receive CESB). A regular minimum-wage worker will forfeit \$1 037 in disposable income by returning to work. Observe that IPREW reduces the forgone disposable income at the minimum wage without affecting other income levels, while the benefit accruing to students who work during the pandemic is small (\$892 on gross earnings of \$7336 over four months). The impact on students is quite pronounced.

Essentially, we find that a student working for minimum wage who did not work the rest of the year will effectively earn an average of \$1.59 / hour.

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Tableau 1: Increase in disposable income (dollars) for four months of work at 35 hours / week during the pandemic



Type of worker	Multiple of the minimum wage				
	Minimum wage	2	3	4	5
Regular	-1037	2 780	8 106	13 149	15 687
Essential	149	2 780	8 106	13 149	15 687
Student	892	4 494	7 901	12 368	17 129
Gross increase in earnings during the pandemic	7 336	14 672	22 008	29 344	36 680

Note: For each level of hourly wage, we measure the increment in disposable income from working 35 hours / week versus not working at all and collecting benefits. We assume that employment income outside of the pandemic period is nil for students and that other workers devote 35 hours / week to their jobs.

Some serious thought is in order before extending these income supports

We would like to make the federal government aware of the need to review the design of the CERB and the CESB to introduce clawback provisions should the programs be extended for another four months.

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This could coincide with a reduction of their generosity and better coordination with existing programs. It is noteworthy that our analysis shows that the Government of Quebec's tax expenditures, e.g. for the work premium, are (indirectly) reduced by the introduction of the CERB. If the federal government should see fit to extend the CERB, the Government of Quebec should examine the possibility of redirecting its savings from the work premium and other programs to enhancing measures that incentivize work of low earners eligible for the CERB so as to mitigate the latter's disincentive impact.

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While the CERB and the CESB have been tremendously helpful during this period of confinement, these programs strike us as potentially harmful during the opening up period.