

Milestone 1

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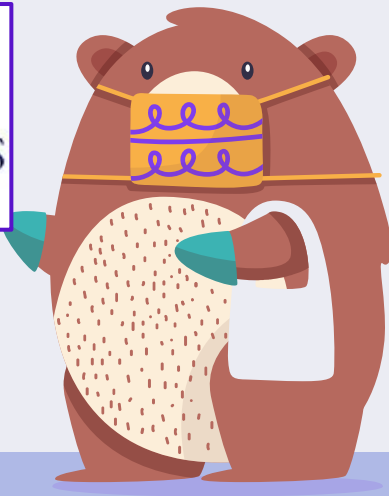
What is wrong with it

Visualisation

01



From: **John Hopkins University**

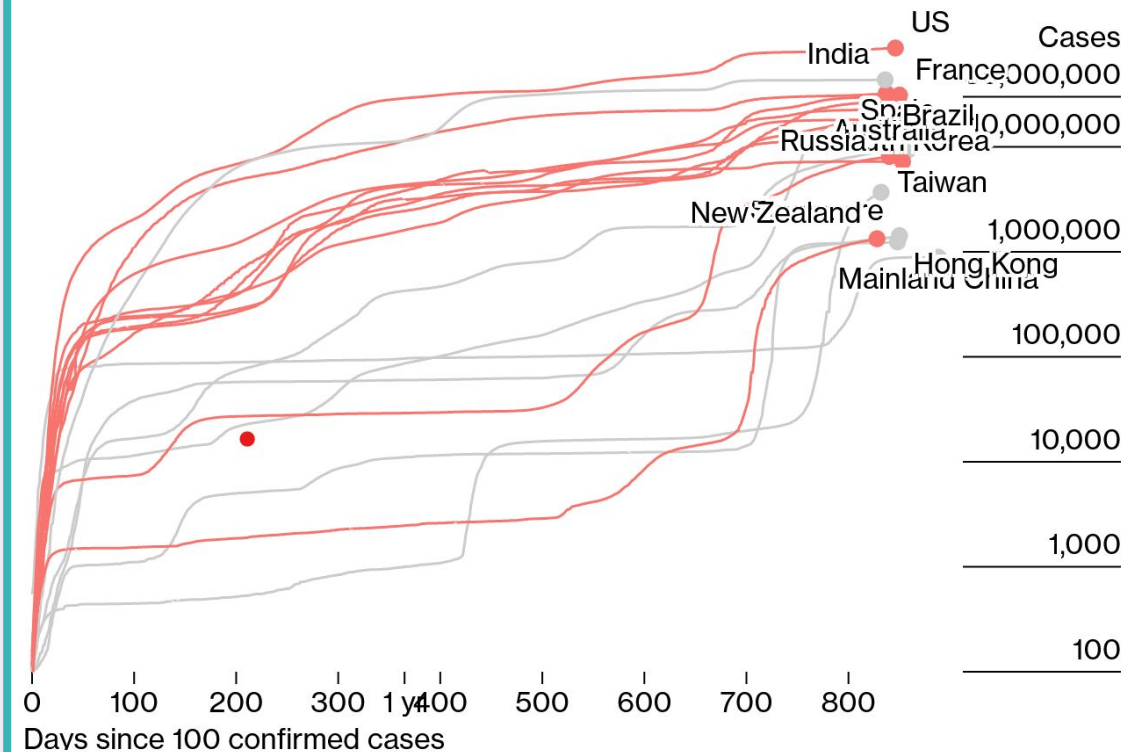


Getting to a Flatter Curve 📉

The first 894 days with more than 100 confirmed cases

Show deaths 📉

Asia Other



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

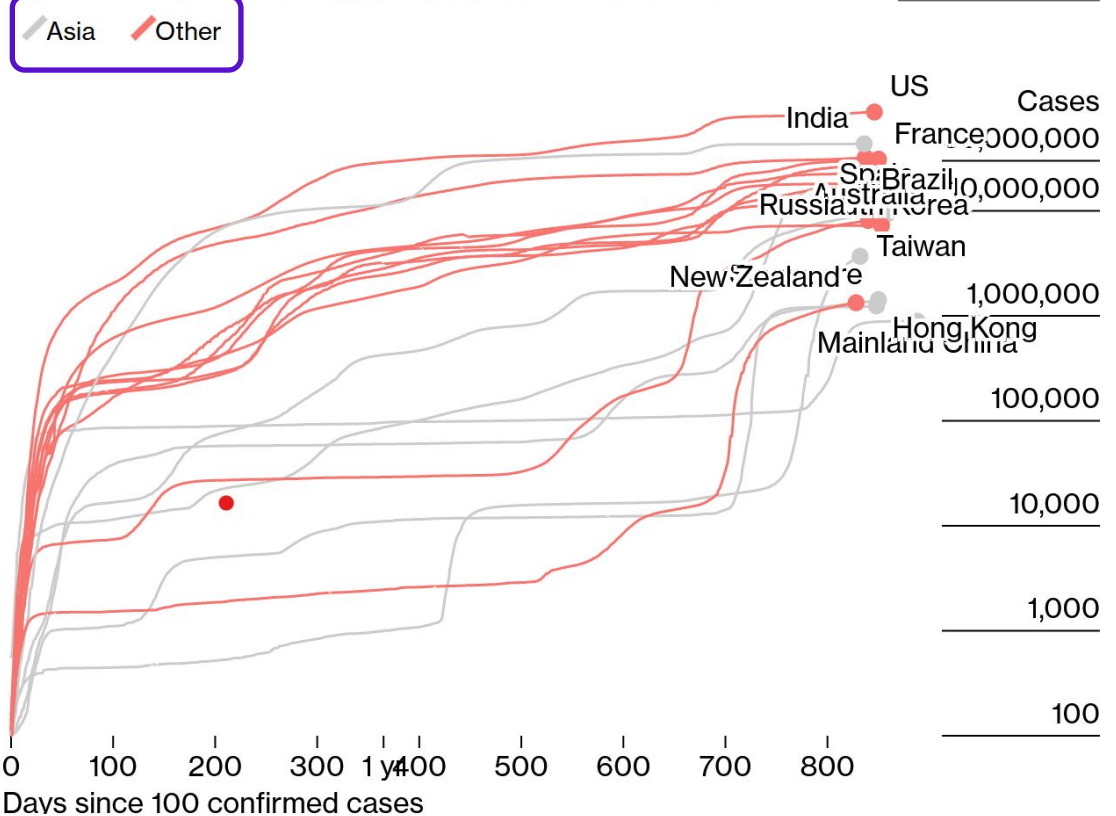


- The Author used **Red** (Color) for Non-Asian and **Grey** for 'Other' Non-Asian Countries within the Legend

Getting to a Flatter Curve 📉

The first 894 days with more than 100 confirmed cases

Show deaths 📉



Idiom

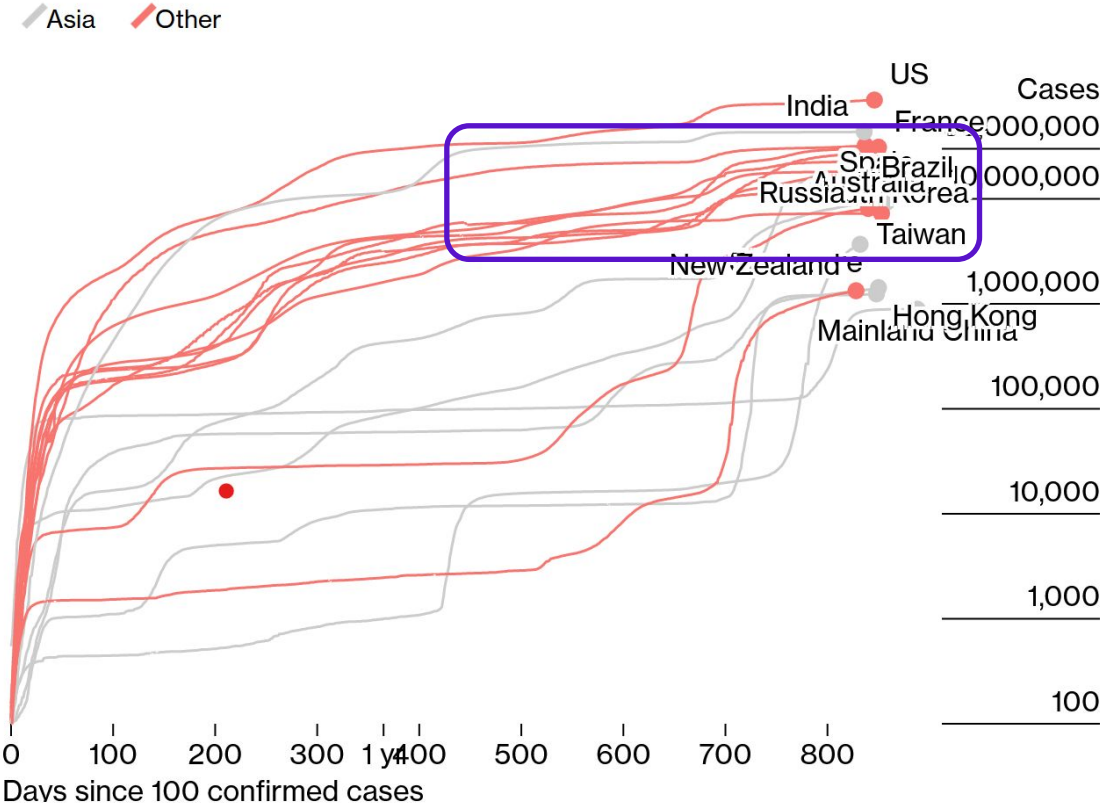


- The Authors Wanted to Visually Compare Each Country's COVID Cases Against the Other Ones (Asia and Non-Asia/Others), thus a Multi-Line Graph was Used.
 - However, Due to the Unproportionate 'Cases' Scale, Some Countries nearing the 10,000,000 and 100,000,000 Marks, on a Given No. Of Days, Results in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

Getting to a Flatter Curve 📉

The first 894 days with more than 100 confirmed cases

Show deaths 📉



Idiom

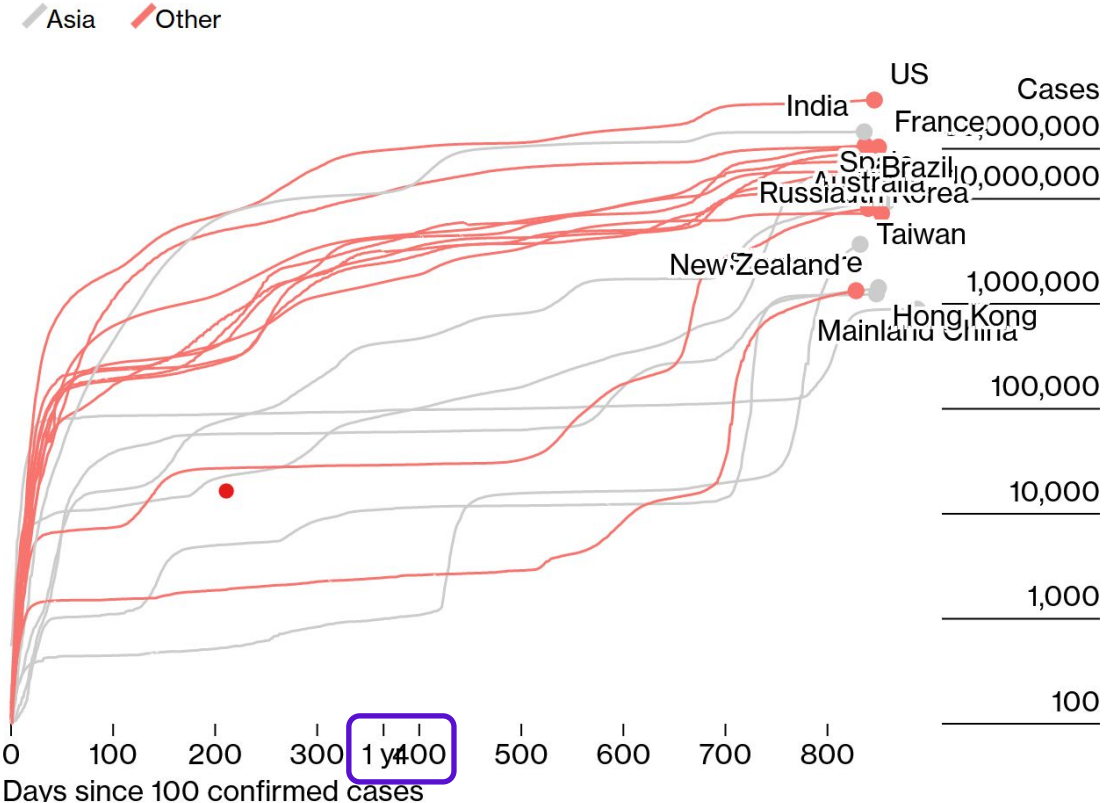


- The Authors Wanted to Visually Compare Each Country's COVID Cases Against the Other Ones (Asia and Non-Asia/Others), thus a **Multi-Line Graph was Used**.
- Also, the X-Axis' '1 yr' Mark is Overlapping the '400' Day Mark, Making it More Inconvenient to Review the Respective (Country) Line's Day Mark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

Getting to a Flatter Curve 📉

The first 894 days with more than 100 confirmed cases

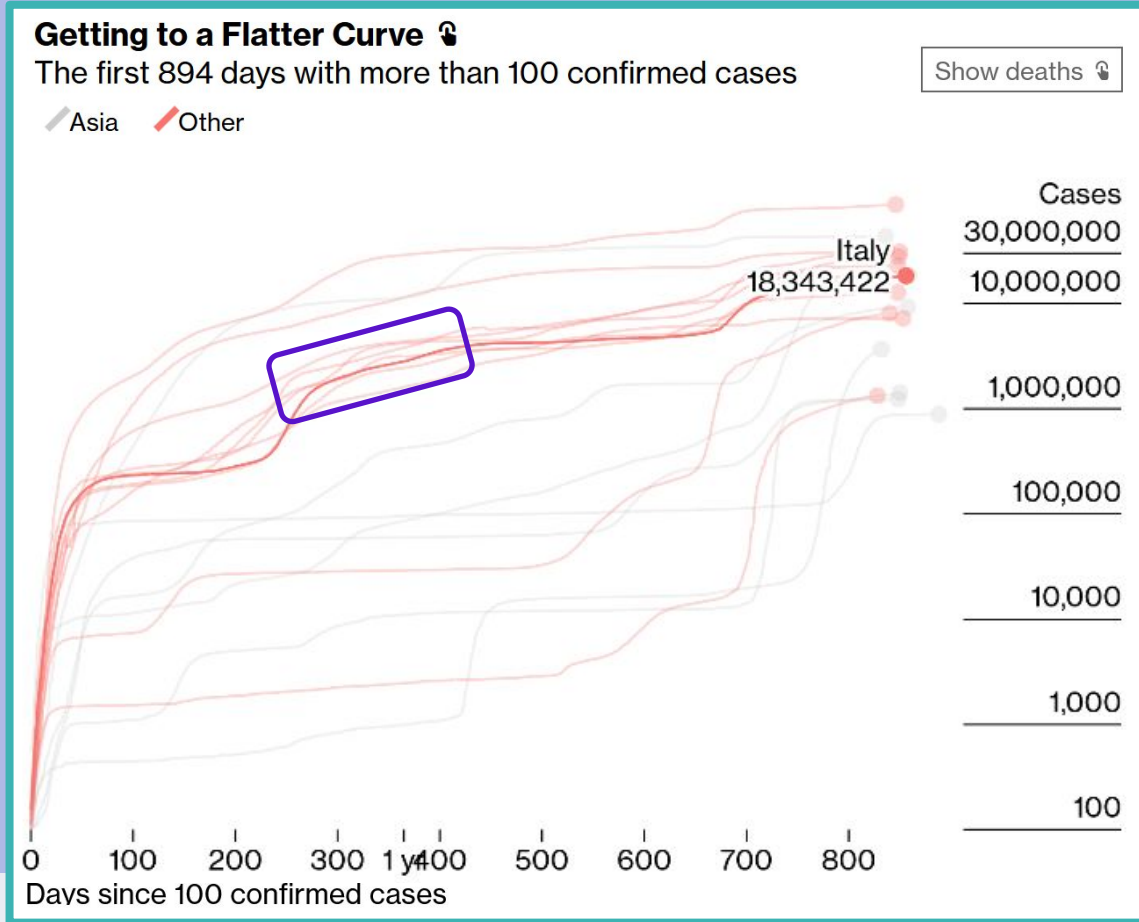
Show deaths 📉



Task



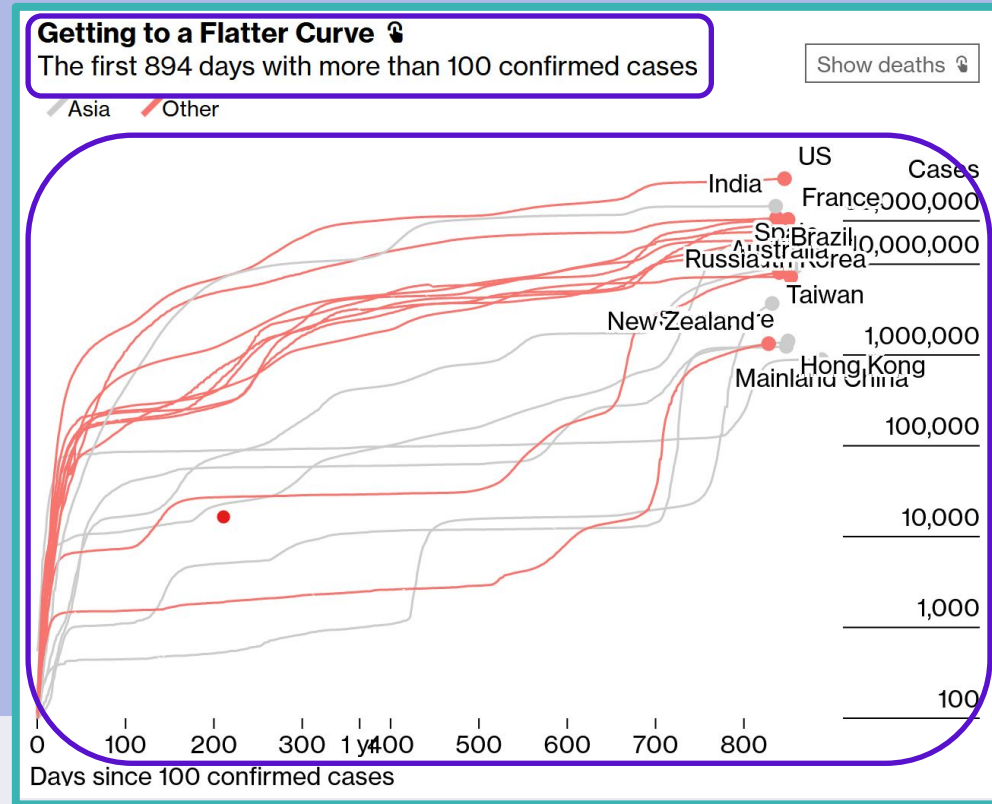
- The Authors Have also Implemented a Mouse **Hover-Over Feature** to Highlight the preferred Country in which the Viewer would Like to Focus On.
 - Despite this, due to the Extreme Closeness Between the Overlapping of (Country) Lines, Users With Mobility/Varying Impairments (e.g. Hand Tremors, Larger 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

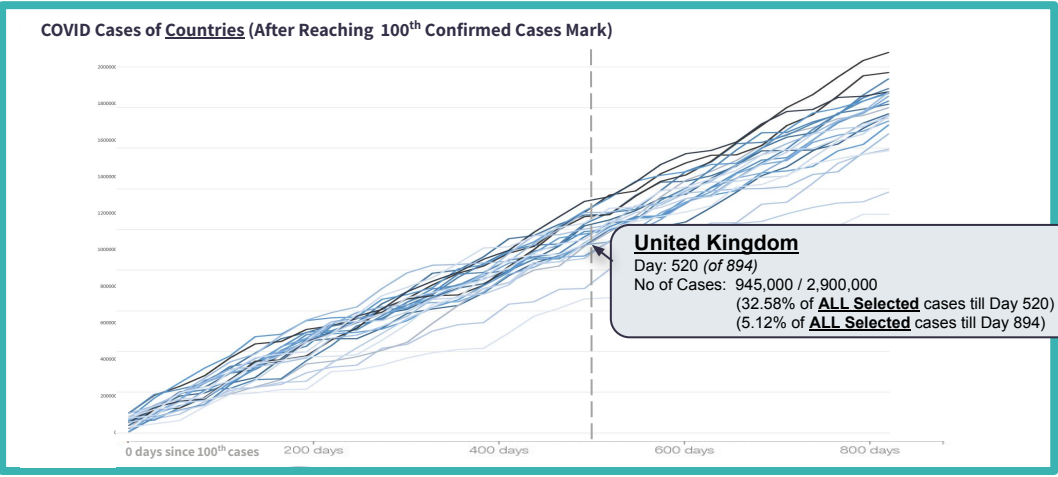


- The Authors Added a Main Title for the Graph as '**Getting to a Flatter Curve**' with a Sub-Title of 'The first 894 days with more than 100 confirmed cases'.
 - However, the Main Title had a slightly bigger Font Size and a Bold Text Style, it was assumed that it would be related to the Sub-Title and 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.

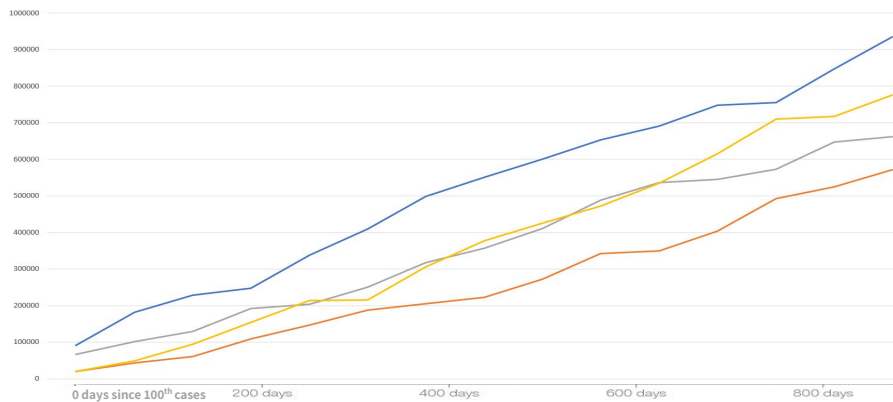


Solution (Visualization 1)





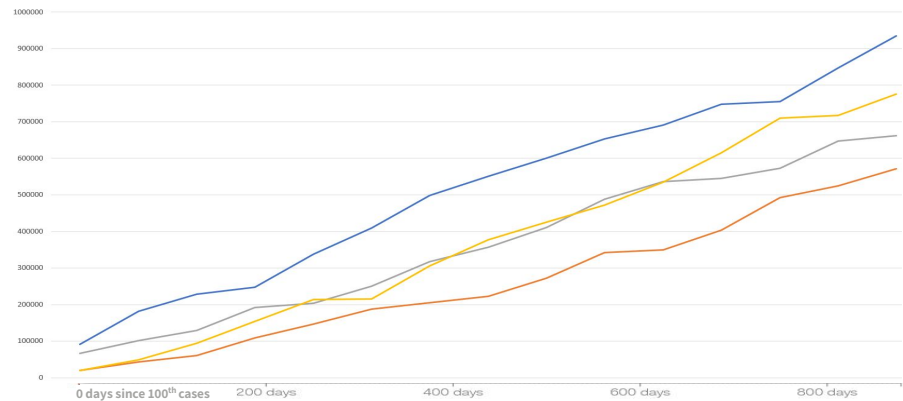
Countries:	
— Singapore	
— Australia	
— China	
— Malaysia	
— Iceland	
— Thailand	
— Mexico	
— Canada	
— France	

View By: Region

Select	Region(s):
<input checked="" type="radio"/>	Europe
<input type="radio"/>	South-East Asia
<input type="radio"/>	North America
<input type="radio"/>	Africa

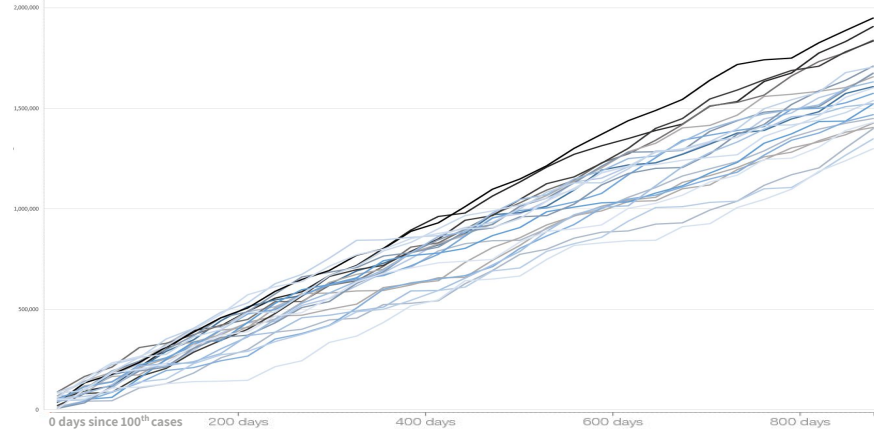
[illegible]

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



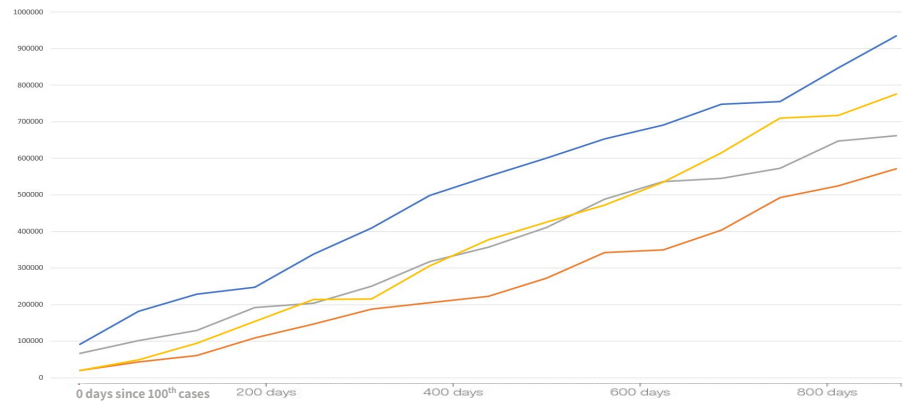
Select	Region(s):
<input checked="" type="radio"/>	Europe
<input type="radio"/>	South-East Asia
<input type="radio"/>	North America
<input type="radio"/>	Africa

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



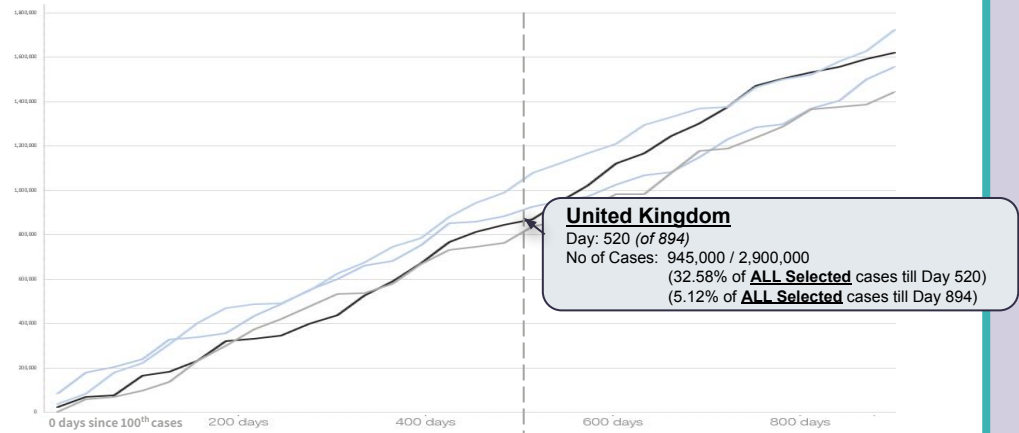
Add	Countries in Europe :
<input checked="" type="checkbox"/>	Germany
<input checked="" type="checkbox"/>	United Kingdom
<input checked="" type="checkbox"/>	France
<input checked="" type="checkbox"/>	Italy
<input checked="" type="checkbox"/>	Spain
<input checked="" type="checkbox"/>	Ukraine
<input checked="" type="checkbox"/>	Poland
<input checked="" type="checkbox"/>	Romania
<input checked="" type="checkbox"/>	Netherlands

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



Select	Region(s):
<input checked="" type="radio"/>	Europe
<input type="radio"/>	South-East Asia
<input type="radio"/>	North America
<input type="radio"/>	Africa

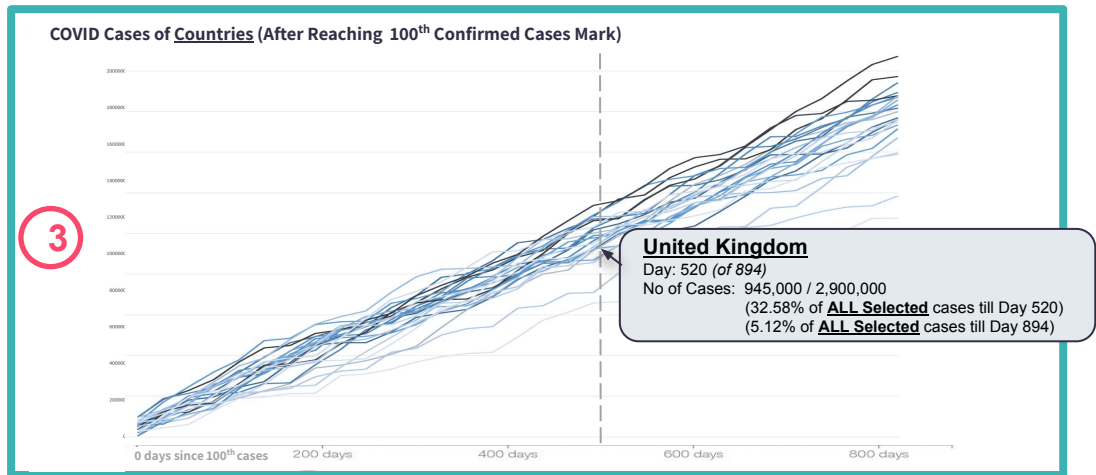
COVID Cases of **Countries in Europe** (After Reaching 100th Confirmed Cases Mark)



United Kingdom
Day: 520 (of 894)
No of Cases: 945,000 / 2,900,000
(32.58% of **ALL Selected** cases till Day 520)
(5.12% of **ALL Selected** cases till Day 894)

Add	Countries in Europe :
<input checked="" type="checkbox"/>	Germany
<input checked="" type="checkbox"/>	United Kingdom
<input checked="" type="checkbox"/>	France
<input checked="" type="checkbox"/>	Italy
<input type="checkbox"/>	Spain
<input type="checkbox"/>	Ukraine
<input type="checkbox"/>	Poland
<input type="checkbox"/>	Romania
<input type="checkbox"/>	Netherlands

1



Countries:

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



Add **Countries in Europe:**

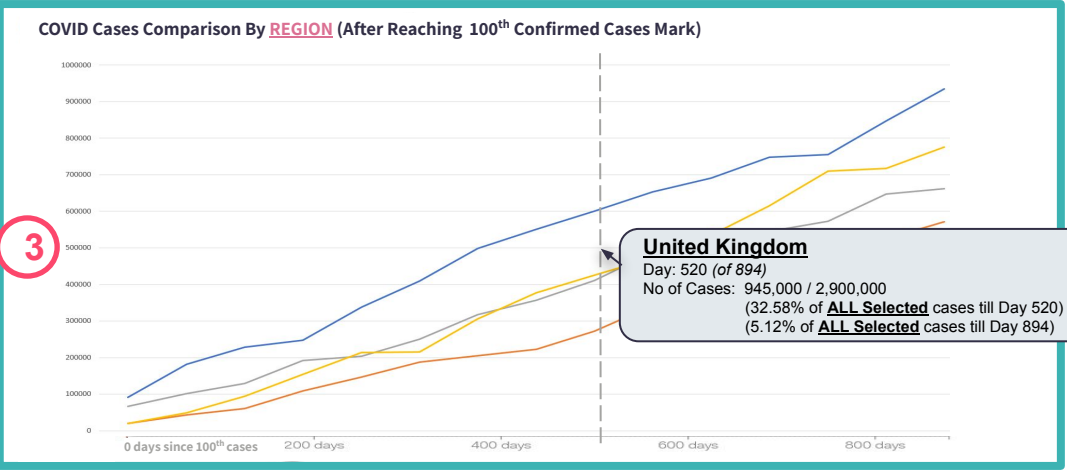
<input type="checkbox"/>	—	Poland
<input type="checkbox"/>	—	Romania
<input type="checkbox"/>	—	Netherlands

- 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.

1

Select	Region(s):
<input checked="" type="radio"/>	Europe
<input type="radio"/>	South-East Asia
<input type="radio"/>	North America
<input type="radio"/>	Africa

3



2



Add Countries in Europe:

- 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.

<input type="checkbox"/>	Poland
<input type="checkbox"/>	Romania
<input type="checkbox"/>	Netherlands

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



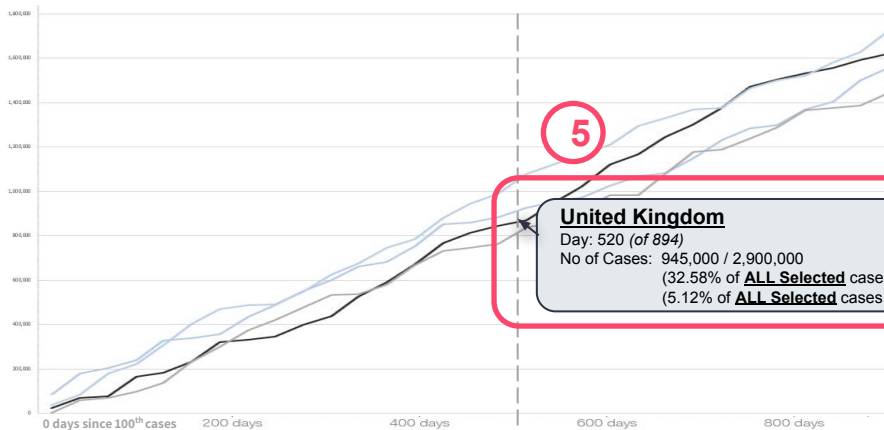
4 Select Relevant Countries within Region
(Color Scale: Blue to Black)

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)



5

United Kingdom

Day: 520 (of 894)

No of Cases: 945,000 / 2,900,000
(32.58% of **ALL Selected** cases till Day 520)
(5.12% of **ALL Selected** cases till Day 894)

4

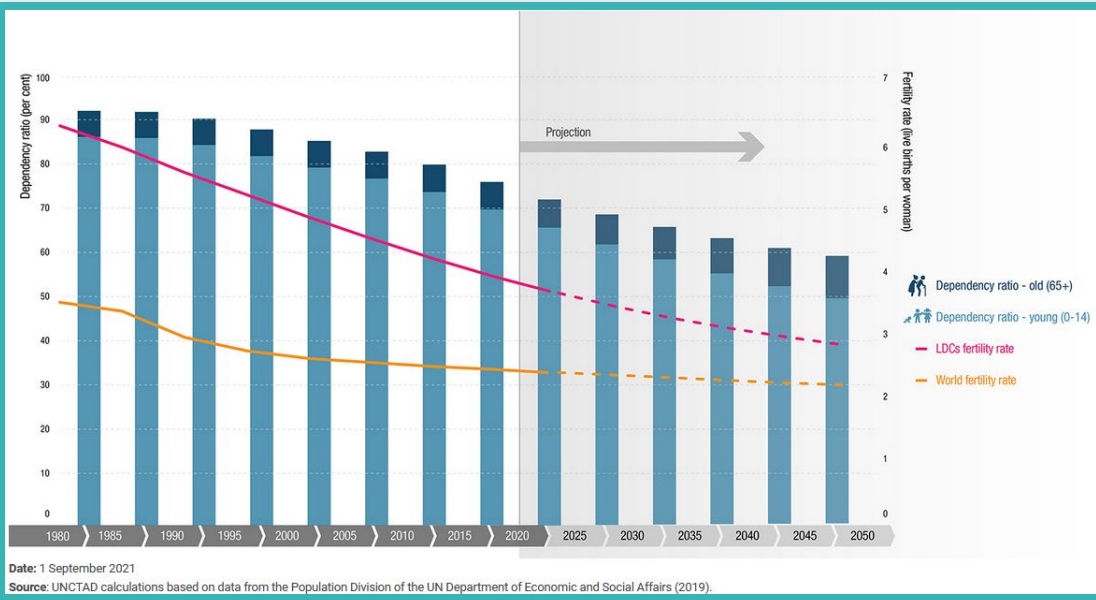
Add	Countries in <u>Europe</u> :
<input checked="" type="checkbox"/>	Germany
<input checked="" type="checkbox"/>	United Kingdom
<input checked="" type="checkbox"/>	France
<input checked="" type="checkbox"/>	Italy
<input type="checkbox"/>	Spain
<input type="checkbox"/>	Ukraine
<input type="checkbox"/>	Poland
<input type="checkbox"/>	Romania
<input type="checkbox"/>	Netherlands

Visualisation

02

From: **UNCTAD**



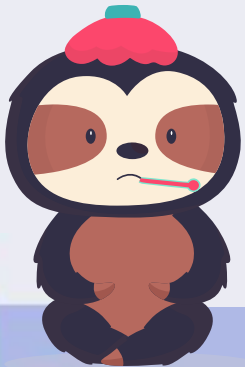


Graph Author (Source):

- 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 **LDC's** Fertility Rate).



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

Critique

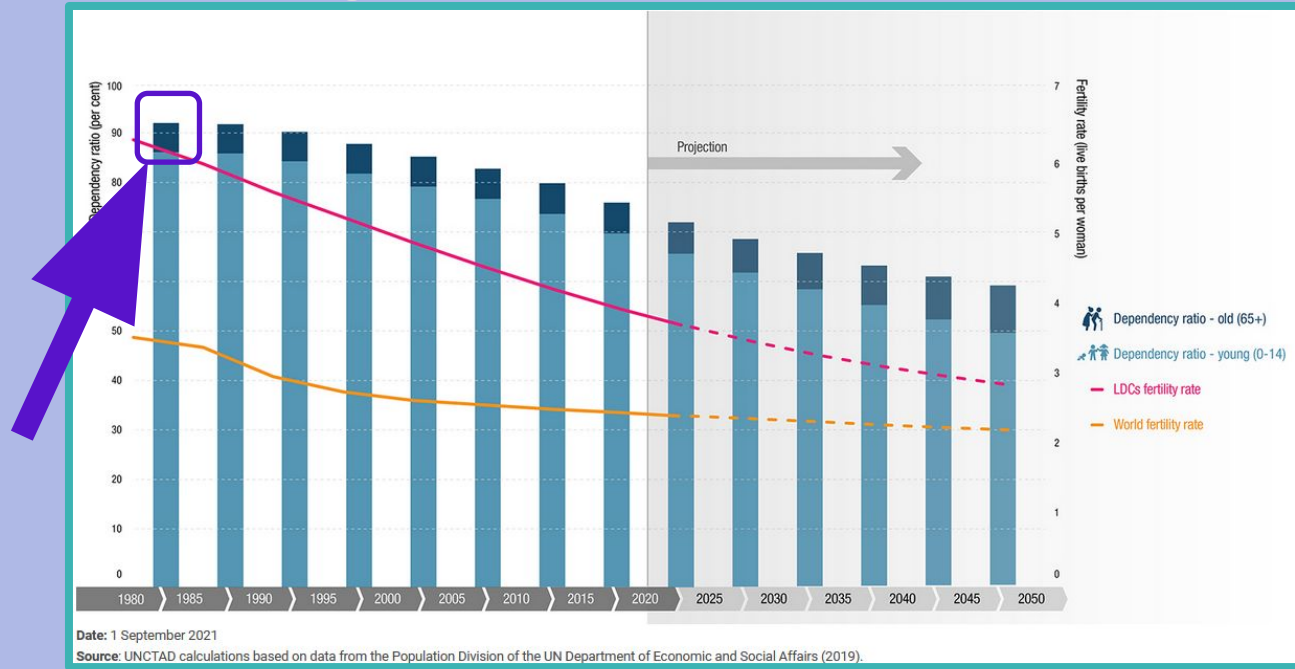
(UNCTAD)



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



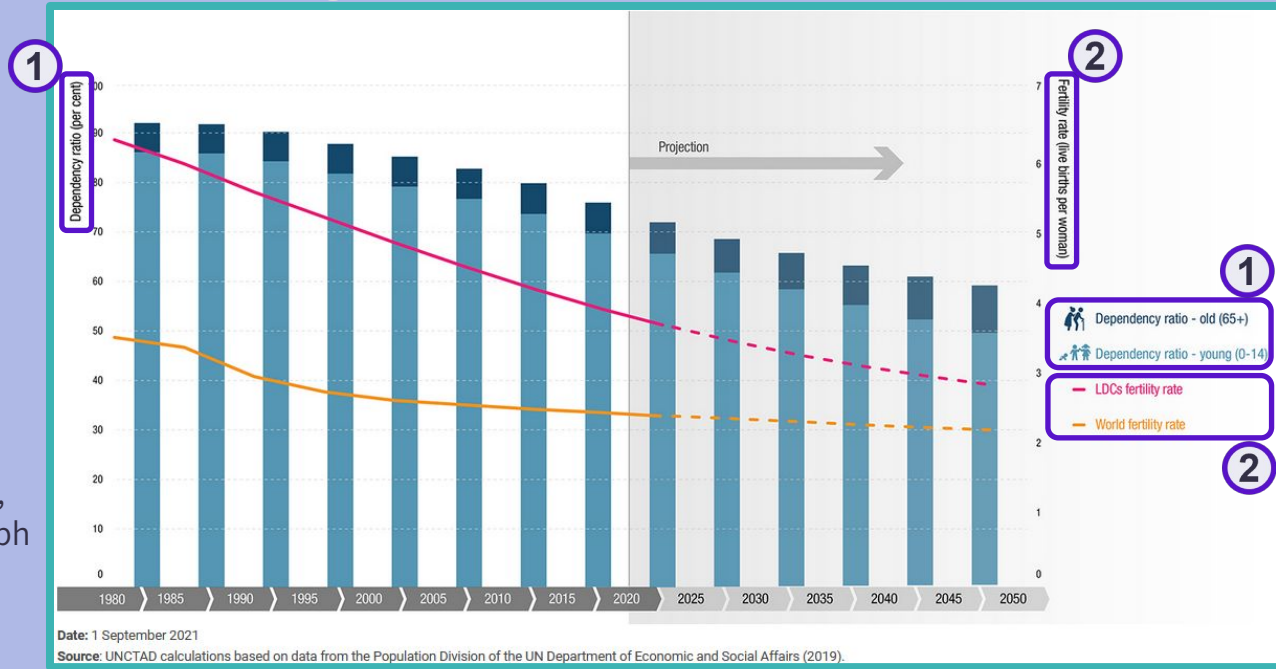
The Author used two Y-Axis:

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.

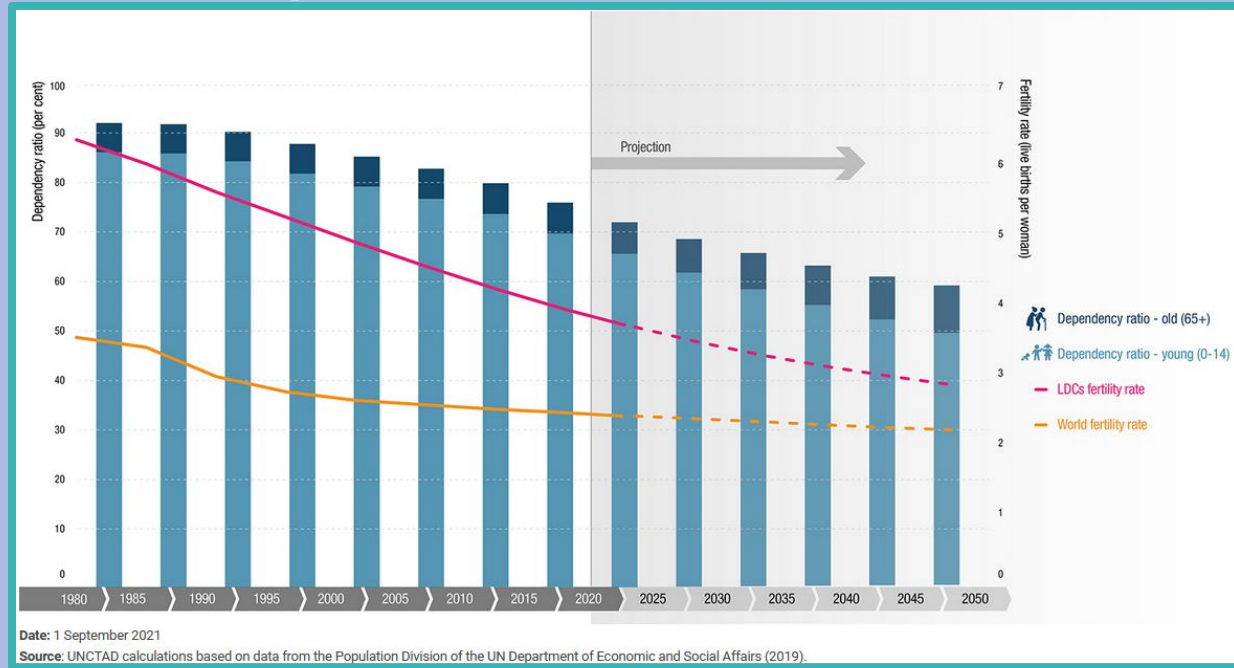
- However, Some Viewers May be confused by which Side of the Y-Axis (Left/Right) should the Bar(s)/Line(s) be referred to.



Task

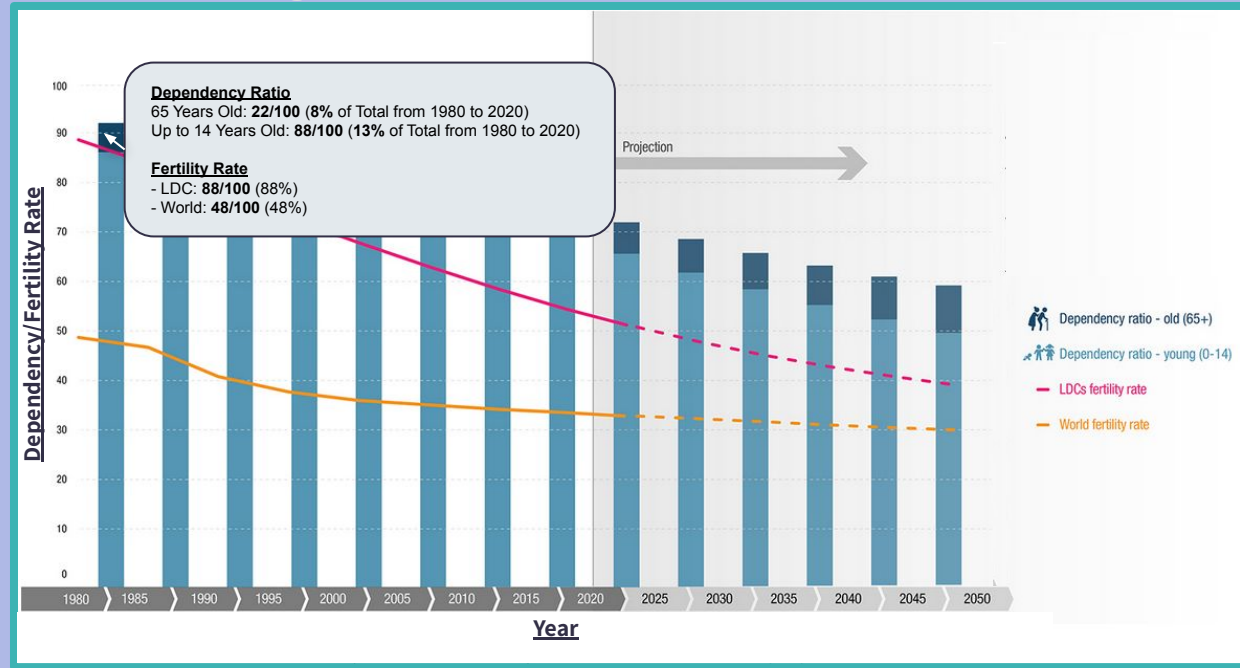


- Being a Static Graph, there are No Options to Further Analyse the Graph's Properties (e.g. Hover-Over, Selection).



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

