

CGT 270 Data Visualization Makeover Monday #1 (2018 Dataset)

Name: Jiaxiang Li

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Lab section: Monday 007 Lab

Show your work!!!

Acquire

Week: 32

Date: Aug 6
on Research & Development

Year: 2018

Data: How Much Your Country Spends

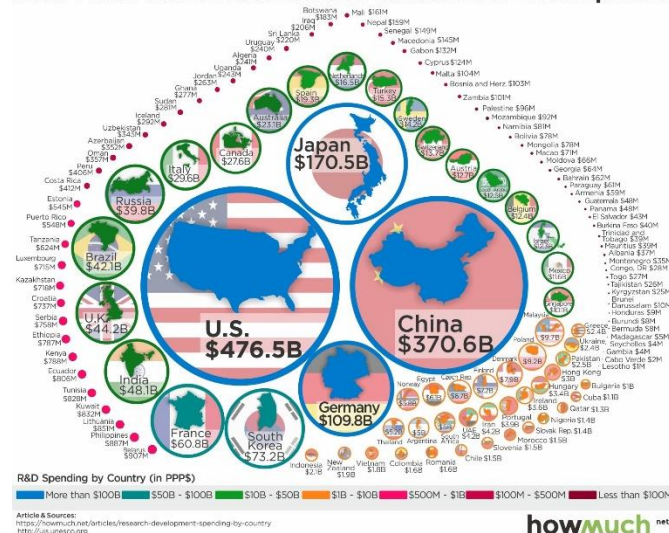
Source Article/Visualization:

Data Source: UNESCO Institute for Statistics

<https://www.makeovermonday.co.uk/data/data-sets-2018/>

Represent

How Much Countries Invest in Research & Development



Critique

I really like how this visualization (packed bubble graph) is composed. It is clearly intentionally ordered by the one who created it, listing countries that spend highest amount of money in to investing research and development in the middle, arranging every other country in a well-regulated way – surrounding the biggest bubbles in clockwise order – and outlining them with color from blue to dark red – representing their amount of investment. Overall, it visualizes the original data in an aesthetically pleasing manner.

However, the visualization lacks a clear insight into differences between different regions in the world – packing the most powerful economic entities into middle clearly isn't the best way to show that. Without the geographical information, it's harder for researchers interested in this to dig deeper and make further conclusions. Also, some of the information (country names) are a little bit redundant that

CGT 270 Data Visualization

Makeover Monday #1 (2018 Dataset)

make the graph looks complicated and hard to absorb. I am going to use a map to solve this problem and try to makeover the clearance and aesthetic of this graph.

Mine

What distinct trends and patterns are shown in different regions in the world regarding the amount of money spent in research & development?

Filter

# (rank)	# (rank)	# (rank)
Number	Country	UPDATED R&D spending (mln PPP\$)
1	UNITED STATES	476,460
2	CHINA	370,590
3	JAPAN	170,512
4	GERMANY	109,803
5	KOREA, REP.	73,196
6	FRANCE	60,782
7	INDIA	48,063
8	UNITED KINGDOM	44,164
9	RUSSIAN FEDERATION	39,830

The main columns in this visualization will be country no., country, and R&D spending (in million). Considering my question, though, I will split the countries into groups according to the regions they are in.

Stakeholders

- Who is your audience?
 - Students or researchers who are interested in this topic and want to find out what patterns can be found in global investment in R&D.
- What assumptions did you make?
 - Bigger bubbles gathering in the map will capture more attention from the audience. Color differences will highlight information about different regions.
- What visualization tool/software did you use?
 - Tableau

Refine (Makeover – Portrait View)

Use an additional page if necessary. Remember, the purpose of visualization is “insight.” Take and include a screenshot of your visualization and include it below. Use Data Visualization Best Practices (see data visualization checklist).

Figure Caption. <replace this text with your figure caption>.

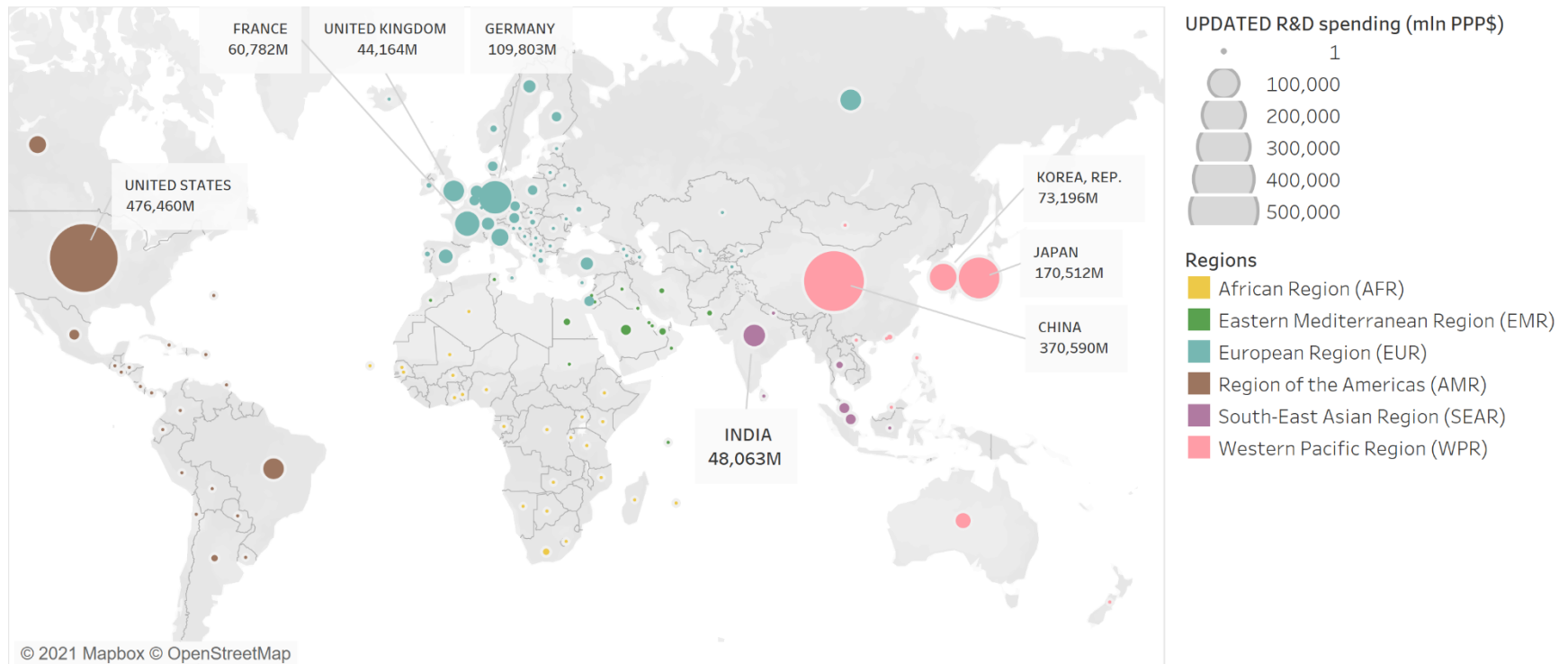
CGT 270 Data Visualization
Makeover Monday #1 (2018 Dataset)

Refine (Makeover – Landscape view)

Use an additional page if necessary. Remember, the purpose of visualization is “insight.” Take and include a screenshot of your visualization and include it below. Use Data Visualization Best Practices (see data visualization checklist).

Research & Development Spending For Countries and Regions

with highest 8 countries annotated



Map based on Longitude (generated) and Latitude (generated). Color shows details about Regions. Size shows sum of UPDATED R&D spending (mln PPP\$). Details are shown for Country.

Figure Caption. R&D for countries in different regions shown, with highest 8 amount of invest countries annotated. The map shows trends and patterns for R&D investing for each of the six regions.

CGT 270 Data Visualization
Makeover Monday #1 (2018 Dataset)

Resources

Data Visualization Checklist:

http://stephanieevergreen.com/wp-content/uploads/2016/10/DataVizChecklist_May2016.pdf

How to give constructive criticism:

<https://personalexcellence.co/blog/constructive-criticism/>

Sample Makeovers

<https://www.makeovermonday.co.uk/gallery/>

Grading Rubric

Excellent (21-25 pts)	Good (10-20 pts)	Fair (5 – 9 pts)	Needs Improvement (0 – 4 pts)
Meets ALL or most of these: Makeover is esthetically pleasing (color, perception), best practices followed (insightful), Correct dataset downloaded; provided an interesting point of view of the data; critiqued previous makeover, critique is constructive (indicates one thing that is done well, and one thing that could be done differently, what will be done to improve the visualization), assumptions (more than one) are listed.	Meets MOST of these: Makeover is esthetically pleasing (color, perception), best practices followed (insightful), Correct dataset downloaded; provided an interesting point of view of the data; critiqued previous makeover, critique is constructive (indicates one thing that is done well, and one thing that could be done differently, what will be done to improve the visualization), assumptions (more than one) are listed.	Consistently meets SOME of these: Makeover is esthetically pleasing (color, perception), best practices followed (insightful), Correct dataset downloaded; provided an interesting point of view of the data; critiqued previous makeover, critique is constructive (indicates one thing that is done well, and one thing that could be done differently, what will be done to improve the visualization), assumptions (more than one) are listed.	Little to no evidence of the understanding of the data visualization process. Lackluster makeover or no makeover. Little effort.