

# FIFA World cup Data Analysis and Visualization

ECE 143 Group 1 Project  
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# Motivation



Offer a different perspective within a data analysis problem that has been done over and over.



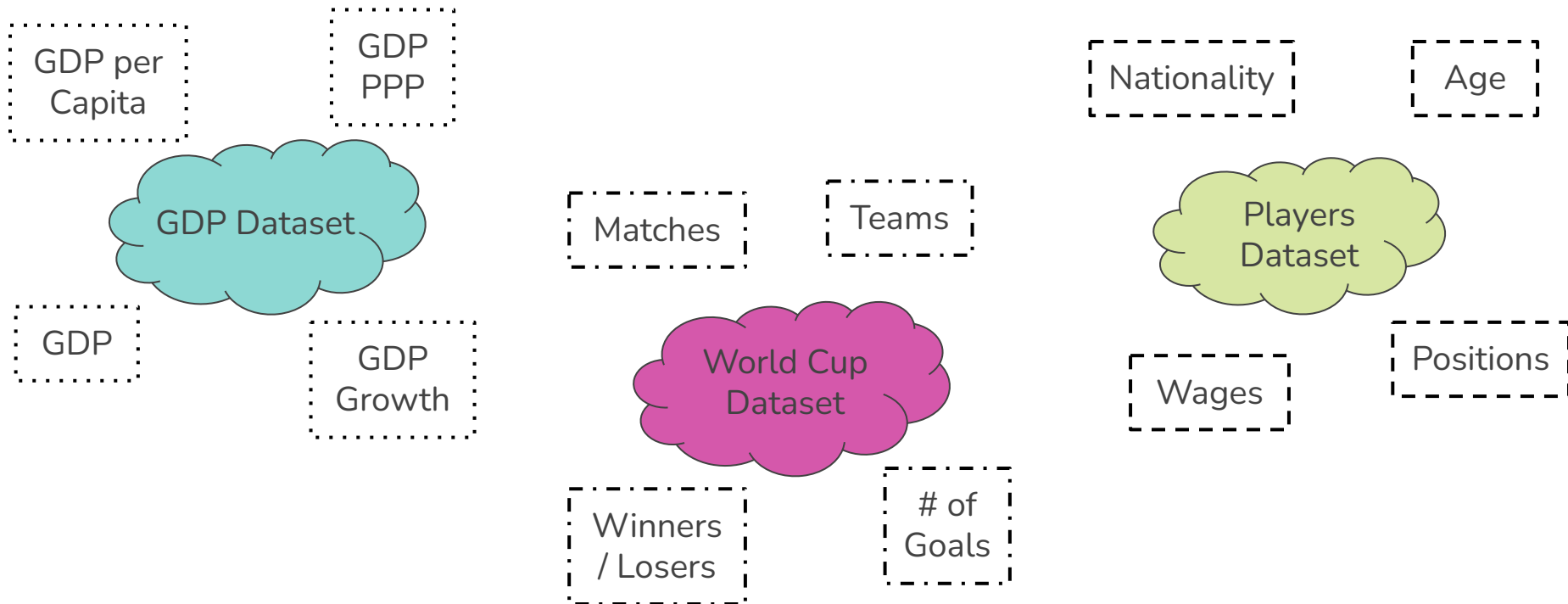
Understand how external factors could influence internal numbers and statistics



Examine keys that show strong offensive ability



# Data Overview





# Data Cleaning Principles



## Uniformity and Consistency

- ☐ Ensure country names are the same throughout datasets
- ☐ Reformat attribute names

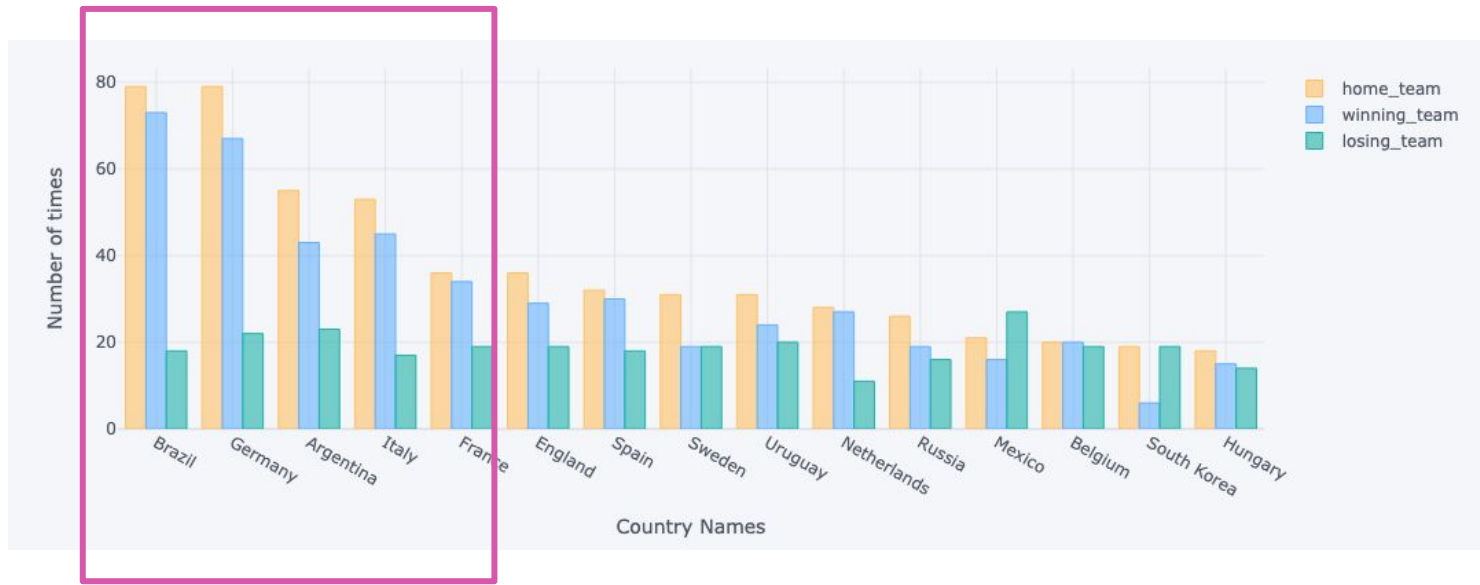


## Efficient Data

- ☐ Drop columns that are not relevant
- ☐ Filter countries and players that don't appear in the world cup
- ☐ Match some data points to other relevant values in other datasets

# History Analysis

❏ Top 15 hosted country and winning/losing stats from 1930 - 2018





# Winning Analysis

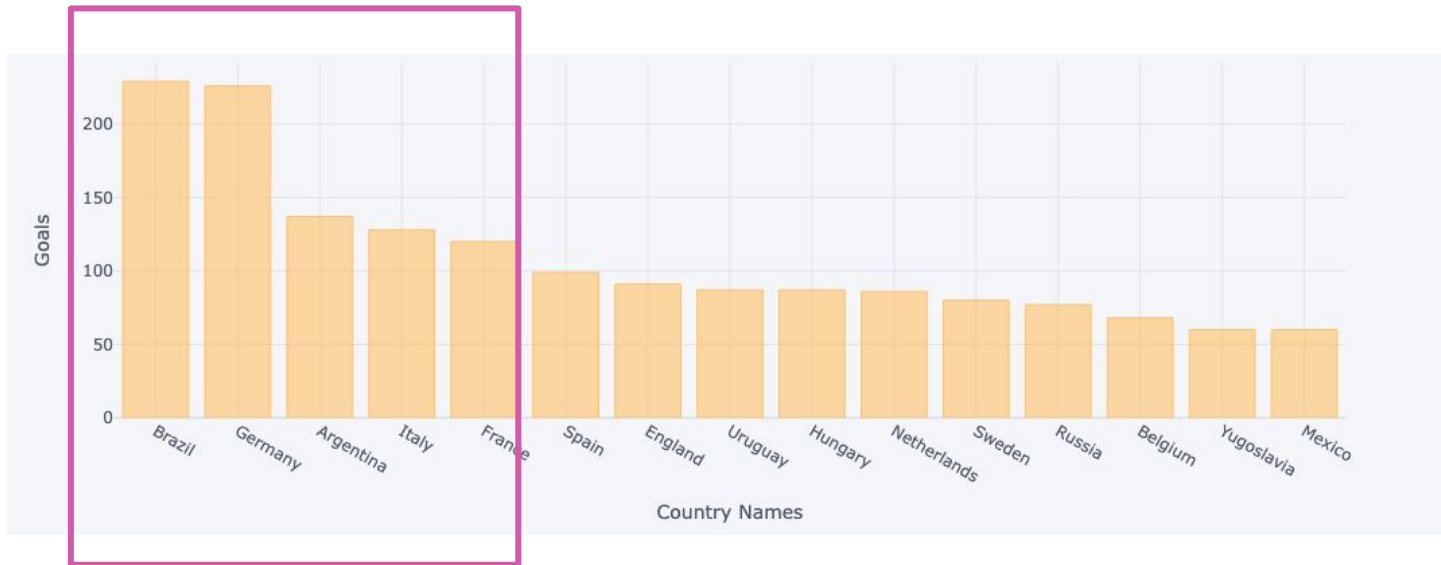
❏ Top 15 countries winning count from 1930 - 2018





# Goal-Scoring Analysis

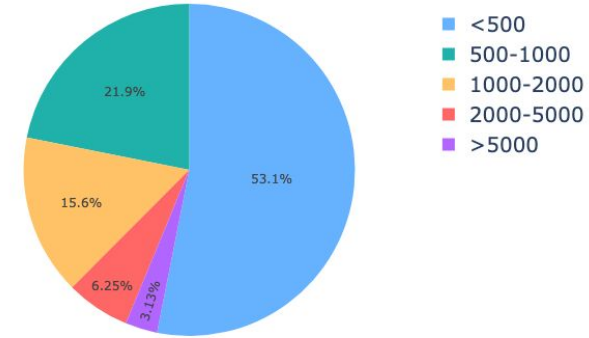
- ❑ Top 15 Countries that hit number of goals 1930 - 2018



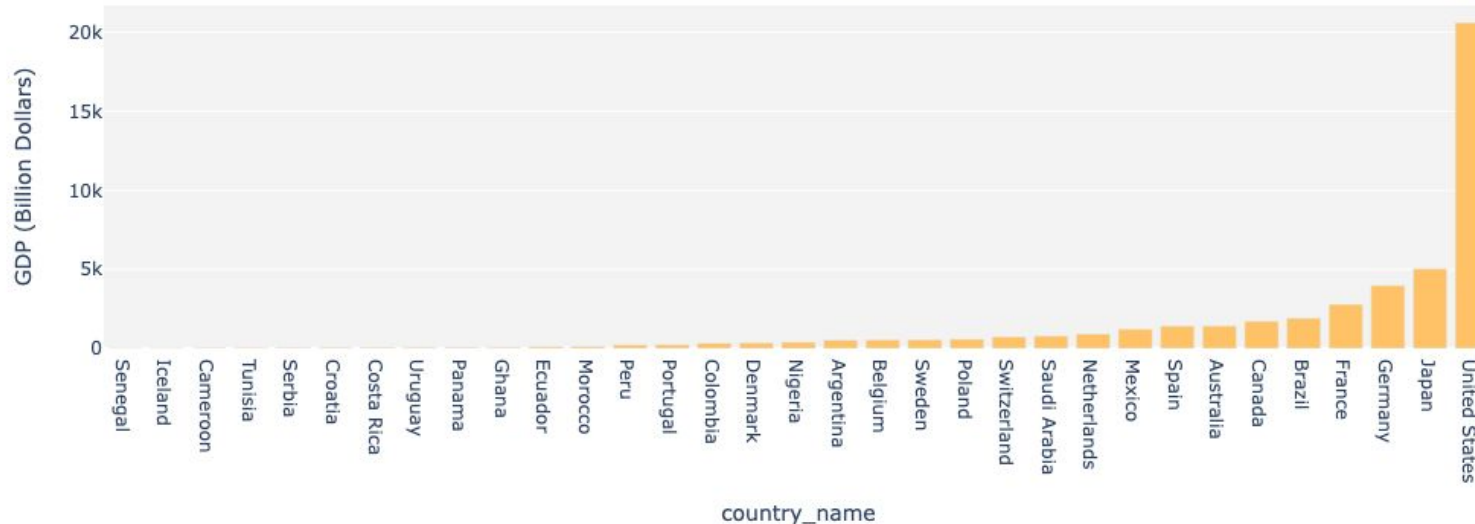
# GDP Influences #Goals?

- GDP overview of the countries participating in the 2018 World Cup

GDP Ranges by Country



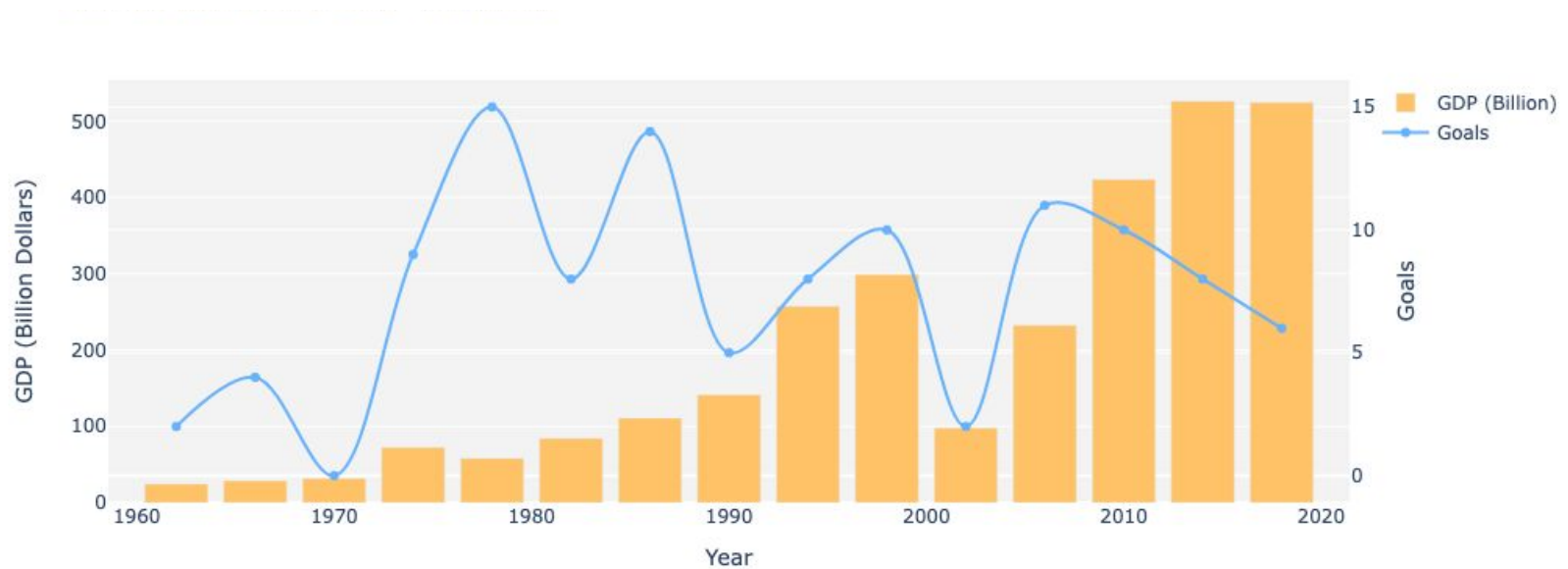
GDP by Country





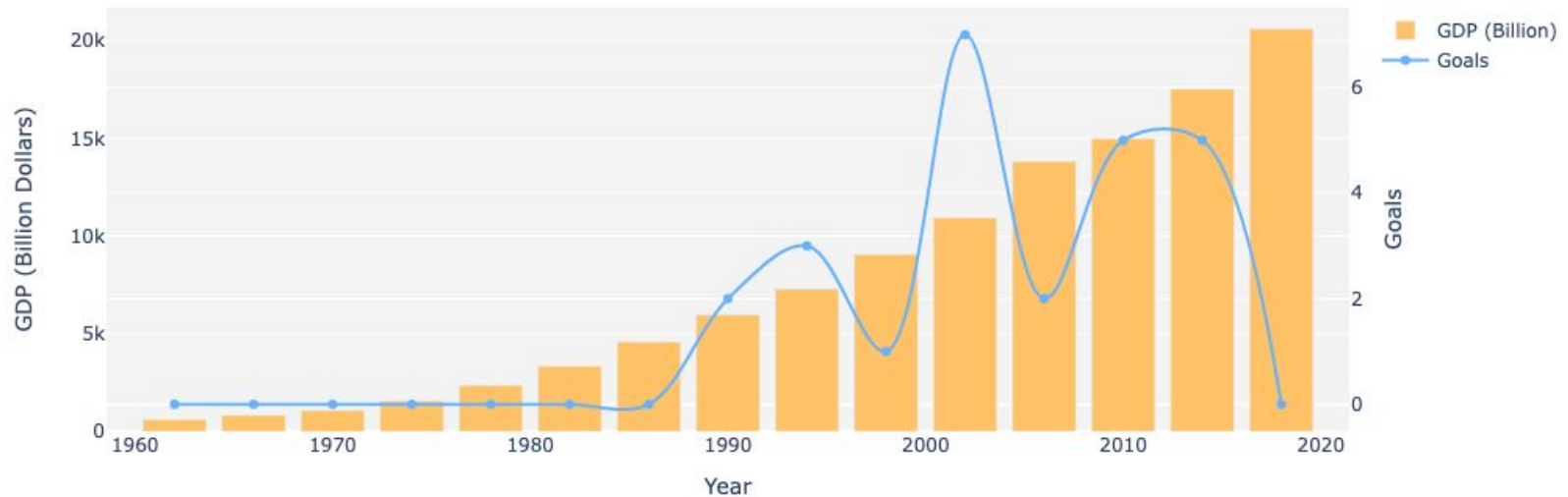
# Goal-Scoring and GDP

❏ Number of goals and GDP from 1962 to 2018 - Argentina



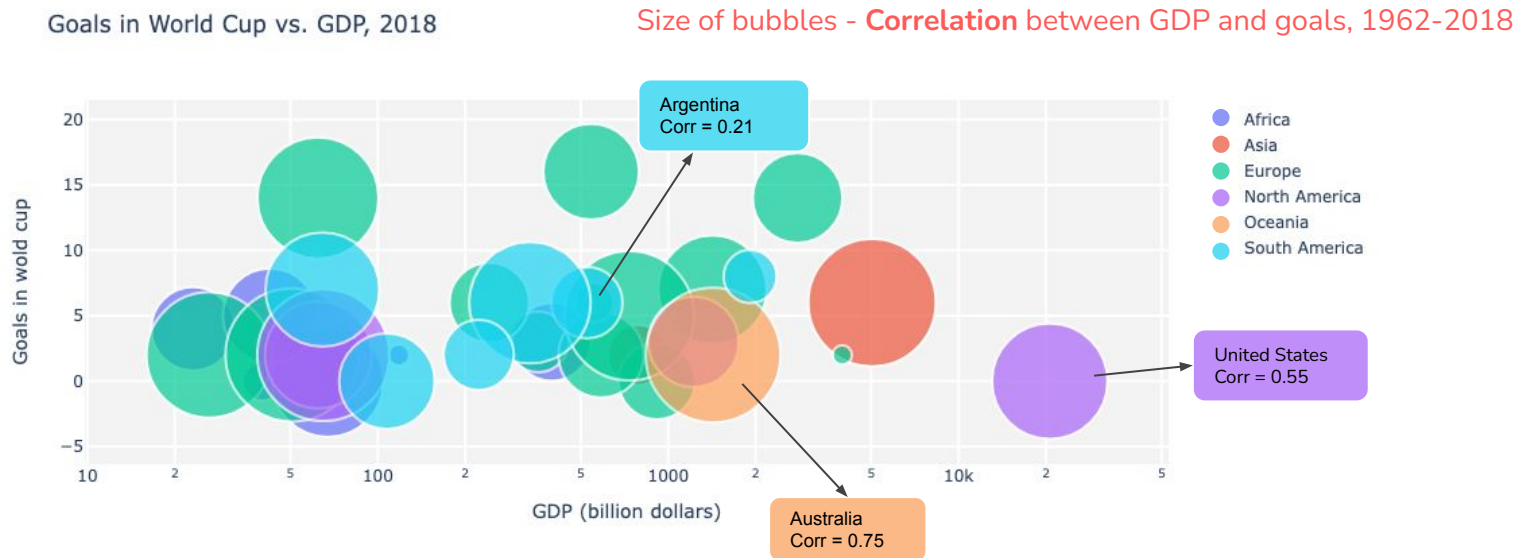
# Goal-Scoring and GDP

Number of goals and GDP from 1962 to 2018 - United States



# Correlation between #Goals and GDP

- ❑ Correlation between #goals and GDP varies over countries.
- ❑ No strong relationship between #goals and GDP



# Keys to Show Strong Offensive Ability

Take 2022 Argentina World Cup team as an example

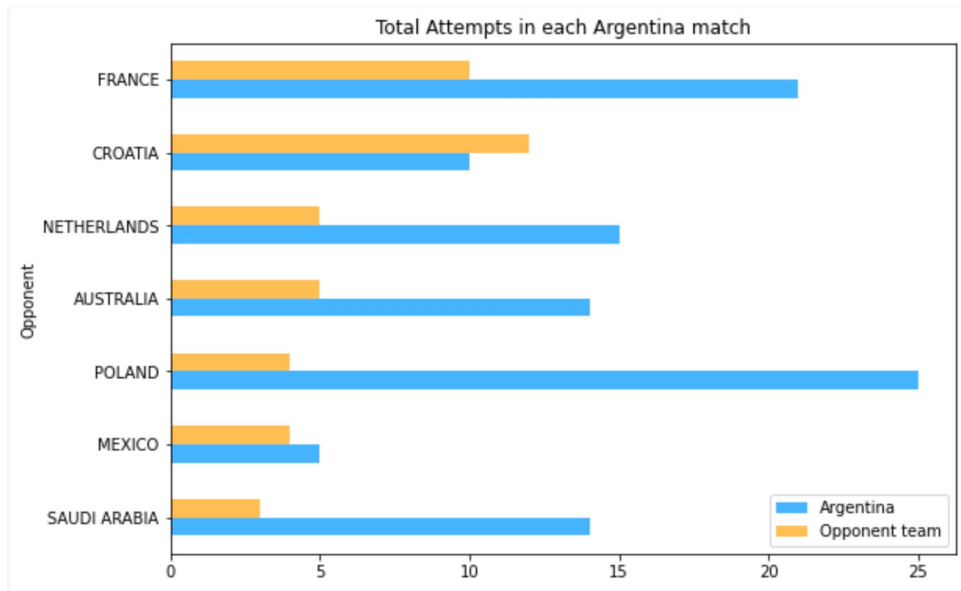
- ❑ Total Goal Attempts
- ❑ Goal Attempt Accuracy and Efficiency
- ❑ Total Offers to Receive





# Total Goal Attempts

- ❑ Total Goal Attempts: A team's attacking ability to break through the opponent defense line
- ❑ More Total Goal Attempts -> Better attacking ability





# Goal Attempt Accuracy

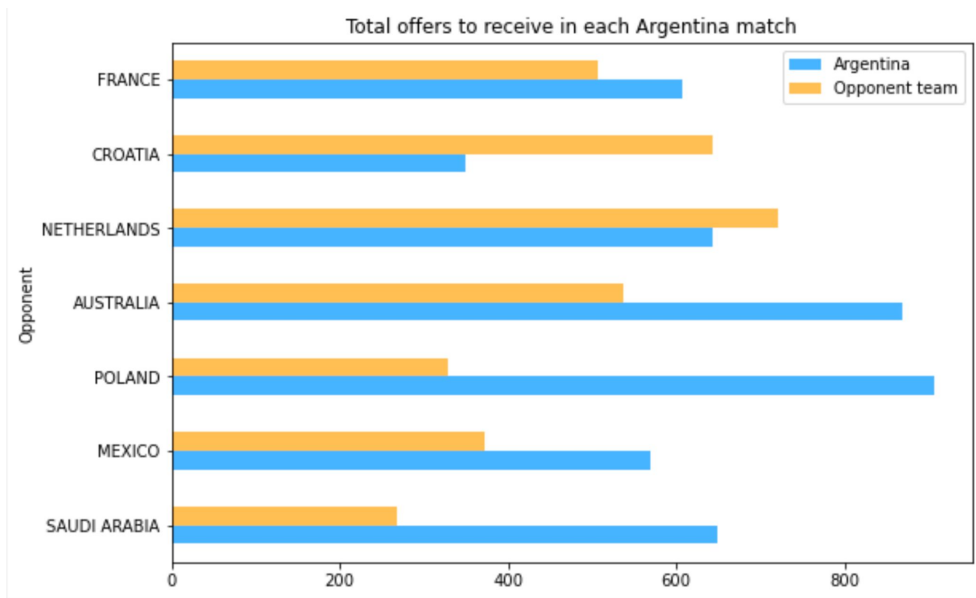
- ❑ Accuracy = (On target attempts - off target attempts) / total attempts
- ❑ Higher goal accuracy -> Greater threat to the opponent

	total attempts	on target attempts	off target attempts	Accuracy
GERMANY	22.333333	8.000000	11.0	-0.134328
FRANCE	14.428571	5.000000	6.0	-0.069307
MEXICO	14.000000	5.000000	5.0	0.000000
ARGENTINA	14.857143	6.857143	6.0	0.057692
BRAZIL	18.000000	8.200000	6.8	0.077778



# Total Offers to Receive

- ❑ Offering to receive: The action performed in an attempt to receive the ball
- ❑ More offers to receive -> Longer ball possession periods and more scoring opportunities





# Conclusion

- ❑ Goal-scoring ability is strongly correlated with winning and **hosting** the game
- ❑ Goal-scoring ability is **not** strongly correlated with GDP of the countries
- ❑ Strong offensive abilities are shown by the following keys: **Total Goal Attempts**, **Goal Attempt Accuracy**, and **Total Offers to Receive**







**Thank you!**