



Data-Driven Advocacy: Storytelling


25 June 2025

Knowledge Hub

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SESSION 3



PRESENT DATA THROUGH STORY

SunSentinel

SEX PREDATORS UNLEASHED

INVESTIGATION FOLLOWING THE MONEY RESULTS SHARE

Florida sets rapists and child molesters free to strike again



By Sally Kestin and Dana Williams
Photos and videos by Mike Stocker

Published on August 18, 2013

Another child is dead. This time, a brown-haired, brown-eyed girl, a year younger than Jimmy Ryce.

A 1999 law passed after Jimmy was raped and murdered at age 9 is meant to protect Floridians from sex offenders by keeping the most dangerous locked up after they finish their prison sentences.

But an eight-month Sun Sentinel investigation into the



DATA
BIG DATA, SMALL NEWSROOM

<http://interactive.sun-sentinel.com/jimmy-ryce/investigation.html>
<https://vimeo.com/72517464>

PRESENT DATA THROUGH STORY

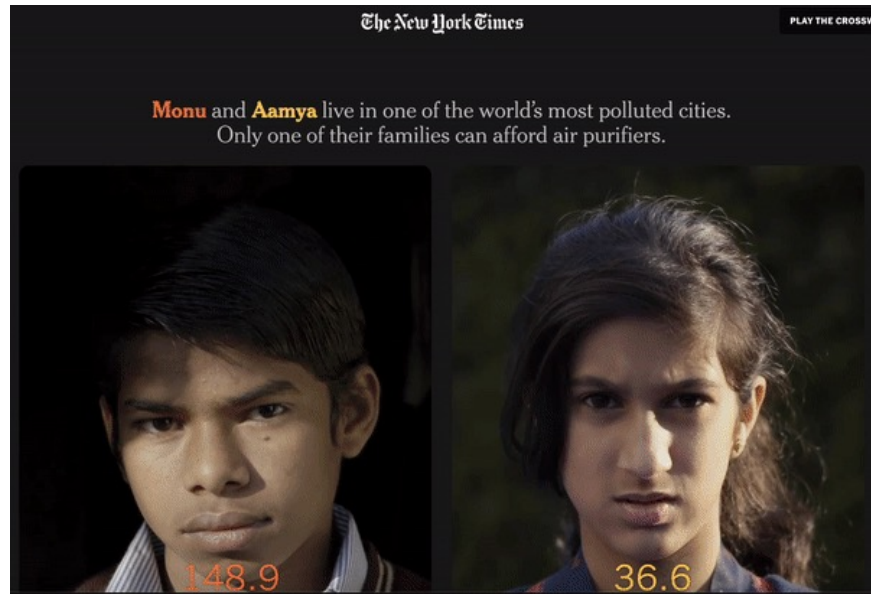
The newspaper's investigation found:

- For every sex offender the state has committed under the 14-year-old Ryce law, two others have been released — only to be arrested again for a sex crime.
- From South Florida to the Panhandle, these men have cut a fresh trail of pain, molesting more than 460 children, raping 121 women, and killing 14.
- Many offenders attacked again only days after Florida let them go. Six found new victims the same day they walked out the prison gates.



<http://interactive.sun-sentinel.com/jimmy-ryce/investigation.html>

PRESENT DATA THROUGH STORY



<https://www.nytimes.com/interactive/2020/12/17/world/asia/india-pollution-inequality.html>

PRESENT DATA THROUGH STORY + GRAPHICS



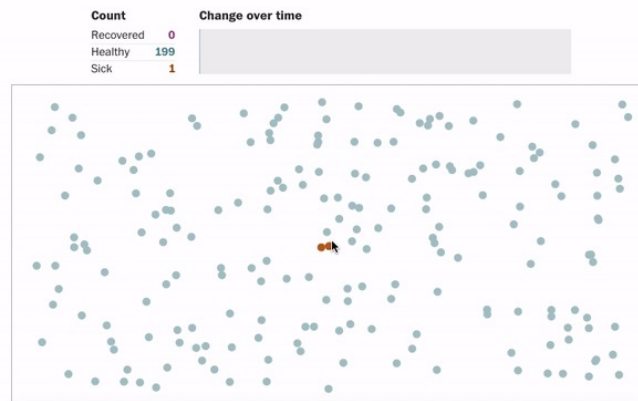
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BIG DATA, SMALL NEWSROOM

<https://www.nytimes.com/interactive/2022/11/18/world/middleeast/extreme-heat.html>

PRESENT DATA THROUGH GRAPHICS

Why outbreaks like coronavirus spread exponentially, and how to “flatten the curve”

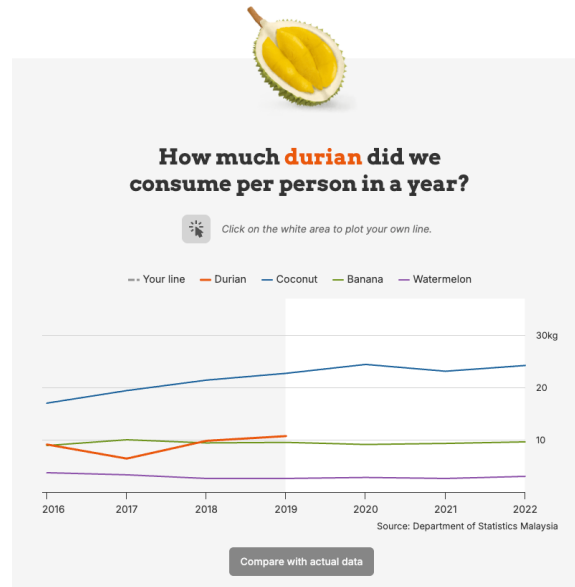
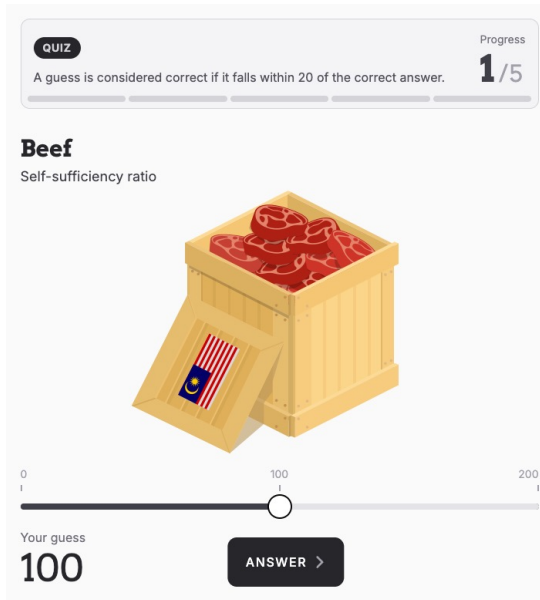
By Harry Stevens March 14, 2020



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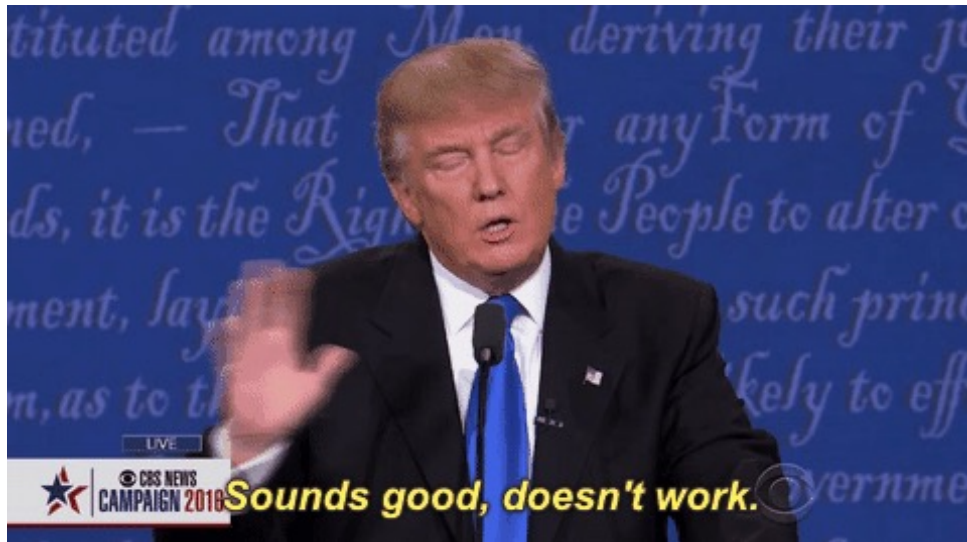
<https://www.washingtonpost.com/graphics/2020/world/corona-simulator/>

PRESENT DATA THROUGH INTERACTIONS



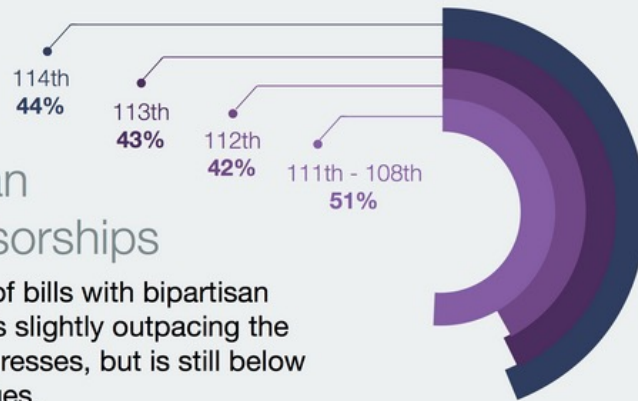
<https://www.myagricensus.gov.my/assets/caknatani/self-sufficient/en/>
<https://www.myagricensus.gov.my/assets/caknatani/know-your-food/en/>

WHAT DOESN'T WORK



Bipartisan Cosponsorships

The number of bills with bipartisan cosponsors is slightly outpacing the last two congresses, but is still below recent averages.



Source: [Quorum](#)

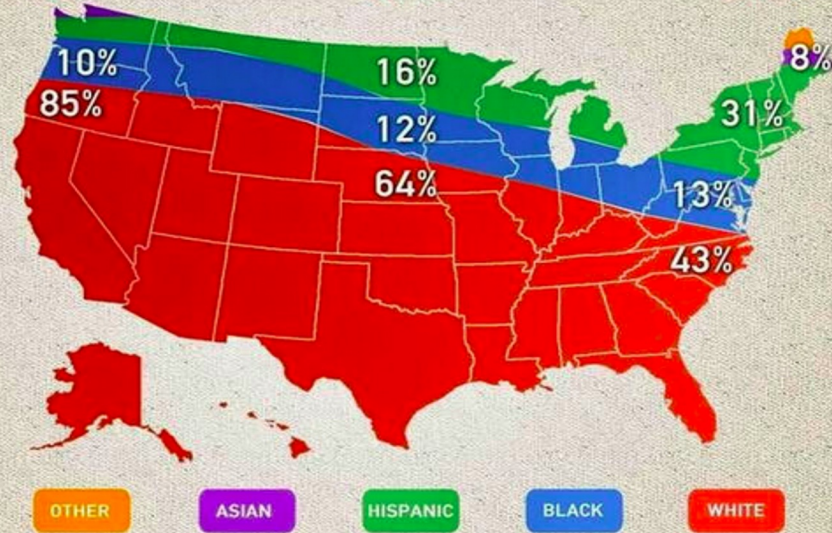
CHANGING FACE OF AMERICA

Percent of total U.S. population by race and ethnicity, 1960-2060

1960

2010

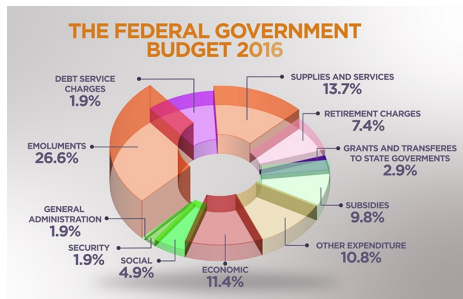
2060



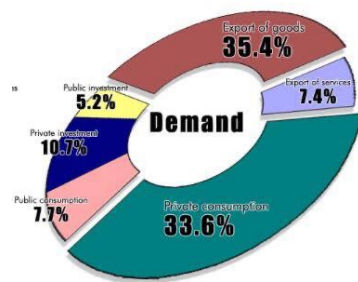
SOURCE: PEW RESEARCH CENTER

NIGHTLY NEWS
with BRIAN WILLIAMS

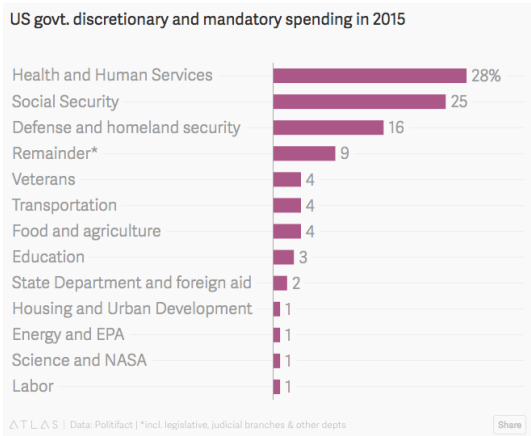
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PRETEND PIE CHART DOESN'T EXIST 😅

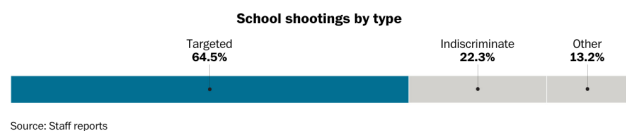


Want more? Check out <https://junkcharts.typepad.com/>



Source: [Quartz](#)

**USE BAR CHART TO
REPLACE PIE CHART**



Source: [Washington Post](#)

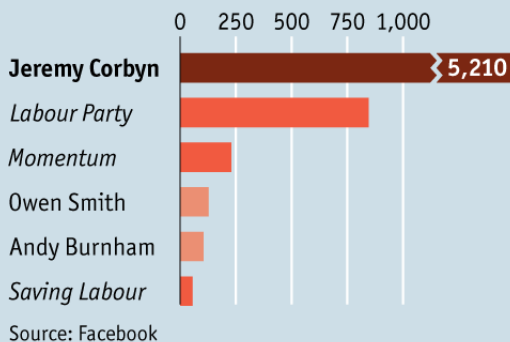
<http://qz.com/580859/the-most-misleading-charts-of-2015-fixed/>
https://www.washingtonpost.com/graphics/2018/local/us-school-shootings-history/?utm_term=.f497c06eeaeb

WHAT'S WRONG? HOW TO FIX?

Original

Left-click

Average number of likes per Facebook post
2016



[This chart](#) shows the average number of Facebook likes on posts by pages of the political left. The point of this chart was to show the disparity between Mr Corbyn's posts and others.

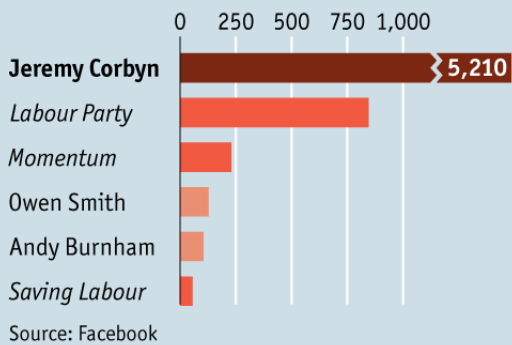
<https://medium.economist.com/mistakes-weve-drawn-a-few-8cdd8a42d368>
<https://www.economist.com/britain/2016/08/13/the-metamorphosis>

WHAT'S WRONG? HOW TO FIX?

Original

Left-click

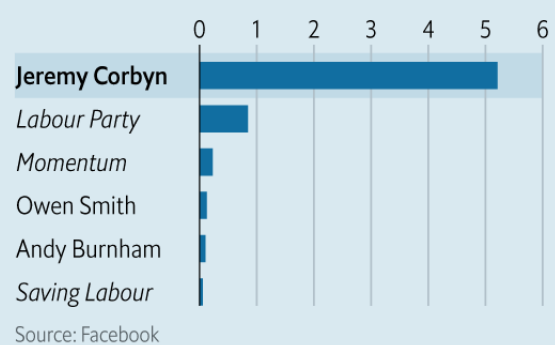
Average number of likes per Facebook post
2016



Better

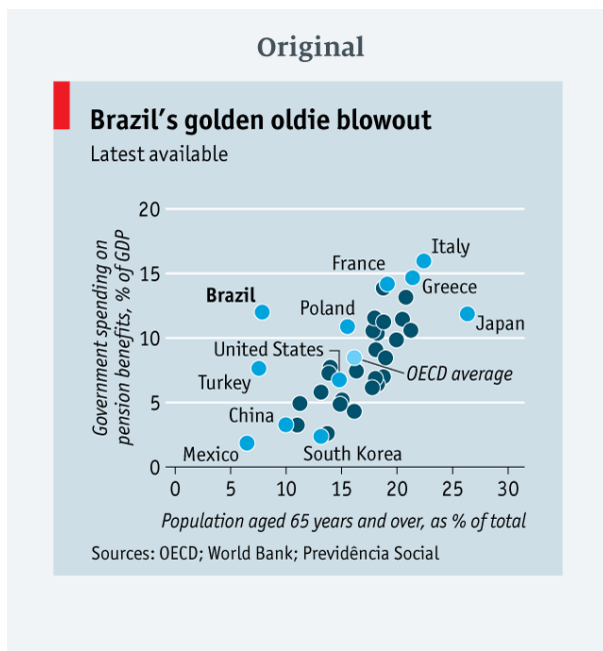
Left-click

Average number of likes per Facebook post
2016, '000



<https://medium.economist.com/mistakes-weve-drawn-a-few-8cdd8a42d368>

WHAT'S WRONG? HOW TO FIX?



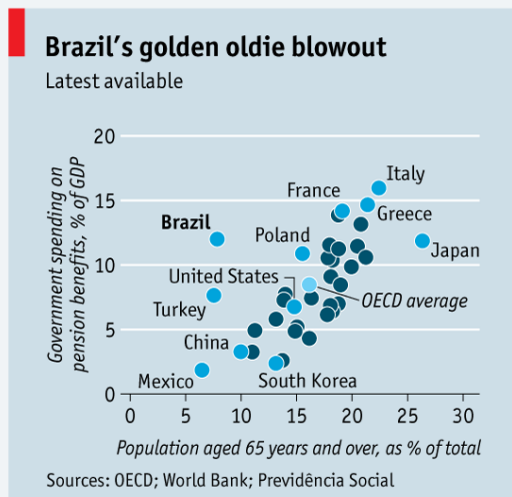
[This chart](#) compares government spending on pension benefits with the share of people aged 65+ for a selection of countries, with a particular focus on Brazil. To keep the chart small, the visualiser only labelled a selection of countries and highlighted those in electric blue. The OECD average is highlighted in pale blue.

<https://medium.economist.com/mistakes-weve-drawn-a-few-8cdd8a42d368>

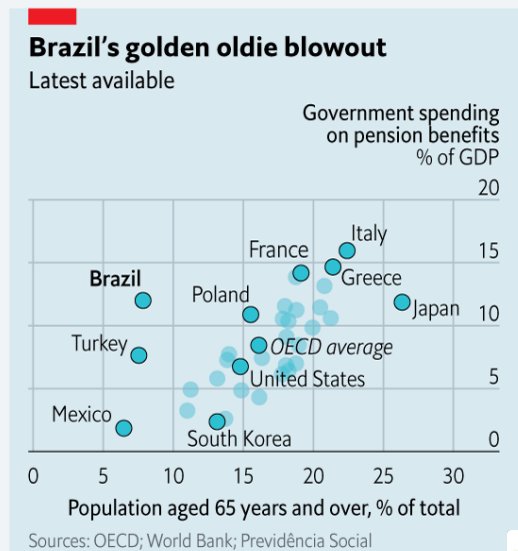
<https://www.economist.com/the-americas/2017/02/25/reducing-brazils-pension-burden>

WHAT'S WRONG? HOW TO FIX?

Original

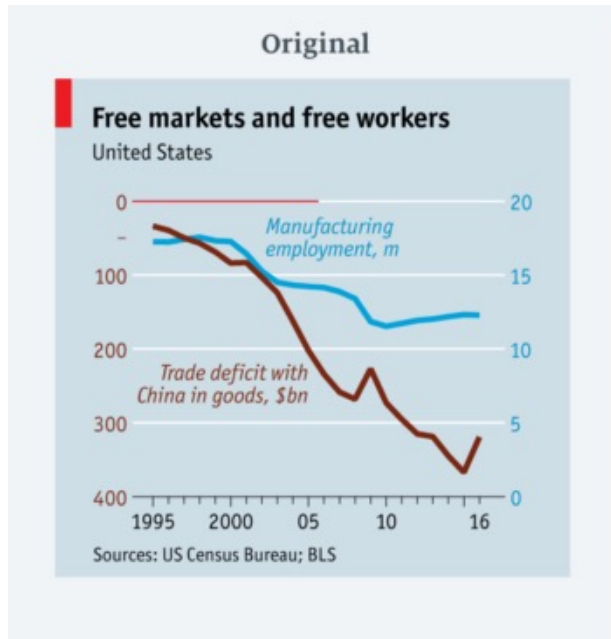


Better



<https://medium.economist.com/mistakes-weve-drawn-a-few-8cdd8a42d368>

WHAT'S WRONG? HOW TO FIX?

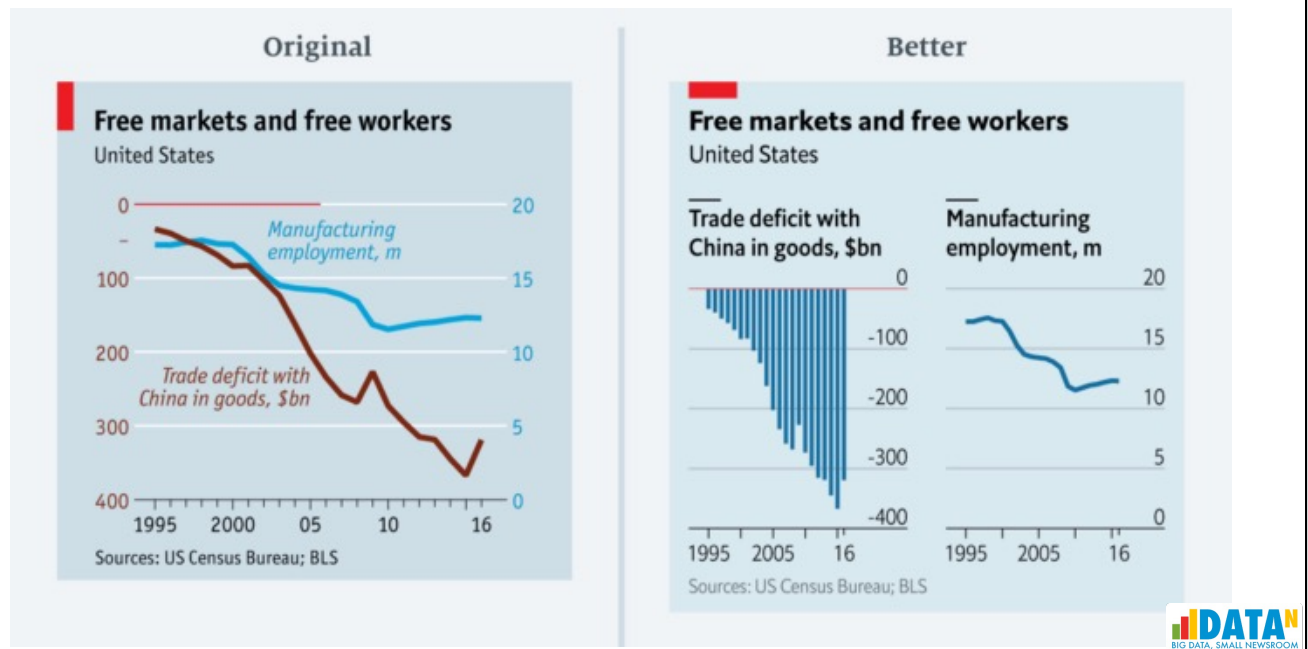


[The chart above](#) shows the United States' trade deficit in goods and the number of people employed in manufacturing.

<https://medium.economist.com/mistakes-weve-drawn-a-few-8cdd8a42d368>

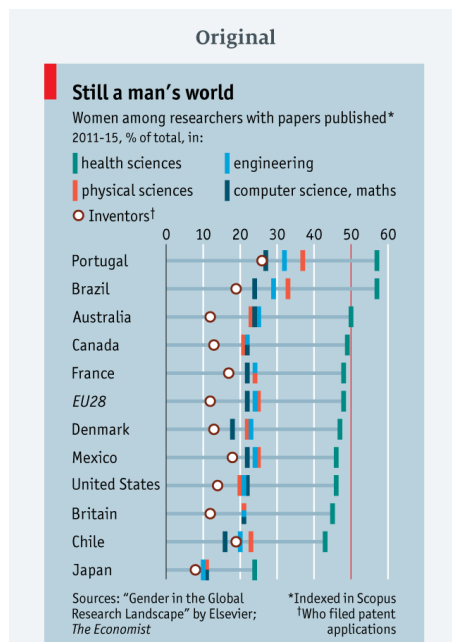
<https://www.economist.com/briefing/2017/01/21/peter-navarro-is-about-to-become-one-of-the-v>

WHAT'S WRONG? HOW TO FIX?



<https://medium.economist.com/mistakes-weve-drawn-a-few-8cdd8a42d368>

WHAT'S WRONG? HOW TO FIX?



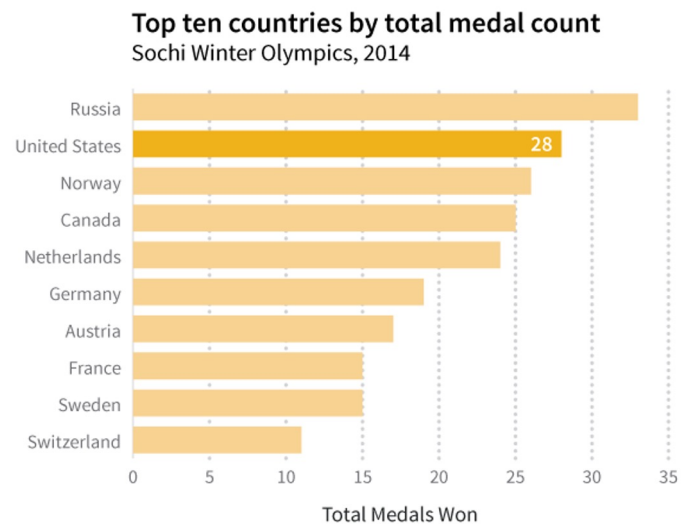
The story is about how scientific publishing is dominated by men.

<https://medium.economist.com/mistakes-weve-drawn-a-few-8cdd8a42d368>

<https://www.economist.com/science-and-technology/2017/03/11/science-remains-male-dominat>

WHAT A GOOD VIZ SHOULD HAVE

- ✓ Based on good data
- ✓ Attract attention
- ✓ Don't frustrate readers
- ✓ Show the right amount of data



Credit: Alberto Cairo, Knight Center's Data Journalism MOCC

Remove to improve the **pie chart** edition

Created by Darkhorse Analytics

www.darkhorseanalytics.com



Remove

to improve
(the **data-ink** ratio)

Created by Darkhorse Analytics

www.darkhorseanalytics.com



WHICH CHART FOR WHAT DATA?



Credit: datavizcatalogue.com

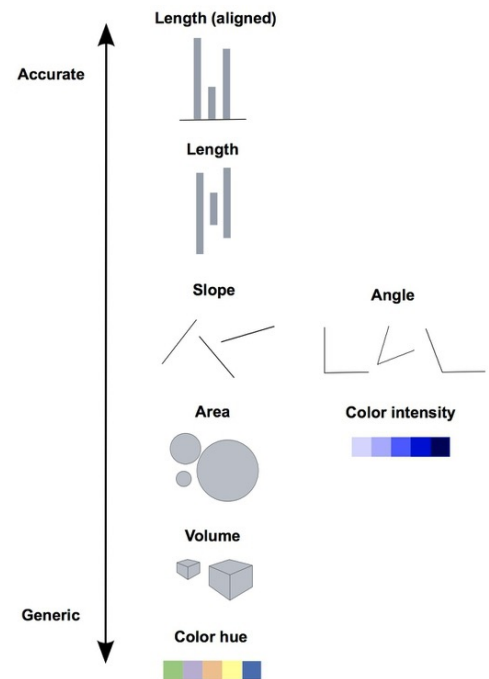


<https://datavizcatalogue.com/>

HIERARCHY OF DATAVIZ ELEMENTS

- ✓ Comparison: length
- ✓ Changes over time: slope
- ✓ Category: color
- ✓ [Try this quiz!](#)

Credit: [Peter Aldhous](#)



[The science behind good charts - Visual and data journalism](#)

<https://ig.ft.com/science-of-charts/>

<http://paldhous.github.io/NICAR/2016/infodesign.html>

99% OF THE TIME, THESE ARE WHAT YOU'LL NEED

1. [Bar chart](#)
2. [Line chart](#)
3. [Histogram](#) [1]
4. [Heatmap](#) [1]
5. [Choropleth map](#) [1]
6. [Pie chart](#) !!!
7. [Scatterplot](#) [1]



https://datavizcatalogue.com/methods/bar_chart.html
https://datavizcatalogue.com/methods/line_graph.html
<https://datavizcatalogue.com/methods/histogram.html>
<https://www.ft.com/content/98ce14ee-99a6-11e5-95c7-d47aa298f769>
<https://datavizcatalogue.com/methods/heatmap.html>
<http://graphics.wsj.com/infectious-diseases-and-vaccines/>
<https://datavizcatalogue.com/methods/choropleth.html>
<https://www.bloomberg.com/graphics/2017-french-election-maps/>
https://datavizcatalogue.com/methods/pie_chart.html
<https://www.icij.org/investigations/paradise-papers/explore-politicians-paradise-papers/>
<https://datavizcatalogue.com/methods/scatterplot.html>
<https://www.pri.org/stories/2015-06-30/strong-connection-between-gender-equality-and-kickass-national-womens-soccer>

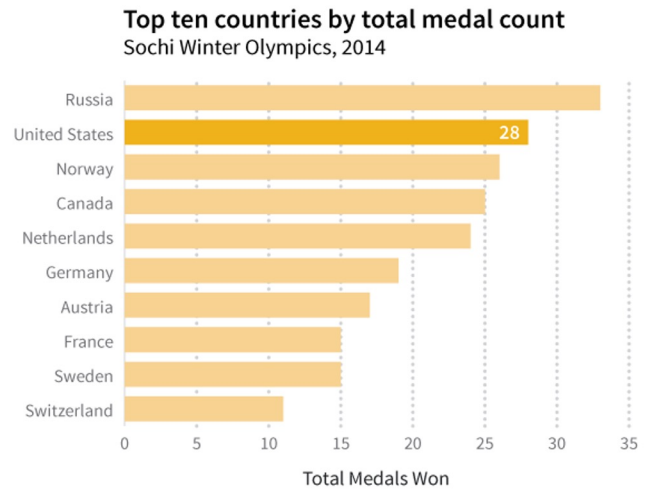
BAR CHART

To show:

- Comparison of categories
- Pattern

Tips:

- Easiest to understand
- Sort from longest to shortest
- Use horizontal bars for mobile & long labels
- Y-axis should start with 0



LINE GRAPH

To show:

- Changes/trend over time
- Comparison

Tips:

- Easiest to understand
- Max 4 lines, avoid [spaghetti chart](#)
- If too many lines, gray out less important ones, or
- Use multiple mini charts
- No dual-axis please

Share of income, %

America



Is Europe more equal than America?

open future

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<https://www.data-to-viz.com/caveat/spaghetti.html>

HEAT MAP

To show:

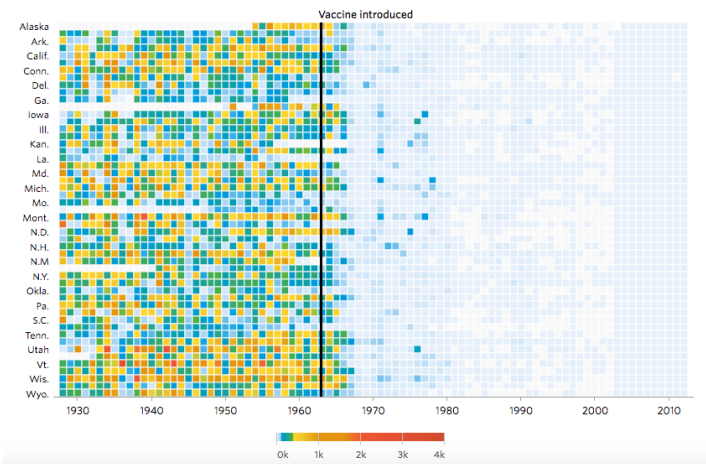
- Overview/general pattern
- Not for accurate comparison
- Not to extract specific data point

Tips:

- Alternative to line graph when too many lines
- Pick colors carefully
- Be mindful that it is hard to translate a color into number.

The heat maps below show number of cases per 100,000 people.

Measles



Source: [Wall Street Journal](http://graphics.wsj.com/infectious-diseases-and-vaccines/)

<http://graphics.wsj.com/infectious-diseases-and-vaccines/>

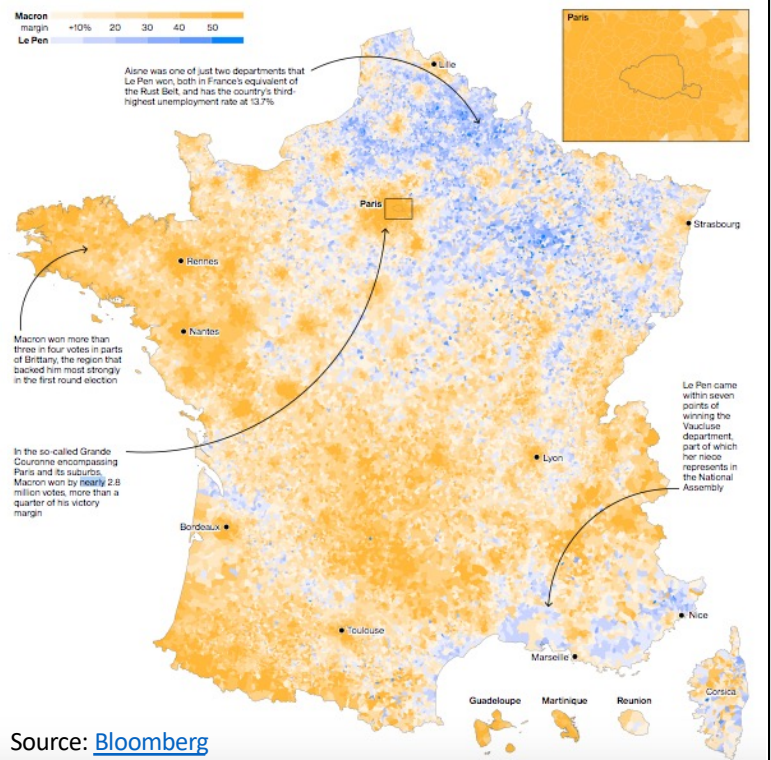
CHOROPLETH MAP

To show:

- Pattern/comparison across geographical areas
- Not for accurate comparison

Tips:

- Larger areas appear more emphasized. Consider honeycomb/hex-tile map if necessary.
- Remember to normalize your variables
- Pick color carefully



<https://www.bloomberg.com/graphics/2017-french-election-maps/>

Honeycomb map (scroll to the bottom): <https://projects.theworld.org/every-30-seconds>

PIE CHART

To show:

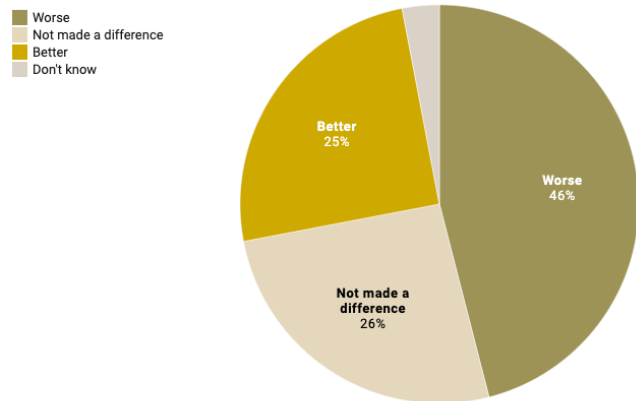
- Quick view of distribution
- Not for accurate comparison

Tips:

- Total must be 100%
- Not more than 5 slices
- Hard to compare sizes when values are similar
- Pick color carefully as color can make a slice look bigger
- Bar chart is usually a better choice

Most Americans say Trump's Election has led to worse race relations in the U.S.

% who says Donald Trump's election has led to ___ race relations in the U.S, Nov. 2016



Source: [Pew Research Center, Nov. 2016](#) • [Get the data](#) • Created with [Datawrapper](#)

Source: [Datawrapper](#)



<https://academy.datawrapper.de/article/127-what-to-consider-when-creating-a-pie-chart>

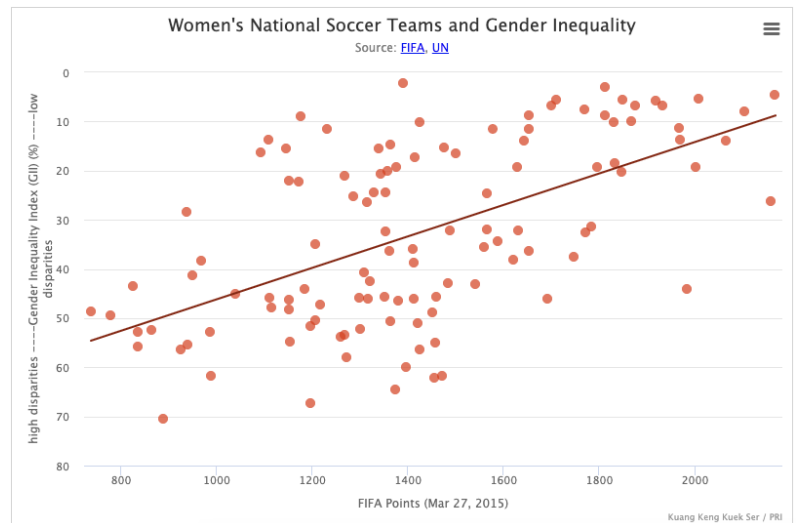
SCATTER PLOT

To show:

- Relationship between 2 variables

Tips:

- Many people don't understand the chart
- Avoid plotting too many data
- If you want to talk about the regression line, make sure your audience understand it

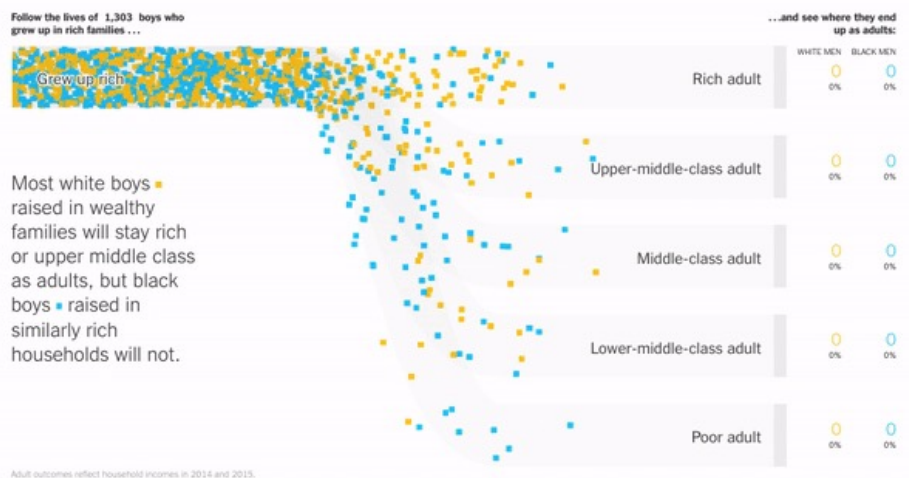


Source: PRI.org



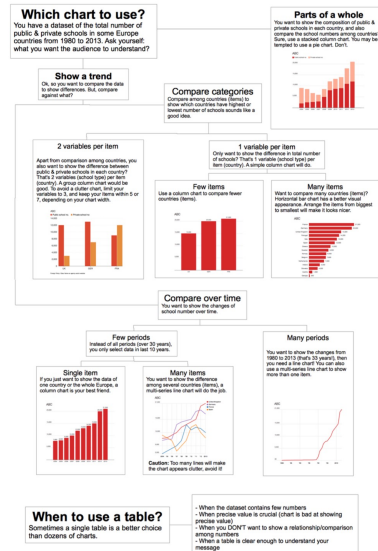
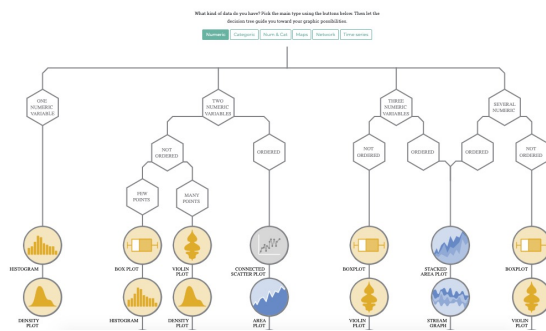
<https://www.pri.org/stories/2015-06-30/strong-connection-between-gender-equality-and-kickass-national-womens-soccer>

**IF YOU WANT TO
TRY SOMETHING
NEW, MAKE
SURE IT IS EASY
ENOUGH FOR
READERS TO
UNDERSTAND**



TOOLS TO HELP YOU CHOOSE CHART

- ✓ [A super simple guide by Keng](#)
- ✓ [Interactive webpage: From Data to Vis](#)

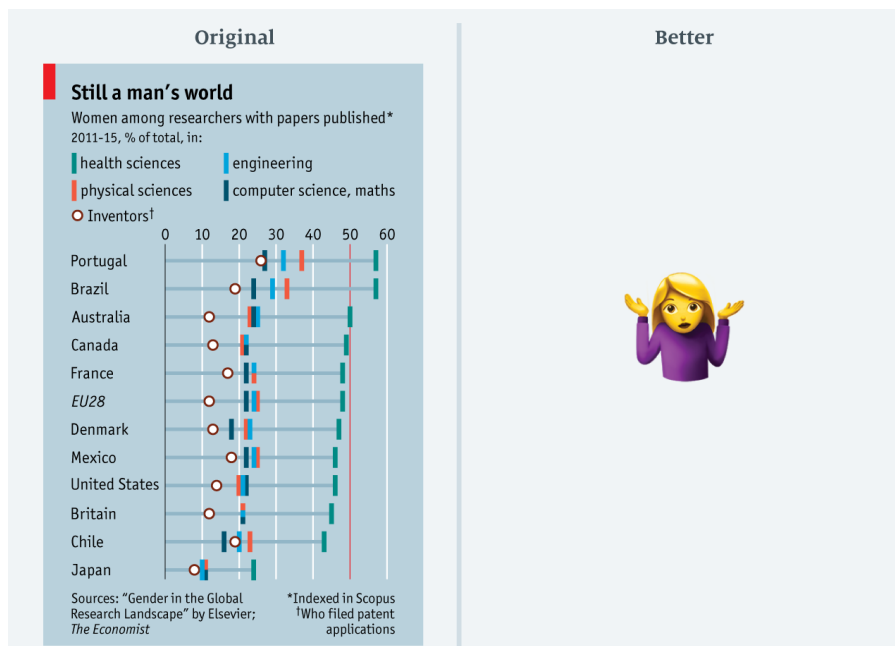


Created by Keng, Data-It.com
@kengzhong

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<https://www.data-n.com/wp-content/uploads/2015/05/select-chart-upd280415.pdf>
<https://www.data-to-viz.com/>

LET'S TRY TO FIX THIS!



<https://medium.economist.com/mistakes-weve-drawn-a-few-8cdd8a42d368>

Powerful, beautiful, easy
data visualisation.

[Get started for free](#)

Datawrapper choropleth & symbol maps: Visualize your data on more than 1000 basemaps.

Here we show examples & explain what they're good for.

Choropleth maps color regions according to values in your dataset. They're great to show clear regional patterns. The map to the right is a choropleth *cartogram*: The squares are sized according to a country's population.

Datawrapper maps are responsive and interactive: **Hover over the squares to see the underlying data as tooltips.**

> Go right into the edit step of this choropleth map and play around with the colors and the tooltip

Share of individuals using the internet, 2015

Share of the populations who have used the Internet in the last 3 months (via a computer, mobile phone, personal digital assistant, games machine, digital TV etc.): 0% / 25% / 50% / 75% / 100%



Map: Lisa Charlotte Rost, Datawrapper • Source: Our World in Data • Get the data • Created with Datawrapper

DATA
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<https://www.datawrapper.de/>

MORE DATAVIZ TOOLS

1. [Everviz](#) (formerly Highcharts cloud, charts)
2. [Piktochart](#) (infographics + charts)
3. [Infogram](#) (infographics + charts)
4. [TimelineJS](#) & [StoryMapJS](#) (interactive)
5. [QGIS](#) (mapping + geospatial analysis)
6. [Mapbox](#) (mapping + geospatial analysis)
7. [TwoTone](#) (data sonification)



<https://www.everviz.com/>
<https://piktochart.com/>
<https://infogram.com/>
<https://timeline.knightlab.com/>
<https://storymap.knightlab.com/>
<https://qgis.org/en/site/>
<https://www.mapbox.com/>
<https://twotone.io/>

COMMUNICATING DATA

Tips for good data-driven writing

- ✓ Round up and simplify the numbers
 - it has doubled (not 102% increase)
 - 1 in every 3 persons (not 32.5%)
- ✓ Use familiar analogies for comparison and easy imagination
 - as tall as 10 KLCC towers
 - as many as KL population
 - can be used to build 20 hospitals
 - as big as 20 football fields

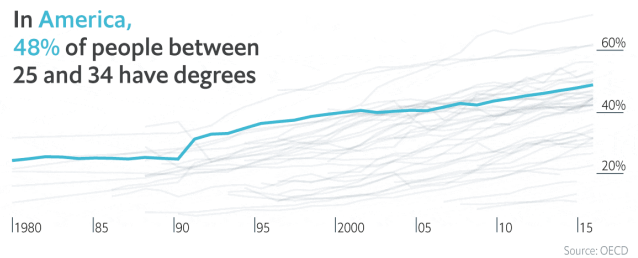


COMMUNICATING DATA

Tips for good data-driven writing

- ✓ Slow down the pace of information
- ✓ Curate the flow of information, one info at a time. Same for viz.
- ✓ Break up number paragraphs with human paragraphs, images or interactive elements to allow rest.
- ✓ Avoid jargons. Translate them.
- ✓ Test it with your target audience

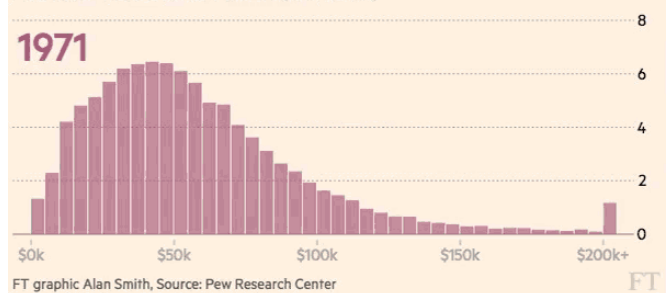
In **America**,
48% of people between
25 and 34 have degrees



The number of young people with
tertiary degrees is on the rise

The
Economist

Household income in 2014 dollars (% of adults)



<https://www.ft.com/content/98ce14ee-99a6-11e5-95c7-d47aa298f769>

THANK YOU!

QUESTIONS?

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 **kuangkeng@gmail.com**
 **data-n.com**