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# *Open Table Forecasting*

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By Juliet Day

# *About Me*

## **Juliet Day**

- George Washington University: Bachelors in Criminal Justice (2019)
- Institute of Culinary Education: Culinary and Business Management (2020)
- Owner of Baked By Juliet (2020-2022)



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# *Agenda*

- 1) Stakeholder
- 2) Business Problem
- 3) Data Overview
- 4) Modeling
- 5) Recommendations
- 6) Future Steps



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# *STAKEHOLDER*

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# *Stakeholder*



## **Mission:**

To serve the food and restaurant industry and impact its success by: strengthening operations, mitigate risk, develop talent, advance and protect business vitality through national, state and local advocacy, drive knowledge and collaboration



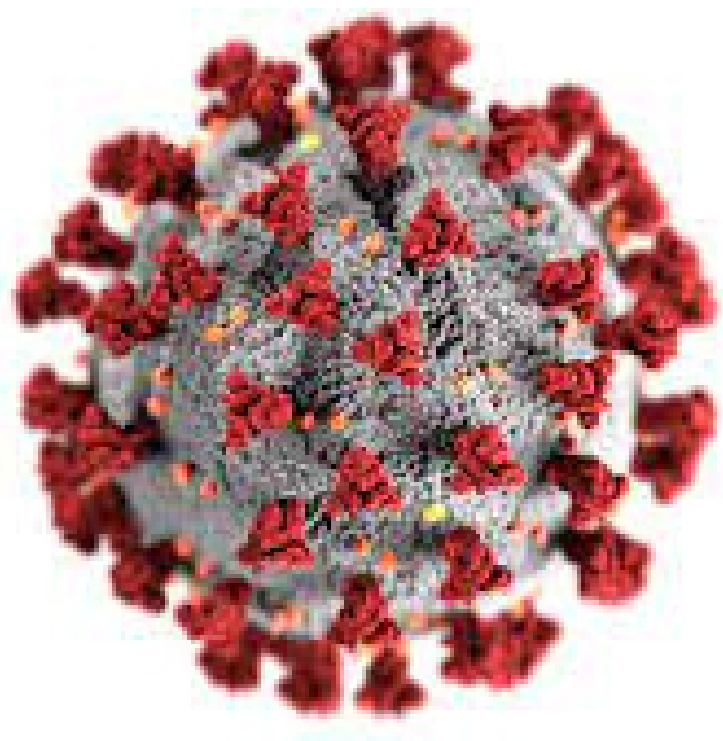
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# *BUSINESS PROBLEM*

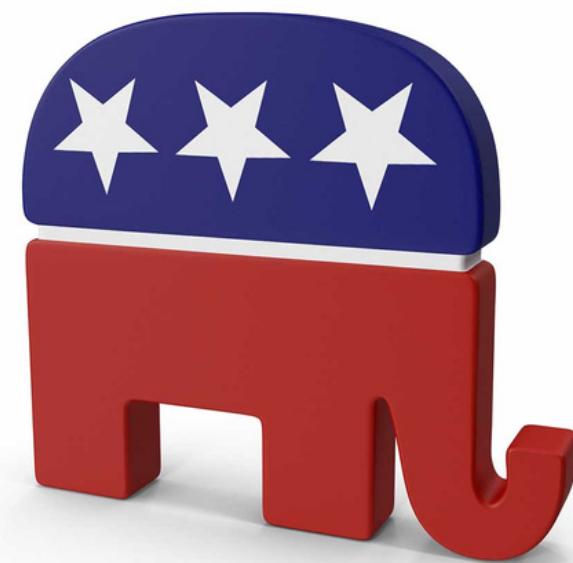
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# *Business Problem*



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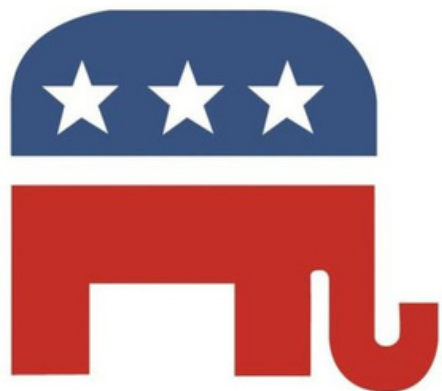


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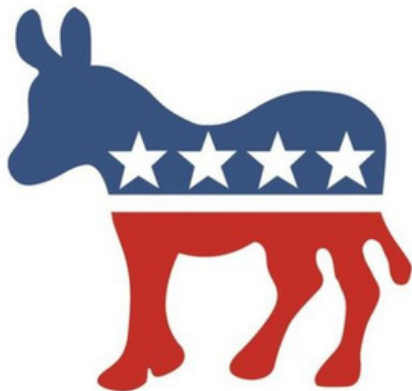


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# *Cities Analyzed*



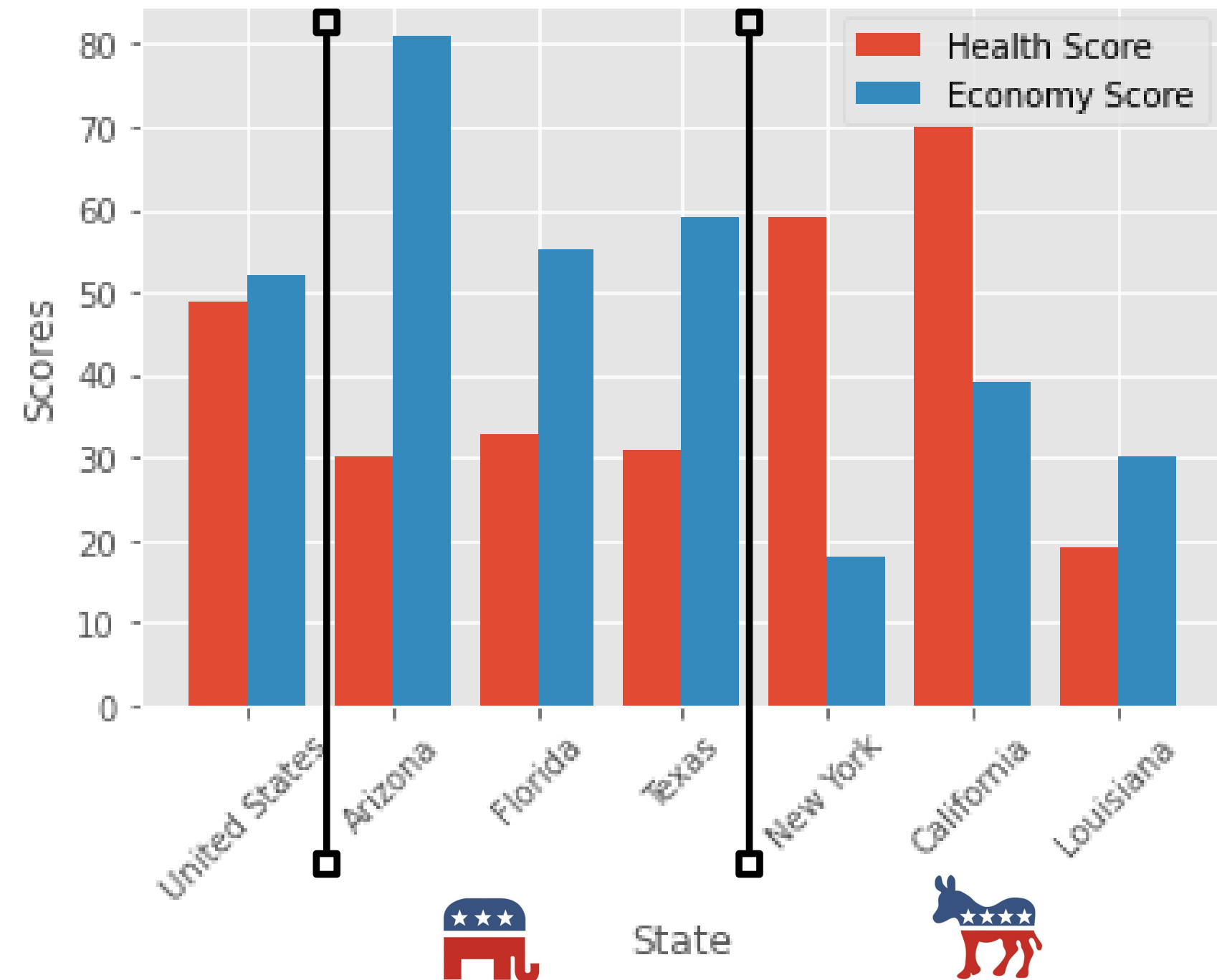
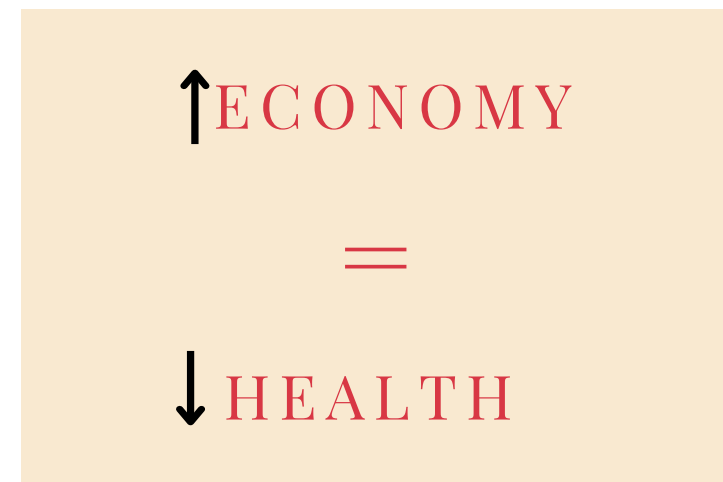
Republican	Democratic
Miami, FL	New Orleans, LA
Dallas, TX	Los Angeles, CA
Phoenix, AZ	New York City, NY





# *Business Problem*

Health Vs. Economy Score Per State (March 2020–December 2021)



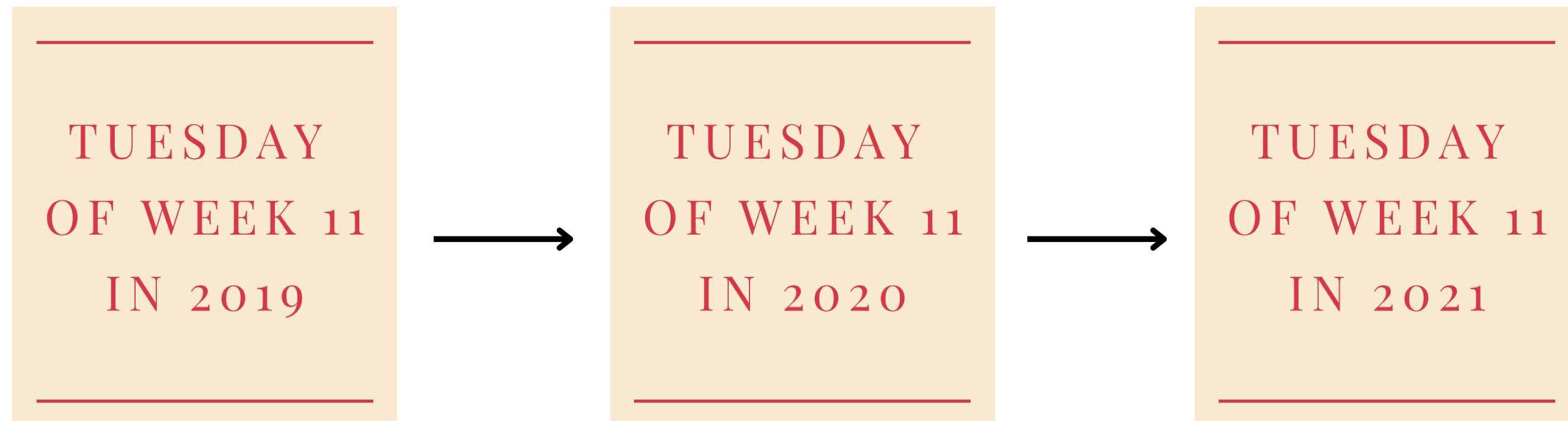
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# *DATA OVERVIEW*

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# *Data*



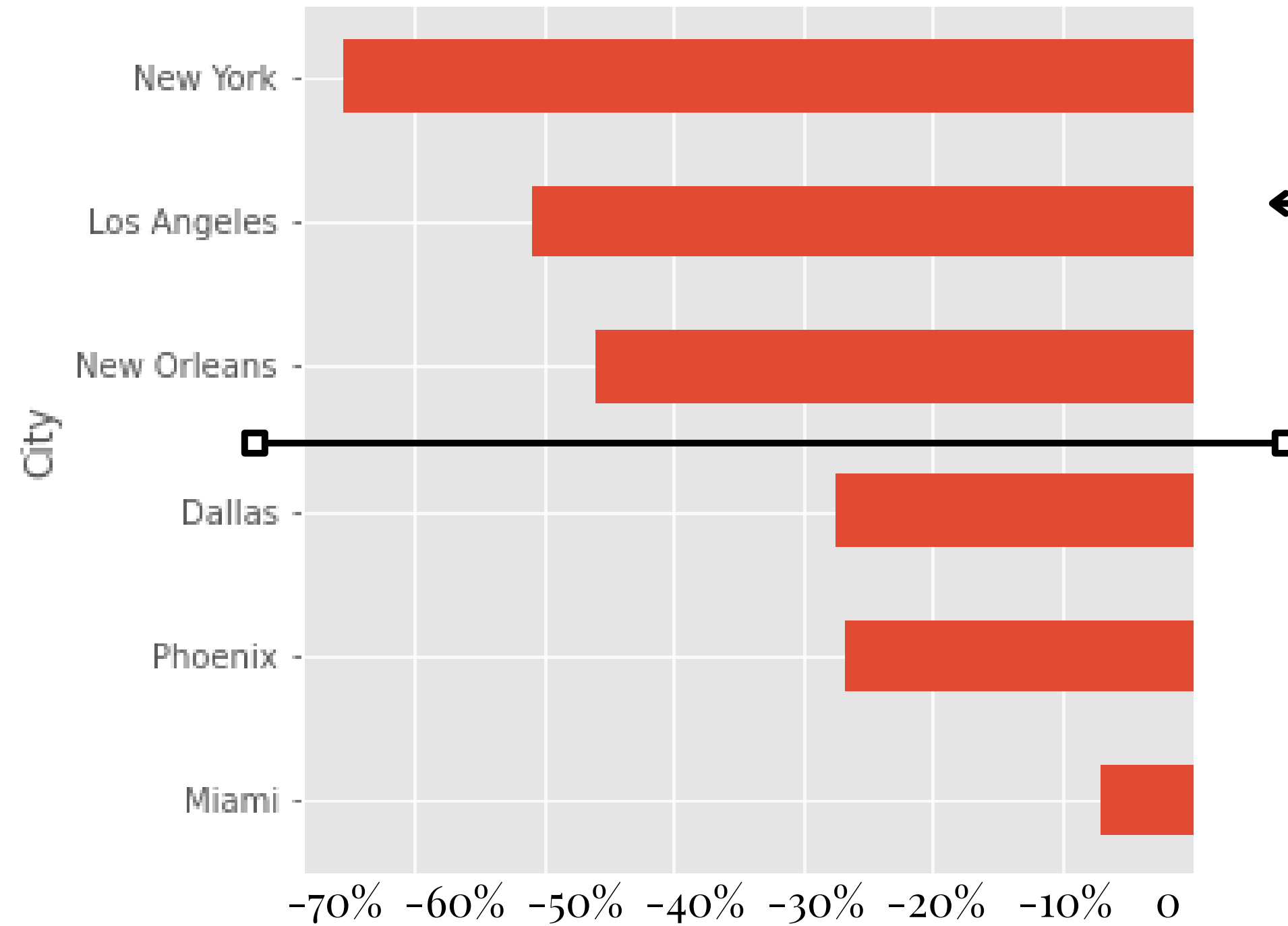
% CHANGE

2019 DATA AS BASELINE

50+ RESTAURANTS PER CITY



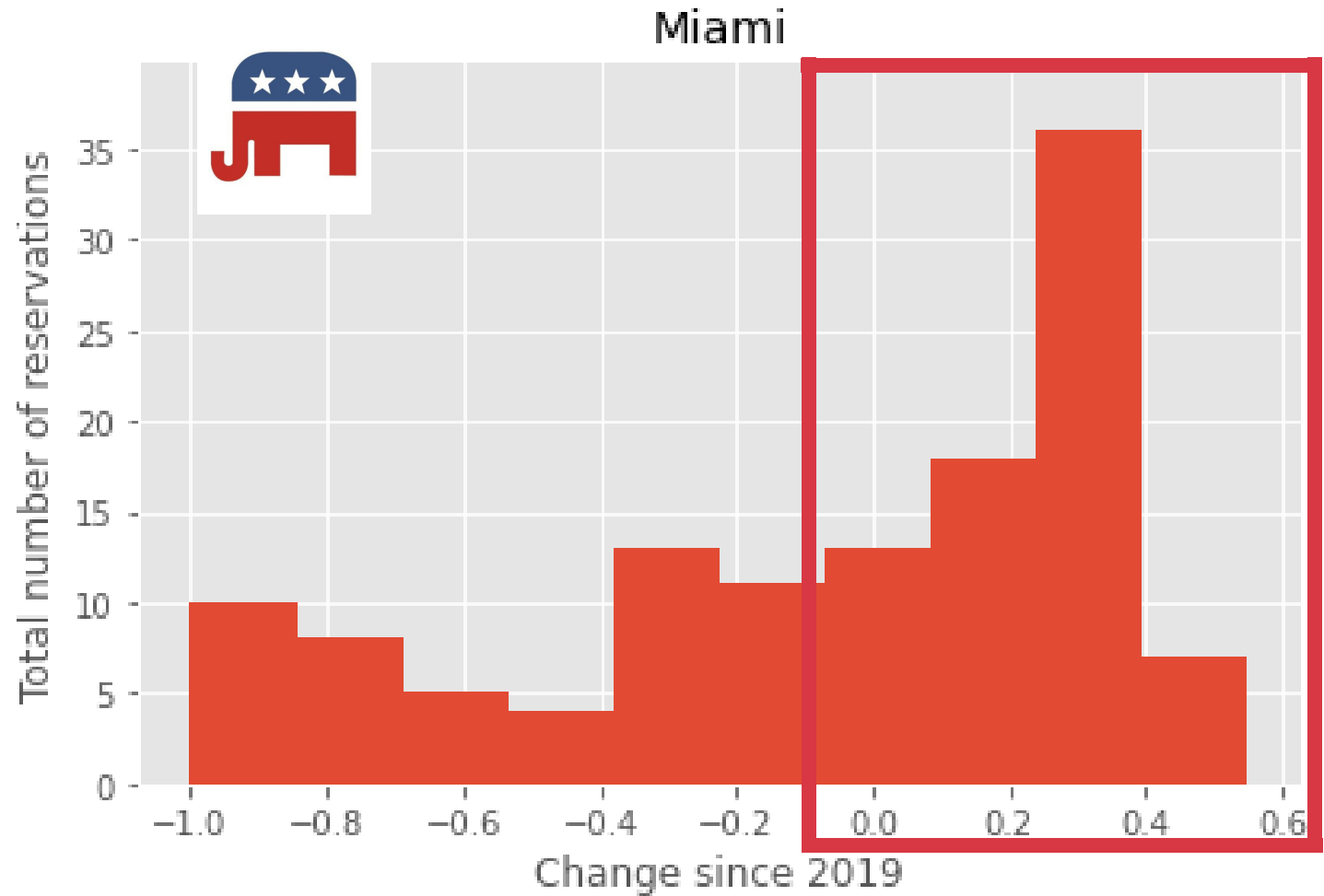
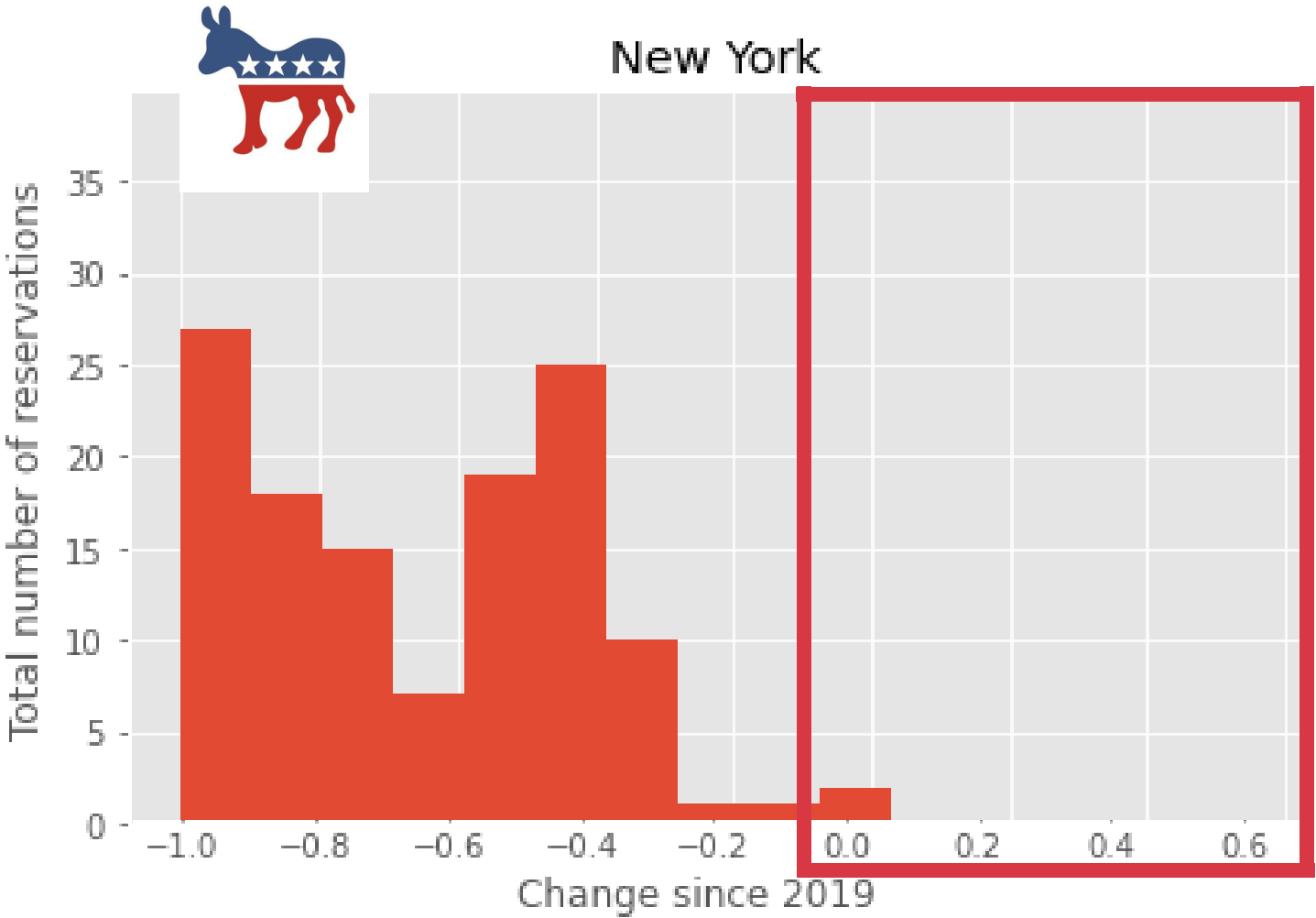
# Average % Change



Average % Change (from 2020-2022, compared to 2019)



*Total Number of Reservations*  
(from 2020-2022, compared to 2019)



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# *Data Limitations*

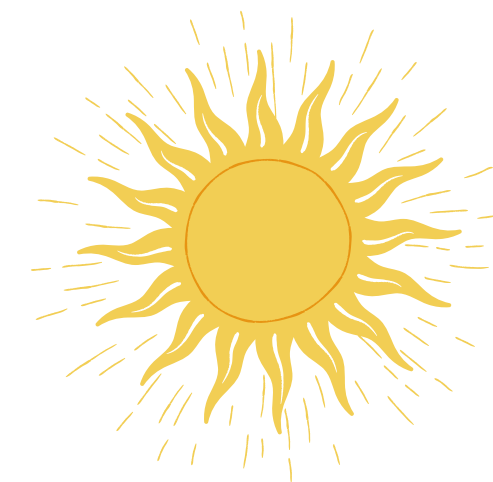
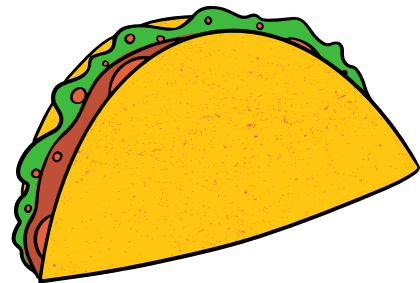


Lack of data (about 2.5 years)

Not the same restaurants for each city

Type of cuisine

Weather in the city



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# *MODELING*

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# *Modeling*

TIME SERIES

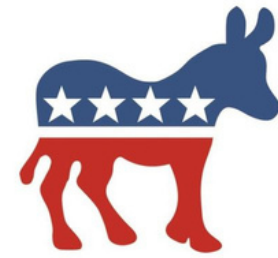
ARIMA AND SARIMA MODELS

PAST --> FORECAST FUTURE





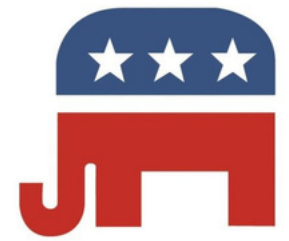
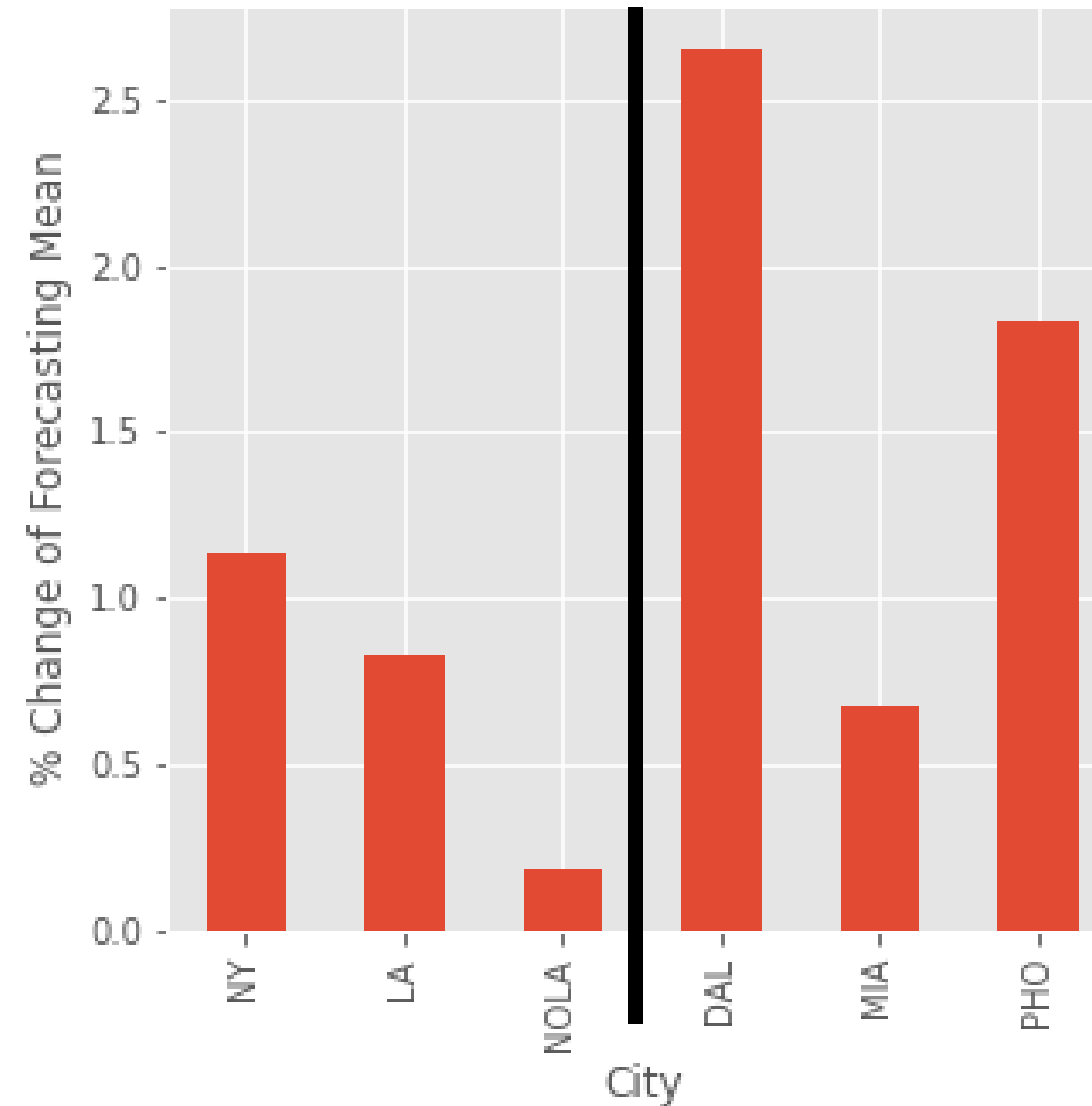
# Modeling



## Predictions:

- MAE: 5.65%–13.06%
- All predictions close to the baseline of 0%

Average Forecasted Scores (July–September 2022)



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# *RECOMMENDATIONS*

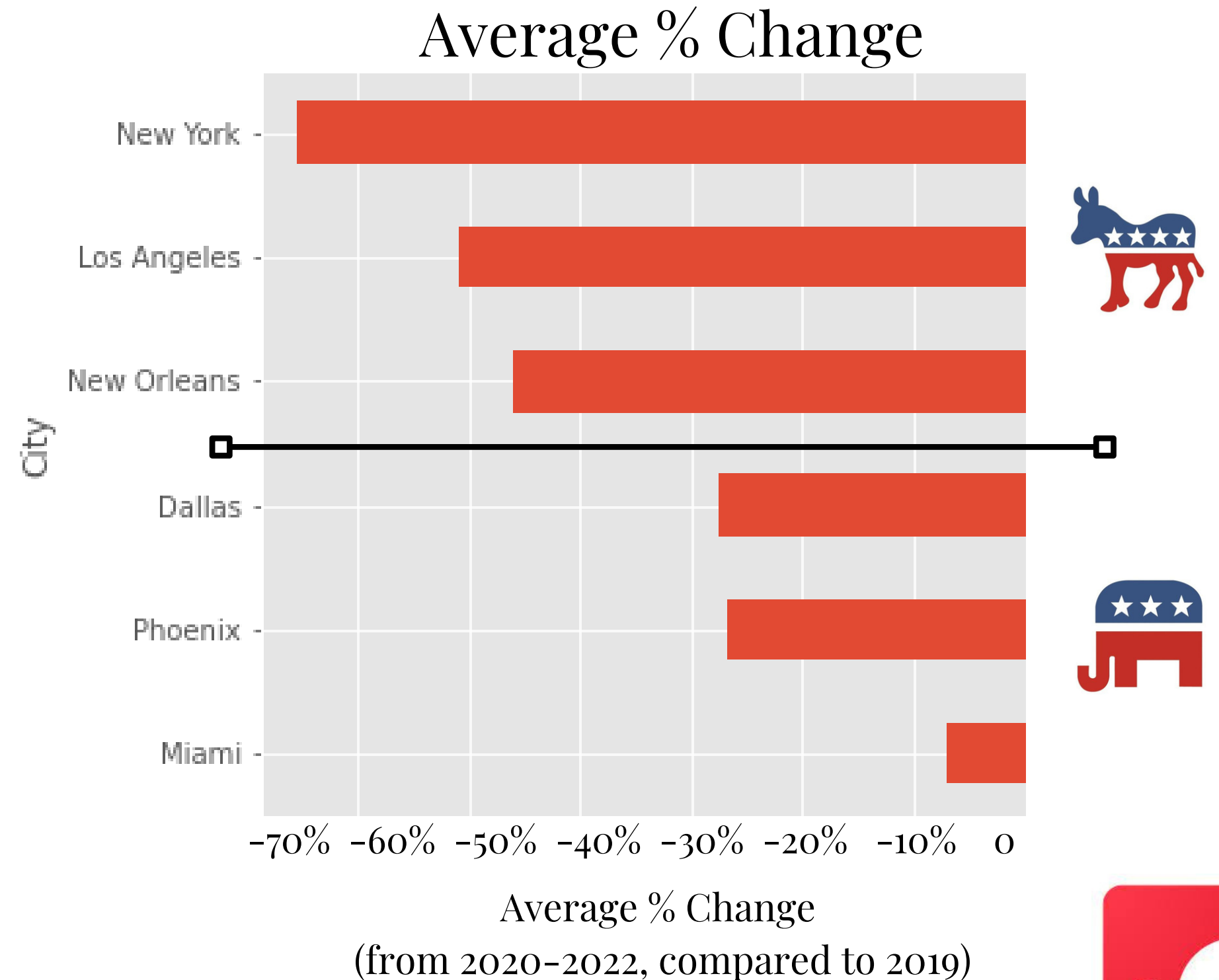
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# Recommendations

National Restaurant  
Association  $\neq$  Covid  
Policymakers

Democratic cities need more help

Resources: financial, marketing,  
consumer trends, tracking  
inventory and cost of goods



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# *FUTURE STEPS*

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# *Future Steps*

- START AFTER THE MARCH 2020 SHUTDOWN
  - POINT INTERVENTION FOR THE BIG DIPS
    - SAME RESTAURANTS FROM 2019- 2022
      - SAME TYPES OF CUISINE
- MORE DATA: DATA FROM BEFORE 2019 OR COMBINE DEMOCRATIC CITIES AND REPUBLICAN CITIES



# Thank You!

# Questions?

## *Contact*

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