

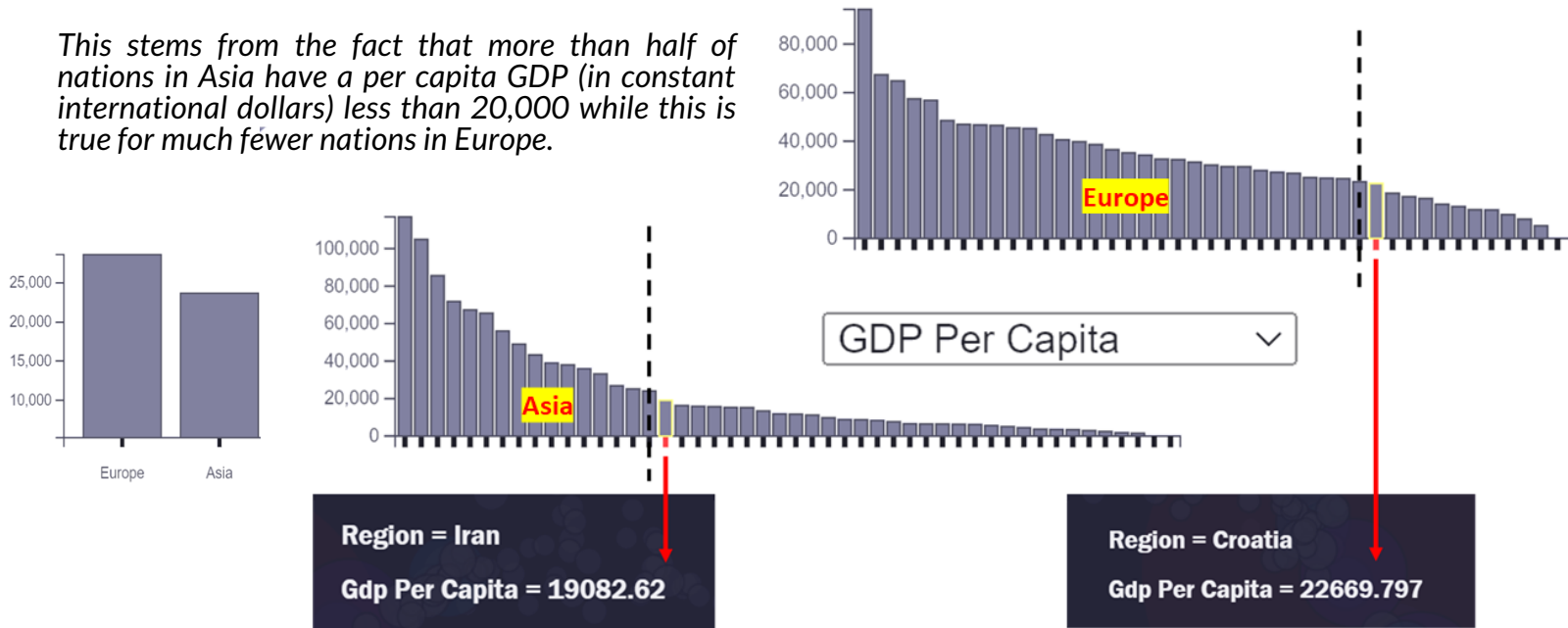
# It's Ok! I'm vaccinated?

Globally, Covid19 New Case Rate (NCR) has been increasing ever so slightly from the beginning of 2020 to early 2022. Studying the evolution of the pandemic from this period suggests that vaccination and booster shots alone may not be enough in the fight to reign in spread of the virus.

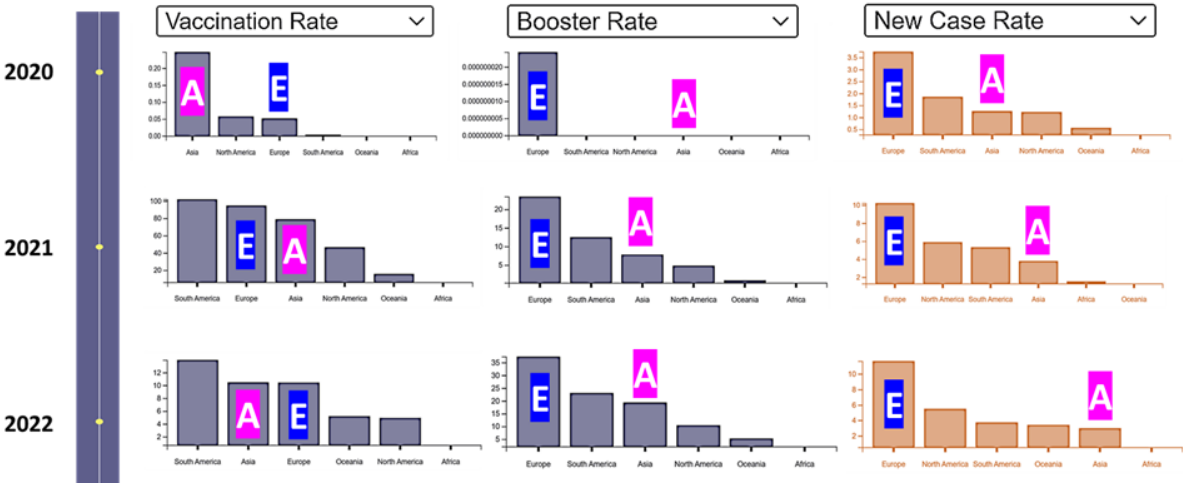
## The Curious Case of Europe v/s Asia

Talking **wealth**, **Europe** on average ranks **above Asia** despite 3 of the richest nations in the world being in Asia.

This stems from the fact that more than half of nations in Asia have a per capita GDP (in constant international dollars) less than 20,000 while this is true for much fewer nations in Europe.

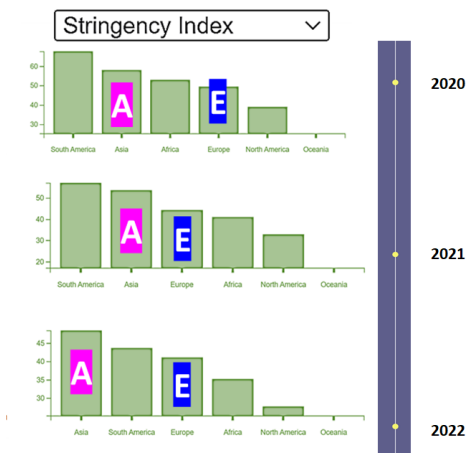


In 2020, vaccination/booster rates were very low with less than <0.5% of total population being vaccinated across for all continents. New Case Rate (NCR) was also relatively lower with Europe in 1st place and Asia in 3rd place w.r.t. highest NCR.



In 2021 & 2022, **Europe** has vaccination and booster rate  $\geq$  that of **Asia**. But **Europe** continues to report **highest NCR** while comparatively, **NCR in Asia decreases!**

## WHY?

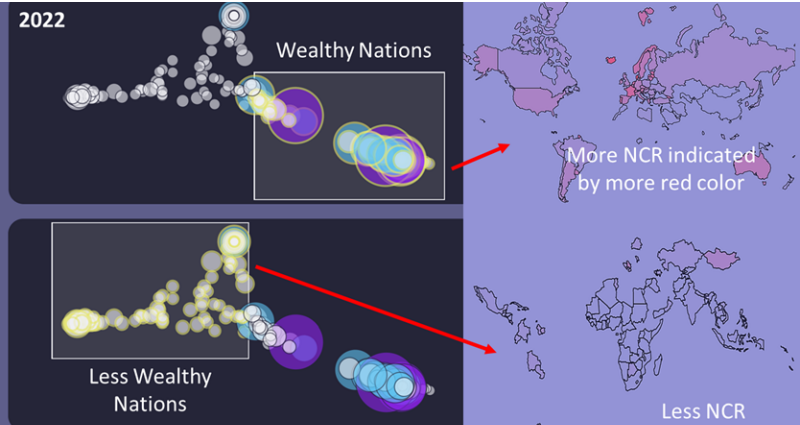


Four available parameters, "Vaccination Rate", "Booster Rate", "Handwashing Facilities" and "Stringency Index", representing measures that counties can take to slow propagation of Covid19 were considered. It was found that the most notable action Asia took that was different from Europe is that Asian nations on average, consistently had a higher stringency index than European countries. This finding strongly suggests that while vaccination may be effective at reducing Covid19 death rate (Health Desk, 2021), **when it comes to reduction in no. of new cases, vaccination alone, is insufficient and must be supplemented with timely strict enough response measures like restrictions on public gatherings, workplace closures, travel bans, etc.**

## Cluster Analysis

Cluster analysis from data across all 3 years found evidence supporting the previous finding in that wealthier, largely non-Asian countries appeared in one cluster associated with larger NCR while less wealthy nations many of which are Asian, appeared in another cluster associated with lesser NCR.

Additionally, some anomalies were detected. For example, few wealthier nations like Germany despite taking all the right measures still reported higher NCR, and some less wealthy nations like Sudan boast very low NCR despite comparatively very few measures adopted against Covid19.



This led to some further investigation which resulted in the educated attribution that this is likely due to more cases going undiagnosed in less wealthy nations due to lack of facilities compared to wealthier counterparts. Though due to limited availability of parameters, this observation is yet to be confirmed, it stresses the **need for increased testing facilities in countries where there may be a lack thereof and also prompts further investigation on the connection between wealth and effects of efforts by nations against the spread of Covid19.**

