Milestone 1

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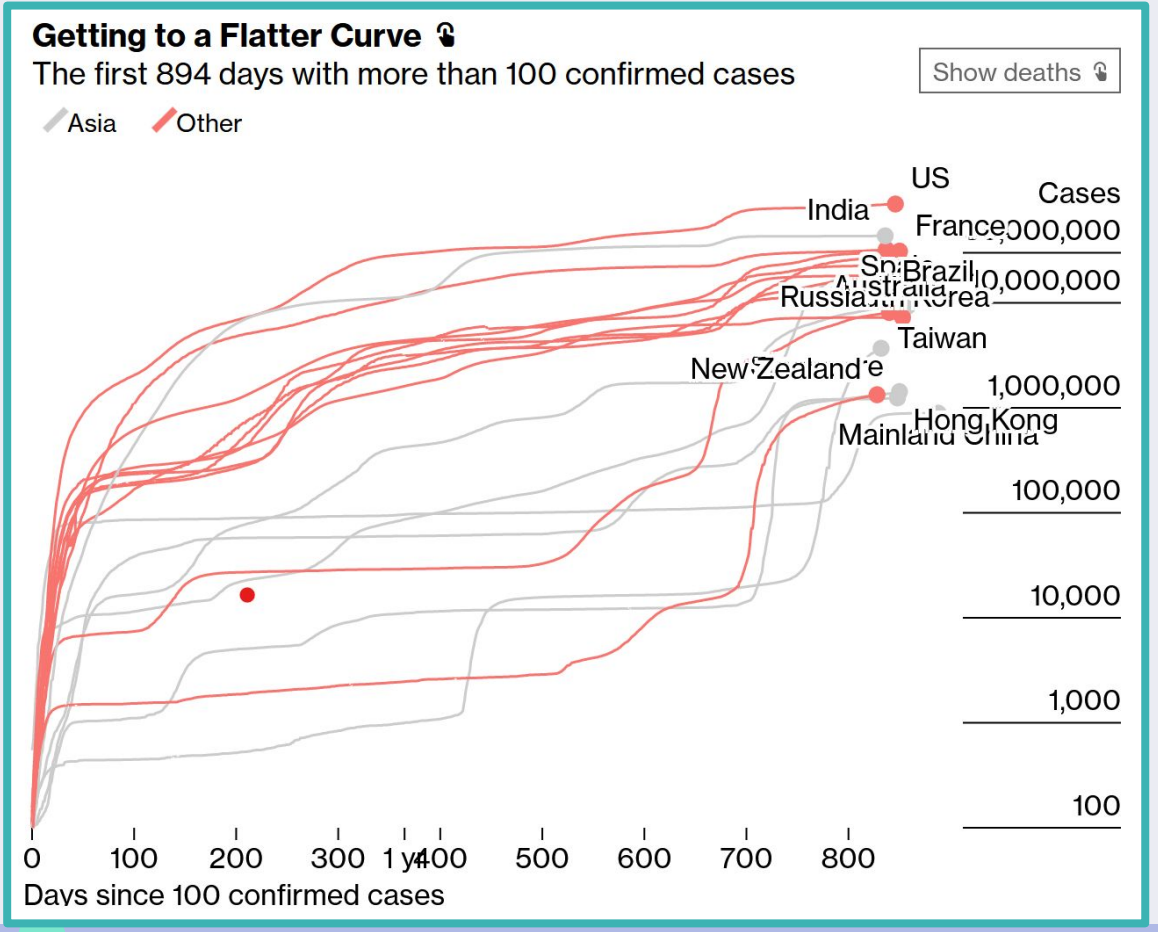
Visualisation 01

From: **John Hopkins University**



Graph Author (Source):

- Johns Hopkins University Center for Systems Science and Engineering.

About Graph:

- Multi-Line Graph of No. of COVID Cases from Day 0 to 800 After Reaching the 100th COVID Confirmed Case Mark (per Country).

- Days (X-Axis).
- No. of Cases (Y-Axis).

- Color of Lines:
  - **Grey** (for Asia Countries).
  - **Red** (for Non-Asia Countries).

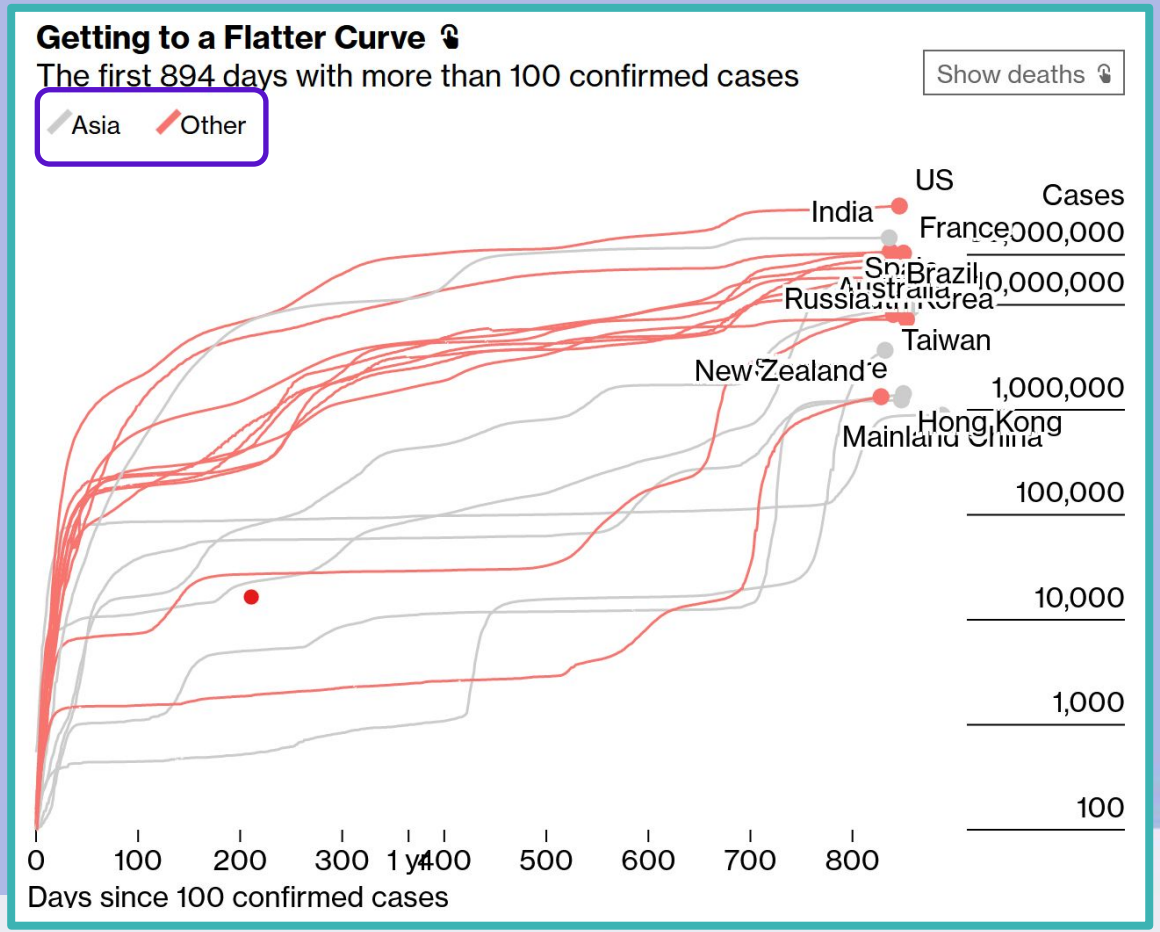
URL: *https://www.bloomberg.com/graphics/2020-coronavirus-cases-world-map/#voronoi-container*

Critique

(John Hopkins University)

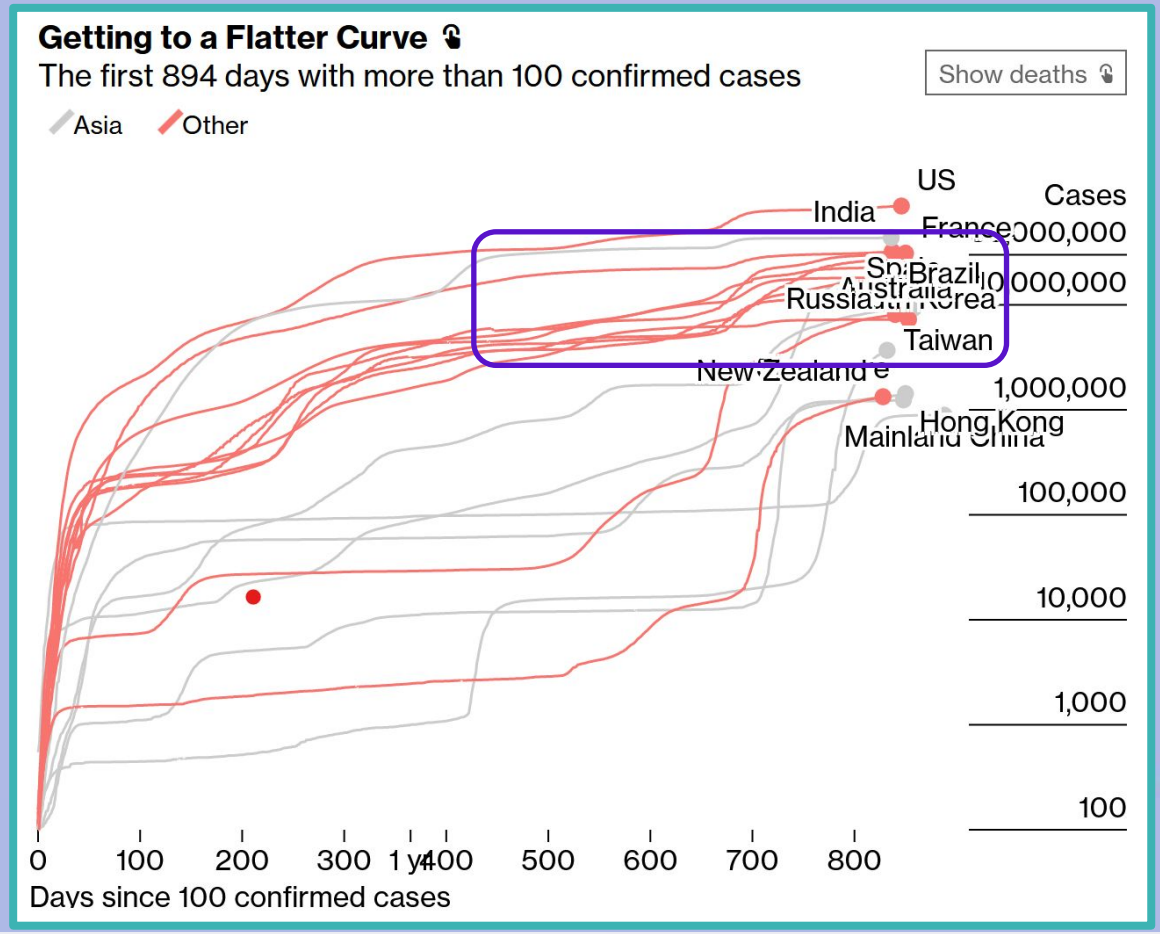
Data

- The Author used **Red** (Color) for Non-Asian and **Grey** for ‘Other’ Non-Asian Countries within the Legend



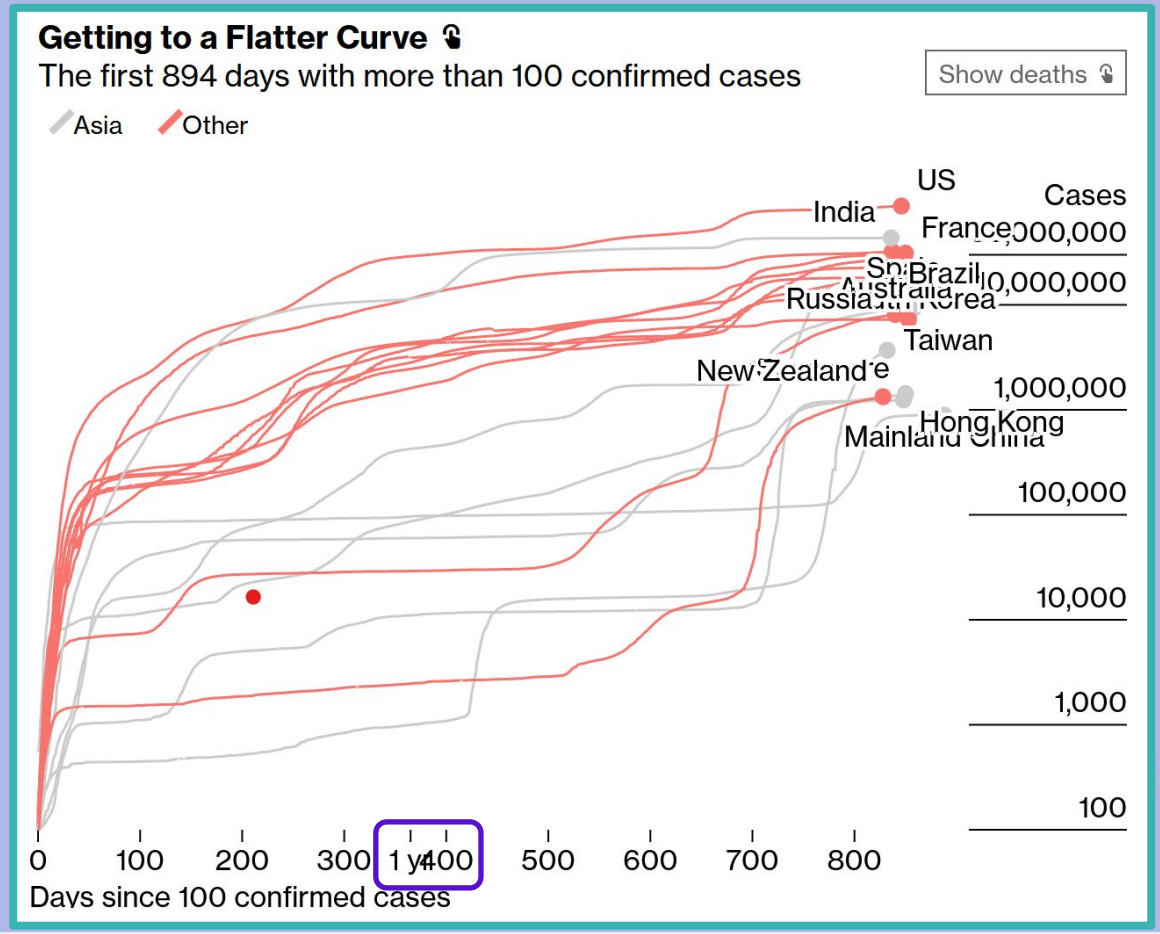
Idiom

- The Authors Wanted to Visually Compare Each Country's COVID Cases Against the Other Ones (Asia and Non-Asia/Others), thus a **Multi-Line Graph was Used**.
  - However, Due to the Unproportionate 'Cases' Scale, Some Countries nearing the 10,000,000 and 100,000,000 Marks, on a Given No. Of Days, Results in Noticeable Overlaps of Lines/Country-Labels that Could Cause Confusion to the Viewer(s) as to which of Those Represents which Country.



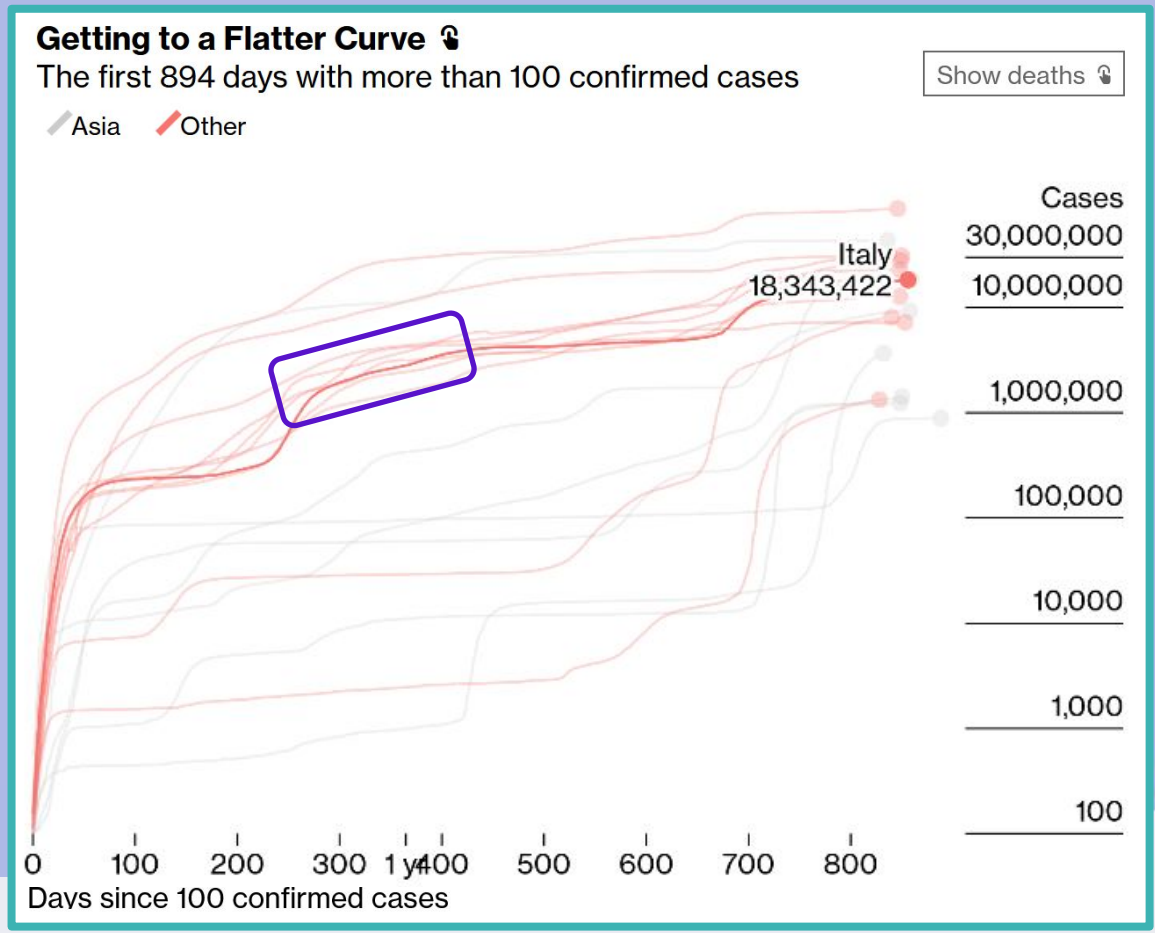
Idiom

- The Authors Wanted to Visually Compare Each Country's COVID Cases Against the Other Ones (Asia and Non-Asia/Others), thus a **Multi-Line Graph was Used**.
  - Also, the X-Axis' '1 yr' Mark is Overlapping the '400' Day Mark, Making it More Inconvenient to Review the Respective (Country) Line's Day Mark on the X-Axis.



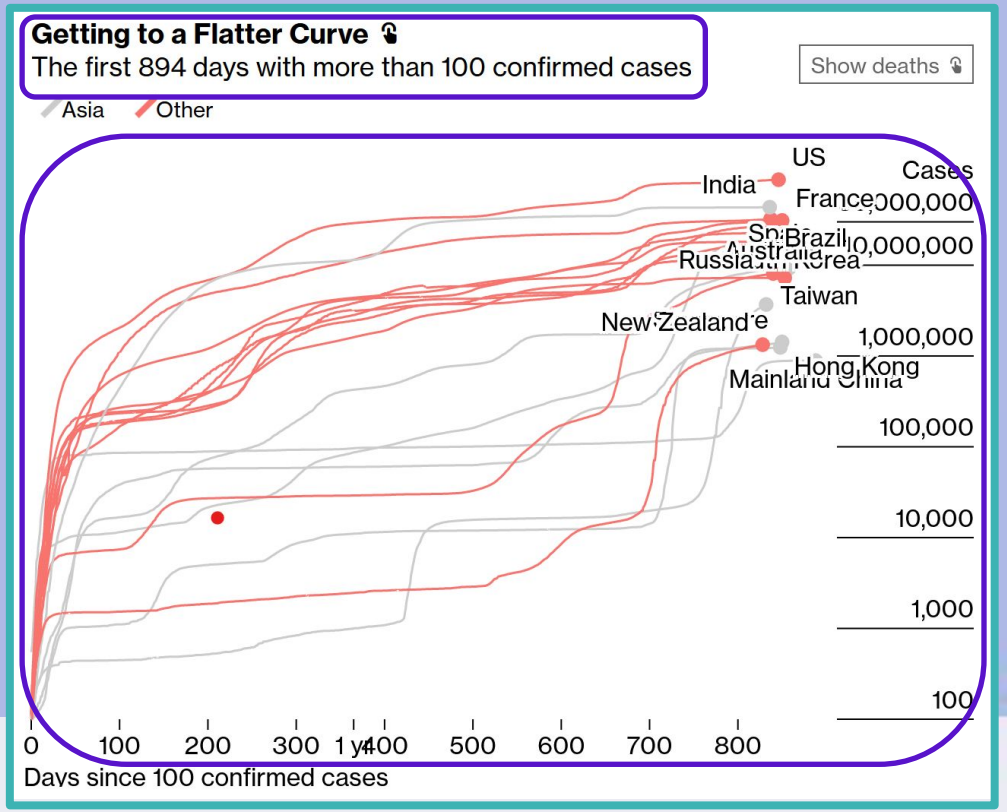
Task

- The Authors Have also Implemented a Mouse **Hover-Over Feature** to Highlight the preferred Country in which the Viewer would Like to Focus On.
  - Despite this, due to the Extreme Closeness Between the Overlapping of (Country) Lines, Users With Mobility/Varying Impairments (e.g. Hand Tremors, Larger Fingers) and/or Utilizes this Feature in Differing Environments (e.g. On Public Transportation, On Their Device Using One-Hand) Would Be Affected to a Large Extent.



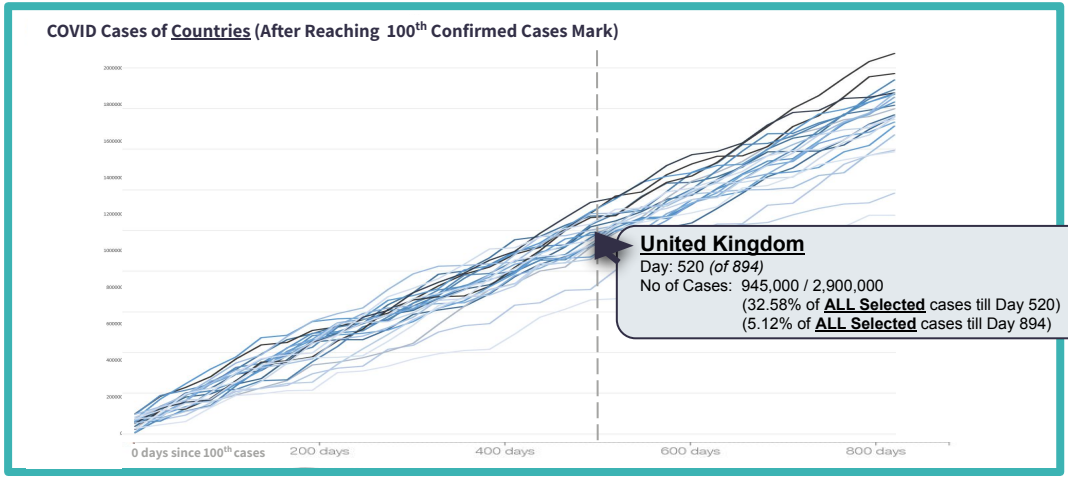
Task

- The Authors Added a Main Title for the Graph as '**Getting to a Flatter Curve**' with a Sub-Title of 'The first 894 days with more than 100 confirmed cases'.
  - However, the Main Title had a slightly bigger Font Size and a Bold Text Style, it was assumed that it would be related to the Sub-Title and the Graph, which is not true in this instance, making it confusing to the Viewer.
  - Also, the Main Title is Not Descriptive Enough in conveying what was Meant by 'Getting to a Flatter Curve' with respect to the Graph.



Solution (Visualization 1)

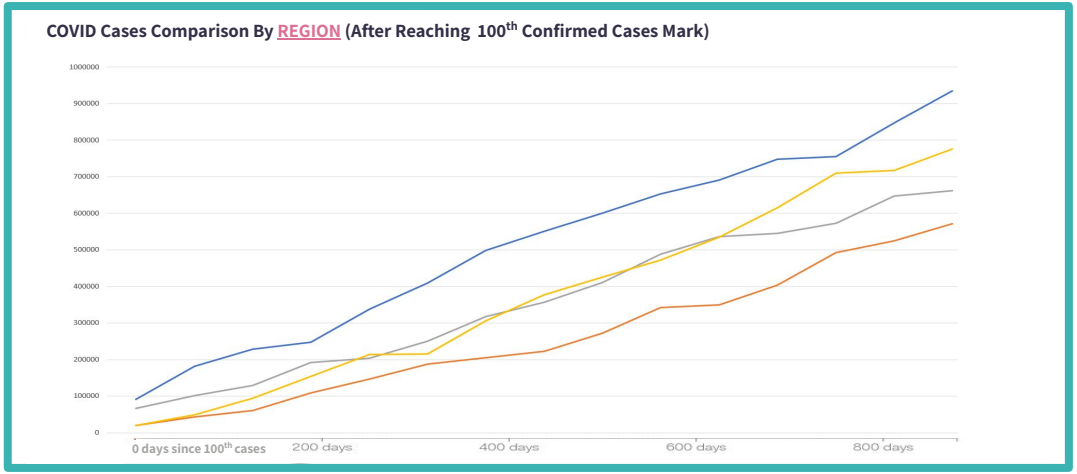
View By: Countries



Countries:

- Singapore
- Australia
- China
- Malaysia
- Iceland
- Thailand
- Mexico
- Canada
- France

View By: Region



Select	Region(s):
○	Europe
○	South-East Asia
○	North America
○	Africa

Add	Countries in _____:
☐	
☐	
☐	
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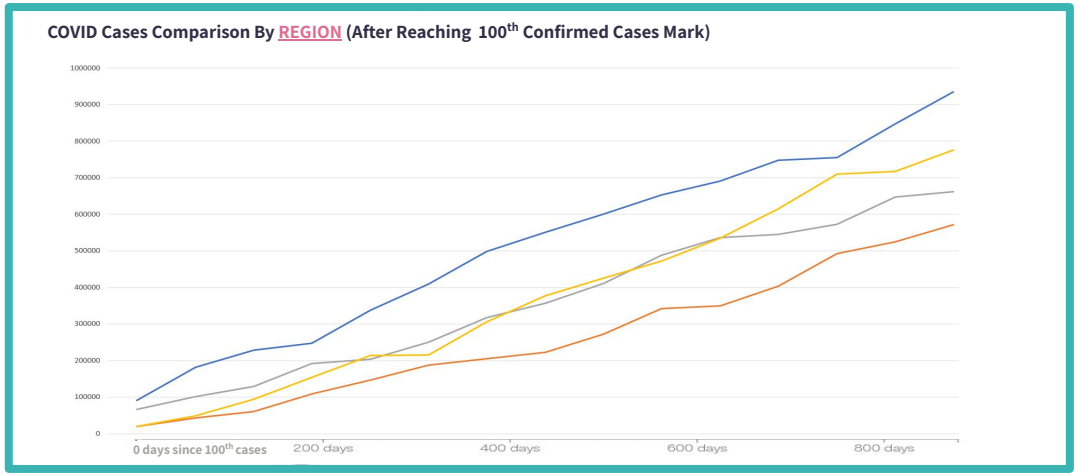
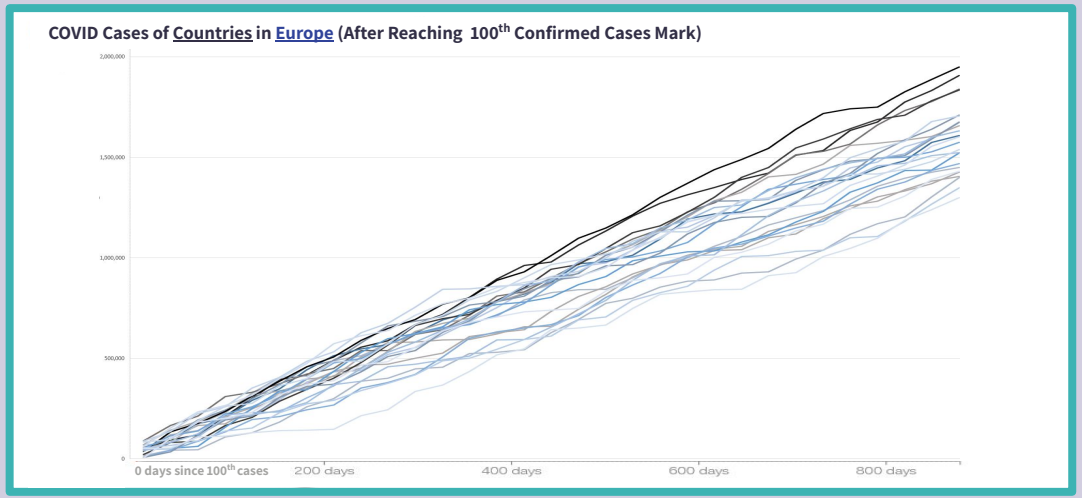
☐	

View By: Region

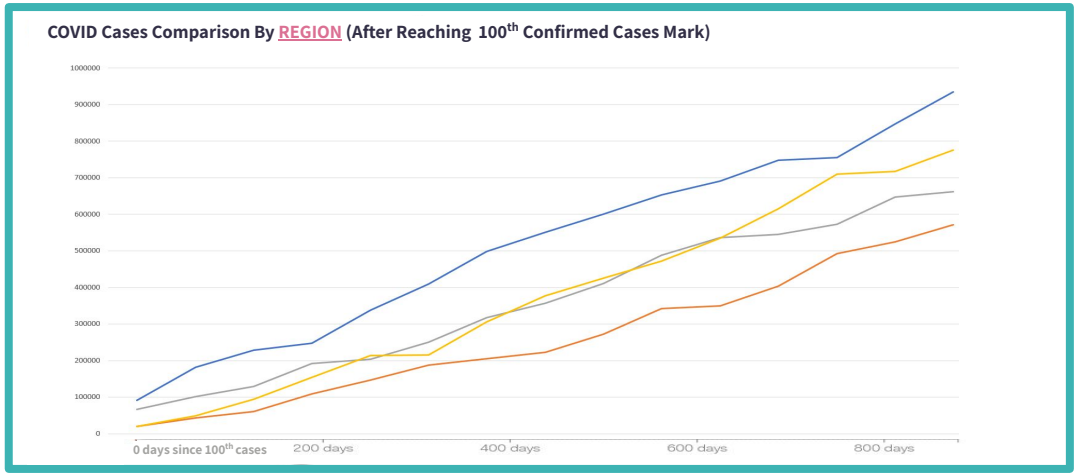


Select	Region(s):
◉	Europe
○	South-East Asia
○	North America
○	Africa

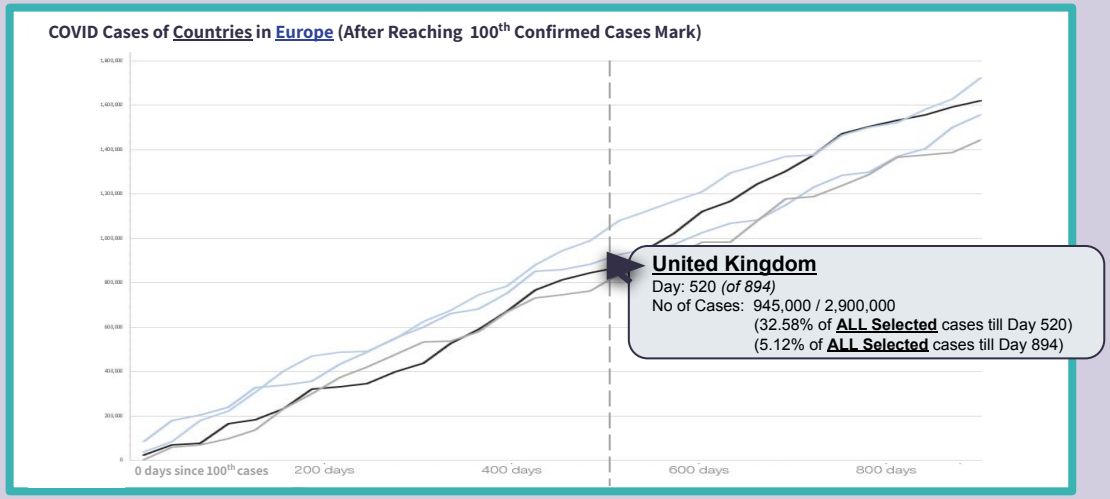


Add	Countries in Europe:
☑	Germany
☑	United Kingdom
☑	France
☑	Italy
☑	Spain
☑	Ukraine
☑	Poland
☑	Romania
☑	Netherlands

View By: Region

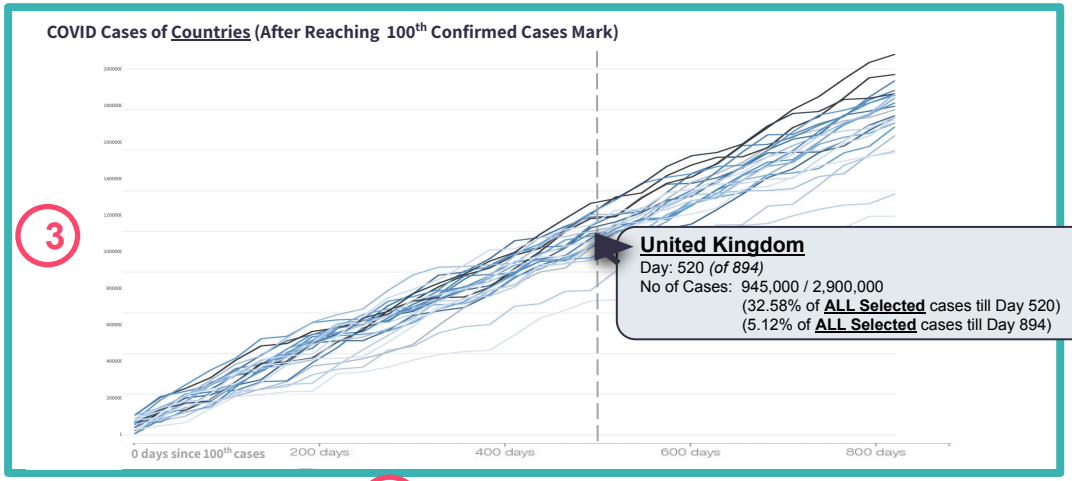


Select	Region(s):
◉	Europe
○	South-East Asia
○	North America
○	Africa



Add	Countries in Europe:
☑	Germany
☑	United Kingdom
☑	France
☑	Italy
☐	Spain
☐	Ukraine
☐	Poland
☐	Romania
☐	Netherlands

View By: Countries



3

2

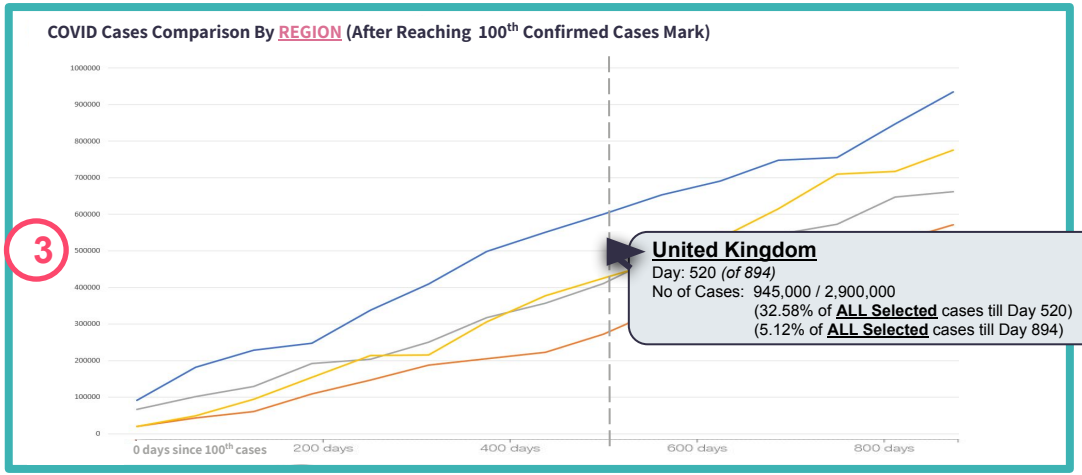
1

Countries:

- Singapore
- Australia
- China
- Malaysia
- Iceland
- Thailand
- Mexico
- Canada
- France

1. Replace the Legend (with 'Asia' / 'Other' Variables) with one that has Equally-Spaced Tabular List of Regions **AND** Filter by Region *(Color Scale: Blue to Black)*
2. Remove the '1 yr' Mark from the Days Scale (X-Axis).
3. Allow the No. of Cases (Y-Axis) to Scale Proportionally.

View By: Region



Select	Region(s):
◉	Europe
○	South-East Asia
○	North America
○	Africa

1

2

1. Replace the Legend (with 'Asia' / 'Other' Variables) with one that has Equally-Spaced Tabular List of Regions **AND** Filter by Region *(Color Scale: Multi-Color due to Unrelated Countries)*
2. Remove the '1 yr' Mark from the Days Scale (X-Axis).
3. Allow the No. of Cases (Y-Axis) to Scale Proportionally.

View By: Region

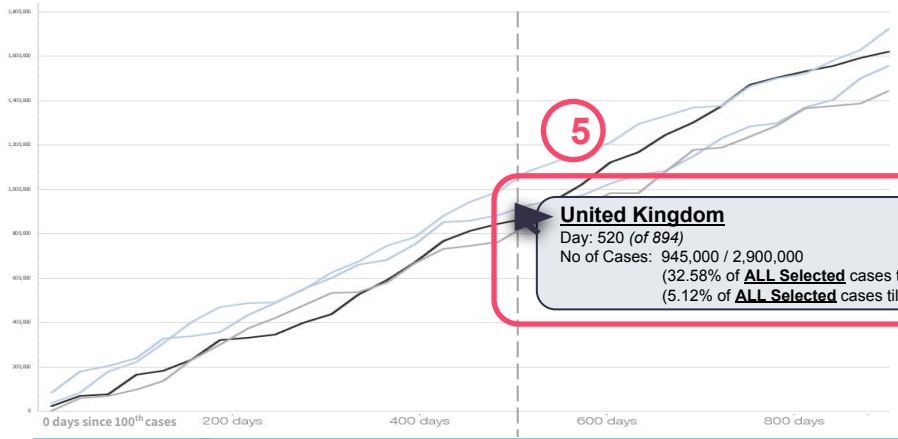
COVID Cases Comparison By REGION (After Reaching 100th Confirmed Cases Mark)

4 Select Relevant Countries within Region
(Color Scale: Blue to Black)

5 Hover-Over to Further Investigate Cases in Country (via Hover-Over)

Select Region(s):
Europe

COVID Cases of Countries in Europe (After Reaching 100th Confirmed Cases Mark)

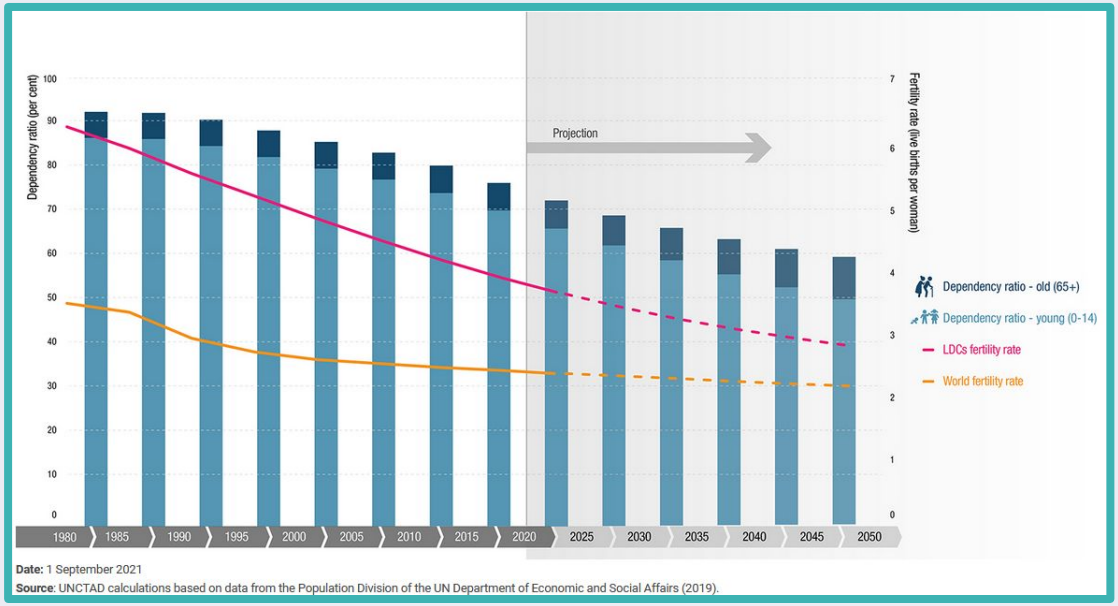


4

Add	Countries in Europe:
☑	Germany
☑	United Kingdom
☑	France
☑	Italy
☐	Spain
☐	Ukraine
☐	Poland
☐	Romania
☐	Netherlands

Visualisation 02

From: **UNCTAD**



Graph Author (Source):

- United Nations Conference on Trade and Development (UNCTAD)

About Graph:

- Calculations Based On Data From the Population Division of the UN Department of Economic and Social Affairs .
- Stacked-Bar and Multi-Line Graph from ***Historical*** Year 1980 to 2020 and ***Projected*** Year 2020 to 2050.

- Year (X-Axis)
- Dependency-Ratio / Fertility-Rate (Y-Axis)

- Colors:
  - **Bar: Light Blue** (for Age 0 to 14 Dependency Rate).
  - **Bar: Dark Blue** (for Dependency Rates of Age 65 Onwards).
  - **Line: Orange** (for **World** Fertility Rate).
  - **Line: Pink** (for **LCD's** Fertility Rate).

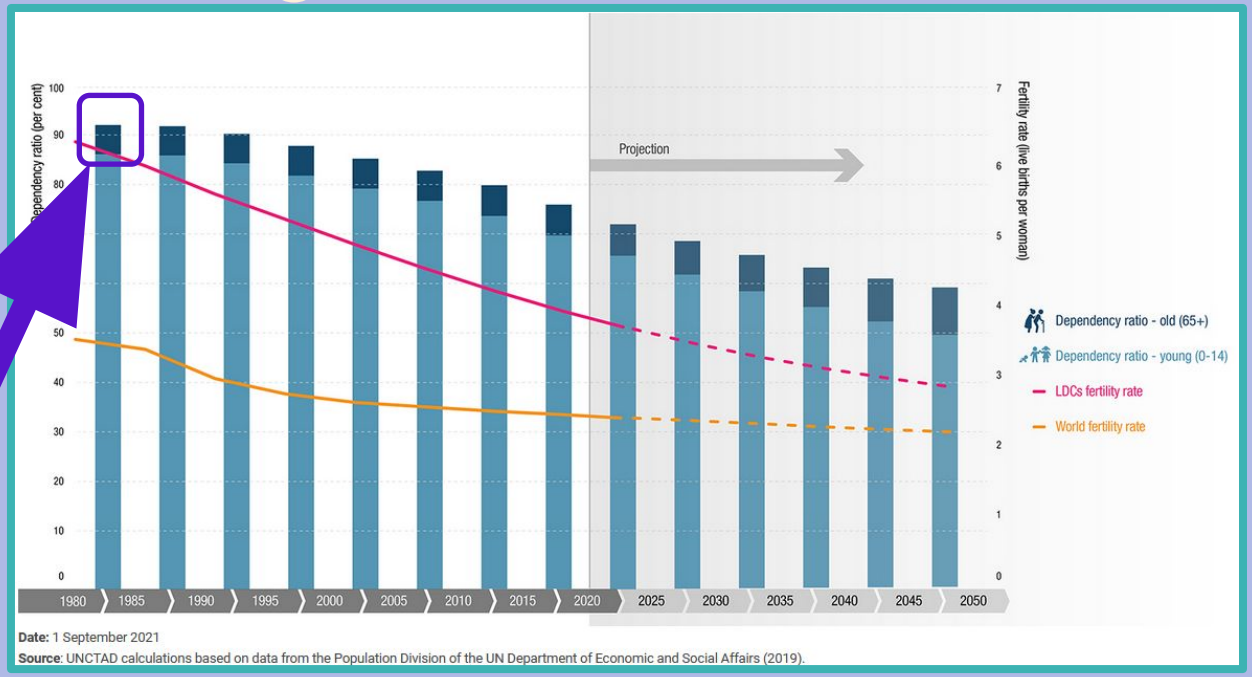
URL: *https://unctad.org/topic/least-developed-countries/chart-september-2021*

Critique

(UNCTAD)

Data

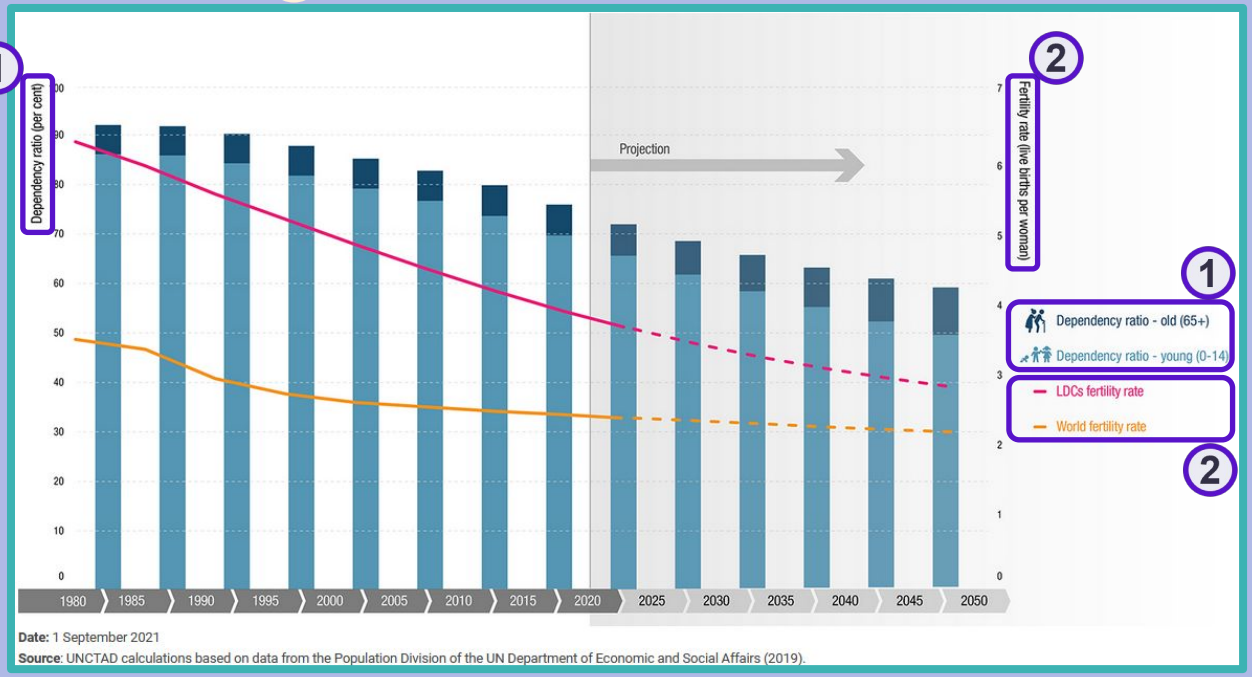
- With the Use of Stacked-Bar Charts
  - Some Viewers May be Required to Move-Closer/Zoom-In on the Smaller (Valued) Stacked **Dark Blue Bar** and Mentally Calculate its Estimated Dependency Ratio.



Idiom

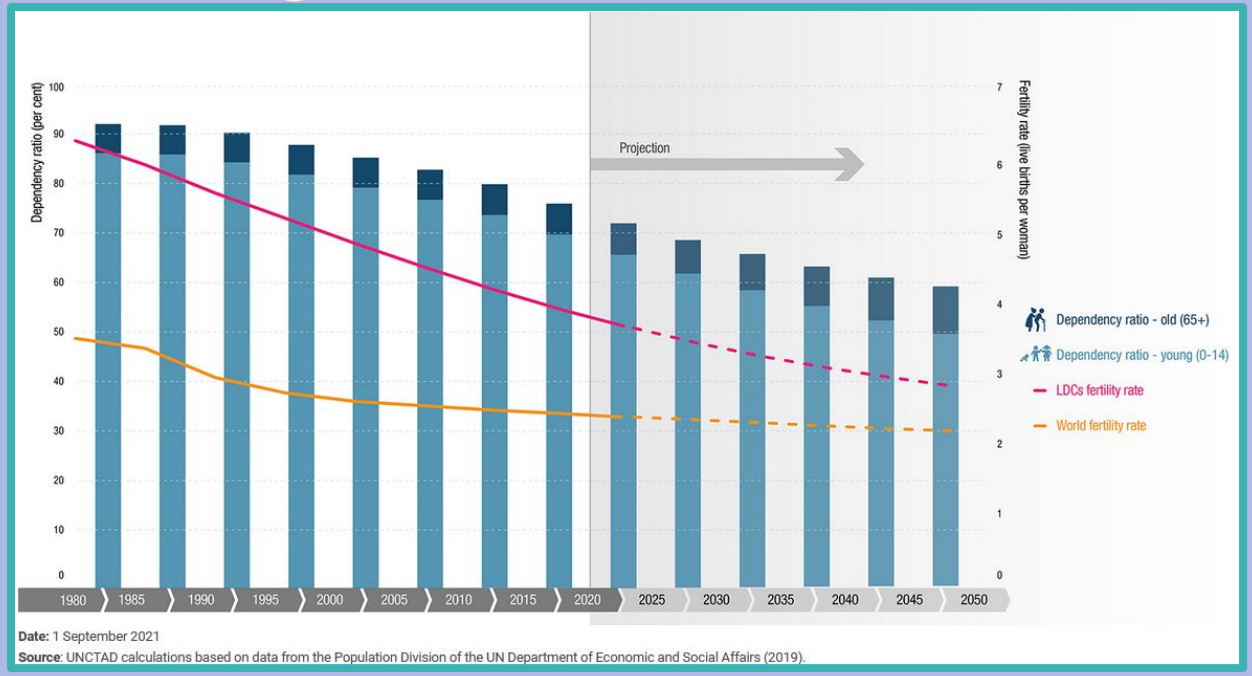
- The Author used two Y-Axis:
  1. (Left-Side) Dependency Ratio
  2. (Right-Side) Fertility Rate

  to refer to the Correlation between the Dependency and Fertility Rates/Ratios, **thus** a Stacked-Bar and Multi-Line Graph was Used.
  - However, Some Viewers May be confused by which Side of the Y-Axis (Left/Right) should the Bar(s)/Line(s) be referred to.



Task

- Being a Static Graph, there are No Options to Further Analyse the Graph's Properties (e.g. Hover-Over, Selection).



Solution

- Add a Mouse Hover-Over ToolTip, that would Display a Pop-up Containing the Dependency Ratios and Fertility Rates.
- Merge the 2 Y-Axis into 1 Y-Axis Scale, Where the Fertility Rate is Automatically Transformed *(from a Total of 7 to Total of 100)*
- Reform the X and Y Axis to Reflect the Relevant Changes Above (with the Inclusion of the Y-Axis' Label 'Year')

Thank you