Countries at the Olympics

Total Medal Count vs. Total GDP (PPP) (1896 - 2020)

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For this visualization, our team focused on three core aspects of the Olympic Games dataset. First, we explored the correlation between economic power and Olympic success to address the question: do countries with greater economic prosperity perform better at the Olympic Games? To examine this, we ordered countries by their Olympic success, measured by their total medal count since the beginning of the modern Games in 1896, and compared this to their economic strength, represented by GDP adjusted for purchasing power parity (GDP - PPP). This approach tries to provide insight into the economic prosperity of the countries' athletes.

The second key aspect we highlighted is the change in individual countries' success over time. We achieved this by comparing the number of medals awarded to each country as a time series, thus illustrating how their performance has evolved throughout the decades.

Finally, we considered the diversity in sports where countries excel. Our visualization aims to depict the level of similarity between countries based on the categories in which they have won medals. To achieve this, we grouped countries according to the sports categories in which their athletes have been successful, offering a perspective on common areas of strength and specialization.

Due to the limited space on the poster, we decided to present only the 35 best-performing countries as individual data points. The remaining countries, which did not perform as well, are aggregated according to their Olympic regions into grouped data points. This way, they are still represented on the poster, albeit as part of a regional group rather than as individual countries.

Given the significant political changes over the past 150 years, it was necessary to clean up the country data. Some countries, such as Yugoslavia, no longer exist; others, like Bohemia, have transformed into the Czech Republic; and some, like Hong Kong, have been integrated into other countries, in this case, mainland China.

For the visualization, we chose a radial chart, positioned within the outline of a gold medal on the poster. The countries are arranged clockwise on the chart according to their total acquired medal count. Each country is further colored in one of five distinct colors based on their Olympic region.

For each country, a (Portage) blue colored line is drawn at a certain distance from the center of the chart, representing the country's GDP PPP. A greater distance from the center indicates a higher GDP, with the distance scaled logarithmically. Additionally, a linear regression over the

GDP of the countries is displayed as a spiral within the radial chart.

Radiating from the center, each country has a ray on which bar charts are placed, visualizing the number of medals won per Olympic Games. The bars are positioned at increasing radii over time, similar to the growth rings of a tree, illustrating how countries' performances have changed. This design makes it clear, for example, how dissolved countries such as the USSR no longer win any medals.

The grouping of countries based on the categories where they have won medals is also integrated into the radial chart. The rays of countries within the same group are connected by concentric arcs in the center section of the chart. This highlights the similarities in countries' strengths across specific sports categories, showing which countries are specialized in a few sports and which have a more diverse range of medal-winning categories.