

SC4024 DATA VISUALIZATION

HOW WEALTH, GENDER, AND TIME
SHAPE OLYMPIC SUCCESS?

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INTRODUCTION

Why some countries always dominate the Olympics, while others barely win a medal?

*This made me wonder: What actually drives Olympic success? Is it **wealth**, **culture**, or perhaps how **inclusive** a country's sporting culture is?*

Objectives:

- Present trends in Olympic performance across countries & time.
- Analyze the link between wealth, gender, & medal success.
- Highlight the evolution of global & gender inclusiveness in the Olympics.





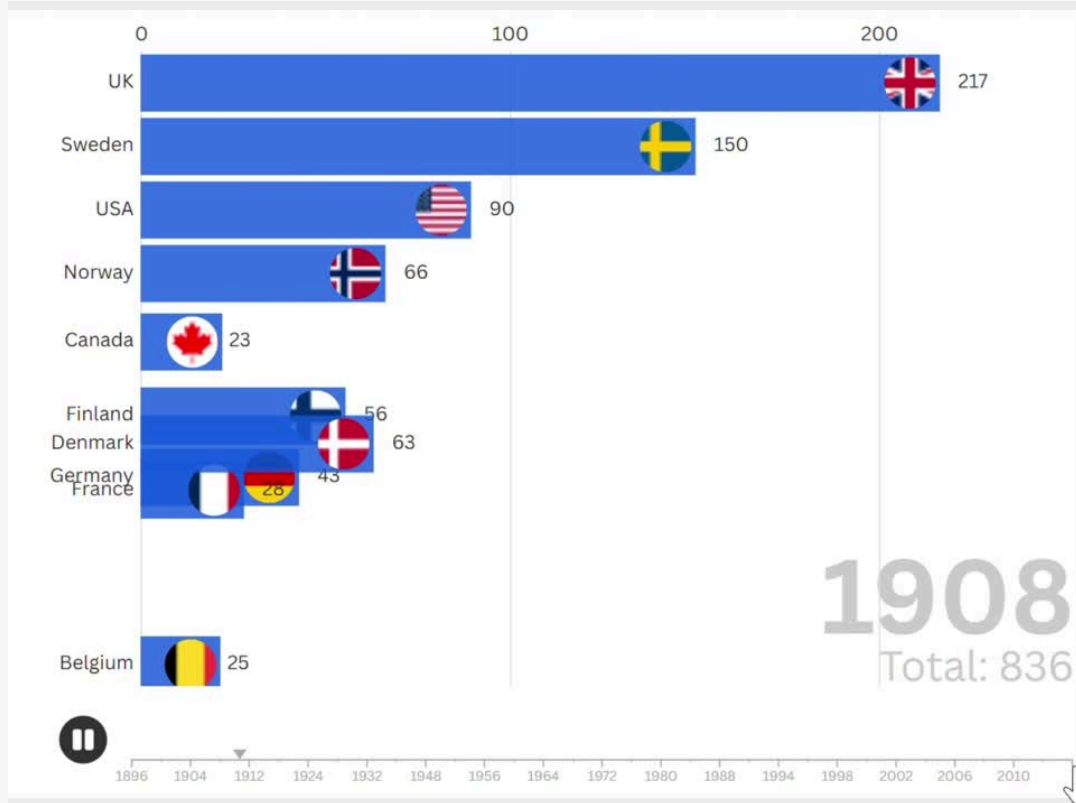
DATASET OVERVIEW (FROM KAGGLE – THE GUARDIAN):

- Covers all **Olympic Sports and Medals, 1896-2014**, Summer & Winter
~ 30,000 medal-winning athlete entries
- Includes: Year, Sport, Event, Gender, Country, Medal
- Additional fields: GDP per capita, Population
- Ideal for analyzing trends in performance, equity, and economic influence



OLYMPIC MEDAL LEADERS (1896–2014)

Which countries have had the highest medal counts over the years?



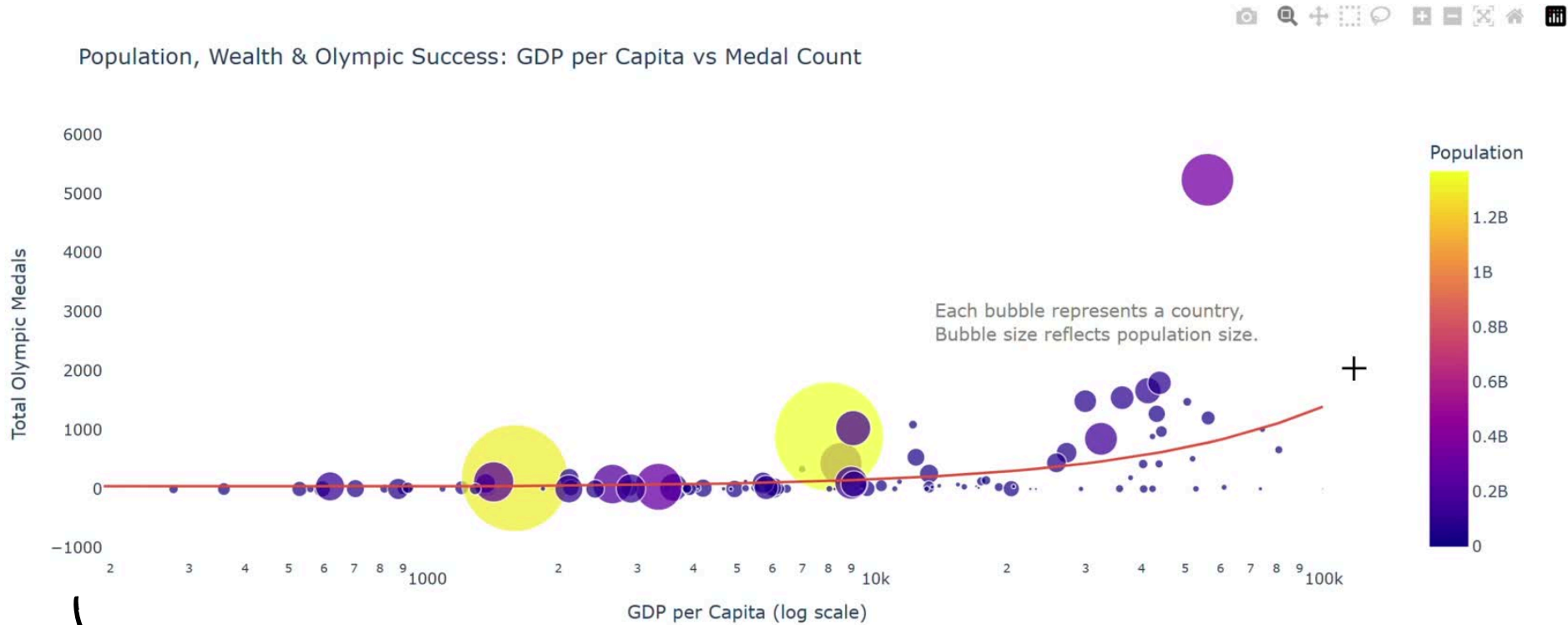
Animated racing bar chart of top 10 medal-winning countries by year

- Early years: Europe-led (UK, France etc)
- Mid-century: Rise of USA
- Recent decades: China and others emerge
- Majority of the time, USA has been winning the most of the medals since the start of olympics

This highlights how global power in sports evolves.

SOCIO ECONOMIC IMPACT ON OLYMPIC SUCCESS

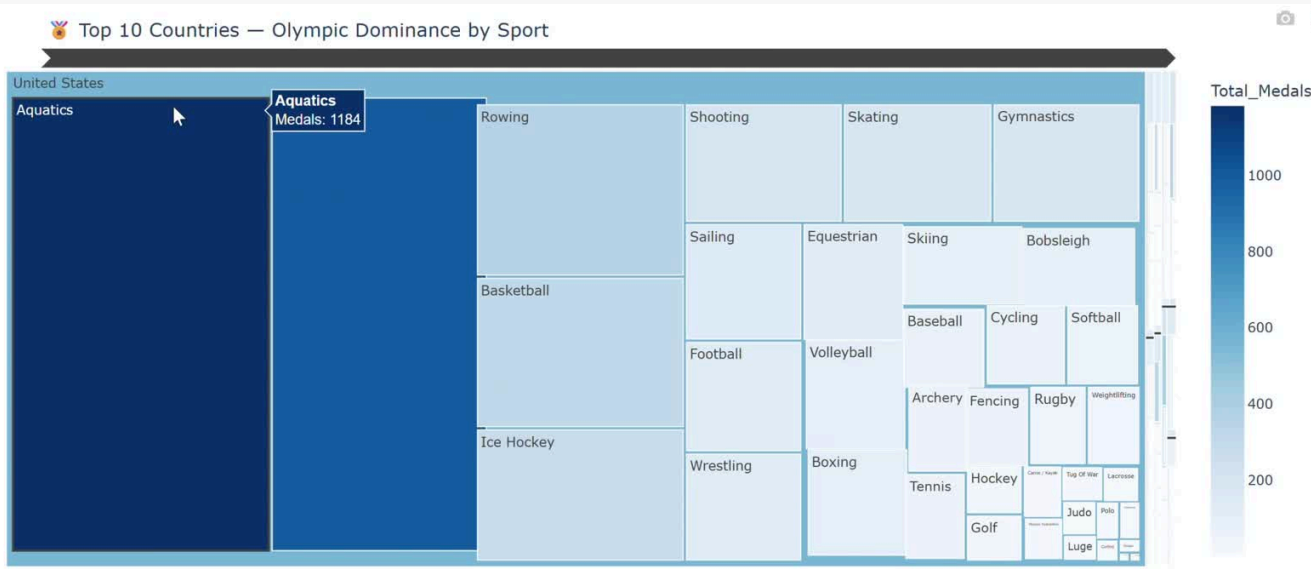
Does richer and larger population countries win more medals?



Note: Negative axis values appear due to automatic scaling for visual purposes; no medal counts are below zero.


SPORT SPECIALIZATION AMONG TOP 10 OLYMPIC NATIONS


What sports do they actually dominate?



- Treemap shows top 10 medal-winning countries and their top sports
- Block size and color reflect number of medals won per sport
- Reveals how nations focus on specific sports based on strategy or tradition

Examples:

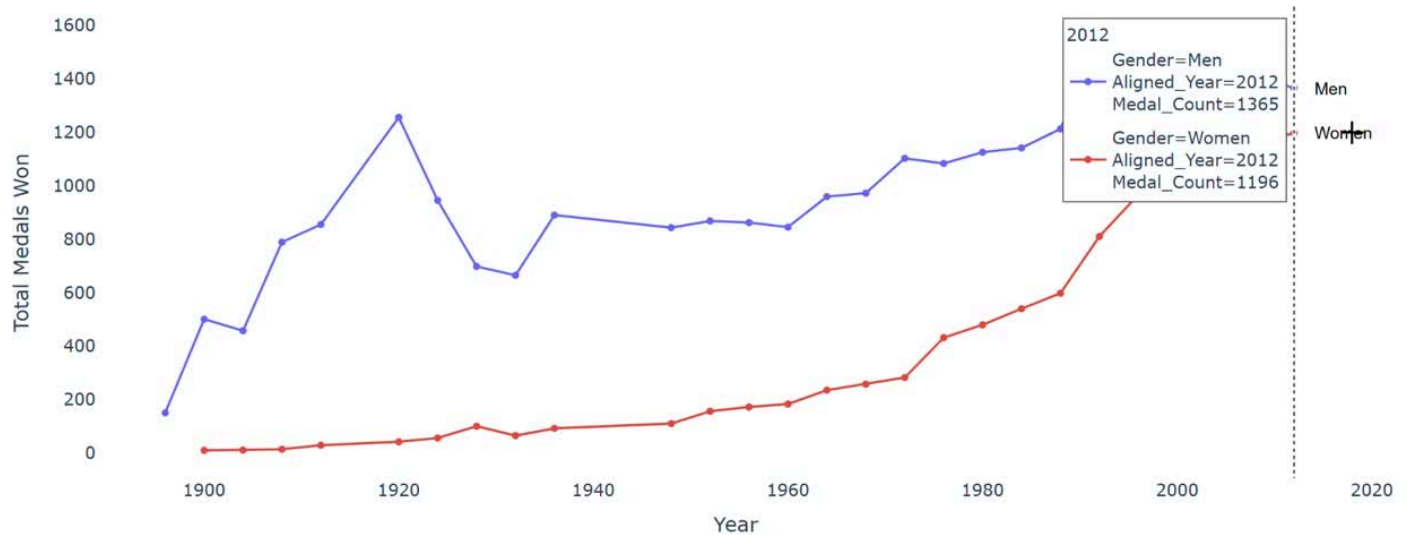
 **USA:** Dominates in Athletics and Swimming

 **France:** Strong in Fencing, Cycling, and Aquatics

OLYMPIC MEDAL COUNT BY GENDER OVER TIME

How Olympic participation has evolved across genders?

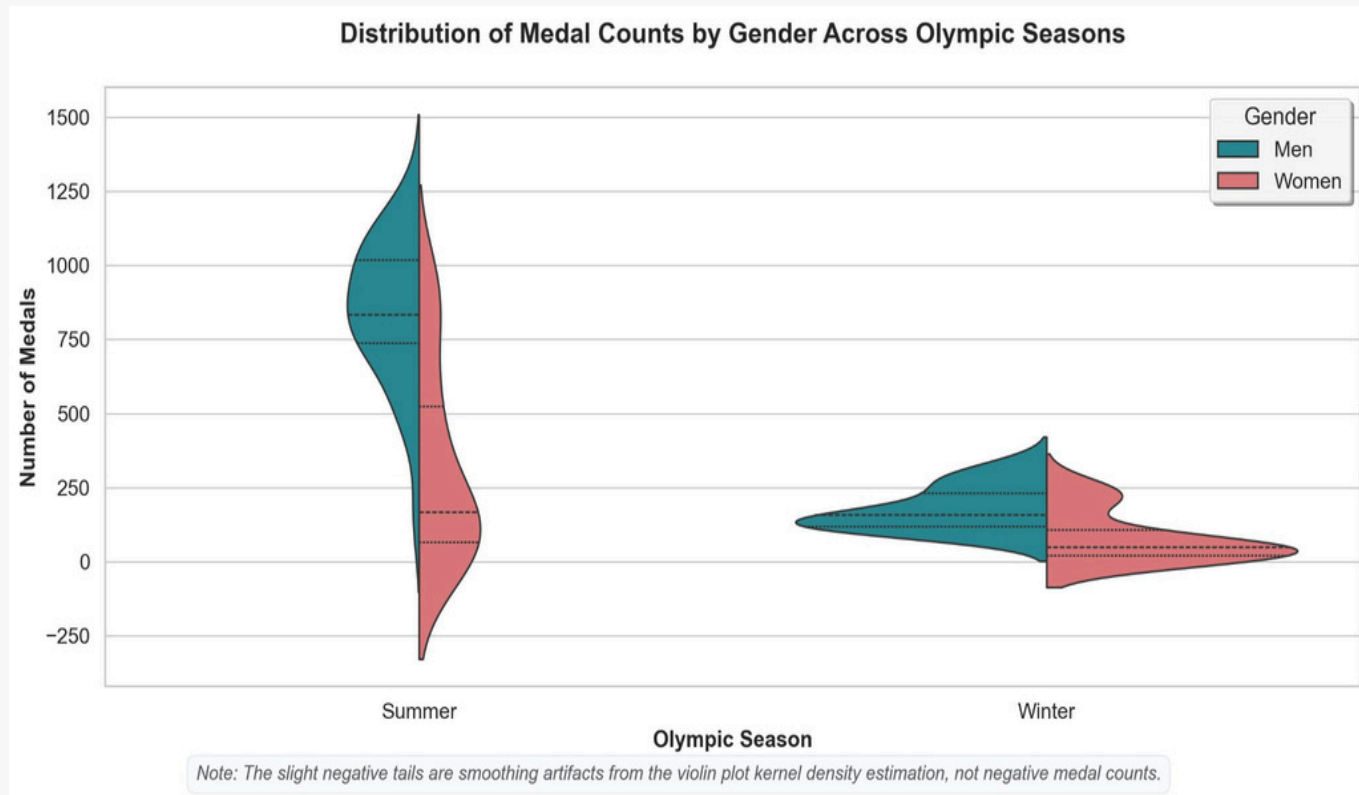
🏅 Olympic Medal Count by Gender Over Time



- Historically, men dominated Olympic participation and medals
- Women's medal counts rise sharply post-1980
- Reflects progress in gender equality and sports inclusion
- Gap continues to narrow in recent decades

GENDER DISTRIBUTION ACROSS OLYMPIC SEASONS

- Summer Games show higher medal counts and broader spread.
- Winter Games have smaller, a tighter distributions.
- Men consistently win more medals in both seasons.
- Gap between men and women is narrowing, gender parity is improving.



TOP 5 COUNTRIES — OLYMPIC MEDAL BREAKDOWN

🏆 Top 5 Nations — Olympic Medal Composition

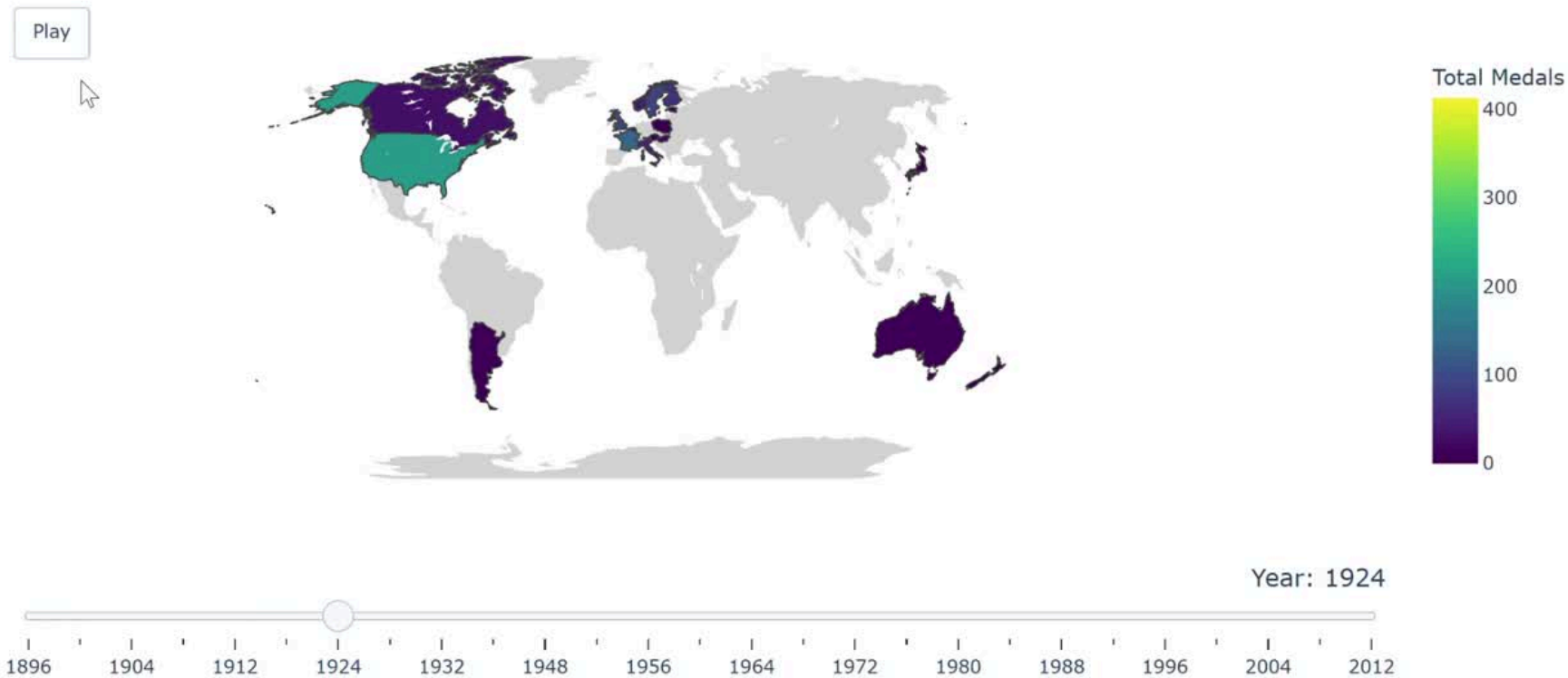


- Shows total medals won by top 5 countries
- Bars are stacked by medal type: Gold, Silver, Bronze
- 🇺🇸 United States leads significantly across all medal types
- Other nations (🇬🇧 UK, 🇮🇹 Italy, 🇩🇪 Germany, 🇫🇷 France) show more balanced distributions

This highlights overall dominance and medal quality of top performers.

GLOBAL EXPANSION OF OLYMPIC MEDAL WINNERS

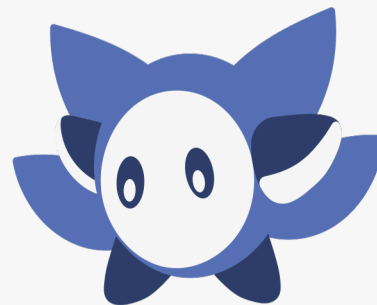
Olympic Medal Distribution by Country Over the Years



FROM QUESTIONS TO INSIGHTS

Set out to explore:

- Do wealthier countries win more?
- Who dominates which sports?
- How has gender representation evolved?



Data reveals:

- Olympic success has expanded globally over time
- Wealth helps, but diversity and inclusion sustain success
- Countries specialize in sports that reflect strategy and culture
- Gender participation has grown dramatically, especially in recent decades
- Visualization uncovers trends not easily seen in raw numbers



THANK YOU

