What should the minimum wage be to live in Toronto for households?*

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As the living cost in the Greater Toronto Area kept rising, an interesting topic has always been discussed by the residents, What should the minimum wage be to live in Toronto for households?. Will the current minimum wage cover the basic living expenses?

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1 Introduction

As the living cost in the Greater Toronto Area kept rising, an interesting topic has always been discussed by the residents, "What should the minimum wage be to live in Toronto for households?" According to (Reference). I will be using the data set in 2022 and therefore, all the minimum income, expenses, and government benefits will be based on the information in 2022.

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*Code and data are available at: https://github.com/Sluuu/STA302-paper1-.git

The data was cleaned and processed using the statistical programming language R (R Core Team 2022). Statistical libraries such as `tidyverse` (Wickham et al. 2019), `opendatatoronto` (Gelfand 2022), `knitr` (Xie 2023), `janitor` (Firke 2023), `modelsummary` (Arel-Bundock 2022), `dplyr` (Wickham et al. 2023), and `readxl` (Wickham and Bryan 2023).

2 Data

The data is from the Open Data Toronto (Gelfand 2022) and the data set is refreshed annually. It contains the income scenarios without the government subsidies, the housing rental price is the price of market rent and it is based on the average market rent as of June 2022, as measured by the Toronto Regional Real Estate Board (TRREB). (Gelfand 2022) The data is for the City of Toronto to monitor the affordability of food to people. The cost of food was measured annually using the Nutritious Food Basket (NFB) costing tool. To find out the ability for low incomes people to have enough money to cover the cost of basic expenses, including food. The data set provides the affordability of food and other basic expenses relative to income for nine household scenarios.(Ranger 2023) Scenarios were selected to reflect household characteristics that increase the risk of being food insecure, including reliance on social assistance as the main source of income, single-parent households, and rental housing. A median income scenario has also been included as a comparsion. (Gelfand 2022) Income, including federal and provincial tax benefits, and the cost of four basic living expenses - shelter, food, childcare, and transportation - are estimated for each scenario. Results show the amount of money remaining at the end of the month for each household.(Gelfand 2022)

3 Clean Data

As the main focus of this paper will be focusing on how much minimum wage will be enough in order to live in Toronto. Therefore, I have cleaned up the scenarios for people that are receiving the Old Aged Securities, as people in this scenarios wouldn't be having a job or a minimum pay job. To simplify the analysis process, the missing entries will be removed. Also, the I will be narrowing down the scenarios into 3 scenarios. In Scenario 1, it shows the financial situation of a full time minimum wage worker and with a family of 4. In Scenario 2, it shows the financial situation of a full time medium wage worker and with a family of 4. Lastly in Scenario 3, it shows a full time minimum wage worker but it is a single person household. For the Categories, the benefit income includes the Canada Child Benefit, GST/HST credit, Ontario Trillium Benefit, Canada Worker Benefit, and Climate Action Incentive Payment. The expenses includes the Average Monthly Rent, Food, Childcare, and Transportation. Notice that in Scenario 1 and 2 the expenses will be equal as we wanted to show how wages can affect a household.

```
Category Scenerio_1 Scenerio_2 Scenerio_3
```

```
1      Wage Income       2600      9458      2600
2   Benefit Income       1404       425       131
3         Expenses       6445      6445      2797
4 Funds Remaining       -2441      2878       -66
```

In `Figure-2`, `Figure-3`, and `Figure-4` it shows how each benefit are weighted in the benefit income. Comparing `Fighure-2` and `Figure-3`, we can see that household with less income will receive more kinds and more amount of benefits from the government. However, another important question to consider is that, even with more benefit income would that be enough to cover the basic cost of living?
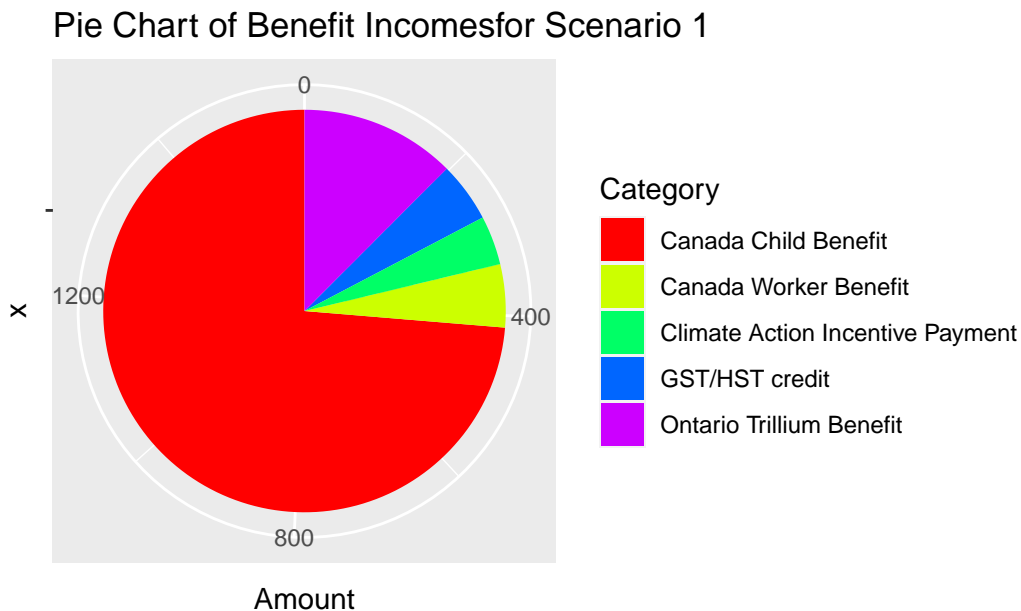

Figure 1: Weighting relationship between Benefit Income in Scenerio 1

4 Weaknesses

Scenarios only describe the estimated values and it is rounded to the nearest dollar. Therefore, it may not be accurate enough. The income and the expenses data are estimated using the information in 2022, which there are some gap between now. The income amounts include all benefits available to Ontario residents therefore, they are maximum amounts. The actual income for the Ontario residents might also be lower if the residents do not file their income tax or do not apply for all the available benefits. (Gelfand 2022)
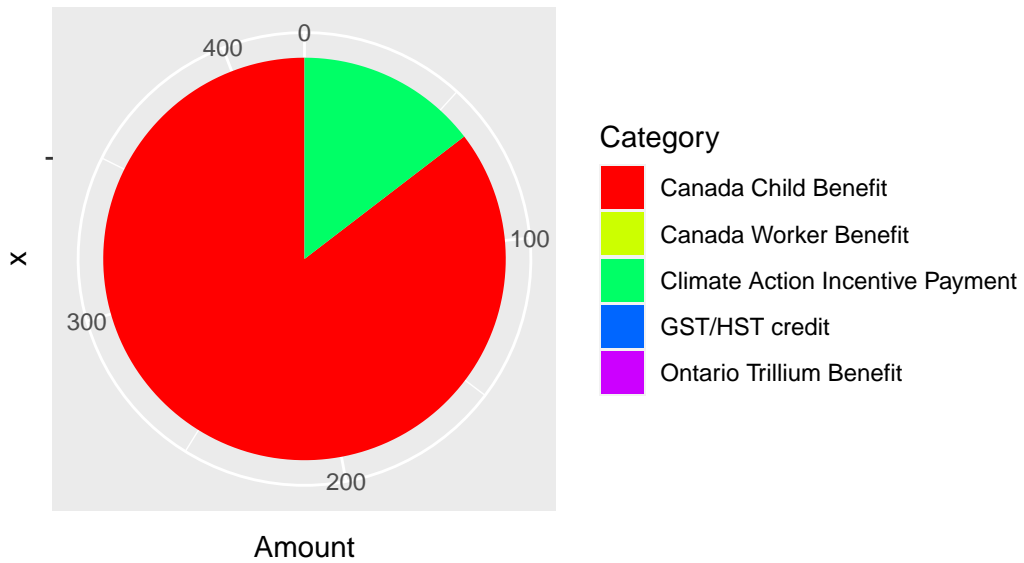
Pie Chart of Benefit Incomesfor Scenario 2

Figure 2: Weighting relationship between Benefit Income in Scenerio 2
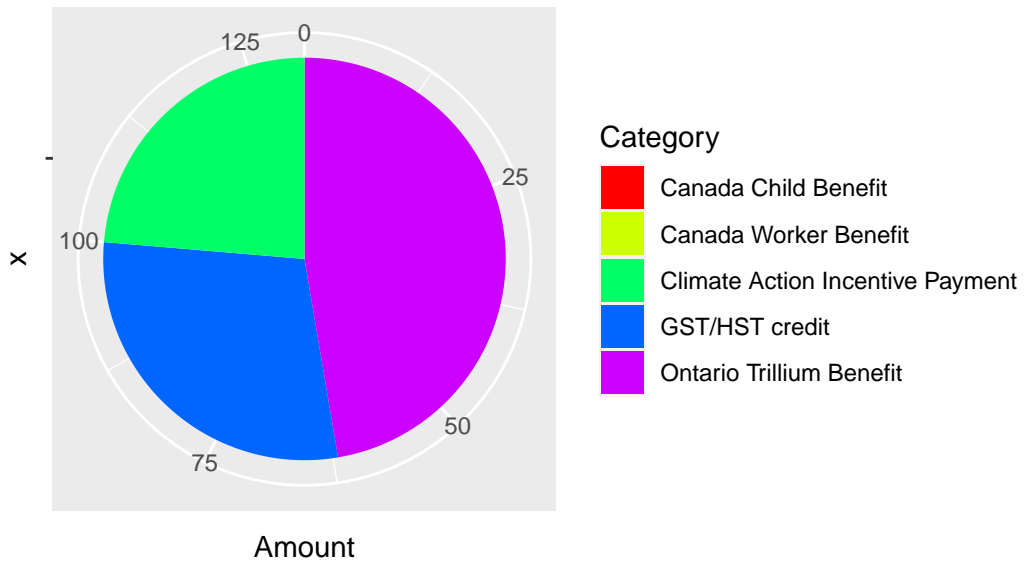
Pie Chart of Benefit Incomesfor Scenario 3

Figure 3: Weighting relationship between Benefit Income in Scenerio 3

4

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