Visualizing Data in Tableau: Analysis of Real-estate and Housing Data

By: William Green Lighthouse Labs Data Analytics Project Option 1

Process

Data Processing:

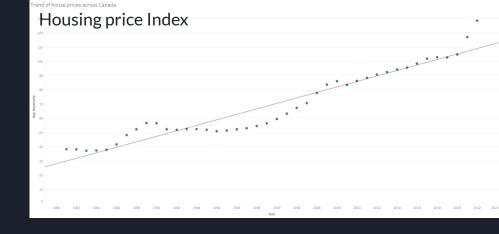
- To properly build a heatmap of the Real-estate prices,
 I made a union across all the sheets within the given excel file
- The weekly earnings dataset was given in JSON, which tableau could not process, so i had to make a small Python program to convert the column names and data into a usable csv file.

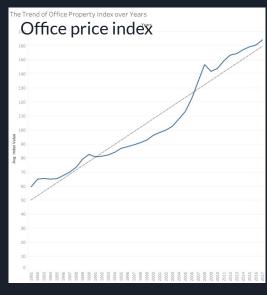
A	А	В	С	D	Е	F
1	Date	Composite_HPI	Single_Family_HPI	One_Storey_HPI	Two_Storey_HPI	Townho
2	Jan 2005	100	100	100	100	
3	Feb 2005	101	101	101	101.1	
4	Mar 2005	102	102.2	102.2	102.2	
5	Apr 2005	102.9	103.2	103.3	103.2	
6	May 2005	103.7	103.9	104.3	103.6	
7	Jun 2005	104.4	104.6	104.9	104.4	
8	Jul 2005	105	105.1	105.6	104.7	
9	Aug 2005	105.5	105.6	106.4	105	
10	Sep 2005	106.3	106.4	107.3	105.6	
11	Oct 2005	106.8	106.8	107.5	106.2	
12	Nov 2005	107.1	107.1	107.8	106.6	
13	Dec 2005	107.5	107.4	108.4	106.6	
14	Jan 2006	109	108.9	109.8	108.1	
15	Feb 2006	110.9	110.9	112.1	109.9	
16	Mar 2006	112.9	112.9	114.2	111.9	
17	Apr 2006	115	115.1	116.6	113.8	
10	May 2006	Aggregate	Vancouver_Island	Victoria Low	er_Mainland	+ :

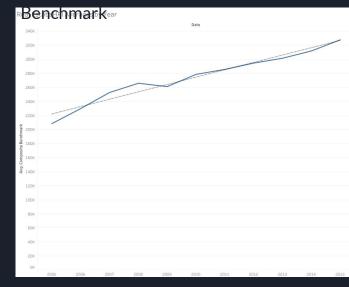
Comparison of Trends

- Average HPI is on the rise in recent years
- The average prices are rising alongside them
- The price index of Office space is rising as well

Office space price index appears to be rising at a much more extreme rate. This could be attributed to the rise of local businesses.







House Pricing Across Districts

- Canada wide, the HPI is overall growing over time
- In some districts it seems to be on a gradual decline after hitting a peak
- It tends to be be higher in larger cities.
- The highest in the provided data are in Saskatoon and Regina

Due to a surge in their real estate market, the two largest cities in Saskatchewan on average have a higher HPI than the Greater Vancouver and Toronto Areas.

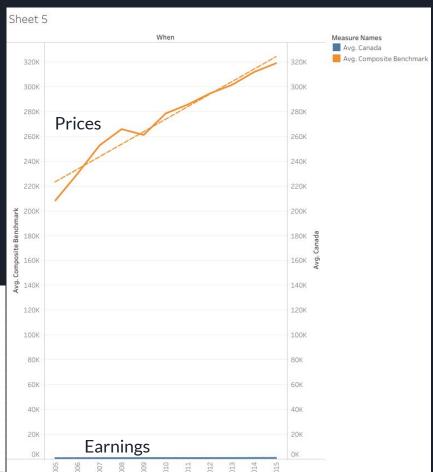


Housing Prices Against Earnings

- It's nearly comedic how low earnings are compared to housing prices
- Despite the increase in housing prices, people are on average spending a higher portion of their earnings.

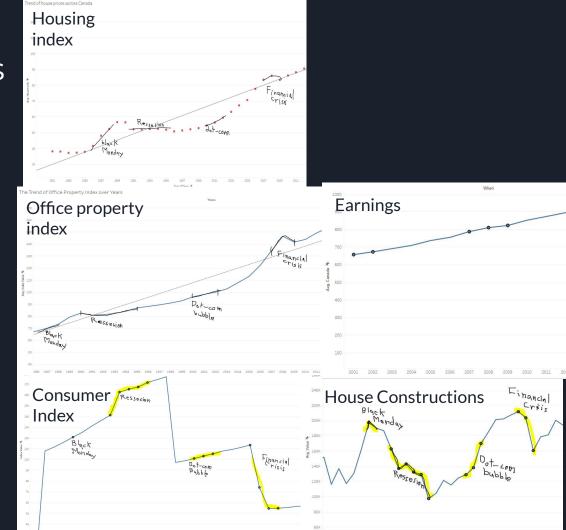
It is very likely the increase in housing prices occurs alongside an increase in prices overall due to inflation.





Effects of Crises

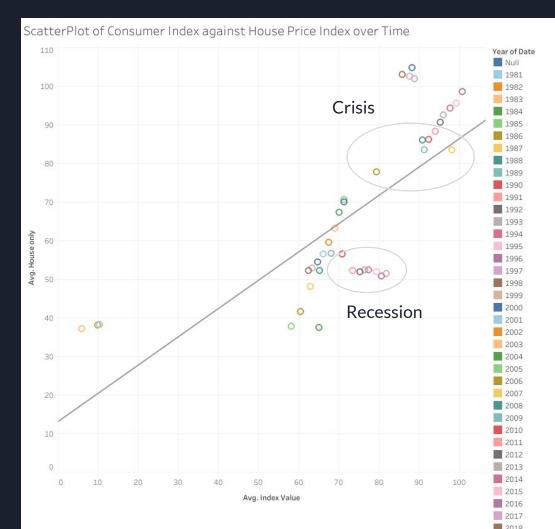
- Black Monday only had a noticeable effect on constructions
- The Recession generally led to immediate stagnation, even slowing a sharp drop in construction
- The dot-com bubble lead to an increase across the board
- The 2008 financial crisis crashed everything
- Average earnings was apparently unaffected by either of the events documented in the data



Consumer Index Vs. HPI

- There is a visible trend in the data.
- The recession and financial crisis are actually visible in the plot

Outliers from crises aside, the two indexes can be used to predict each other with relative accuracy.



Challenges and Changes

Tableau is a tool completely new to me, unlike the previous two projects. If I were to even just repeat this project immediately, I likely would have made visualizations with better formatting.

Building on the previous point, I was naive in Tableau's apparent user friendliness. It is very easy to use, and I mistakenly saw that and thought I did not need to focus as hard on the reading material in earlier weeks and my studying fell off.