Labor Market Analysis part 1

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Labor Market Canada

Labor market survey results provided by Statistics Canada contain information on employment status, type of employment, gender, marital status, and whether children are present at home. For employed individuals, data on wages, hours worked, overtime, the type and field of occupation are included and etc. For part-time workers, the survey additionally explores the reasons for part-time employment. For unemployed individuals, the survey provides insights into the reasons for not working and related factors.

Goals of the Analysis:

- For employed people: provide a description and test the statistical significance of wage differences based on gender, immigrant status, age, and other relevant variables.

- Study which factors are most crucial in determining wage levels: education, place of living, occupation type and field, gender, age and etc.

- Examine differences between women and men, immigrants and non-immigrants in terms of overtime work, part-time employment, and unemployment rates.

##

Wages depending on gender

Mean of extra hours by gender

GENDER	Mean of extra hours
Male	16.59711
Female	10.63694

Full-time anf part-time workers by gender

GENDER	Full-time	Part-time
Male	29617	4762
Female	24473	8152

Reasons for part-time work by gender

Male	Female	Reason
344	519	Other reasons
262	416	Own illness or disability
98	905	Caring for children
146	565	Other personal or family responsibilities
1664	2349	Going to school
1370	2223	Personal preference
363	506	Business cond. or could not find full-time work, looked for it in last month
515	669	Business cond. or could not find full-time work, did not look for it in last month

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    Male   Female
14755.46 11590.49
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   Male  Female
13078.5 10363.5
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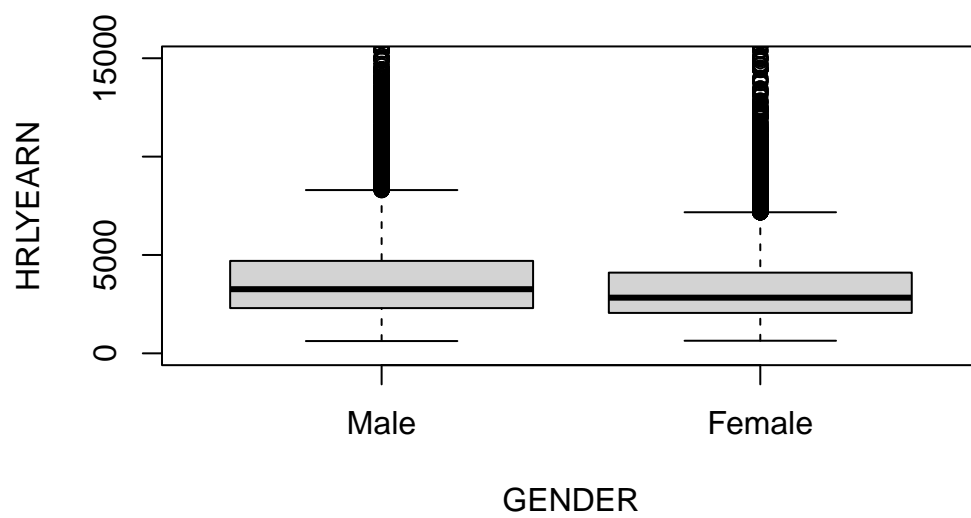
Wages depending on immigrant status

Wages depending on age

Linear regression and poly approximation

Wages vs age for males and females

Linear regression: wages defined by tenure

Linear and quadratic polyn mial regressions: Wages vs Age

Wages clusterization : using UMAP and K-means

Clusterization using DBSCAN

Multidimensional linear regression

Part-time workers study

Bootstrap: non-weighted and weighted