ENSF 692 Project

Group 7

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June 20th 2025

# Introduction

This project explores interprovincial migration trends in Canada and their correlation with key economic factors such as housing prices, employment, wages, and cost of living. Motivated by the article “Seeking affordability, young families flee Canada’s big cities for cheaper options” [7], we aimed to understand why residents are moving away from provinces like Ontario and British Columbia. By statistically examining key economic and demographic factors — such as housing prices, employment rates, wages, and cost of living, we aim to uncover which factors most strongly influence people’s decisions to move between provinces.

# Datasets

Multiple datasets were selected from Statistics Canada. The group’s initial focus was on interprovincial migration, so we looked for datasets that we thought may have some sort of correlation. In no particular order, the chosen datasets were:

* Interprovincial migration: Data on migration patterns between provinces. [1]
* Population: Quarterly estimates of the population in different provinces. [2]
* Labour force characteristics: Data on employment rates and workforce characteristics. [3]
* Wages/Salaries: Monthly data on wages, salaries, and employer contributions. [4]
* Consumer price index: Monthly changes in the cost of living. [5]
* Housing index: Monthly index tracking changes in housing prices. [6]

Net migration Eq. (1) calculated to clearly determine if the migration trend was in or out of a given province, using the following equation:

Equation 1: Net migration calculation

This could then be plotted against and statistically compared to the other relevant datasets. Correlation coefficients could be calculated to statistically prove what likely affected interprovincial migration the most.

# UI Input/Output

The program consists of a primary input/output portion to satisfy project requirements, as well as some secondary outputs to demonstrate the group’s data manipulation.

## Primary Input/Output

The user is asked to input up to 4 provinces via integer input (i.e. 1, 2, 3, 4). Then, they are asked to input that number of provinces by their short form (e.g. AB for Alberta, QC for Quebec). Additionally, the user inputs what dataset they want to compare the chosen provinces against, as seen in Fig. X below:A screenshot of a computer program

AI-generated content may be incorrect.

Figure 1: Primary input/output console interface

A graph of a number of data

AI-generated content may be incorrect.

## Other Outputs

The program additionally generates more outputs dependent on the user pressing ‘any key to continue’. This is less interactive but acts as a more demonstrative process in the analysis. Initially when the program is ran, it asks the user to input any key to continue. Then it displays the created Pandas Dataframe Fig. (1), as seen below:

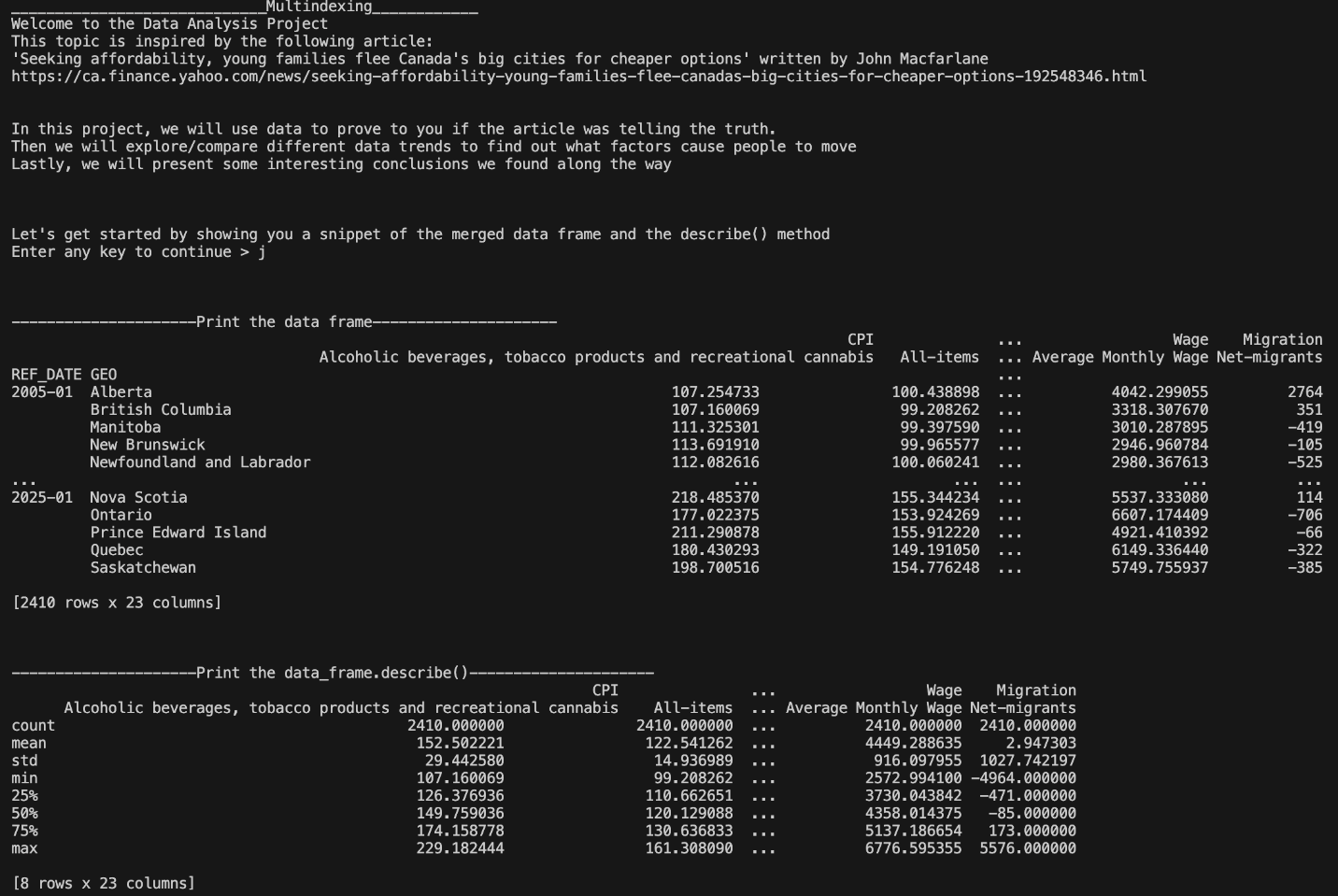


Figure 2: Pandas Dataframe printout

# Conclusion

Through our analysis of interprovincial migration trends and economic indicators across Canada, we found strong statistical evidence supports the article “Seeking affordability, young families flee Canada’s big cities for cheaper options” [7].  
  
Among all provinces, Alberta stood out as the top destination for interprovincial migrants. This trend aligns with Alberta's rising wage levels and relatively affordable housing, which make it especially attractive compared to more expensive provinces like Ontario and British Columbia.

By calculating correlation coefficients between net migration and various socioeconomic variables, we discovered that average monthly wages and housing prices showed the strongest correlations (|c| > 0.8),

Overall, our project demonstrates how data-driven analysis can uncover meaningful insights into migration patterns.

**References**

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[3] Statistics Canada, "Table 14 10 0287 03 – Labour force characteristics by province, monthly, seasonally adjusted," *Statistics Canada*, June 20, 2025. [Online]. Available: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410028701>. [Accessed: Jun. 20, 2025].

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[5] Statistics Canada, "Table 18 10 0004 01 – Consumer Price Index, monthly, not seasonally adjusted," *Statistics Canada*, May 2025. [Online]. Available: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810000401>. [Accessed: Jun. 20, 2025].

[6] Statistics Canada, "Table 18 10 0205 01 – New housing price index, monthly," *Statistics Canada*, June 20, 2025. [Online]. Available: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810020501>. [Accessed: Jun. 20, 2025].

[7] J. MacFarlane, "Seeking affordability, young families flee Canada’s big cities for cheaper options," *Yahoo Finance*, May 27, 2024. [Online]. Available: <https://ca.finance.yahoo.com/news/seeking-affordability-young-families-flee-canadas-big-cities-for-cheaper-options-192548346.html>. [Accessed: Jun. 20, 2025].