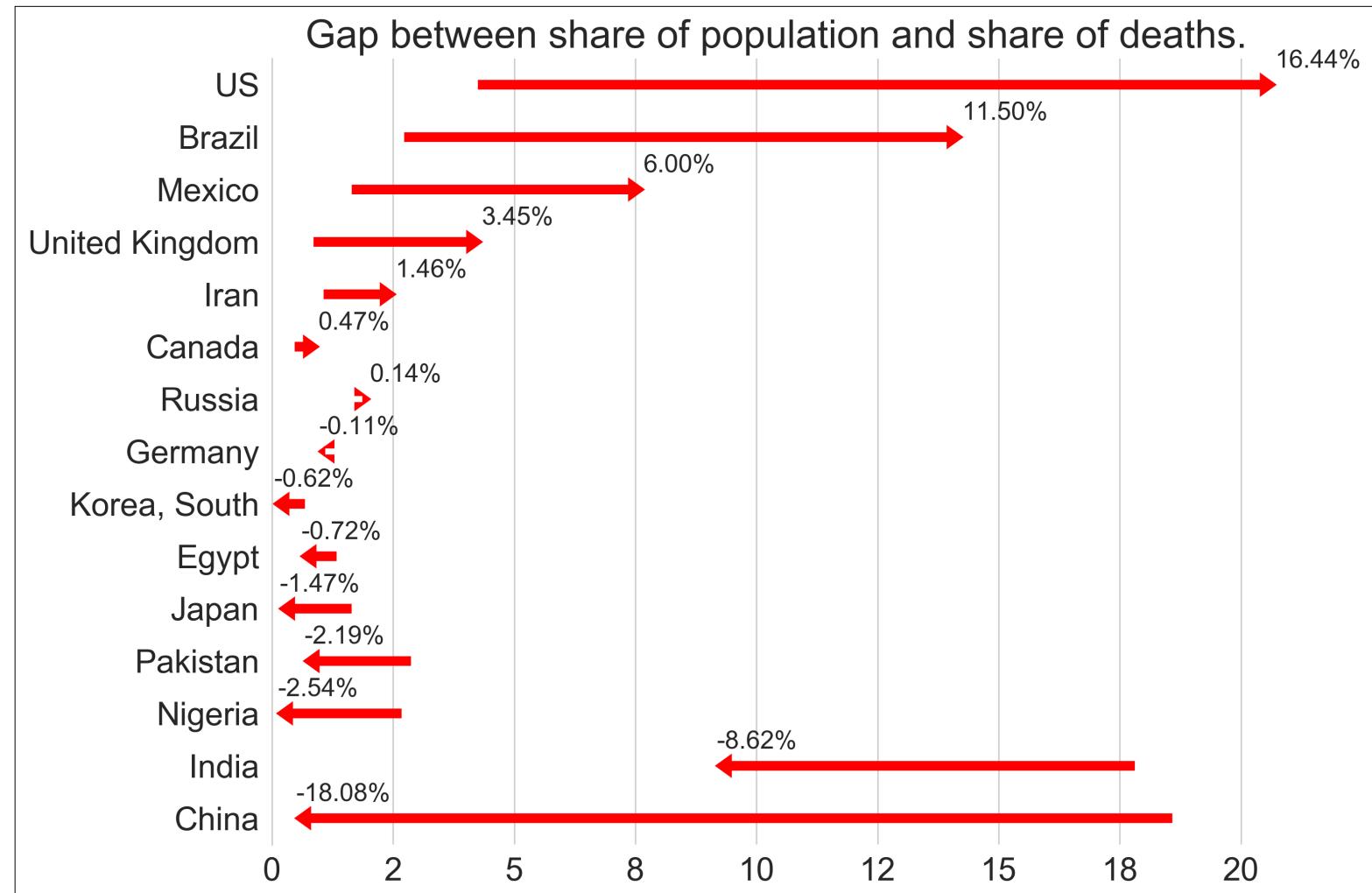


A recreation of the 'Death Gap' NYT article here:
nytimes.com/

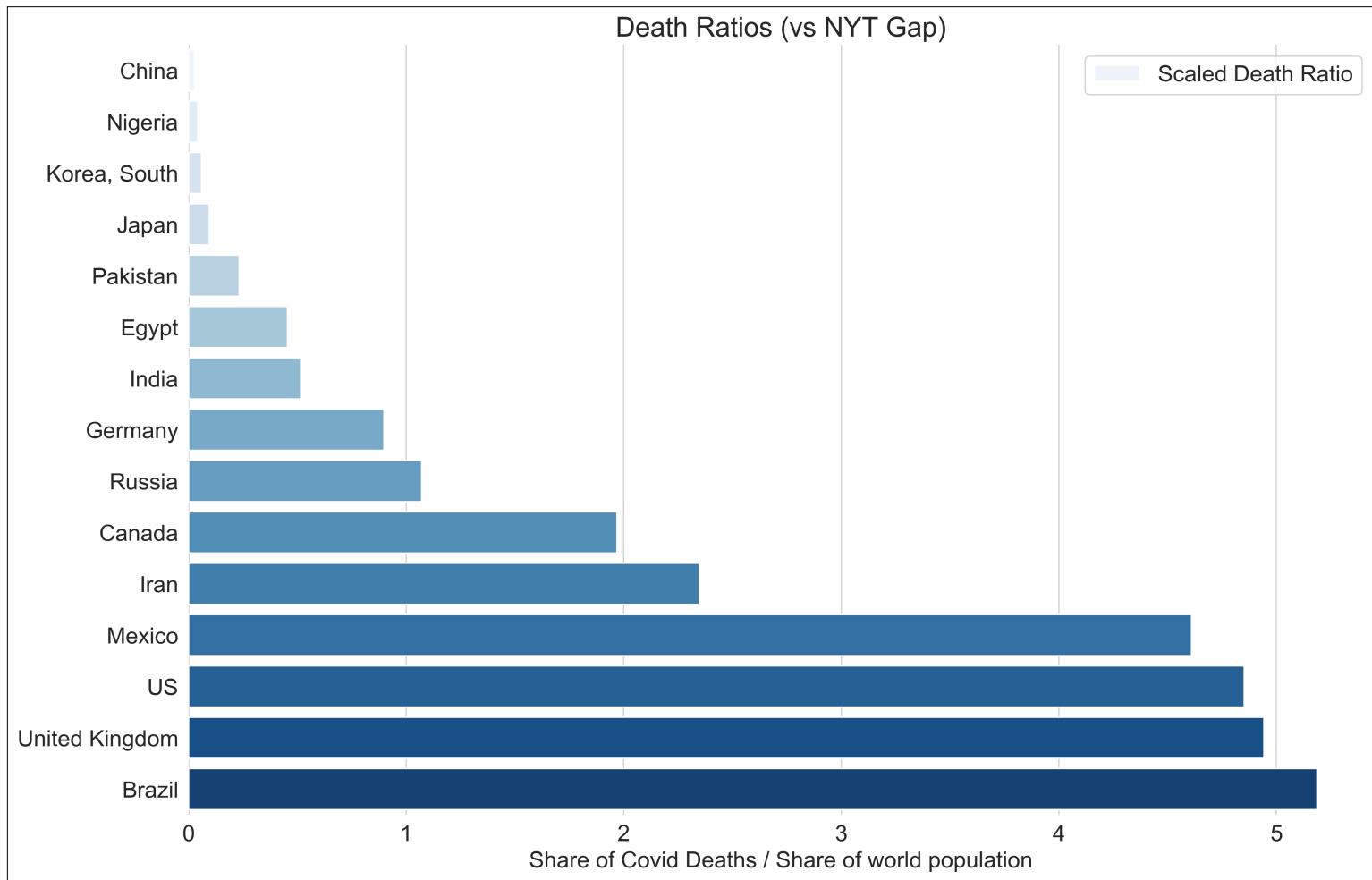
The following plots the difference between: a country's percentage-share of Covid-19 Deaths and its percentage-share of world population.



Key:

Arrow begins at % share of World Population by country, ends at % share of World Covid Deaths per country.

Data is **updated every 24 hours** from Johns Hopkins Covid Data: <https://github.com/CSSEGISandData/COVID-19>



Using Johns Hopkins
Coronavirus and Gap
Minder data here: jhu.edu
& gapminder.org

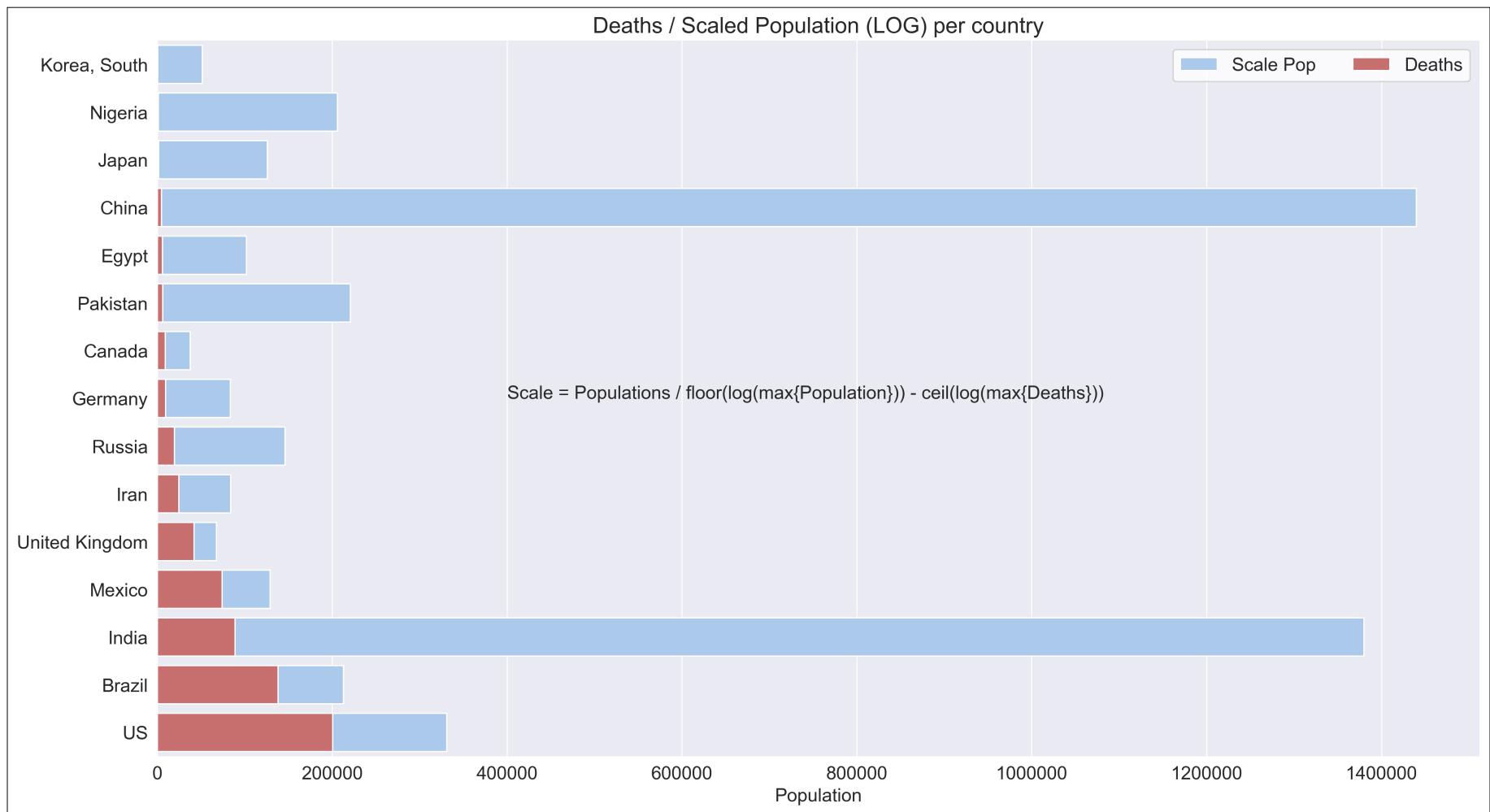
This alternative plot
attempts to represent
performance ranking with
an alternate scale using: a
country's percentage-share
of Covid-19 Deaths to its
percentage-share of the
worlds population as a
ratio.

Key:

A darker blue shade indicates a higher (percentage-share of Covid deaths : percentage-share of World Pop.)

Data is **update every 24 hours** from Johns Hopkins Covid Data: <https://github.com/CSSEGISandData/COVID-19>

Another alternative approach could be to simply compare total country deaths to the countries population as a stacked histogram. However, total per-country deaths (to-date) is typically many orders of magnitude smaller when compared to a given country's population. As such, a logarithmic reduction is employed. This visualization has issues that can only be avoided by proper inspection.



Key:

Red is total deaths as indicated along the horizontal axis. *Example: US has more total deaths than India.*

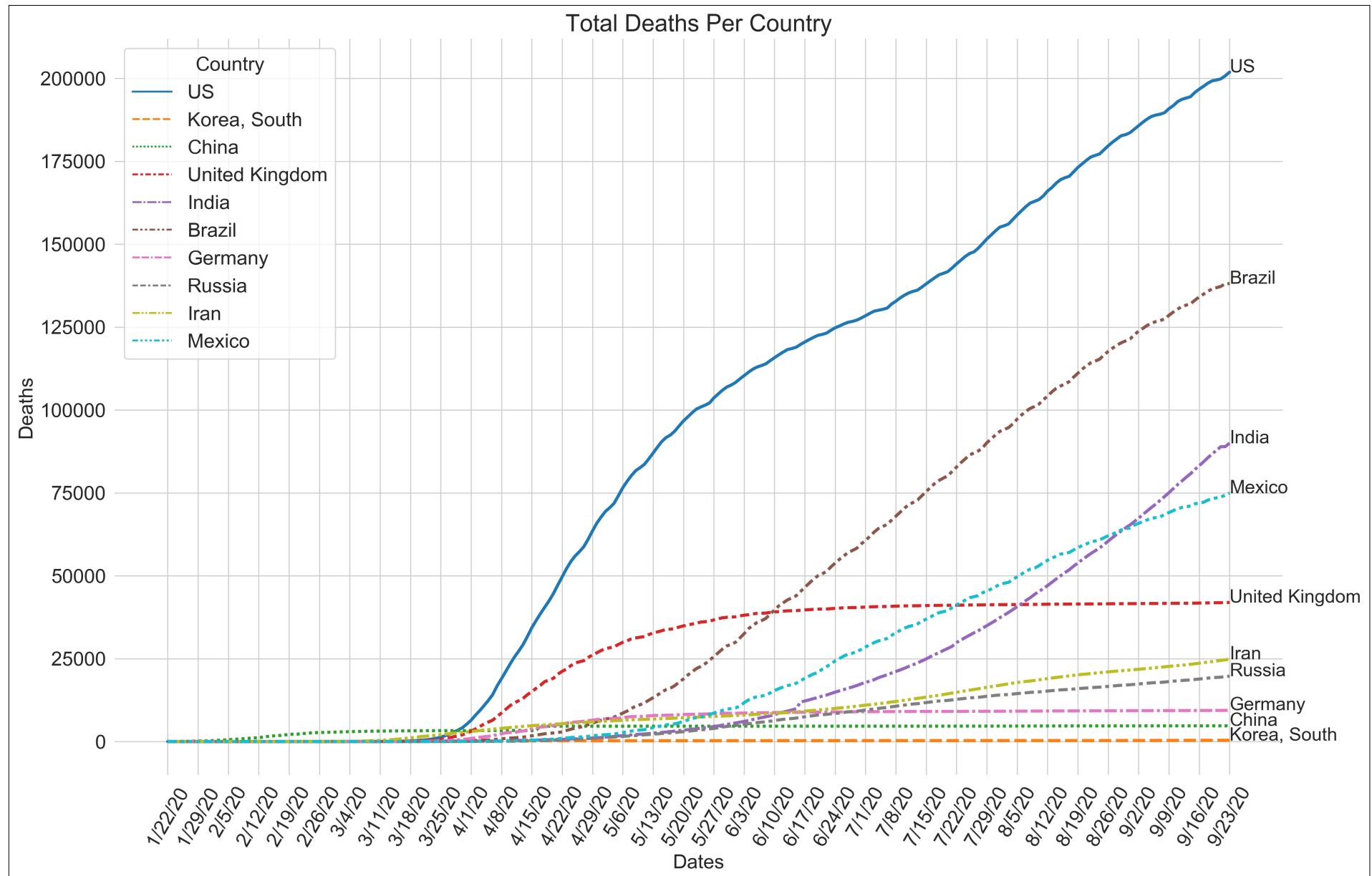
Blue is a logarithmically reduced representation of a country's population (actual population cannot be found on Horizontal Axis)

Example: Notice US deaths do not actually make up more than half of the US population. US population ~ 300,000,000, but you can see that relatively speaking it is still doing worse compared to say India in total deaths and relative to Indias large population.

$$p_i \div (\lfloor \log(\max\{p_j\}) \rfloor) - (\lceil \log(\max\{d_j\}) \rceil)$$

Data is **updated every 24 hours** from Johns Hopkins Covid Data: <https://github.com/CSSEGISandData/COVID-19>

Here a representation of **Total Deaths** over time from January 22nd. Note that each tick is a 1 week period and that the US reached 200,000 deaths roughly 9/22/2020. How do the measures compare (NYT Death Gap vs Death Ratio)?

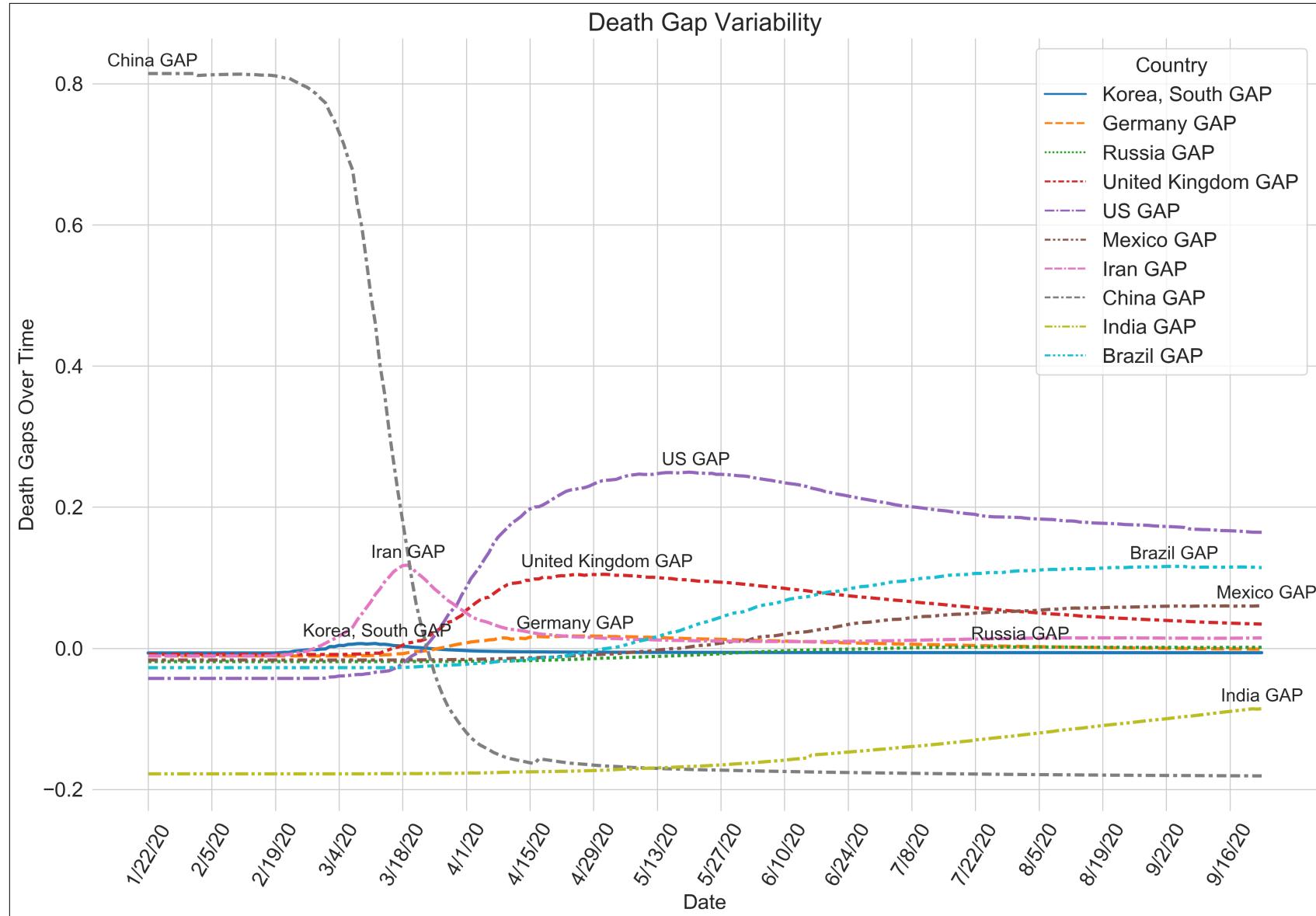


Key:

Vertical: Total deaths from pandemic start per country. Horizontal: Daily deaths, notice the cyclical jumps.

Data is **update every 24 hours** from Johns Hopkins Covid Data: <https://github.com/CSSEGISandData/COVID-19>

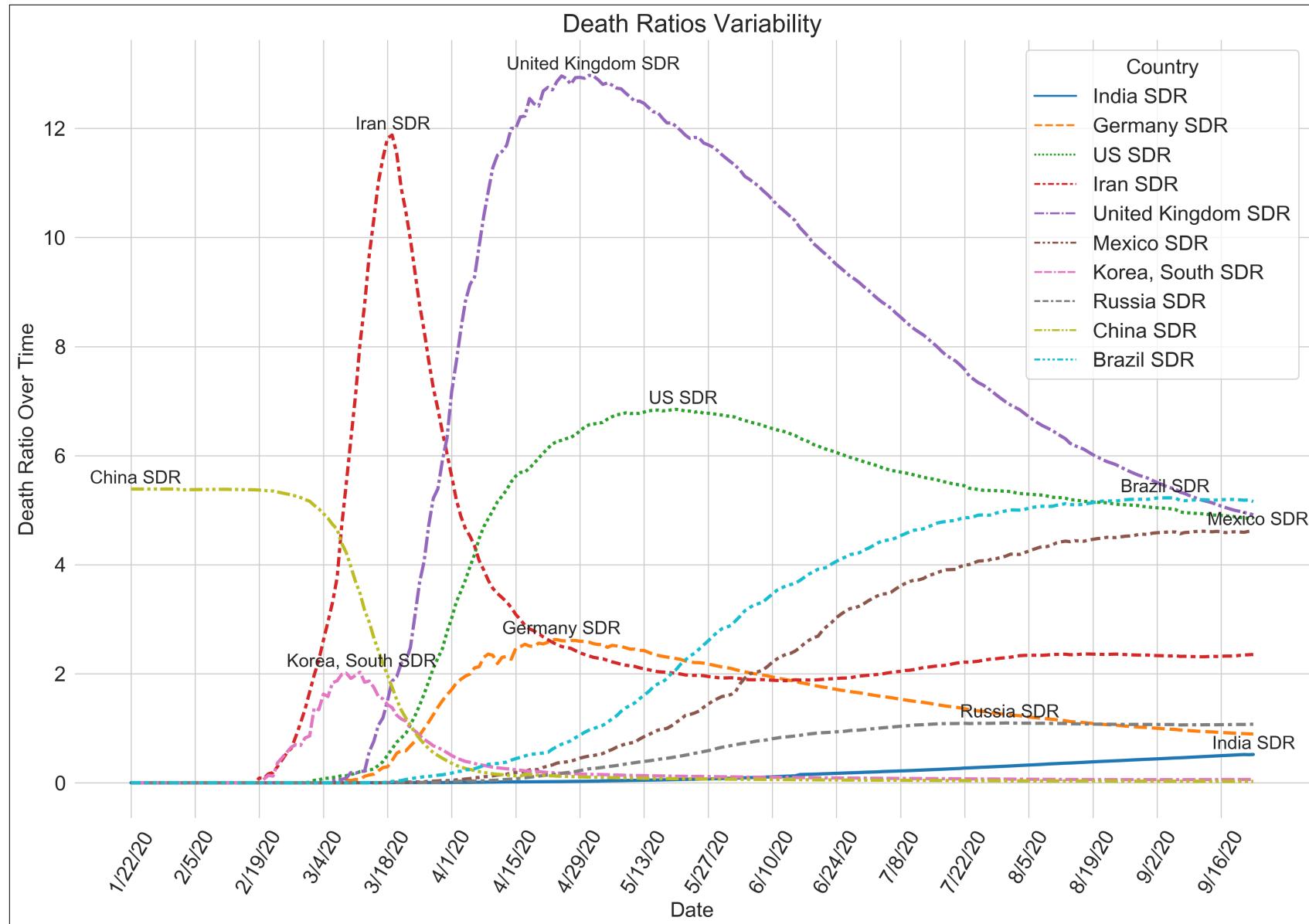
Here we represent the **NYT Death Gap** measure over time. Notice that in fact the US Death Gap ‘arrow’ in the first chart has been reduced over time. Also note, that in January the ‘Worst Performing’ country according to the NYT article was China. By this measure China had a death gap in the 80% range: this makes sense in light of the fact that they had 100% of the worlds share of Covid Deaths (on January 22nd only 17 deaths were reported globally). Notice that countries which are hit by the pandemic first will have a high death gap since they share a high percentage of the worlds covid deaths.



Vertical: Per country percentage-share of covid deaths less the percentage-share of world population. Horizontal: Date.

Data is **update every 24 hours** from Johns Hopkins Covid Data: <https://github.com/CSSEGISandData/COVID-19>

Here we represent the **Death Ratio** alternative. Notice here that a country which is affected early by the virus has a spike in its performance measure. Over time it quickly corrects itself as cases begin to spread to new countries (bringing down the percentage share of an individual country's covid deaths). Likewise, note that when comparing percentage-shares in ratio, it discounts a country's performance based on their world population percentage-share. In essence allowing larger countries to show better performance in light of their population size.



Vertical: Country percentage-share of covid deaths per percentage-share of world population. Horizontal: Date.

Data is **update every 24 hours** from Johns Hopkins Covid Data: <https://github.com/CSSEGISandData/COVID-19>

Checkout up to date charts, the Notebook needs some cleaning up and consolidation but still cool:
<https://nbviewer.jupyter.org/github/sohcan/Coronitas/blob/master/Coronitas%20Experiment.ipynb>

Sources:

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'America's Death Gap'
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Web: <https://www.nytimes.com/2020/09/01/briefing/coronavirus-kenosha-massachusetts-your-tuesday-briefing.html>

Gap Minder
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(September 23, 2020)
'Total Population: 2020'
Dataset: <http://gapm.io/dpop>
September 23, 2020

Compiled from multiple sources: <https://www.gapminder.org/data/documentation/gd003/>