

Suicide Prevention

Capstone 2

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Data Analytics Career Track

Suicide has been a leading cause of death in most countries for many years.

More than **700,000 people** die to suicide each year.

For every suicide, there are many more people who attempt suicide

Problem Statement

1

Identify global suicide patterns utilizing data between 1985 and 2015 could help us determine preventative methods to lower the rate of suicide in the future

2

Specifically, look at suicide rate as related to GDP and age group among the top 5 ranked countries

3

Develop recommendations to target ads and focus suicide prevention resources towards at-risk populations, with the goal to reduce suicide rate by 5% within 5 years

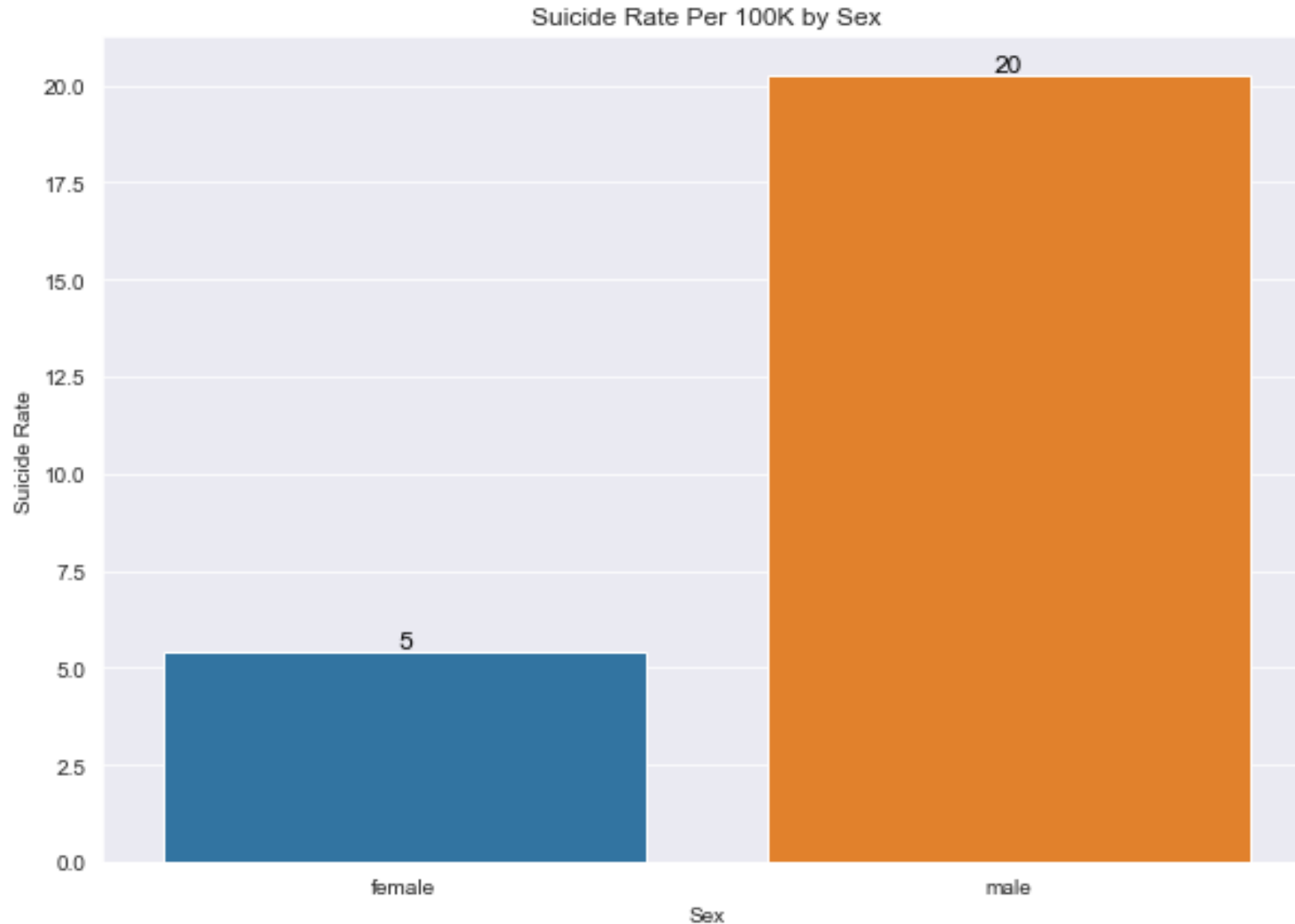
Considerations

Reliability of data from countries which may not be gathering suicide data accurately

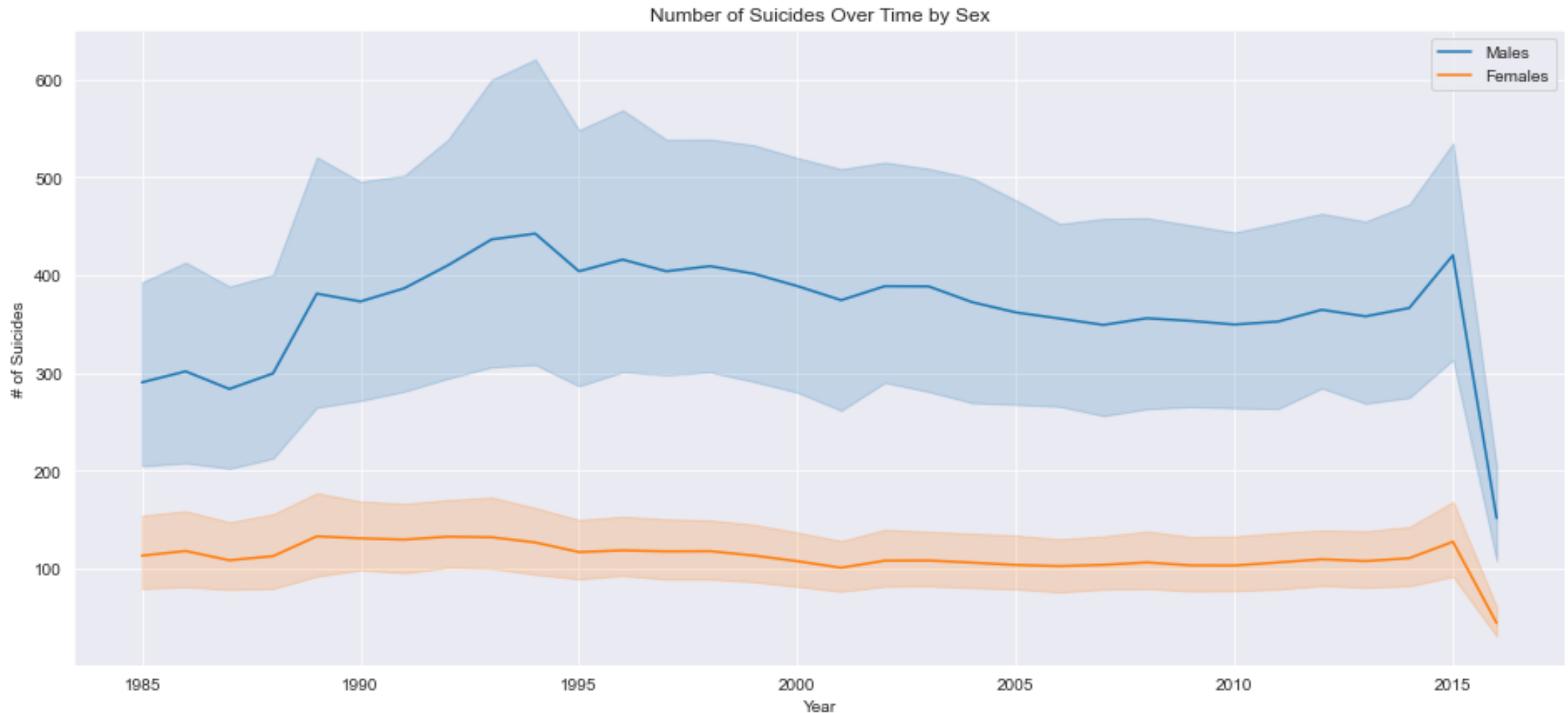
Countries that may be concealing suicide data from the population

Missing data from low-income countries

Overall suicide rate for those that identify as **male is 4 times greater** than those who identify as female. This puts males at much greater risk, making up **95%** of all suicides.

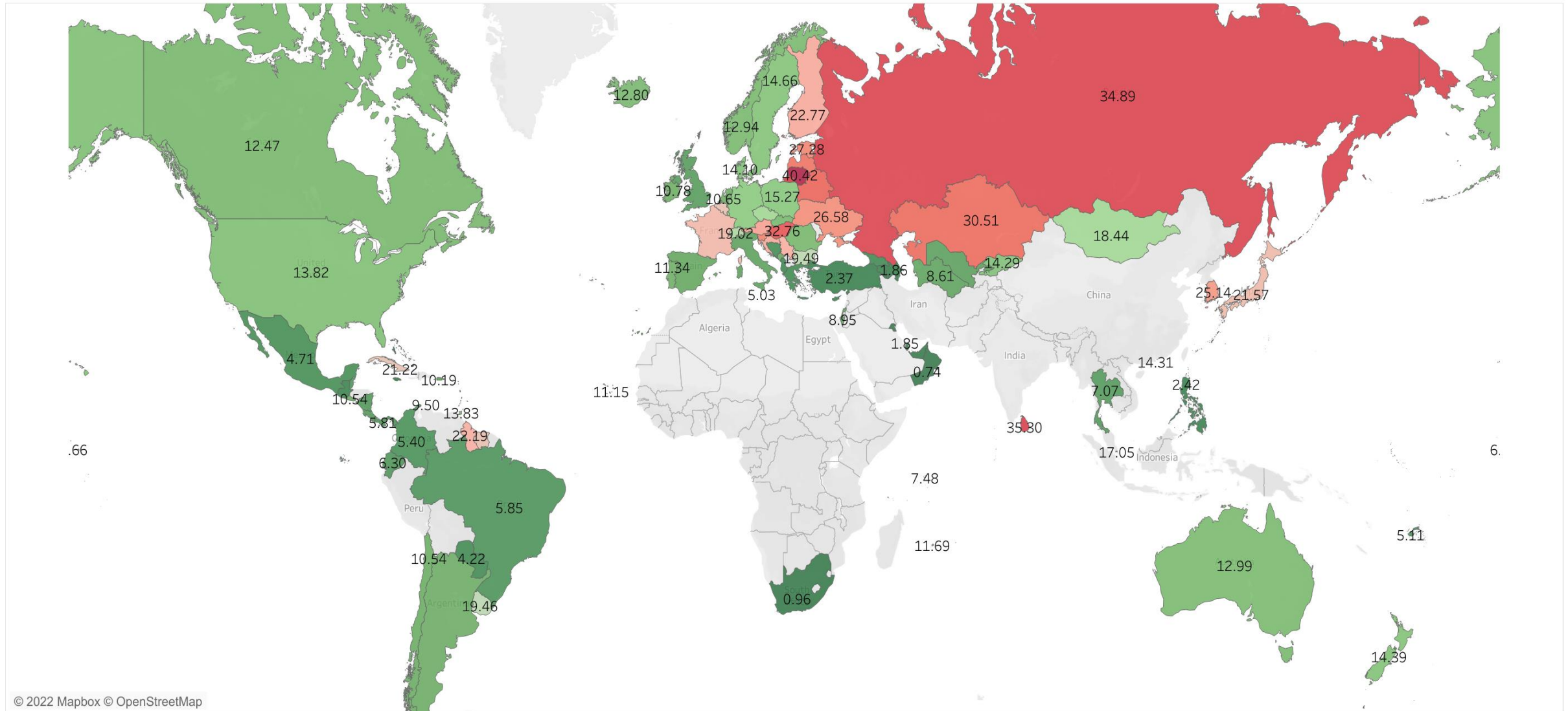


Males and females follow the same trends throughout the last two decades. While males continuously rank higher than females, both sexes tend to follow the same pattern of rises and falls of total suicides over time.



Take a look at average suicide rates worldwide between 1985-2015. Higher suicide rates are concentrated mostly in **Eastern European/North Asian countries**. Notice missing data, predominantly in **Africa and Southeast Asia**.

Suicides/100k Population





Top 5 Countries: Suicide Rate

Let's focus in on some trends in the countries with the highest suicide rates (Suicides/100K Population)

Country

Lithuania

40.416

Sri Lanka

35.295

Russian Federation

34.892

Hungary

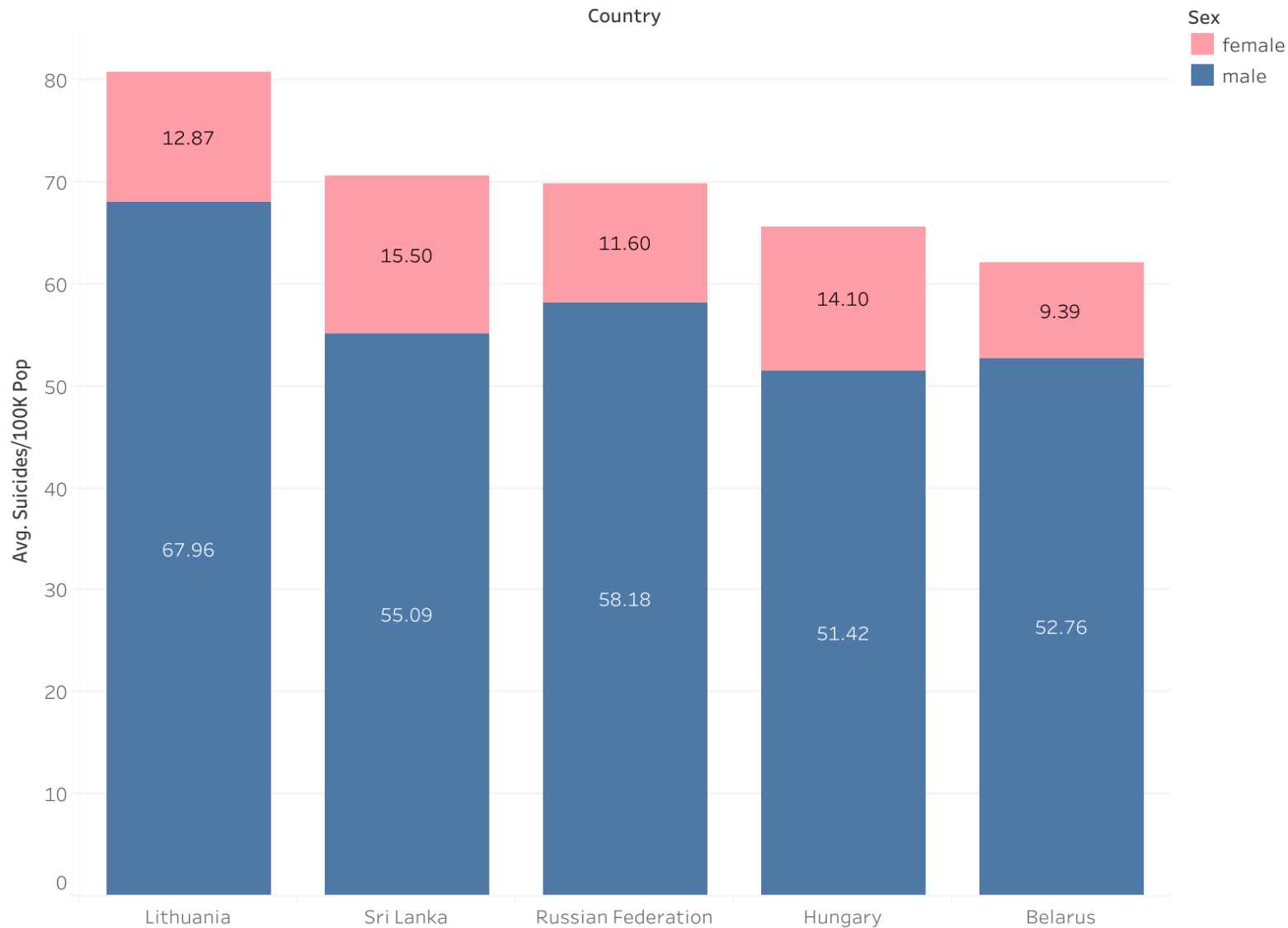
32.762

Belarus

31.076

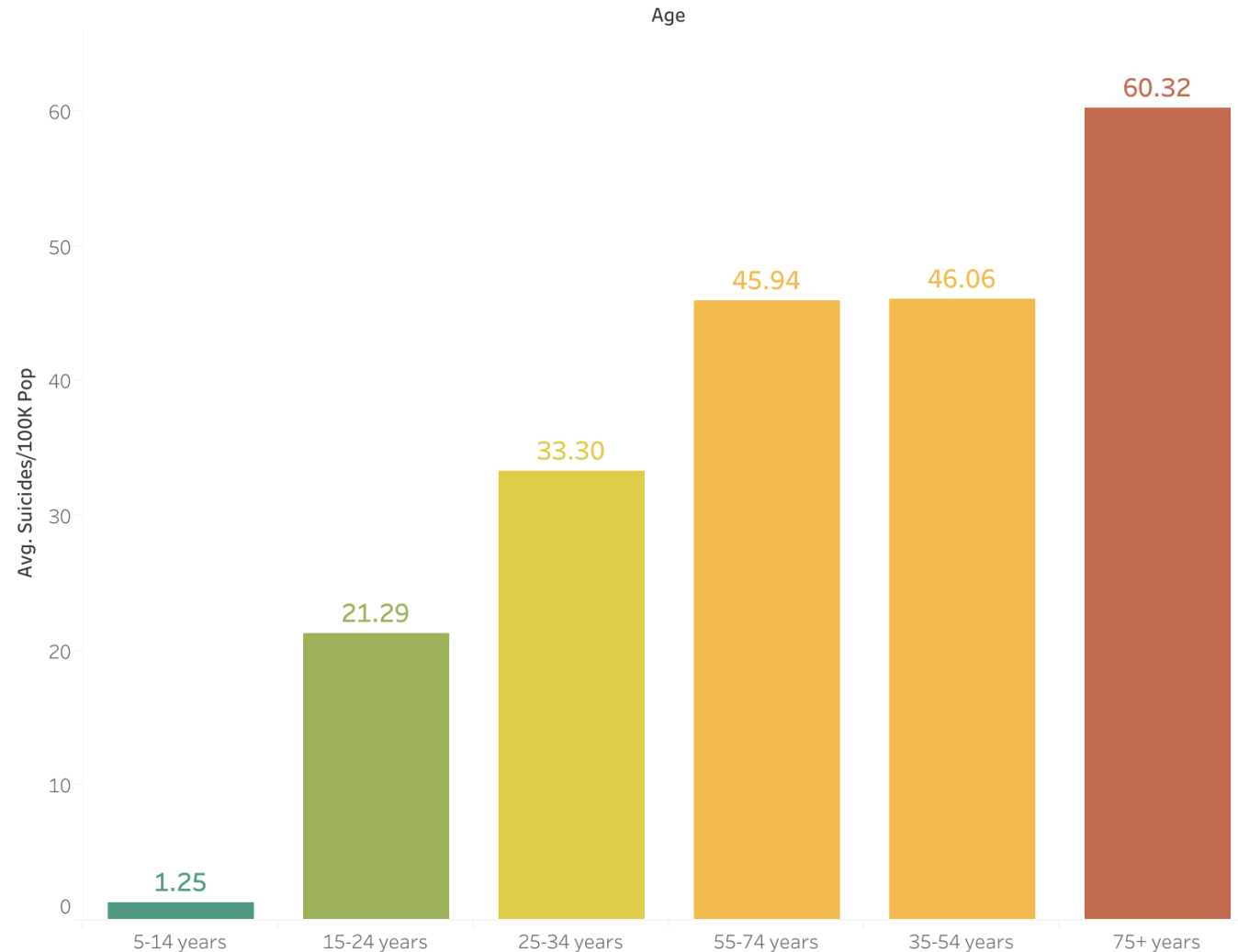
The sex trend appears to be consistent with previous findings, while focused in on the top 5 countries.

Sex vs. Suicide Rate - Top 5 Countries



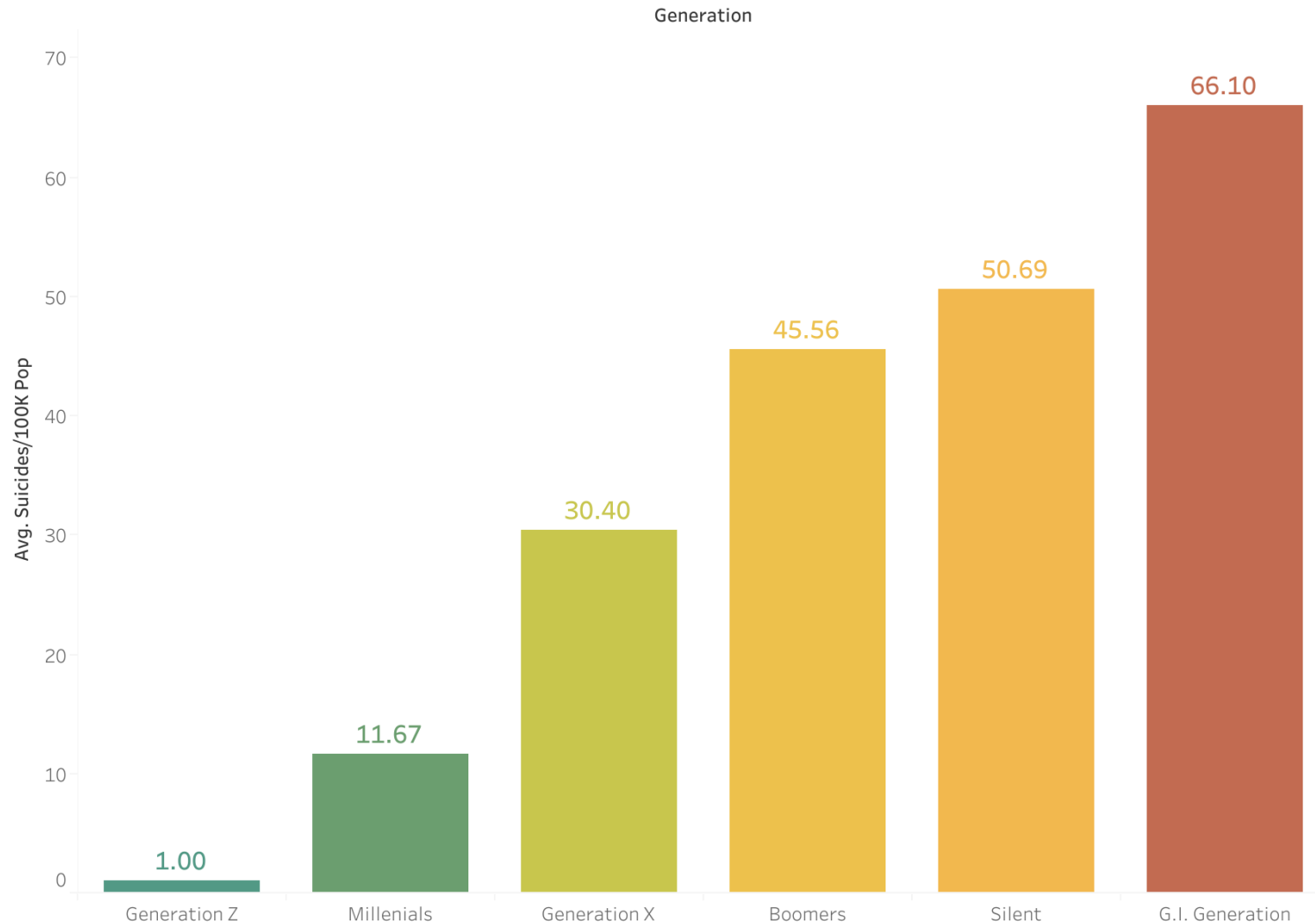
When considering suicide rate in different age groups, focused in on our top 5 ranking countries, we can see a general upwards trend as age increases. The greatest increase in suicide rate is between the 5-14 year age group and 15-24 year age group, at **+177.8%**. The second highest increase is between the following two age groups, with 25-34 year olds at **+44.0%** rate compared to 15-24 year olds.

Age vs. Suicide Rate - Top 5 Countries



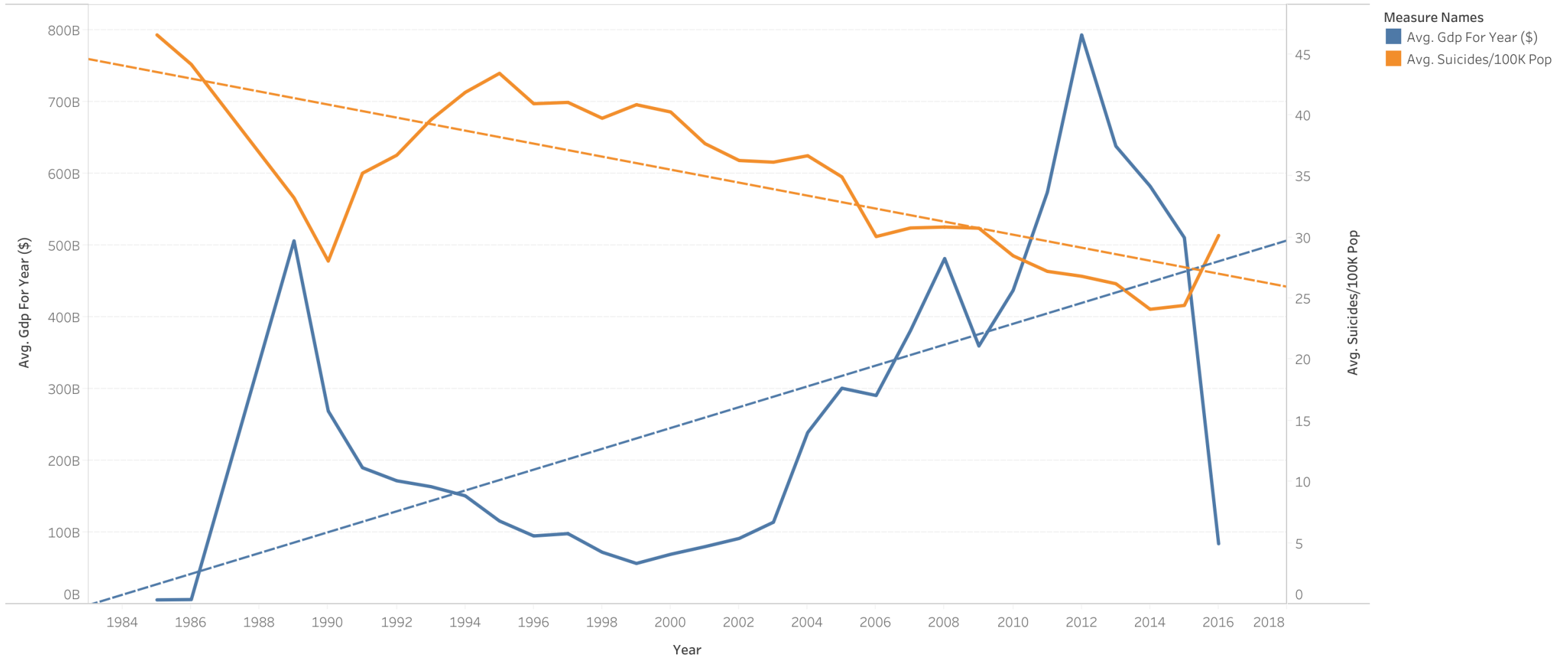
The suicide rate in the top 5 ranked countries follow a similar upwards trend as age does when the data is broken down into groups by generation. Important to note here how the **G.I. Generation** exhibits the **highest suicide rate**. This generation is also known as the WWII Generation.

Generation vs. Suicide Rate - Top 5 Countries



One final measure we will look into for our top 5 ranking countries is GDP for the year, which can be described as the total of all value added created in an economy. There is **very strong negative correlation** between Suicide and **GDP**. When GDP decreases, suicide rate increases, and vice versa.

GDP vs. Suicide Rate (2) - Top 5 Countries



Actionable Insights + Conclusions

- Males are at a much higher risk of suicide than females—4x more likely
- Lithuania, Sri Lanka, Russia, Hungary, and Belarus have the highest suicide rates of those reporting in the world
- As individuals enter adolescence, there is a ~177% increase in suicide risk
- The G.I. Generation, or WWII Generation, has the highest suicide rate, potentially due to traumas survived as having been through a world war, among them many veterans
- Historically, when GDP decreases, suicide rate increases, and we can rely on this trend in the future to predict high-risk years
- Focus resources on at-risk populations, including targeted ads, community outreach, mental health clinics, and crisis lines