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TOP 5 ZIP CODES IN FLORIDA TO INVEST IN

SUMMARY

Analyze median monthly housing sales prices for Florida zip codes and choose the best zip codes to further analyze for potential investment.

OUTLINE

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BUSINESS PROBLEM

The real investment firms are interested in Top 5 Florida Zip codes and their possible ROI. The following are assumptions of firms:

- The minimum capital of investment is $200,000
- The goal is to invest in highly urbanized Florida areas
- Low risk factor (low volatility threshold)

DATA INFORMATION

DATA OBTAINING

- The **Home Listing and Sales** dataset was provided by **Zillow Research**.

- The data represents **median monthly housing sales prices** over the period of April 1996 through April 2018.

- Each row represents a unique zip code. Each record contains location info and median housing sales prices for each month.

DATA CLEANING

- Select observation of Florida State

- Select **urbanization rank** in **top 15 quantile**

- The **minimum median price of housing $200,000**

- The **volatility range** of the median price **1.7 – 2.9**
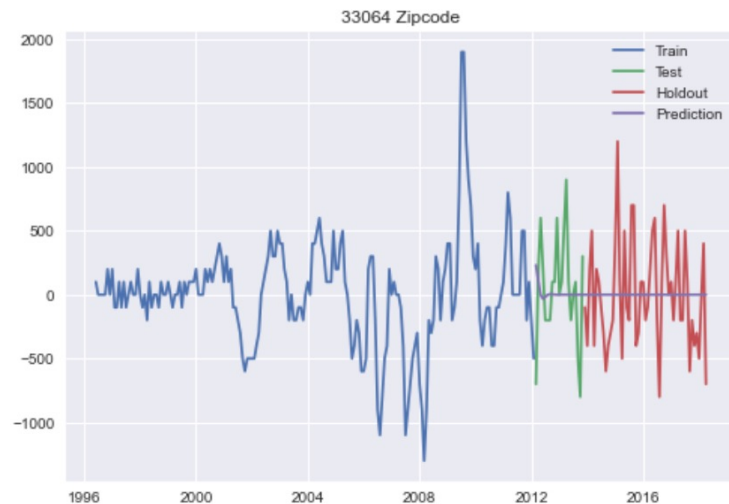
- The **ROI rate greater than 9.5%**

DATA PREPARATION
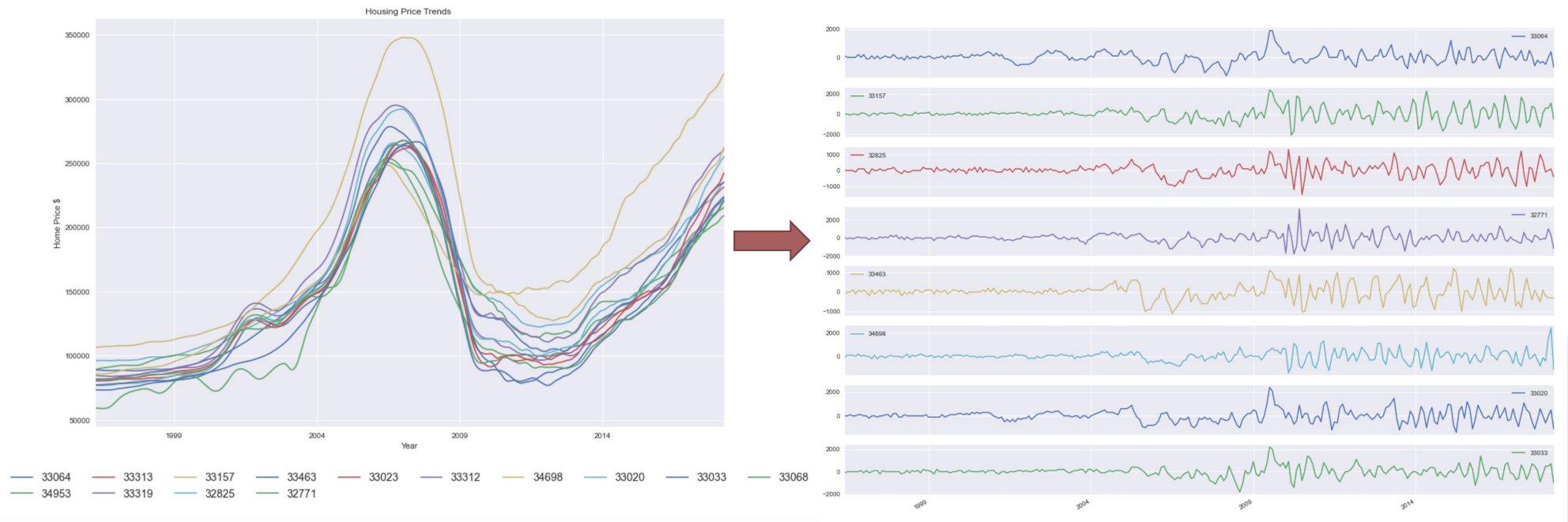
Stationarity – mean, variance and covariance are constant over time – no upward/downward trends

Convert non-stationary data to stationary.

MODELING

Zipcode	AIC	Training RMSE	Testing RMSE
33064	2866.77	386.119	417.434
33157	2866.77	467.844	902.215
32825	2866.77	338.697	478.466
32771	2866.77	429.201	565.062
33463	2866.77	354.469	511.332
34698	2866.77	486.801	627.904
33020	2866.77	399.077	633.779
33033	2866.77	386.454	481.956

Models built: Auto – ARIMA, SARIMAX(2,0,0), Facebook Prophet.

Best Performance – SARIMAX (2,0,0)

Metrics: lowest AIC value and RMSE values.

SUMMARY

Results:

- All *training data overfitted models*.

- The *models are all very skewed* because of the market crash in 2009.

- Relying on the project assumptions, data exploration and modeling, following zip codes are chosen as best ones to invest in:*33064, 32825, 32771, 33033, 34698*

Notes:

- Real estate *predictions* may vary due to *unseen fluctuations* in the market.

Next Steps:

- Obtain *data after 2018* for current predictions.

- Use *samples only after Great Recession* period to model.

- Set *ROI threshold to lower values.*

THANK YOU!

GitHub: https://github.com/zyazyaG/Top_5_Zipcodes

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