Brainstation

Data Analysis Project

# Deciphering the Real Estate Market

Possible clues to help you make informed decisions about your buying.

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#### Note

#### Analysis Audience

The average first time home buyer

#### Analysis Purpose

To give people a basic introduction into a few factors that might affect the real estate market

## The Cycle of Rent

Once a month

**Bank Account** 



Moneyour

Landlord



# Maybe I should buy a house instead



But ...

## Bank of Canada raises its key interest rate to 5%

10th rate hike by central bank since March 2022

Business

Inflation jumped higher last month, to 3.3%

# Hotter-than-expected inflation turns up heat on Bank of Canada

What does all this mean??

#### Mortgage Rate

**Bank Rate** 

Inflation

# How do all these things affect me buying a home?

### **Data Sources & Project Scope**

Inflation, Bank Rate, & Variable Mortgage Rate Data:

Bank of Canada website

Real Estate Data:

toronto.listing.ca

What Years?

2013 - 2022

Where?

Toronto, ON, Canada

#### **Definitions**

Homes - Any type of home (condos, detached homes, freehold townhomes, etc.)

Bank Rate - Interest rate set by the Bank of Canada

Mortgage Rate - Average weekly variable mortgage rate

Averages - Yearly total average

Percent Change - Percentage difference from the previous years total average

Number of Sales - Total number of yearly home sales in Toronto

Days on Market - Total average number of days a home was on the market before being sold

Sold Price - Average sold price of a Toronto home

#### Inflation

#### **Bank Rate**

#### Mortgage Rate

Can be referred to as CPI

**Prices Increase** 

Money value decreases

Set by the Bank of Canada

Sets Interests Rates for loans to commercial banks

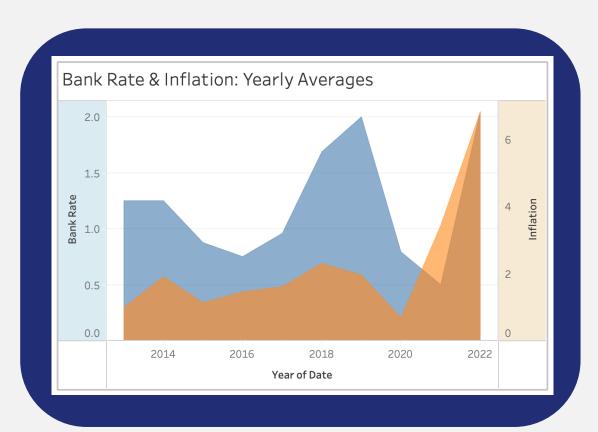
Interest charged by Mortgage Lender

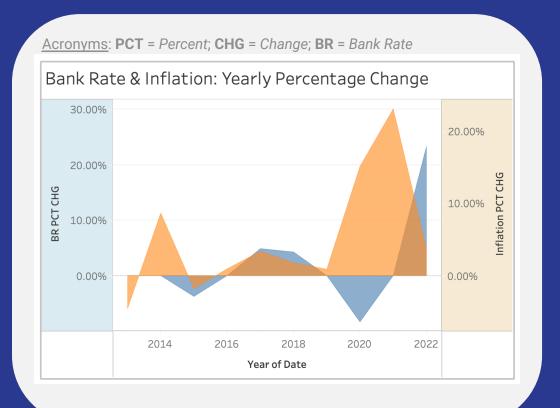
#### How do they relate to each other?

#### **Bank Rate & Inflation**

Looking at the averages, there is a long-term correlation between Bank Rate & Inflation.

Let's look at the yearly percentage changes for each, to compare.



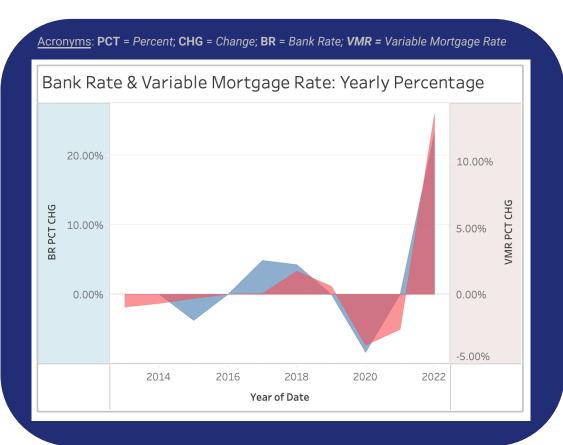


The percentage changes also show a correlation.

However ...

It's worth noting the inverse correlation in 2020 – which (for the sake of this presentation) will be considered an anomaly, given COVID-19.

#### **Bank Rate & Variable Mortgage Rate**



Here too, we see that there is a close correlation between Bank Rate & Variable Mortgage Rate

# There is a broad correlation between Inflation, Bank Rate, & Variable Mortgage Rate

Will be using Bank Rate to look at Real Estate data

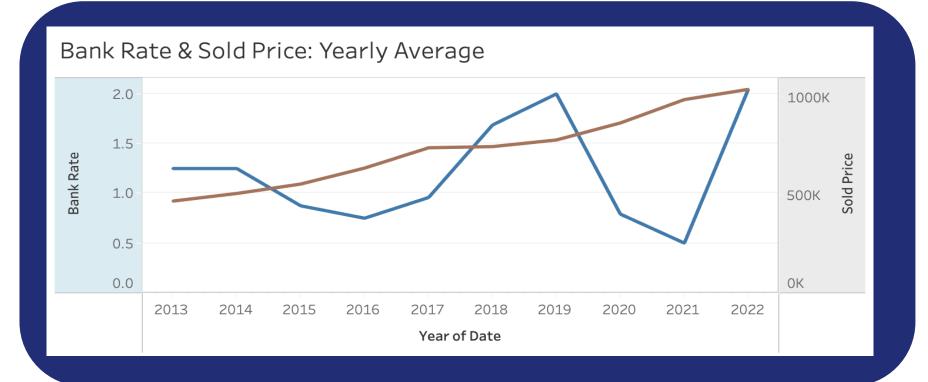
## Analysis Outcome?

The Bank Rate <u>can</u> be a good indicator for determining the state of the real estate market.

Here's why.

#### **Bank Rate & Sold Price**

Is there a correlation?



There's a steady increase in Sold Price Over Time, seemingly ignoring Bank Rate movement

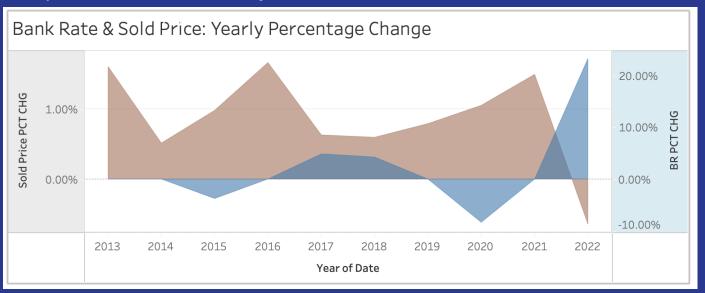
This could be due to a number of external factors (population increase, foreign investors, etc)

Percentage changes, however, show a different story. There's a somewhat *delayed* inverse correlation between bank rate & average sold price.



And vice versa

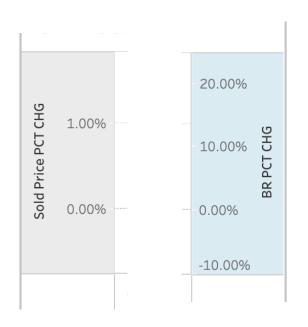
<u>Acronyms</u>: **PCT** = Percent; **CHG** = Change; **BR** = Bank

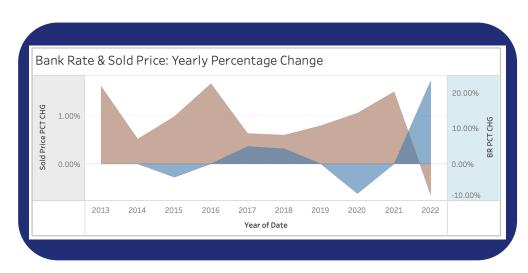


#### HOWEVER!!

Be aware that the inverse correlation is not a proportional one.

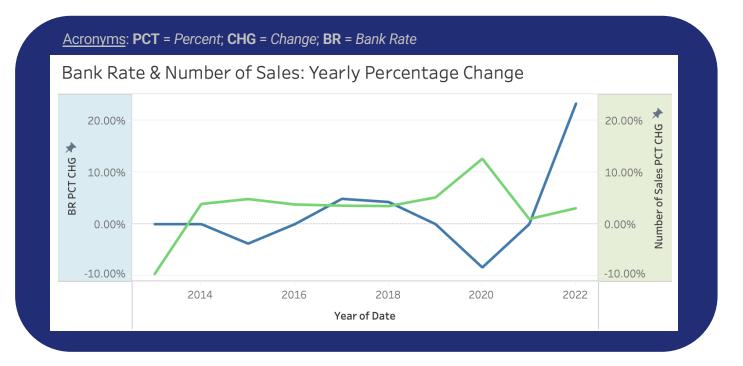
A 15% change in yearly Bank Rate changes only equates to about a 0.5% change in yearly Sold Price changes.



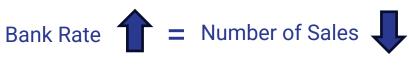


#### **Bank Rate & Number of Sales**

Is there a correlation?



With the number of yearly home sales, there is more of an immediate inverse correlation with Bank Rate

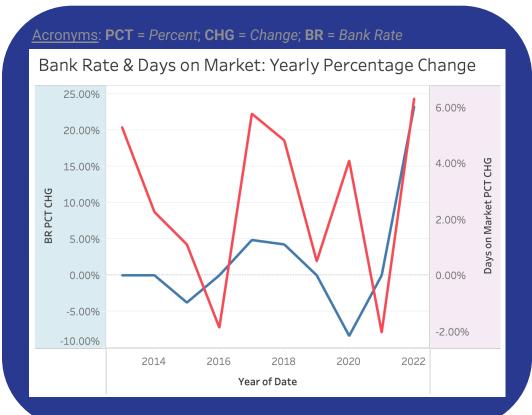


And vice versa

Buyers are more active when bank rates are lower.

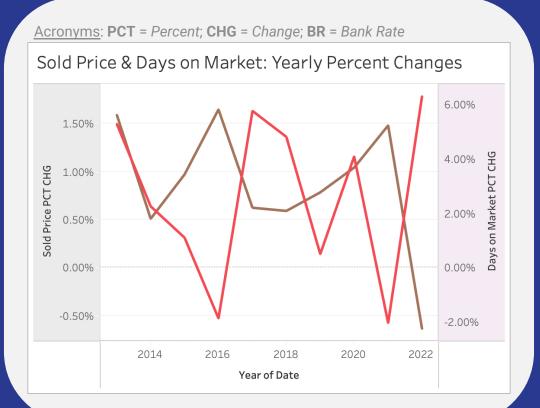
#### **Bank Rate & Number of Days on Market**

Is there a correlation?

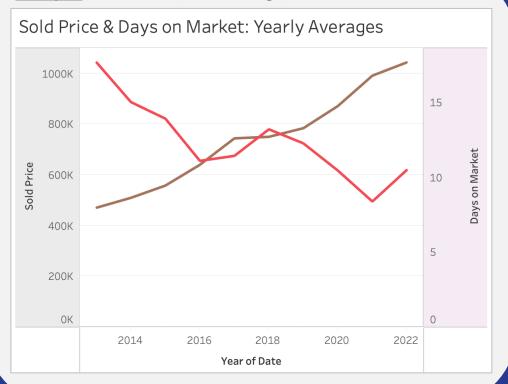


Though there are some moments of correlation – there is no long term trend that looks to fit.

However, a trend starts to become a bit more noticeable when compared with the yearly Sold Price changes.



Acronyms: **PCT** = Percent; **CHG** = Change; **BR** = Bank Rate



Finally, a more apparent relation exists when looking at the averages of both.

We're presented with an inverse correlation between Sold Price and Days on Market averages.

#### Bank Rate Inherent effects

#### Sold Price

Days on Market

Home price follows a steady trend

Rate of growth is affected by Bank Tate

Higher Bank Rates slow the growth of prices, even bringing them down in extreme cases

Inverse of Bank Bate

Higher Bank Rates cause volume of sales in the market to decrease & vice versa

Number of Sales

No immediate relation with Bank Rate.

It is more affected by the average sold price.

### **Conclusion:**

The *Bank Rate* is a good indicator for the direction of the Real Estate market.

You now have a solid foundation in understanding how
Bank Rate change trends can affect the real estate
market in Toronto.

Tracking trend changes can empower you to make informed decisions.