Economic Drivers, Immigration Dynamics, and Housing Starts: Their Collective Influence on Housing Price Index*

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1 Introduction

In recent years, the Canadian housing market has undergone significant changes due to various economic factors. Canadians are facing a housing crisis driven by high demand, unaffordable rates, and population growth in major cities across Canada. For example, Toronto's benchmark home price has surged by 42.8% since 2019. Back in 2019, the benchmark home price in Toronto stood at $746,500. Fast forward to 2024, and that figure has soared to $1,065,800, according to the Canadian Real Estate Association (CREA).

One major factor contributing to these changes is the notable increase in immigration over the last decade. In 2023, Canada experienced its highest influx of immigrants and students in 70 years, leading to a 2.9% surge in the population (Reuters 2023). While achieving immigration targets is a milestone for Canada, the influx of newcomers has likely exacerbated the already tight housing market.

Globally, economic shifts in recent years have had far-reaching effects. Inflation has risen not only in Canada but also in many countries worldwide due to various events. Supply chain disruptions on a global scale have driven prices higher, while geopolitical tensions, such as Russia's invasion of Ukraine, have further contributed to increased energy and food costs (Forbes Advisor Canada 2024).

*Code and data are available at: https://github.com/hoodanav/Housing_Market_Analysis/tree/main

In response to rising inflation, Canada saw its inflation rate peak at 6.1% in 2022, gradually easing to 3% in 2023. However, the target rate for stability is around 2% (Bank of Canada 2024). To curb inflation, the Bank of Canada implemented a series of interest rate hikes between March 2022 and July 2023. This aggressive monetary policy campaign saw the benchmark rate soar from 0.25% to 5%, marking one of the most substantial increases on record(The Globe and Mail 2024).

With so many factors at play, it is hard to keep track of just how the housing market is evolving. This analysis aims to explore the dynamics of the housing market and understand the impact of economic variables on the housing market, analyze if any indicators are more significant contributors to the housing market than others etc. Through this exploration we also aim to explore economic indicator changes and what significance they have to the housing market, the relationship between correlated variables, and their impact on the market.

This paper also explores the housing supply in specifically Ontario due to its increased housing activity in the past few years. We explore how the housing demand has changed over the last 20 years, and whether the current housing development initiatives are enough to contribute positively to the improvement of the housing crisis. Additionally, we touch upon government policy on housing capacity, and targets that are currently in motion.

With the complexity of the housing market influenced by numerous factors, keeping track of its evolution proves challenging. The estimand of this paper is to find the associations the of economic variables, the supply demand variables represented by housing starts and immigration numbers to the house price index. By examining economic indicator changes, we seek to uncover their significance and understand correlations among variables and their market impact.

Focusing particularly on Ontario's housing landscape, where activity has surged in recent years, this paper investigates shifts in housing demand over the past two decades. We evaluate whether current housing development initiatives adequately address the housing crisis. Additionally, we discuss government policies regarding housing capacity and existing targets.

Through this analysis, we aim to grasp the current reality of the housing market and understand how economic conditions, including factors like immigration and housing starts, influence its trajectory. With the housing market facing constraints such as high interest rates, we seek to uncover insights regarding the future of the market.

The remainder of this paper is structured as follows.In the Data@sec-data, we note the sources of the data sets utilized in the paper, the specific techniques we used to process them, and key variables we wish to use. In the Model Section **??**, we created models to assess the impact of the key variables on our outcome of housing prices. In the Results Section **??** we discuss the results of the model and what key correlations were found from the variables studied in the paper. In the Discussion Section **??**, we explore the findings of modeling and predictions. In addition, we discuss biases and weaknesses in the data that contributed to our findings, and how we navigated those limitations.

2 Data

2.1 Data Source and Collection

The data sets used for this analysis have been picked from multiple sources, open government portals and economic institutions. By choosing a variety of data sets, many cleaning and alignment processes were applied to ensure as much consistency possible between the data sets before usage.

2.1.1 Inflation Rate

The Inflation Rate Data was found from Macrotrends (Macrotrends 2022a) which published a concise summary of the inflation rate (Consumer Price Index focused) changes from 1960-2023 sourcing its data from the World Bank. Inflation rate, from a Consumer Price Index (CPI) perspective, represents the percentage change in the average price level of a basket of goods and services typically consumed by households over a specific period. It indicates the rate at which the general level of prices for goods and services is rising, leading to a decrease in purchasing power.

2.1.2 Interest Rate

The interest rate used for our analysis is specifically the Canada Mortgage and Housing Corporation, conventional mortgage lending rate, 5-year term rate, and was sourced from Statistics Canada (Canada Mortgage and Housing Corporation 2024). The data was reported for years 2000-2024 by each month. The conventional mortgage lending rate, specifically the 5-year term, refers to the interest rate that financial institutions charge for conventional mortgages with a fixed interest rate and a term of 5 years. This rate is significant in the housing market as it influences the cost of borrowing for home buyers and impacts the overall affordability of housing. For our purposes we chose to aggregate data to use an average over all months to gain a yearly interest rate number to explore.

2.1.3 Unemployment Rate

The unemployment rate was found from Macrotrends (Macrotrends 2022b) which gave summarized year round rates, initially sourced from the World Bank. The unemployment rate generally refers to the percentage of the labor force that is unemployed and actively seeking employment. A visual of the rates discussed so far is seen in Figure **??**.