



# An Inside Look At 150 Years Of International Soccer



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CMSE 402 Semester Project

## Abstract

Every four years the FIFA World Cup hits television screens worldwide. In the United States, people suddenly become rabid soccer fans, cheering on their country of choice with reckless abandon. Many, if not most, pay little attention to international soccer between Cups. This project aims to enlighten these people on trends in international soccer over the past 150 years.

## Introduction

- Soccer is one of the most popular sports in the world
- With the World Cup coming up this summer, soccer fans begin to come out of the wordworks
- Highlight some of the trends in international soccer matches since 1872
  - How has goal scoring changed over time?
  - What country hosts the most international matches?
  - Is homefield advantage a real phenomenon?
  - What is the record of each team that has played in the World Cup?

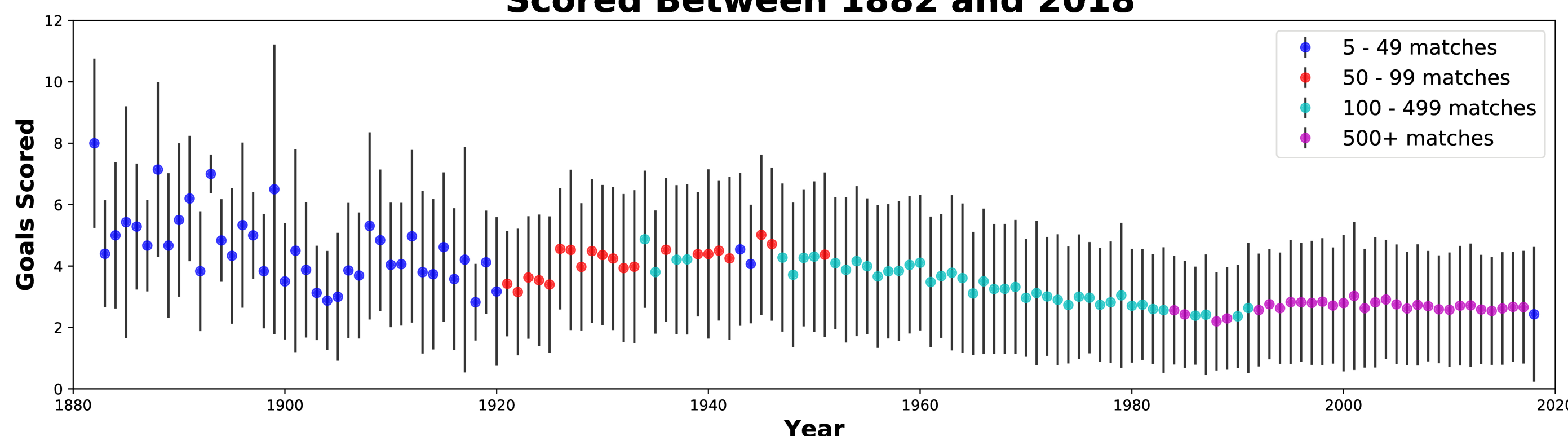
## Methodology

- Dataset includes information on the date, home and away teams, their scores, the type of match (tournament or friendly), and the location [1]
- **Average Goals:**
  - Required at least 5 matches played in a given year
  - Color coded by number of matches played to see the trend in the number of matches played in a given year
- **International Hosts:**
  - Tallied the number of matches played in each country
  - Does not discriminate between tournament and friendly matches
- **Homefield Advantage:**
  - If applicable, home team is the team playing in its home country
  - Otherwise, the home team is the team listed as such
  - Overall win percentage (tie =  $\frac{1}{2}$  win), as well as percentages for tournament-only and friendly-only, were compared
- **World Cup Records:**
  - Wins, Losses, Ties were tallied for each team who has played at least one FIFA World Cup match

[1] Kaggle Dataset, International football results from 1872 to 2018,  
URL: <https://www.kaggle.com/martj42/international-football-results-from-1872-to-2017>

## Findings and Conclusions

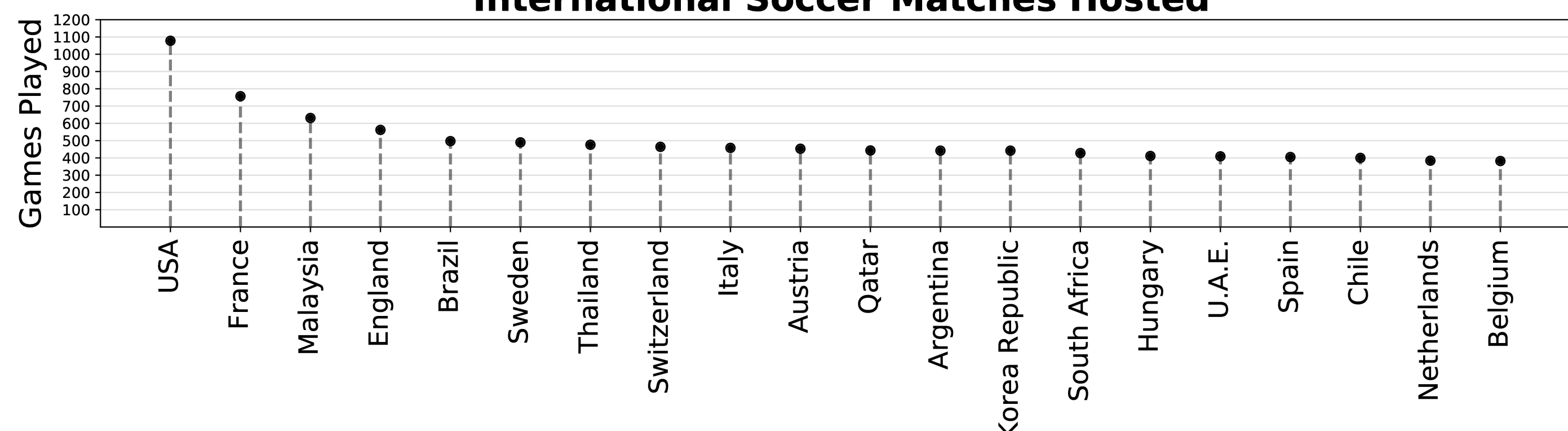
**Average Number Of Goals  
Scored Between 1882 and 2018**



**Figure 1:** Average total goals scored per game

**Note:** One explanation for decreased goal scoring: as more games are played, high-scoring games are averaged out, lowering their ability to skew the average.

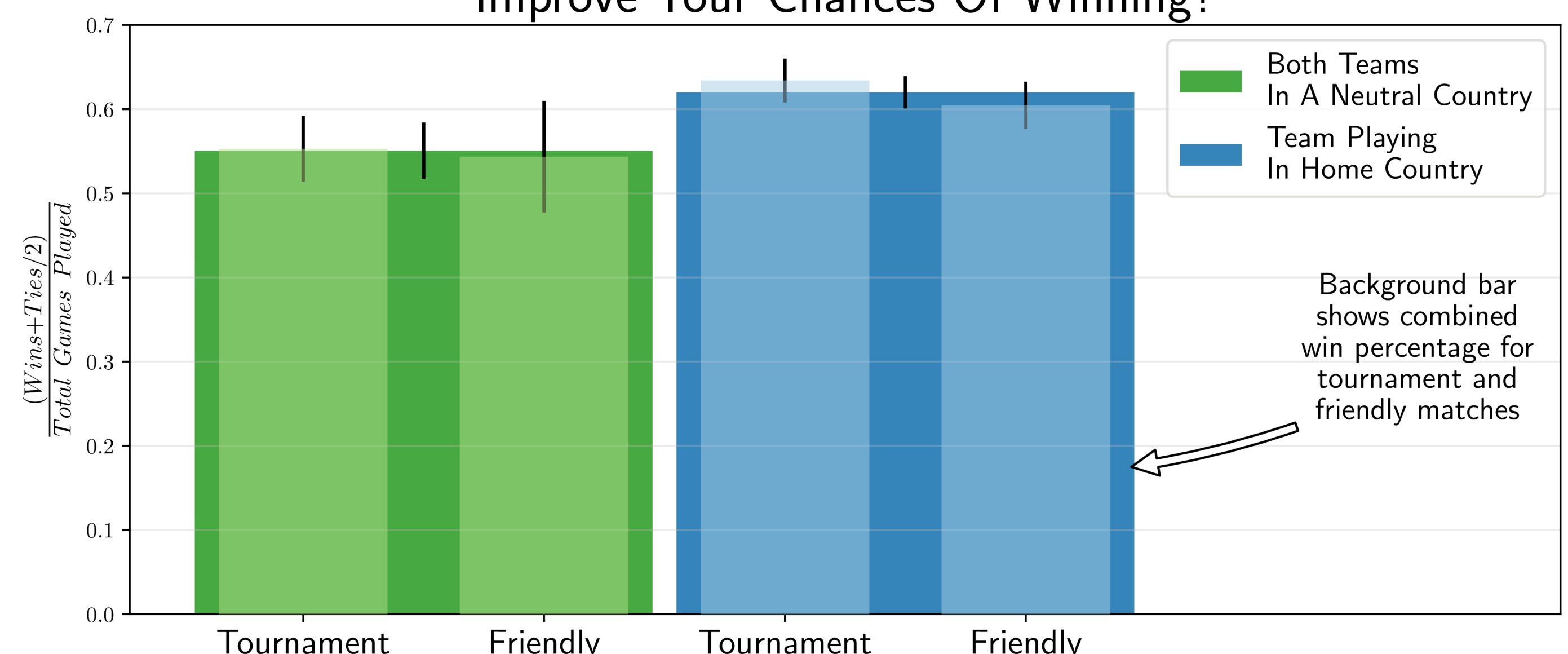
**Top 20 Countries In Number Of  
International Soccer Matches Hosted**



**Figure 2:** Countries hosting the most international matches

**Note:** Based on general infrastructure alone, the U.S. provides some of the best locales for international soccer matches in the Western Hemisphere.

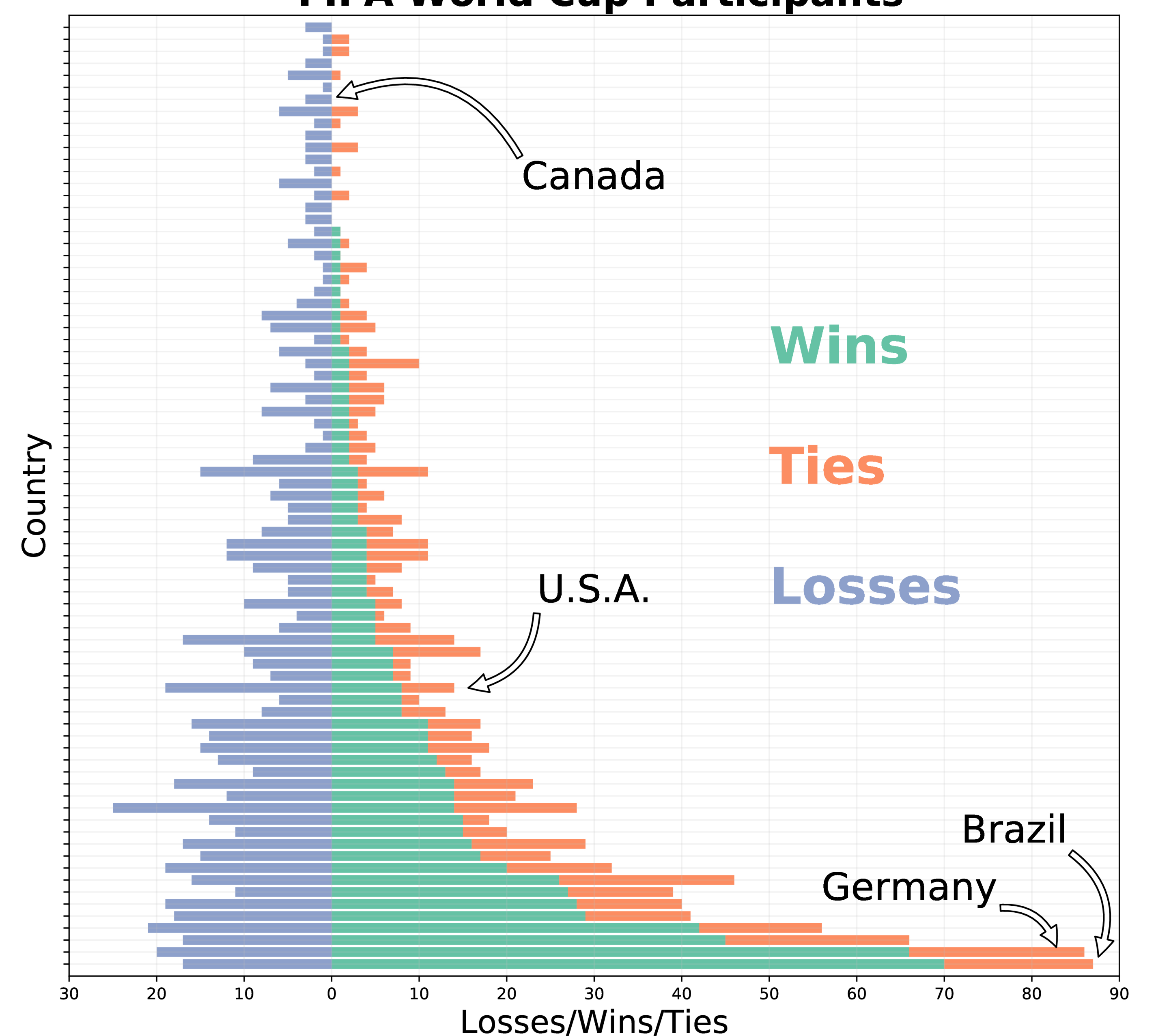
**Does Playing In Your Home Country  
Improve Your Chances Of Winning?**



**Figure 3:** Win percentages of home teams at home or a neutral site

**Note:** No significance test was performed, but to first order, playing in your home country improves your chances of winning.

**Wins, Losses, And Ties For All  
FIFA World Cup Participants**



**Figure 4:** Wins, losses, and ties of FIFA World Cup competitors

**Note:** Unsurprisingly, countries such as Germany and Brazil have dominated the World Cup. Others, like Canada, have made one appearance and never won.

## Conclusions:

- Soccer matches tend to be low scoring affairs
- The U.S. is best place to live in if you want the best chance to go watch an international soccer match.
- There's no place quite like home.
- Let's be honest, if you're going to root for someone in the World Cup, pick Germany or Brazil.