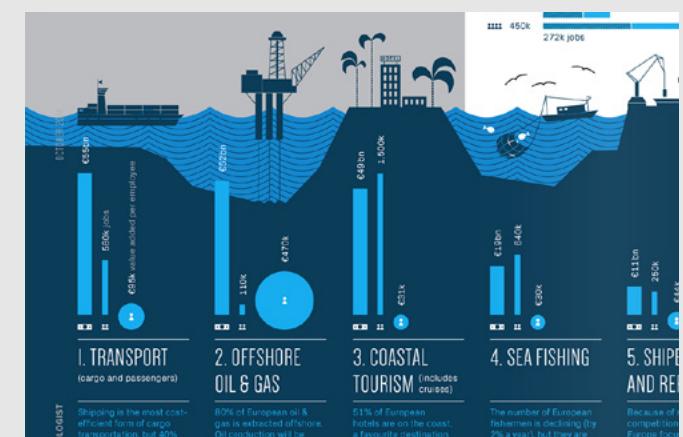
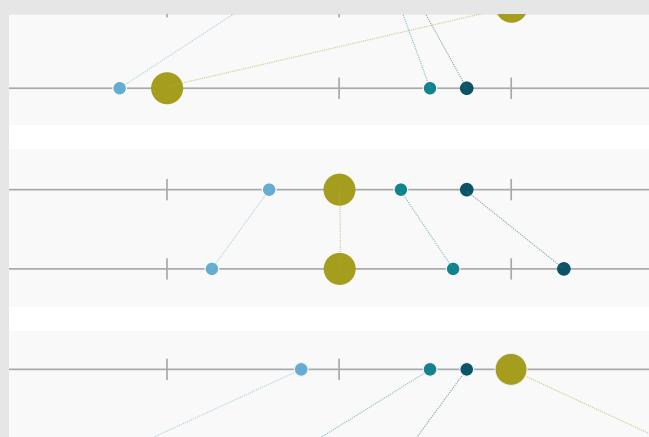
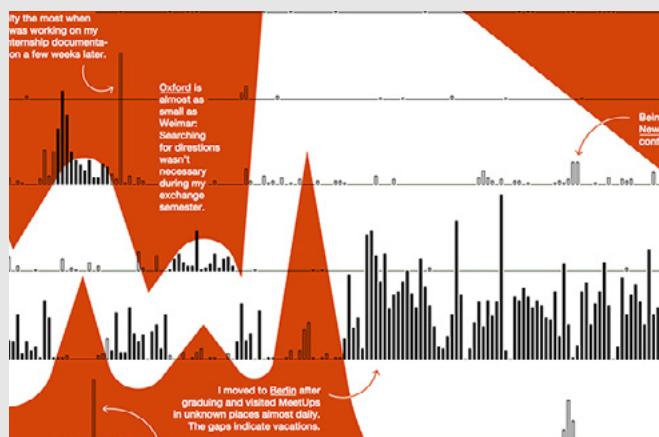
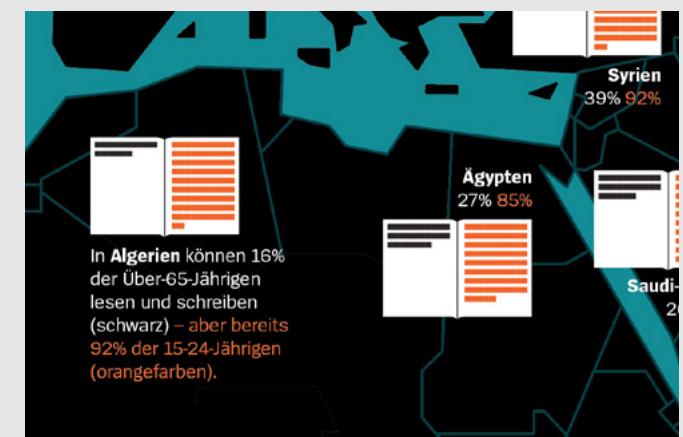
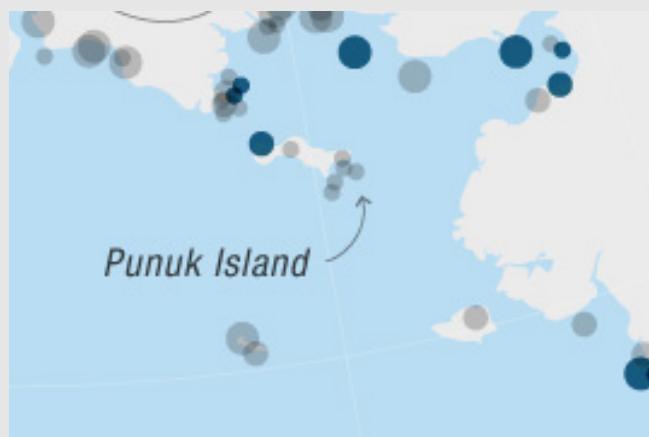
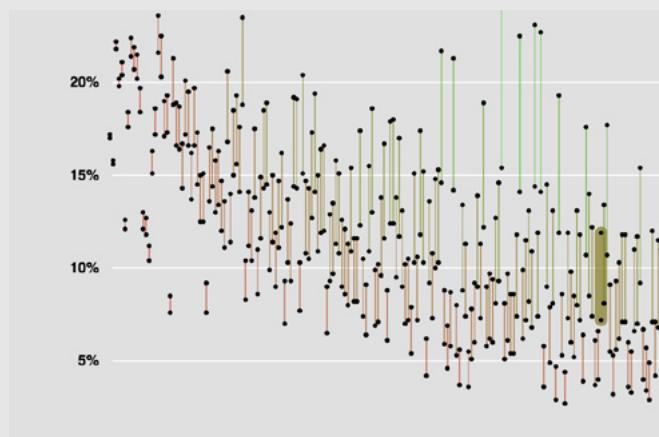
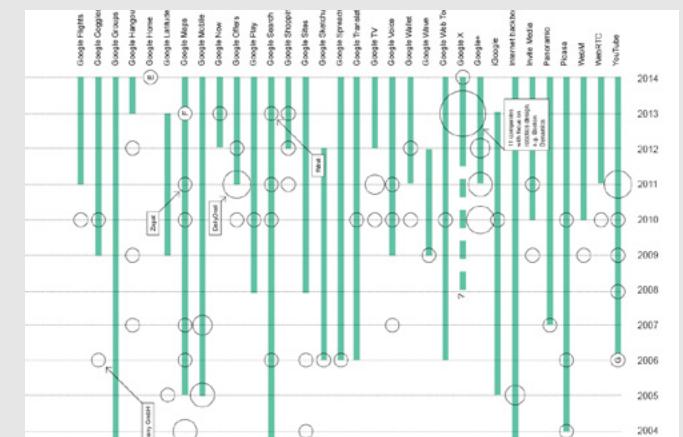
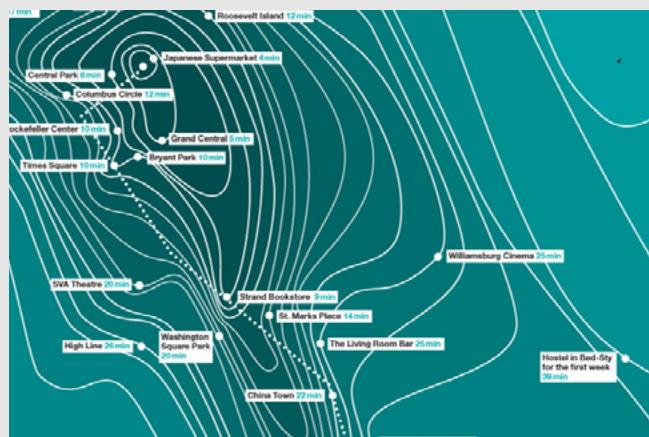
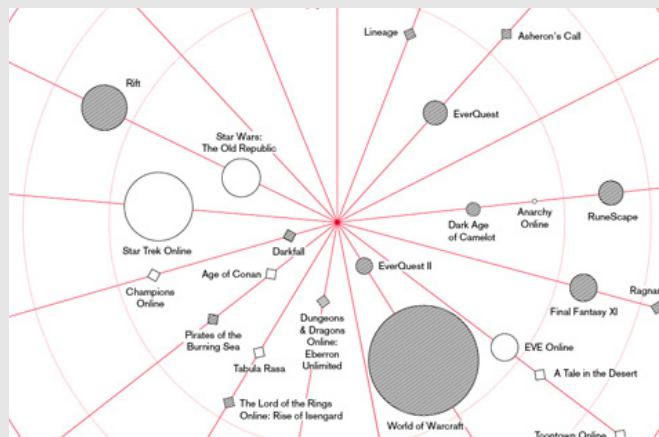
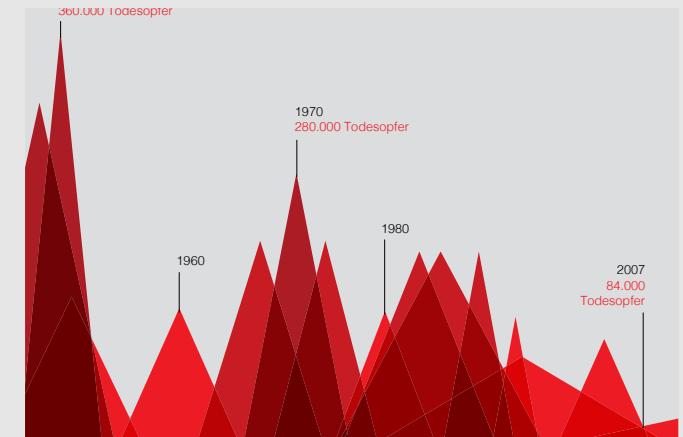
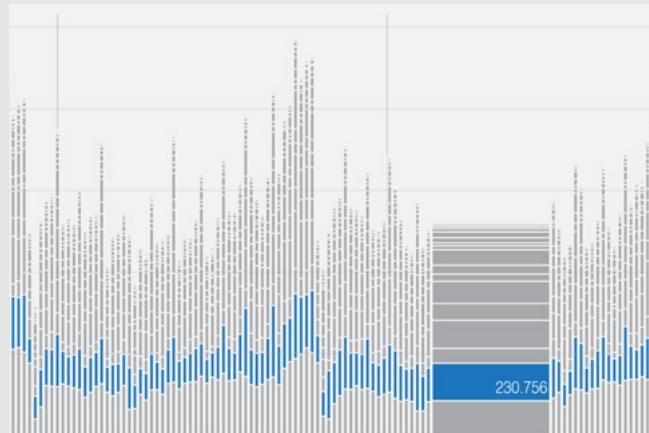


Visualising Data: The Basics

1. Data Vis: Why?
2. Do's and Don'ts
3. Tools for Quick Graphics
4. Tools for High Demands
5. What About Maps?

Intro Lisa

SPIEGEL
Bloomberg
Businessweek
ZEIT Online
Tagesspiegel
Technologist
NPR



Intro Lisa



Intro Lisa



Intro Lisa

lisacharlotterost.github.io



n.Berlett

Lies News, More Context

19 July 2010

This is the transcript of a lightning talk given at the IMA of June 2010 at the information conference in Vancouver.

Goals are great. Only if we have a goal we can move towards it. And journalism has all sorts of strong goals. It wants to be the guardian of society, a mirror of the world, create a better world and help people in their daily lives.

But journalism also likes systems. And the way to attention is not always the same as the way to creating a better world. The way to attention is mostly NOT, showing that something happened.

Why do news work so well? Because we are all drawn to novelty, like moths to the light. Novelty is important in our heads.

That's why journalists talk so much about these dots – and blow them up. News sites tell us about these dots with different kinds of media: text, video, photos, and of course, information visualizations. They all have their advantages and show the same dots from different perspectives. They enhance the data and make them memorable.

But I see that as problematic. First, these data don't represent the world – something that would be needed to get to these high goals journalism has. Instead of bringing a better understanding of the world, these dots lead to unquenched emotions and beliefs in our heads. One reason for that is the fact that bad things increase more with us than positive ones ("If it bleeds, it leads"). If an event is bad, we may perceive it as more common.

But even if we report positive news, they don't lead to a better understanding of the world. They all blow up unlikely events in our heads and think they are more common than they actually are, like plane crashes and lottery wins. On the other hand, very likely events are underrepresented in our heads.

We also blow up terrorism in our heads. 40% of 18-30 US adults worry that someone in their family will become a victim of terrorism, according to a survey by YouGov last December. 40% of US adults find that increases said. This irrational fear is built up through news coverage, but useless for navigating the world.

What I would like to see is even more examples of bigger pictures. Of comparing and setting things in context. That's the actual super power of data visualization in journalism – not creating locator maps for news events.

n.Berlett

One Chart, Twelve Tools

11 May 2010

Which tool or charting framework do you use to visualize data? Everybody has his or her own personal preferences ("I got introduced to data vis with that tool", "My hero uses that tool and she makes the best charts"). Often we keep working with the first one we've tried (tool or language) that we've mastered.

I think it's important to have a wider view of the options out there. To maybe discover better tools than the ones we use, but also to measure us: what's the tool we use, ARE really the best (so far). That's what this post and the next post is about. I wanted to get to know as many options to visualize data as possible. To do that, I took the same dataset and visualized it with 12 different tools [this post] and 12 different charting libraries [next post].

If they are important tools I missed, or if I missed some features in a tool or a better way to get to the bubble chart, or if I'm wrong about a thing or two, or if you completely disagree with my opinion about these tools [which, I'm sure, will happen], let me know on Twitter or via email (sascha@berlett.net).

The Data & the Visualization Form

To visualize data, you need data. I will use a dataset that contains the health-expectancy in years, GDP per capita and population for 187 countries in 2010, provided by [Gapminder](http://gapminder.org). I have a Google Spreadsheets with the data.

	country	income	years	population
1	Argentina	1628	71.82	38000000
2	Austria	36260	80.76	8000000
3	Azerbaijan	10240	68.63	80000000
4	Bahrain	36071	76.17	700000
5	Bangladesh	401.9	67.92	150000000
6	Bangladesh	401.9	67.92	150000000
7	Barbados	17560	79.62	280000
8	Bolivia	1110	67.44	8000000
9	Bosnia and Herzegovina	12000	70.62	3000000
10	Bulgaria	11500	73.62	7000000
11	Cambodia	1100	59.44	13000000
12	Cameroon	1100	59.44	20000000
13	Central African Republic	1100	59.44	4000000
14	Chad	1100	59.44	10000000
15	China	36260	70.76	1300000000
16	Colombia	36260	70.76	45000000
17	Congo	1100	59.44	5000000
18	Congo, Dem. Rep.	1100	59.44	6000000
19	Cote d'Ivoire	1100	59.44	20000000
20	Croatia	17560	70.62	4000000
21	Cuba	1100	59.44	11000000
22	Cyprus	17560	70.62	1000000
23	Côte d'Ivoire	1100	59.44	20000000
24	Djibouti	1100	59.44	1000000
25	Egypt	1100	59.44	80000000
26	El Salvador	1100	59.44	6000000
27	Equatorial Guinea	1100	59.44	1000000
28	Eritrea	1100	59.44	5000000
29	Eswatini	1100	59.44	1000000
30	Faroe Islands	17560	70.62	50000
31	Gabon	1100	59.44	1000000
32	Greece	36260	70.76	11000000
33	Honduras	1100	59.44	8000000
34	India	36260	69.92	1200000000
35	Indonesia	36260	69.92	230000000
36	Iraq	1100	59.44	30000000
37	Ireland	36260	70.76	4000000
38	Italy	36260	70.76	55000000
39	Jamaica	1100	59.44	3000000
40	Jordan	1100	59.44	6000000
41	Kazakhstan	1100	59.44	16000000
42	Kenya	1100	59.44	40000000
43	Lao PDR	1100	59.44	6000000
44	Latvia	17560	70.62	2000000
45	Lebanon	1100	59.44	4000000
46	Lithuania	17560	70.62	3000000
47	Malta	17560	70.62	400000
48	Mali	1100	59.44	15000000
49	Mauritania	1100	59.44	1000000
50	Mexico	1100	59.44	110000000
51	Moldova	1100	59.44	3000000
52	Morocco	1100	59.44	30000000
53	Niger	1100	59.44	10000000
54	Nigeria	1100	59.44	140000000
55	Pakistan	1100	59.44	160000000
56	Palestine	1100	59.44	4000000
57	Romania	17560	70.62	2000000
58	Russia	36260	70.76	140000000
59	Saint Lucia	1100	59.44	100000
60	Saint Vincent and the Grenadines	1100	59.44	100000
61	Saudi Arabia	1100	59.44	27000000
62	Serbia	1100	59.44	7000000
63	Singapore	36260	70.76	500000
64	Sri Lanka	1100	59.44	20000000
65	Togo	1100	59.44	6000000
66	Tunisia	1100	59.44	10000000
67	Uganda	1100	59.44	30000000
68	Ukraine	1100	59.44	45000000
69	United Arab Emirates	1100	59.44	9000000
70	United Kingdom	36260	70.76	60000000
71	United States	36260	70.76	300000000
72	Uruguay	1100	59.44	3000000
73	Venezuela	1100	59.44	25000000
74	Yemen	1100	59.44	2500000

I will try to visualize the data in the same form Gapminder does. On the x-axis, I want the GDP per capita (Income); On the y-axis, I will put the health-expectancy in years (Years). And the size of the bubbles will represent the population of the country. Some tools call that a scatterplot, some call it a bubble chart.

I chose that visualization form over a simple bar chart for multiple reasons. Getting the size of the bubble will show which tools are more advanced. Also, we want the x-axis to start at 0 and be log-scaled. Let's see which tools can handle that.

Please be aware that I will only use tools and programming languages that make sense for my data and not networking tools like Gephi. Also, the statements I make about the tools and languages are only true for this dataset: choose and definitely influenced by my past experience with the tool.

Some notes: I will try to reproduce that Gapminder chart as good as possible, but I won't break the design more than the tool allows. E.g. in illustration 1 I will only use the chart tool, not the thousands of design options. Also, I won't break the x-axis (bottom). The corollary will be that it is... ugly, let's get

Excel: We start with the most common software to use charts. It's also responsible for the most complicated process to get to this screenshot of all my tools. After finally figuring out how to assign columns to series, I searched for a way to make the bubbles feel NOT like one big black merged cheese hole something. The option "vary color by point" (had all my hopes on it) gives all bubbles an individual (very colorful) color. Then next, Excel did an excellent job with the colors.

n.Berlett

Nice to Meet You, Information Theory

10 May 2010

Edin Ammer's small talk is a perfect example for the definition of information in Information Theory, and for data compression.

There are things I like more in Germany than in the US. And there are things I like more in the US than in Germany. For example small talk. Small talk is so much easier in English, not as much because of the language, but more because of the conventions. You're not surprised! Let me illustrate my point with the example of a phenomenon I call "repeating phrases". In the US it's normal (and even desired, if I recall) to repeat the exact same phrase the other person just used.

"Nice to meet you", "Nice to meet you", "Nice to meet you", "Nice to meet you".

In German, however, we would normally like to say the exact same phrase again. "Nice to meet you", one says. And we reply with "Yes, indeed", "Um, delighted as well" or "Likewise". "Have a nice weekend", one says. And we reply with "What do you mean?" "Thanks, the same for you". At least we would say "Um, you a nice weekend as well", but we would feel a little bit weird about so much repetition.

One could say that Germans are – at least in this regard – more creative and that the English language is – at least in this regard – a little bit dull. But I like you a lot, why I'll glad you ask, two reasons:

The first reason is wasted energy: Germans burn more calories while thinking about the proper tool for standard sentences than Americans. (I'm totally making that up, that is not scientifically proven at all.) Germans need to decide within milliseconds which genus and which answer they should give to a phrase like "Good night", Americans on the other side, can use that energy to wonder about the pattern or the tie of their conversation partner. Repeating what the other side says is like kindergarten. Or like learning a new language. Listen and repeat. "See you later". "See you later".

The second reason why I like repeating sentences as much – and here this post moves from plausibility to education – is that they contain less information. At the beginning of the year, I was reading James Gleick's "The Information: A History, a Theory, a Flood". (It's good, read it.) He basically wrote a book to answer the question: What is information? And one possible answer for that is: "Information is uncertainty, surprise, difficulty, and entropy".

What does that mean? Well, let's take an American "Nice to meet you" – "Nice to meet you" and compare its information value to a German "Nice to meet you", "Nice to meet you". Which of these conversations contain more information? One could think that the American version has more information value, because it's a longer string of characters. The American version has 14 characters in eight words, the German version only 26 characters in six words.

But Gleick says that this is not the case. "If a letter can be guessed from what comes before, it is redundant, to the extent that it is redundant, it provides no information. (...) Paradoxical though it sounds, random messages carry more information."

So let's go through our message with that new knowledge. Let's start with the first word "Info": when we just see the 'I', we know that this word will be in the narrowed down space of all English words that start with "I". It's difficult to predict our word from here. There are a lot of words that start with "I" in English. But if we know that the next letter is an "T", the space of possible words gets even smaller. It could still be "hot", "house", "hopped" and thousands of other next words, but it's more likely now that we can guess the right word ("Info") than in the beginning of this guessing game. So the uncertainty = information decreases with every letter that we know of.

Let's fast forward and assume we know that the first two words are "Nice to". Now we know that the next word is "meet" (in American English). Very likely in German, not very likely. The American English comes with less surprise, more redundancy, less difficulty. American small talk contains less information.

And now, prepare for a fun fact that you can use the next time you're doing small talk. Data compression (yes, know ZIP, MP3, JPEG, MP4, MP3) is based on this whole "information = redundancy + probability" idea. Compression algorithms use the length of the words (or letters) when they create a "dictionary" of used bits and bytes,

1. Data Vis: Why?

Categories of Data Vis

Creator	Field	Tools	Medium	Content	Reason
Artist	Science	3D	Mags	Numbers	Analysis
Designer	Journalism	Photo	Books	Models	Prove
Developer	Business	Animation	TV	Objects	Explain
Journalists	Art	Code	Web	...	Explore
Scientist	...	Analogue	Newspaper		Marvel
Statistician		Digital	Journal		...
...			

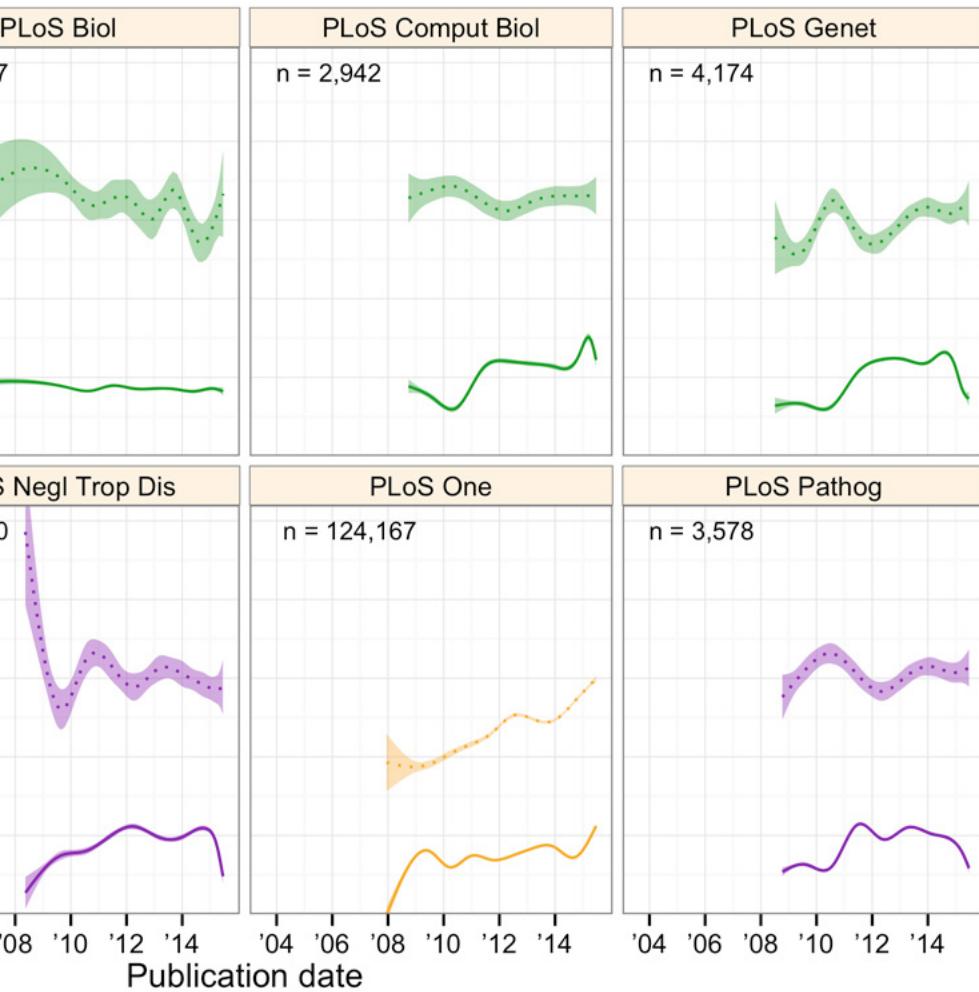
Analysis



Presentation

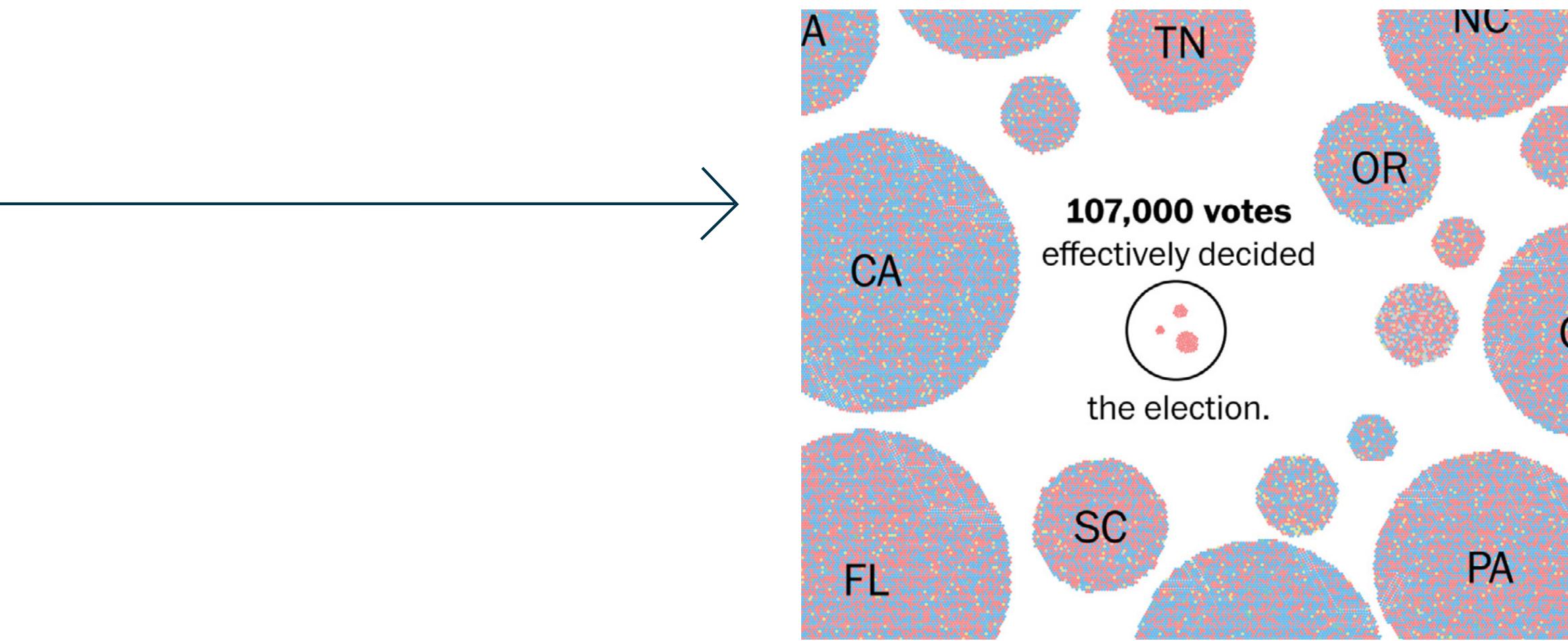
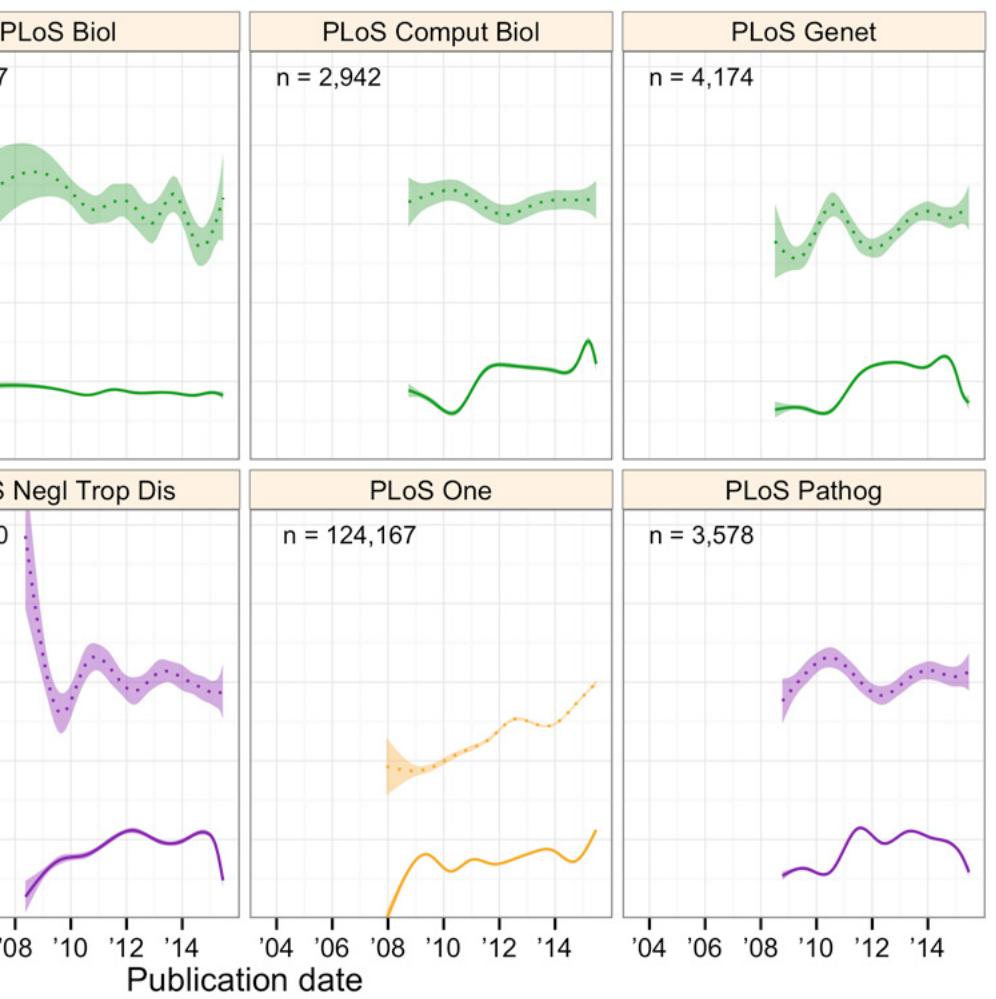
**Under-
standing
the data**

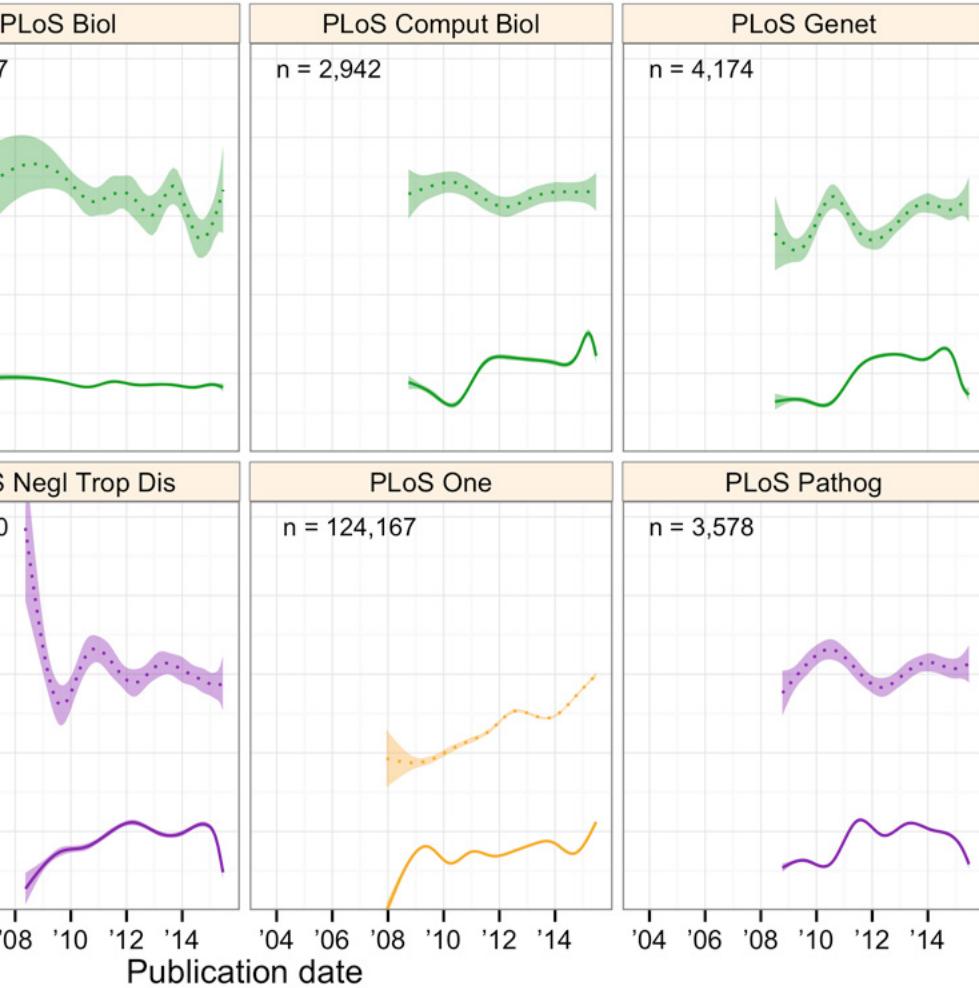
**Communi-
cating
the data**



Presentation

Communicating
the data





Presentation

Communicating
the data

Analysis



Presentation

**Under-
standing
the data**

**Communi-
cating
the data**

Analysis

Presentation

Google Sheets

Datawrapper

RAW

R

Tableau

d3.js

Python

QGIS

Mapbox

HighCharts

Illustrator

Plotly

free!

Analysis → Presentation

Google Sheets

Datawrapper

RAW

R

Tableau

d3.js

Python

QGIS

Mapbox

HighCharts

Illustrator

Plotly

free!

Analysis → Presentation

Google Sheets

Datawrapper

RAW

R

Tableau

d3.js

Python

QGIS

Mapbox

HighCharts

Illustrator

Plotly

2. Do's and Don'ts

2. Do's and Don'ts

- > Context & Comparison
- > Prioritisation

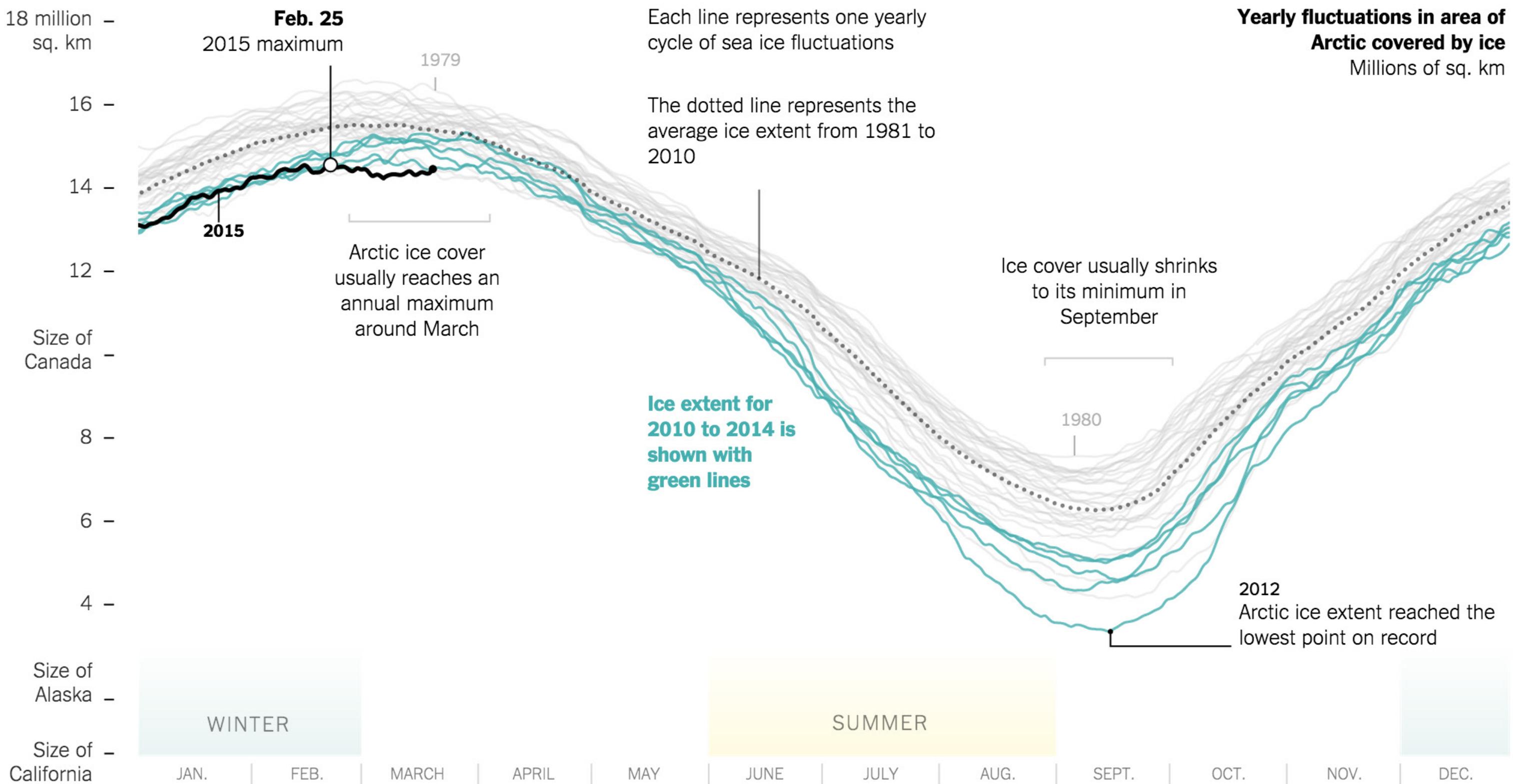
2. Do's and Don'ts

- > Context & Comparison
- > Prioritisation

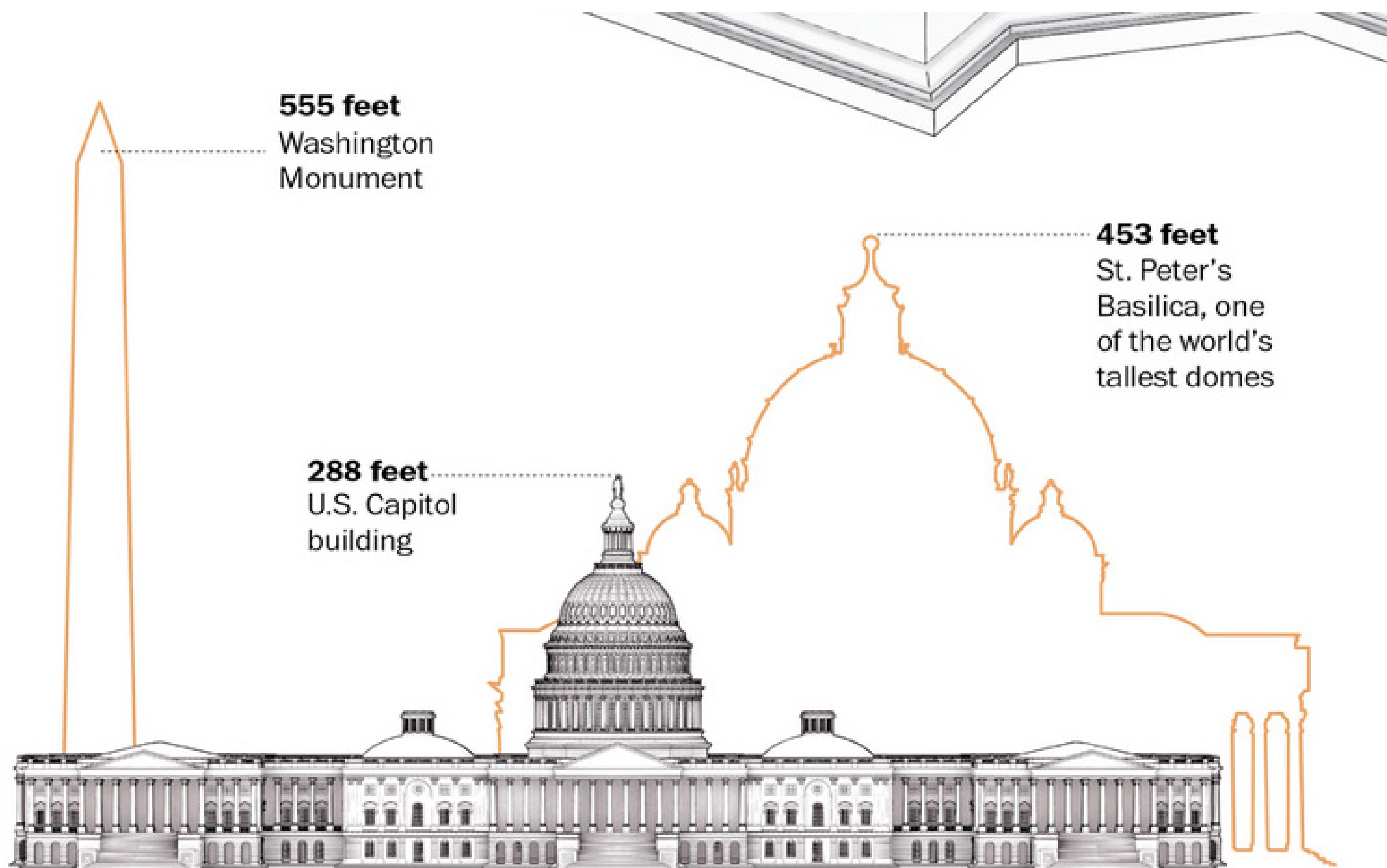
Context & Comparison / Do: Set data in relations

„...the size of ten
football fields.“

Context & Comparison / Do: Set data in relations



Context & Comparison / Do: Set data in relations



Context & Comparison / Do: Set data in relations

Comparison with

...the situation x years ago

...the situation in the own country

...the average salary

...the size of a known landmark

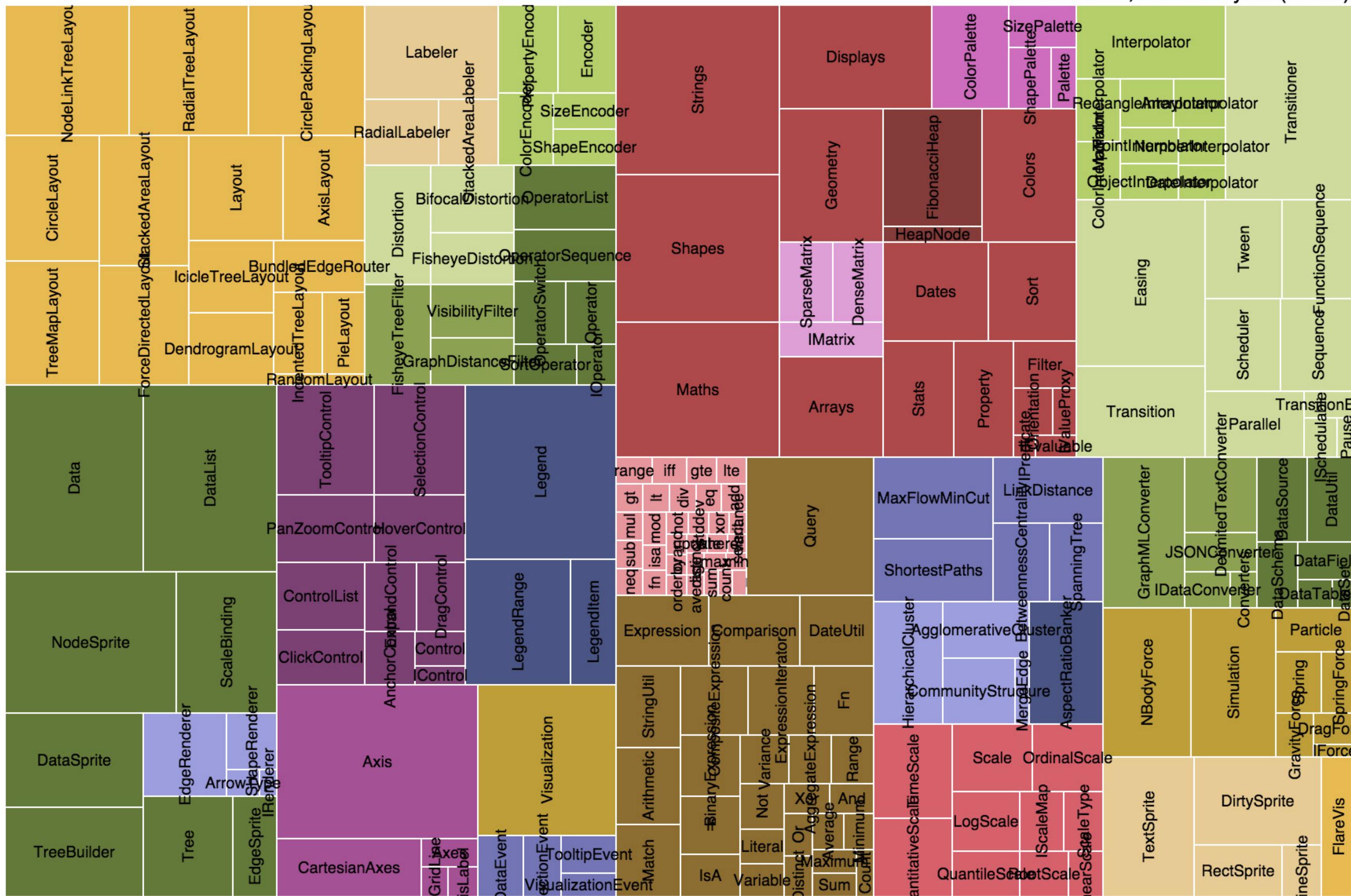
...the size of Argentina

...what you can buy for that money

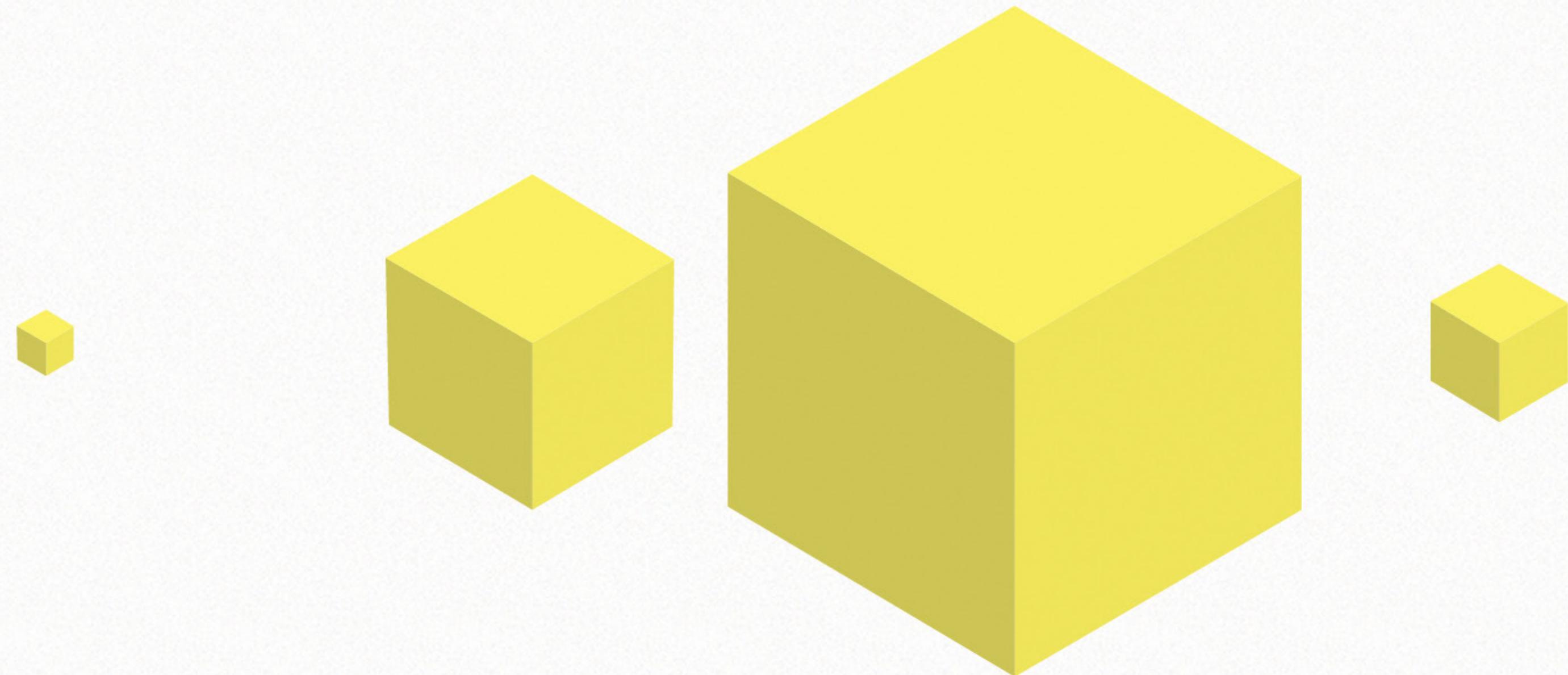
...etc.

Context & Comparison / Don't: Volume

220 classes; 956129 bytes (100%)



Context & Comparison / Don't: 3D Volume



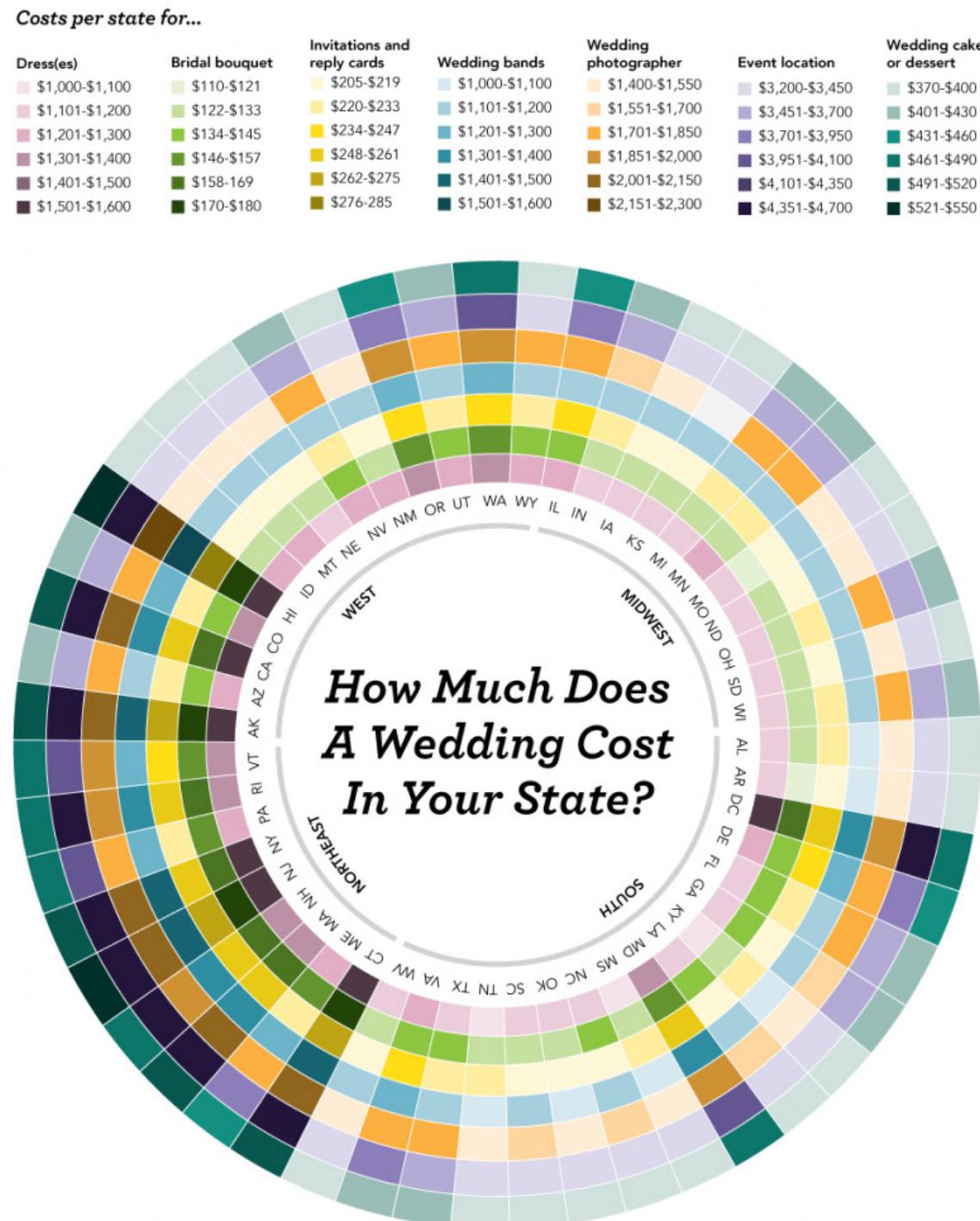
UX designer **5%**

Front-end developer **25%**

Hybrid designer/developer **50%**

Designer **12%**

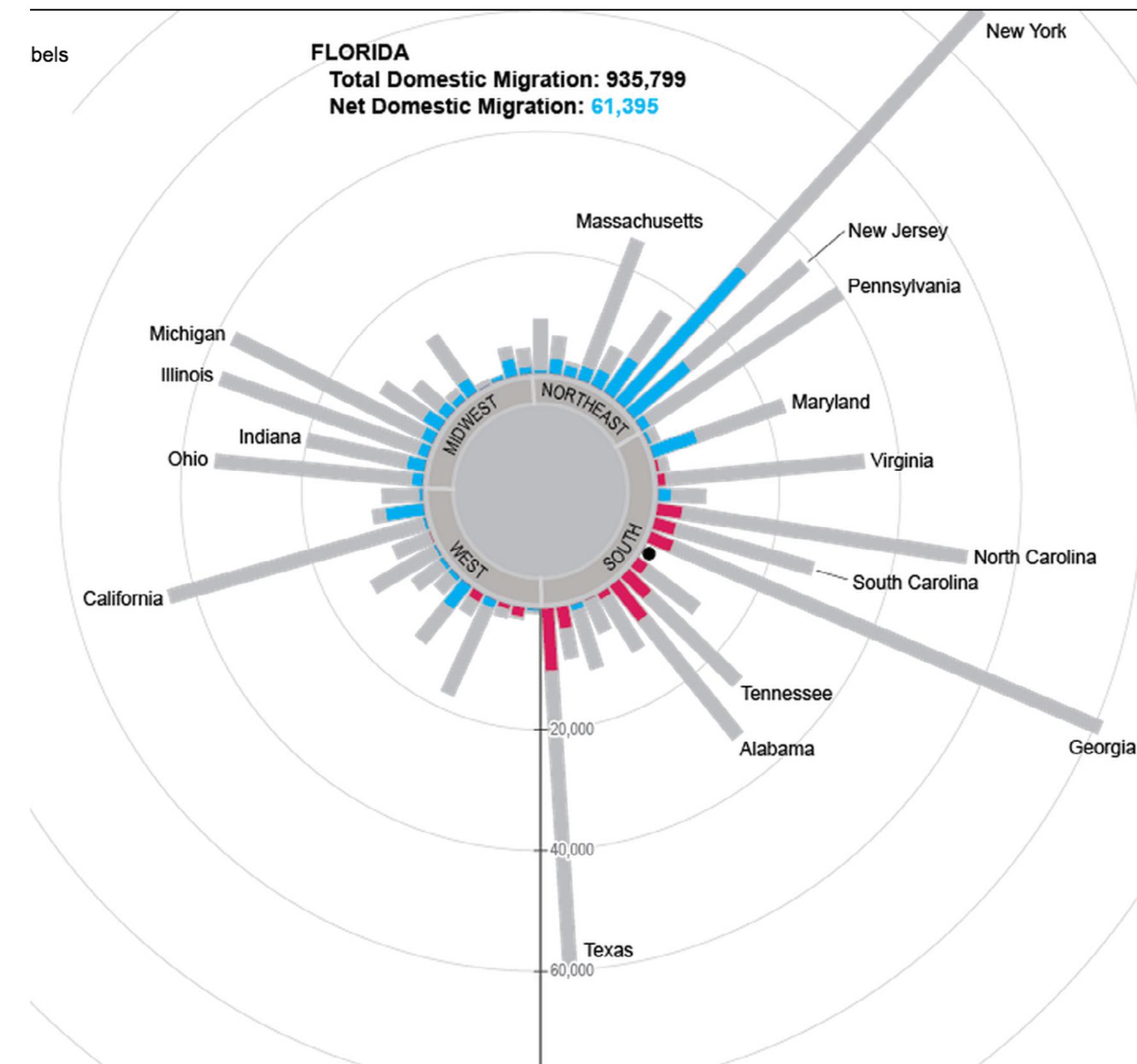
Context & Comparison / Don't: Circular graphs



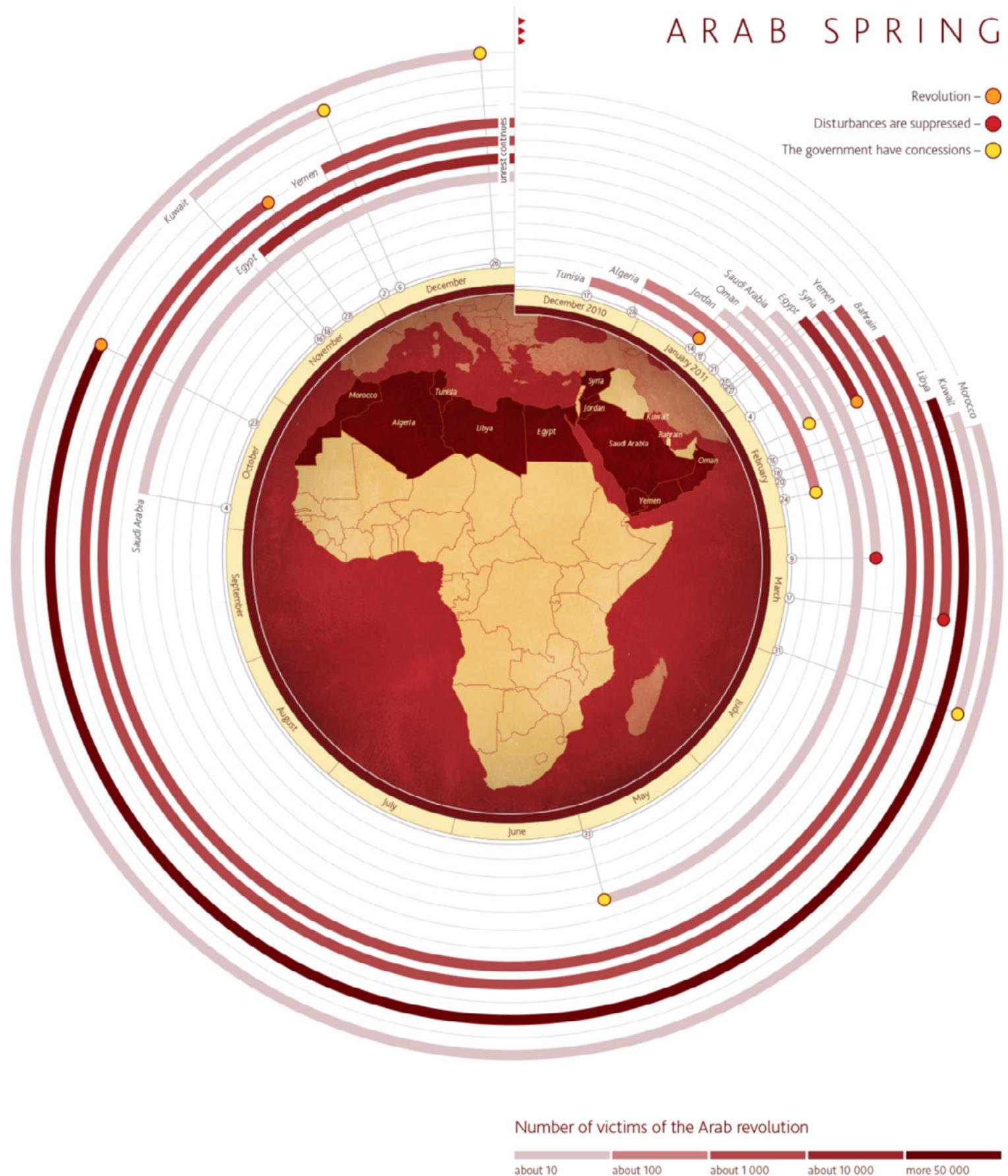
Source: The Wedding Report

Note: Cost averages are derived from 3,700 survey samples collected in 2013 from pre-wedding and post-wedding couples using proprietary models that combine local demographic data, local economic data, and local survey samples to estimate spending and demand for each item, for each market.

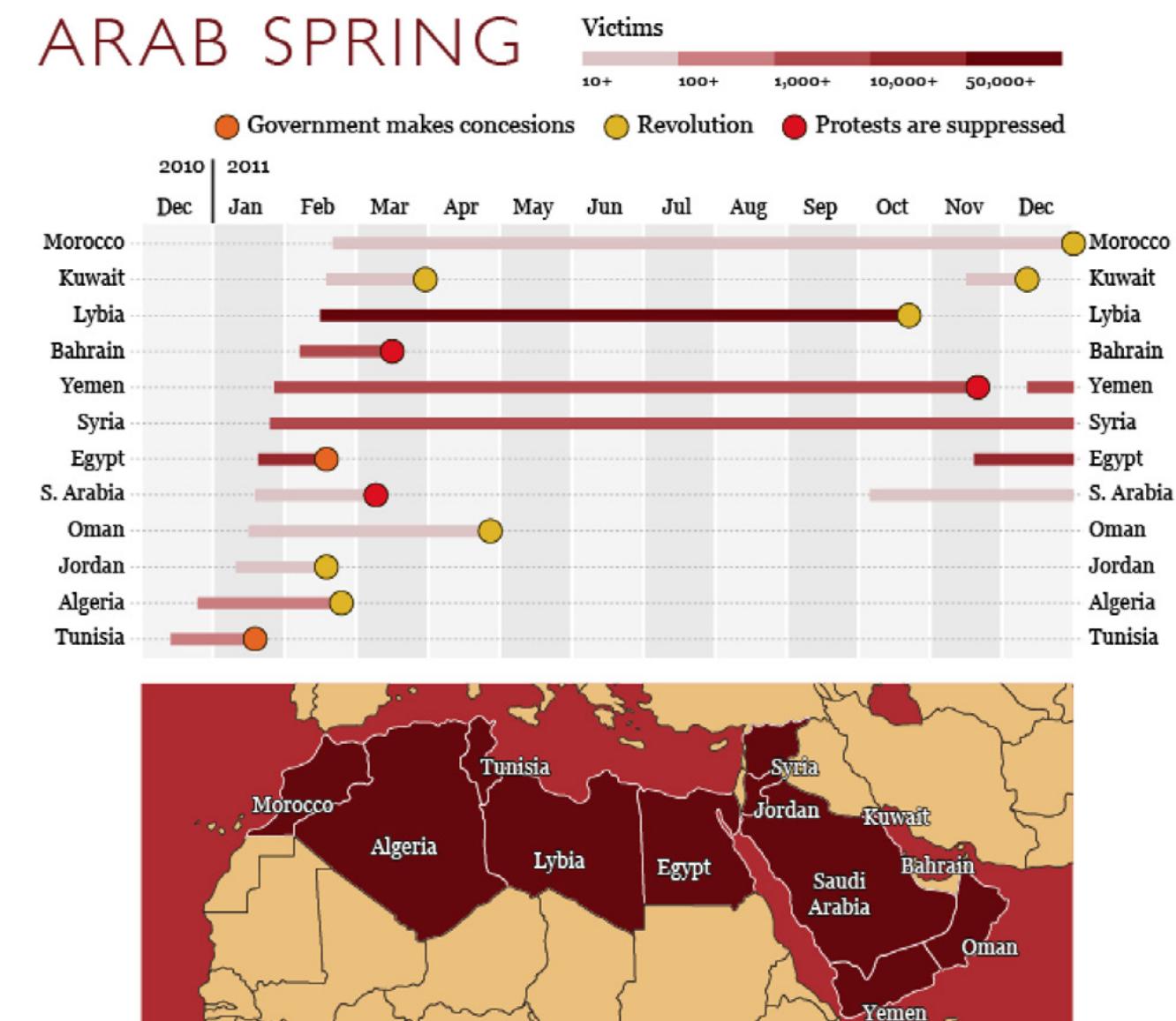
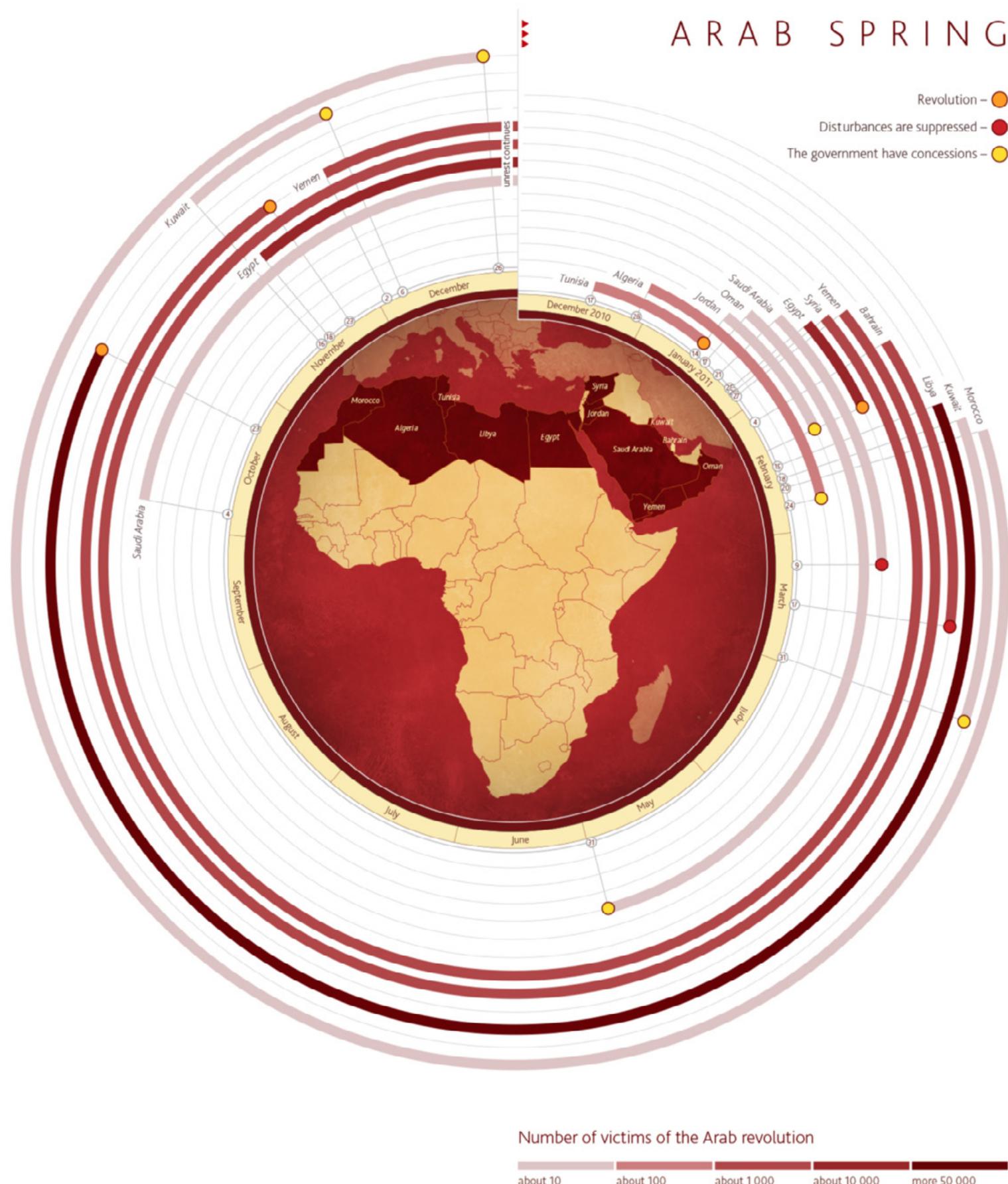
THE HUFFINGTON POST



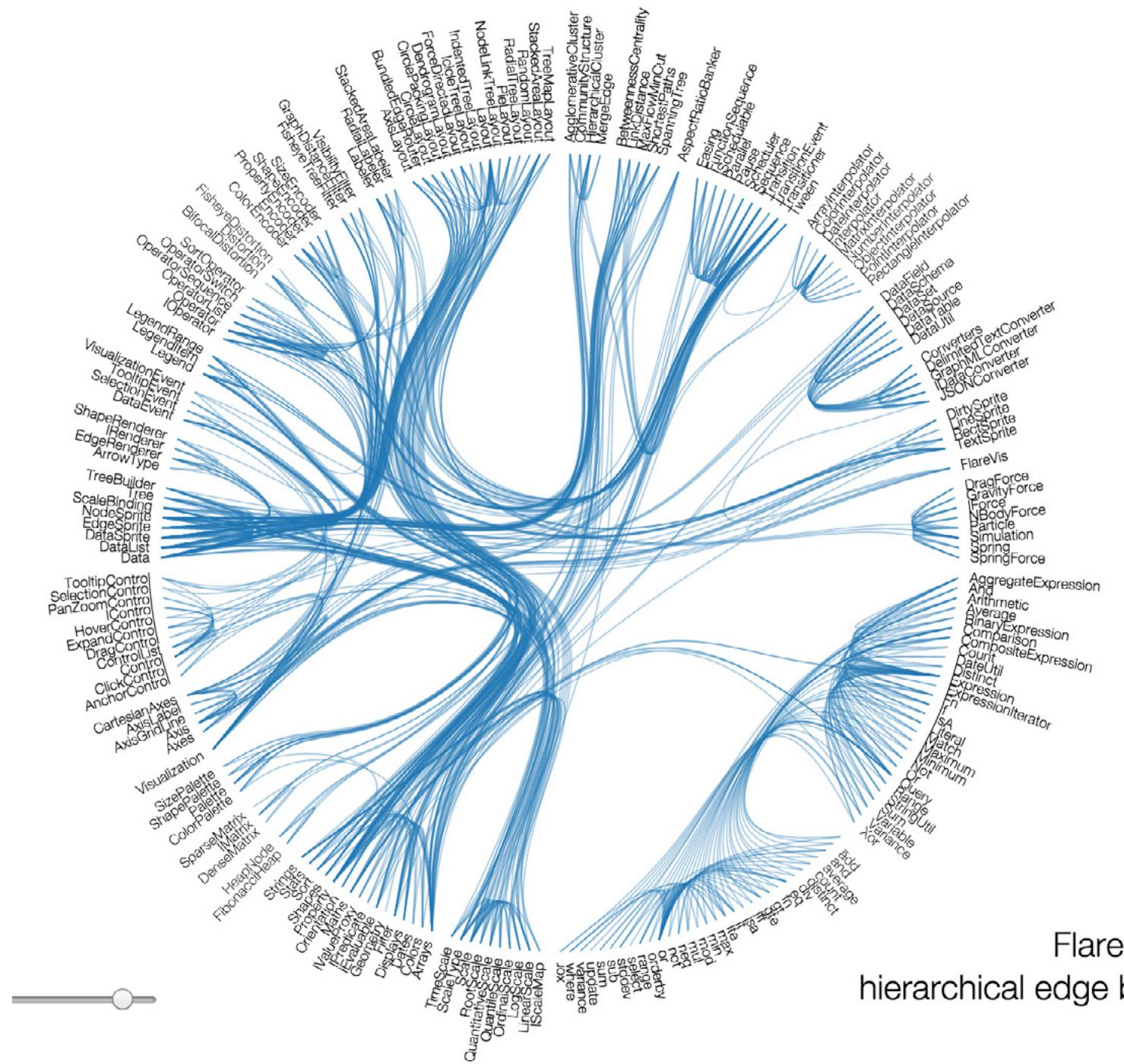
Context & Comparison / Don't: Circular graphs



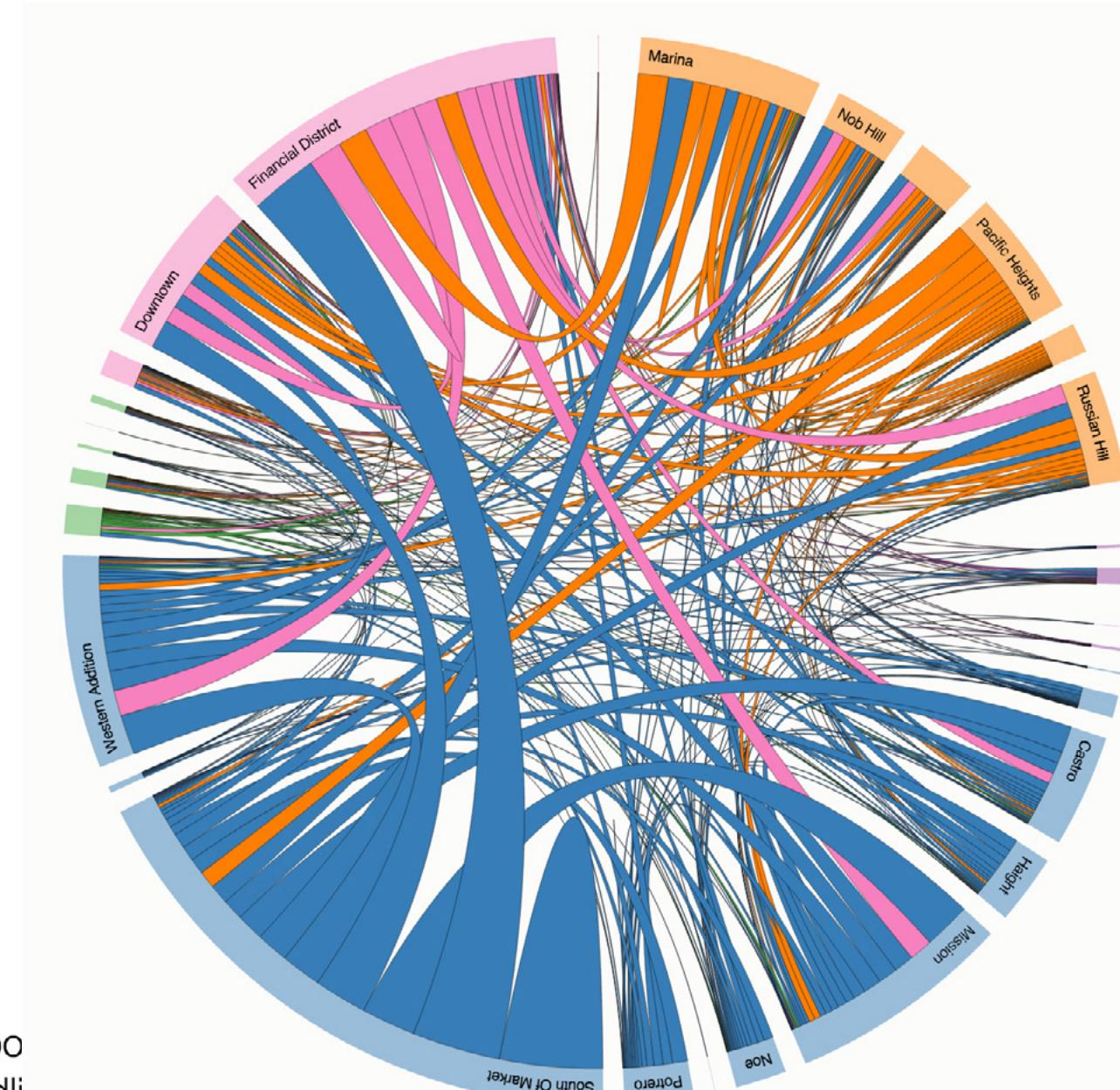
Context & Comparison / Don't: Circular graphs



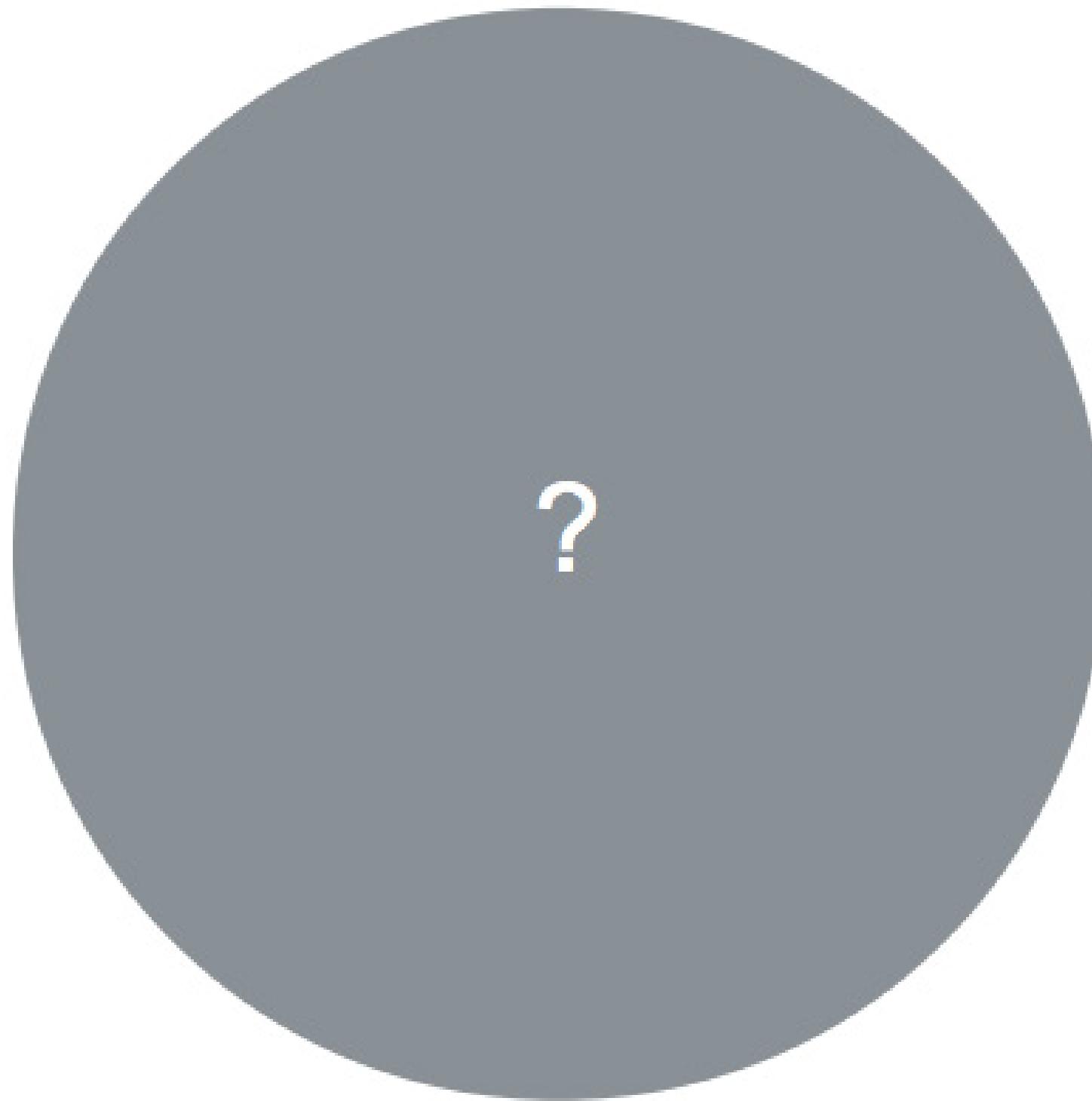
Context & Comparison / Exception: Circular graphs



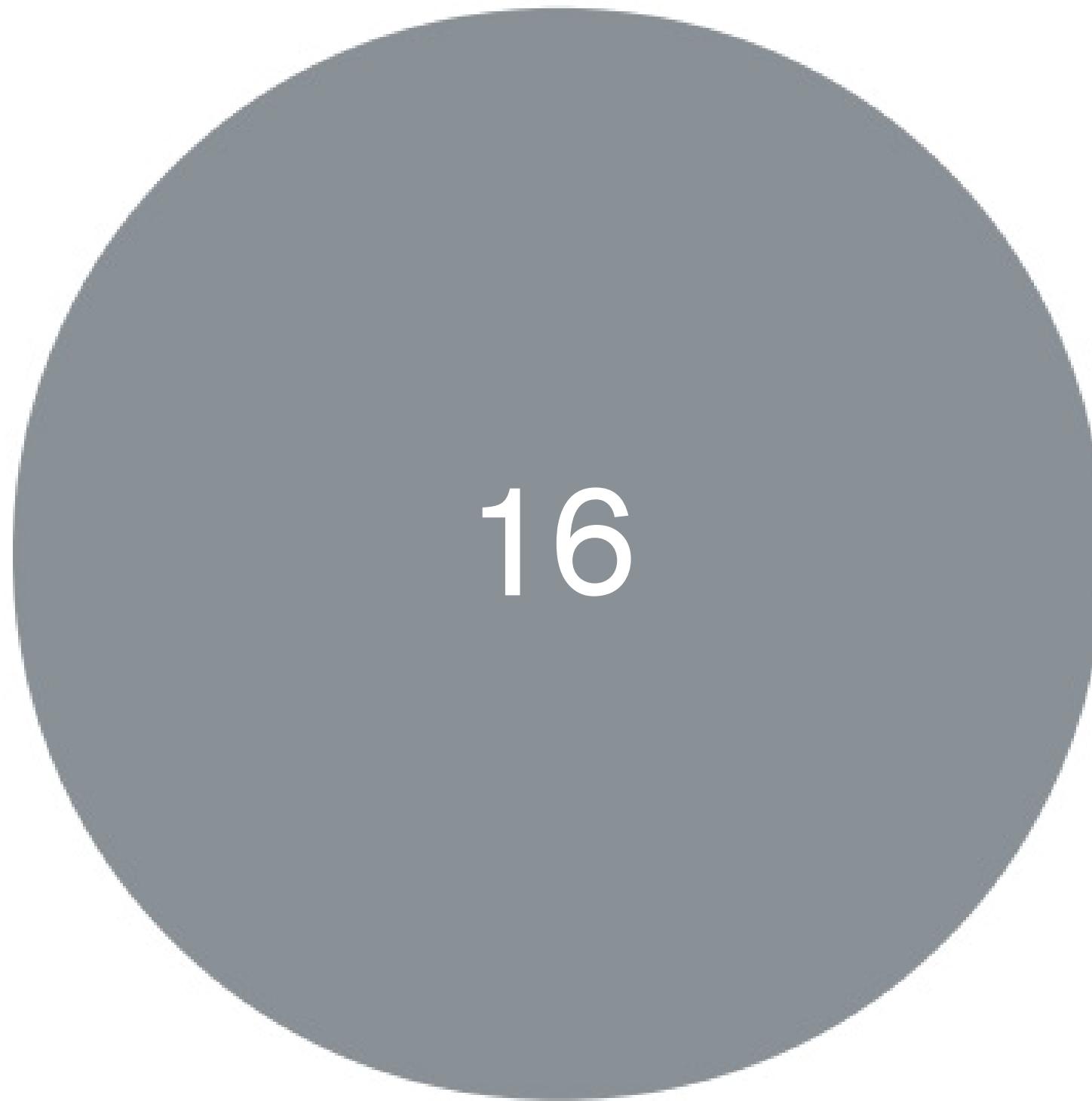
Flare imo
hierarchical edge bundli



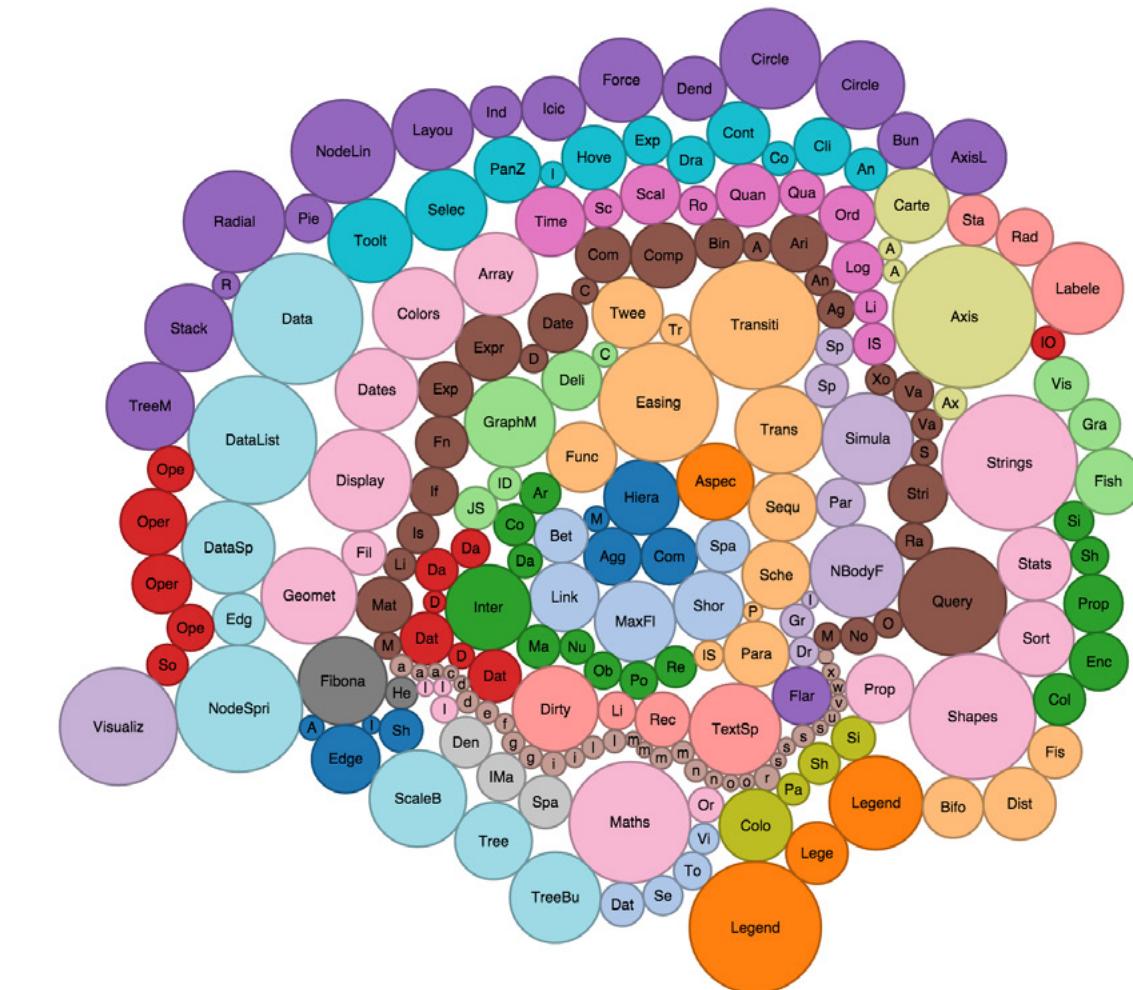
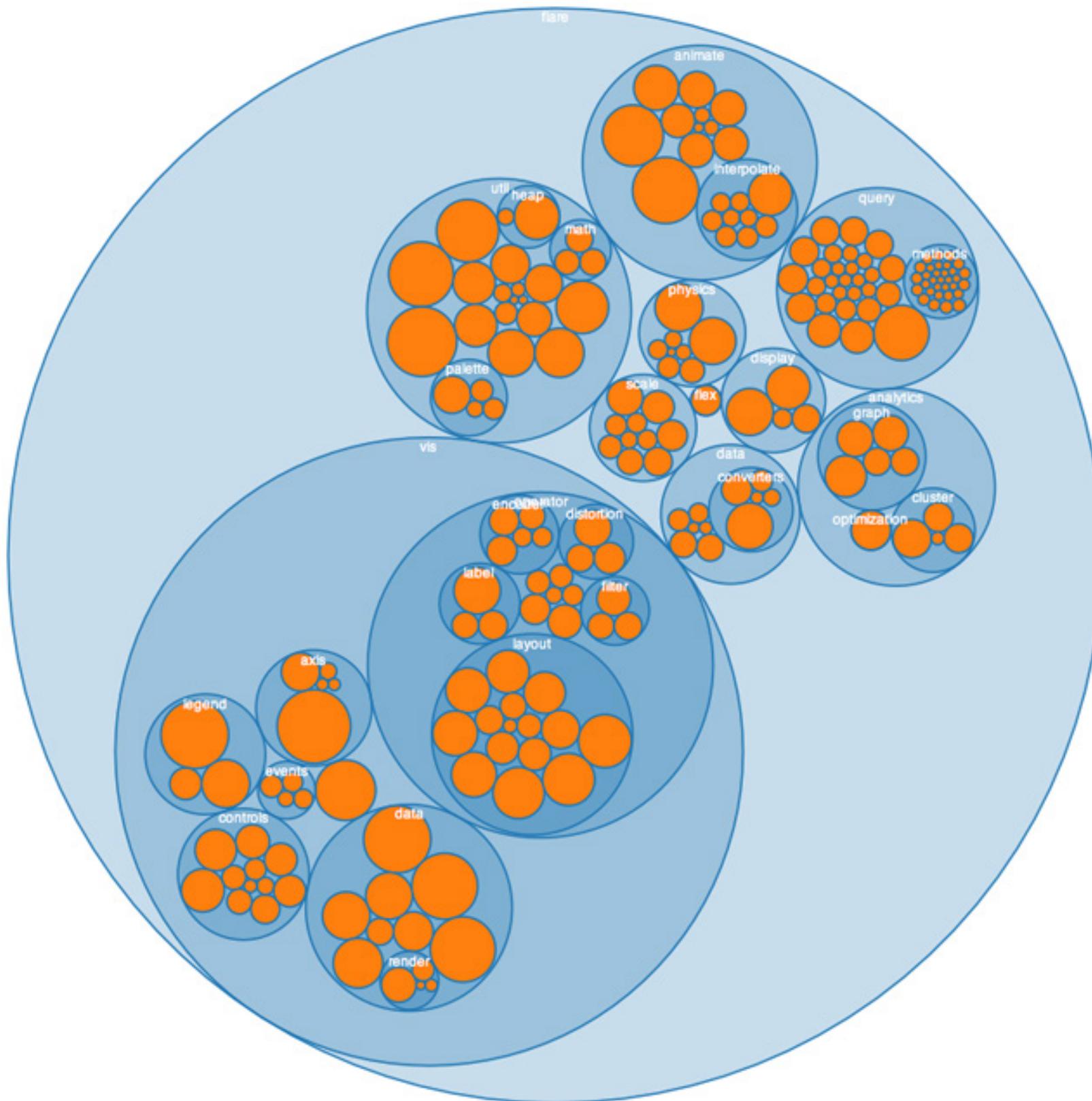
Context & Comparison / Don't: Bubbles



Context & Comparison / Don't: Bubbles



Context & Comparison / Don't: Bubbles

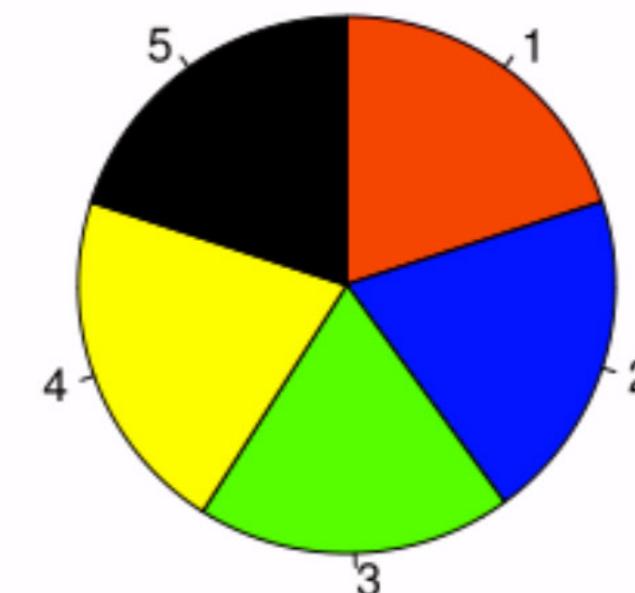


Context & Comparison / Don't: Pie charts without huge differences

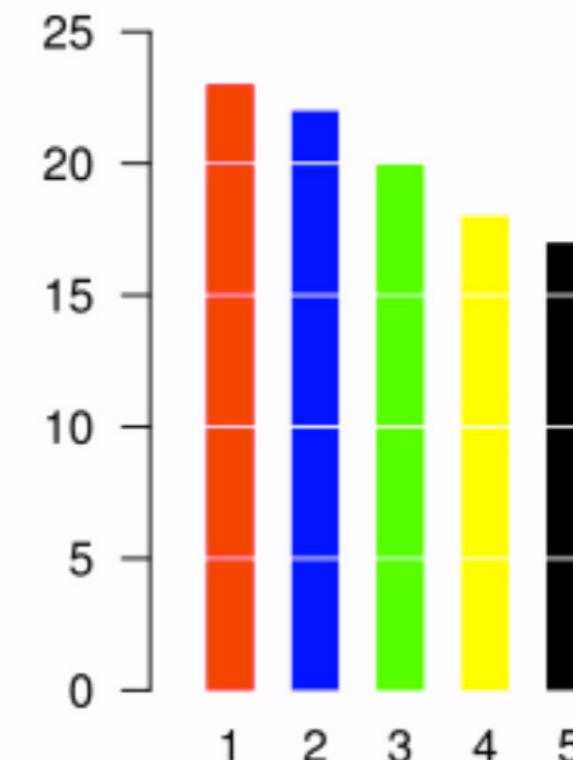
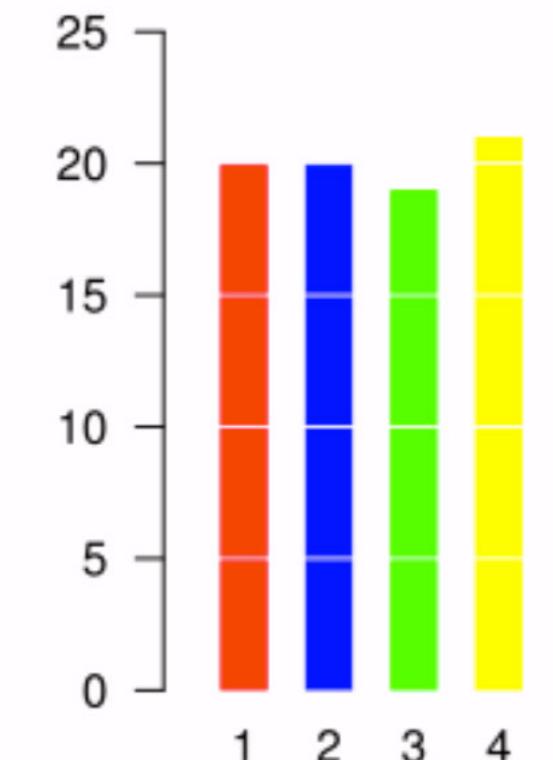
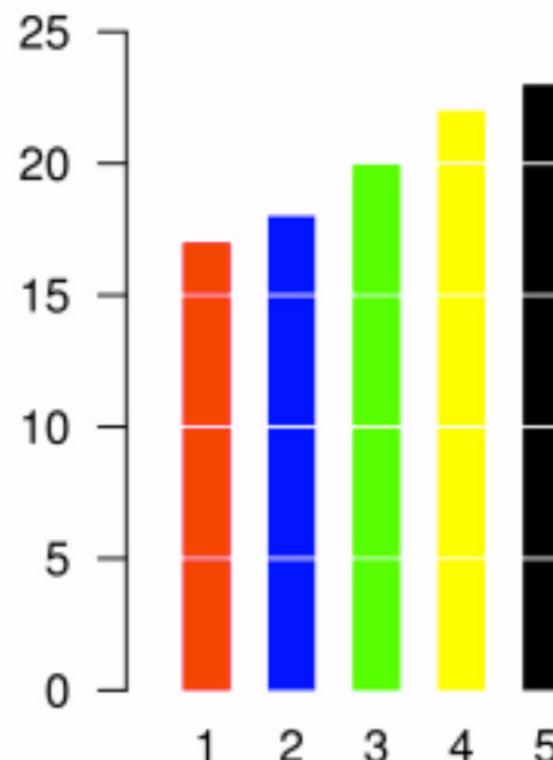
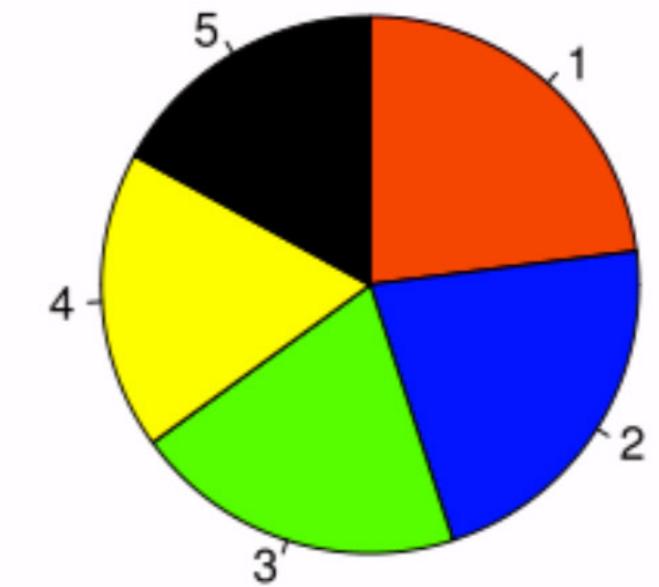
A



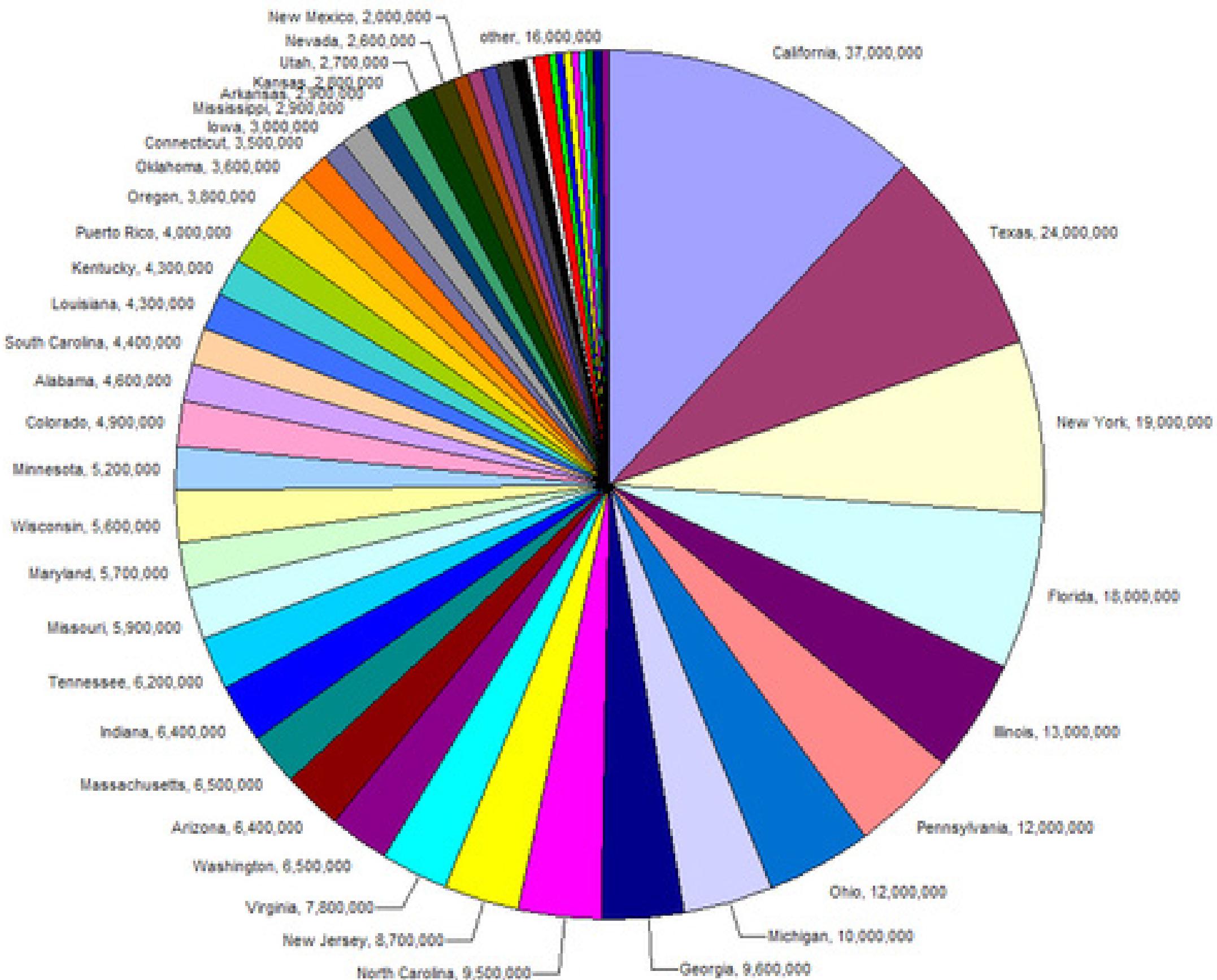
B



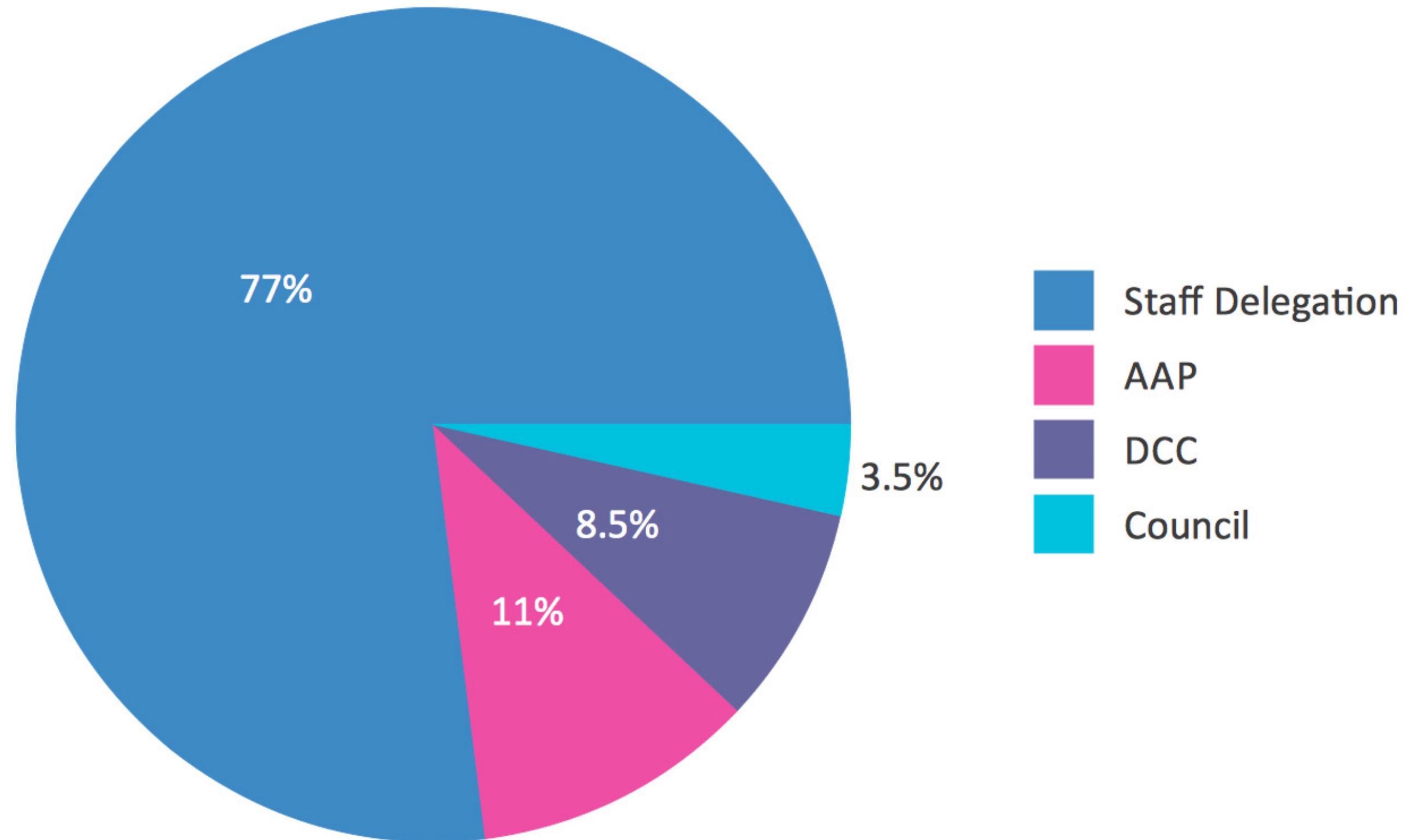
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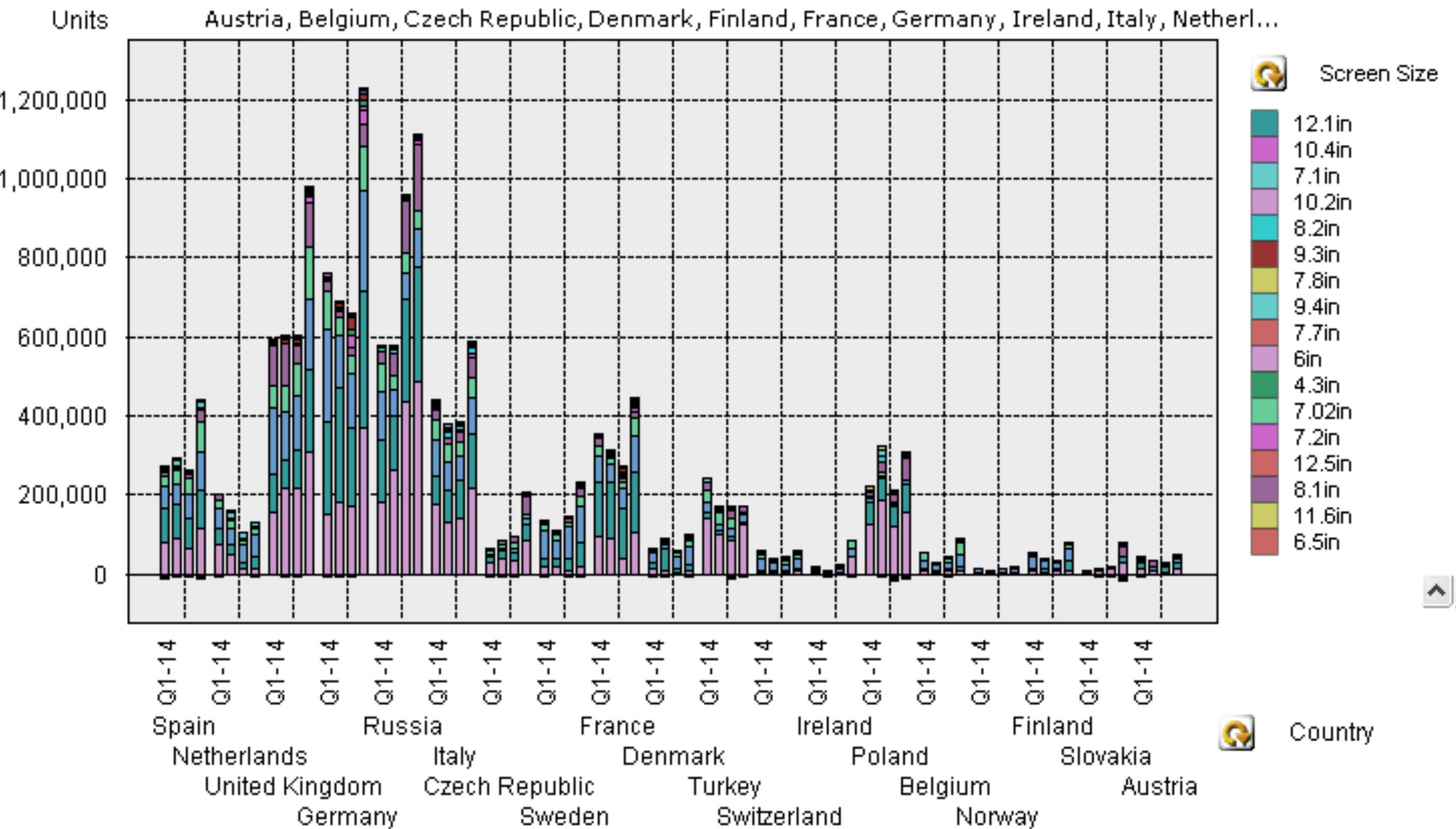
Context & Comparison / Don't: Pie charts with maaaaaaaaany slices



Context & Comparison / Do: Pie charts with 25%, 50%, 75%



Context & Comparison / Do: Seven colors or less

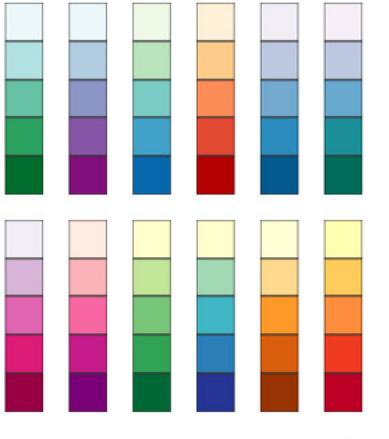


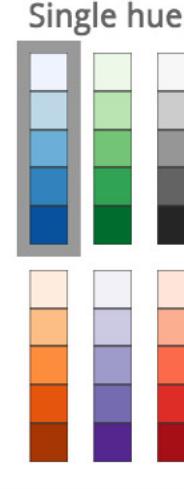
Context & Comparison / Do: Seven colors or less

Number of data classes: 9 i

Nature of your data: i
 sequential diverging qualitative

Pick a color scheme:

Multi-hue: 

Single hue: 

Only show: i
 colorblind safe
 print friendly
 photocopy safe

Context: i
 roads
 cities
 borders 

Background: i
 solid color 
 terrain

 color transparency

how to use | updates | downloads | credits i

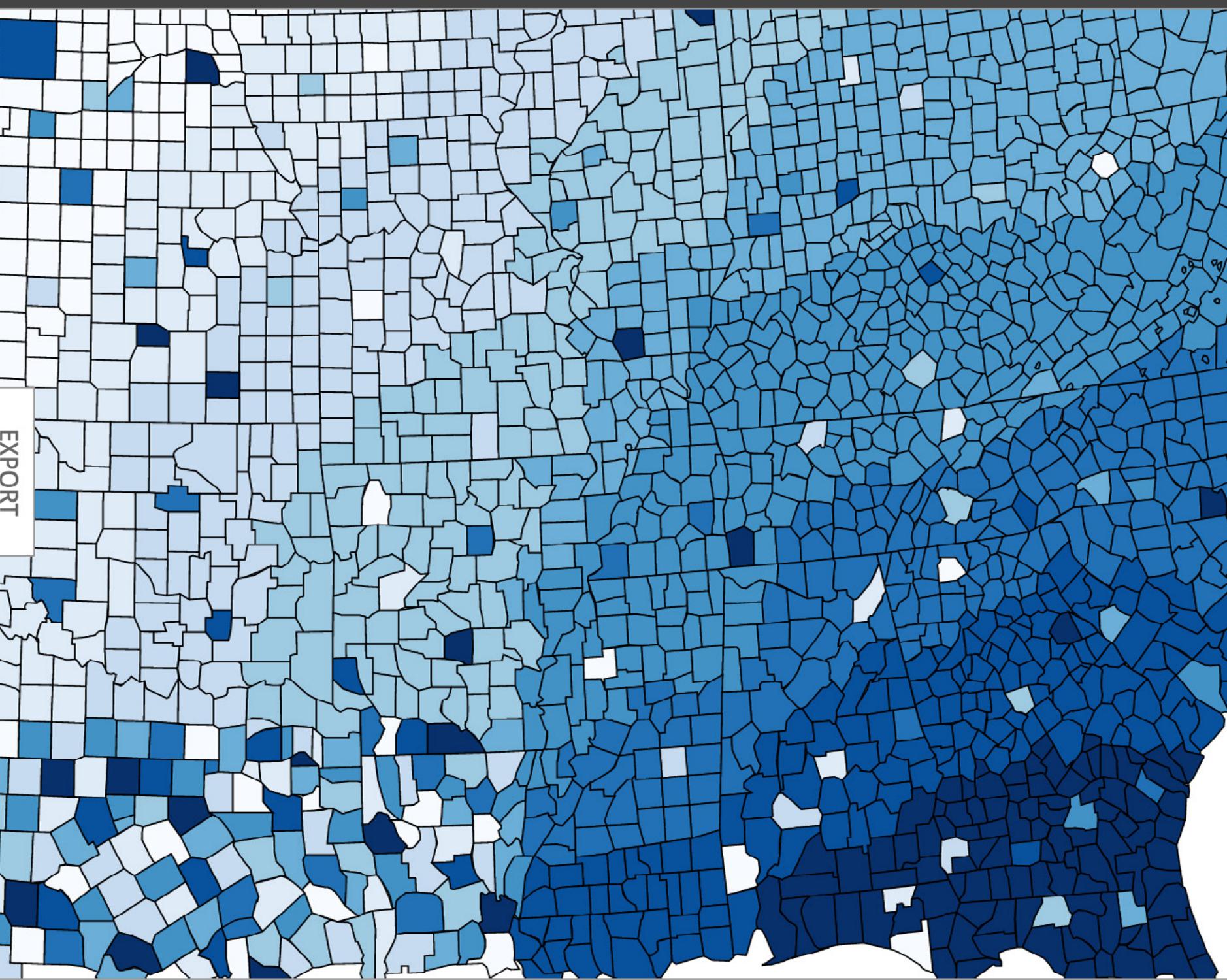
COLORBREWER 2.0

color advice for cartography

9-class Blues i

HEX

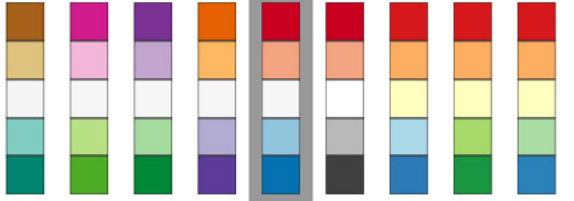
	Color Hex
1	#f7fbff
2	#deebf7
3	#c6dbef
4	#9ecae1
5	#6baed6
6	#4292c6
7	#2171b5
8	#08519c
9	#08306b

EXPORT i 

Context & Comparison / Do: Seven colors or less

Number of data classes: 9 [i](#)

Nature of your data: [i](#)
 sequential diverging qualitative

Pick a color scheme:


Only show:
 colorblind safe
 print friendly
 photocopy safe

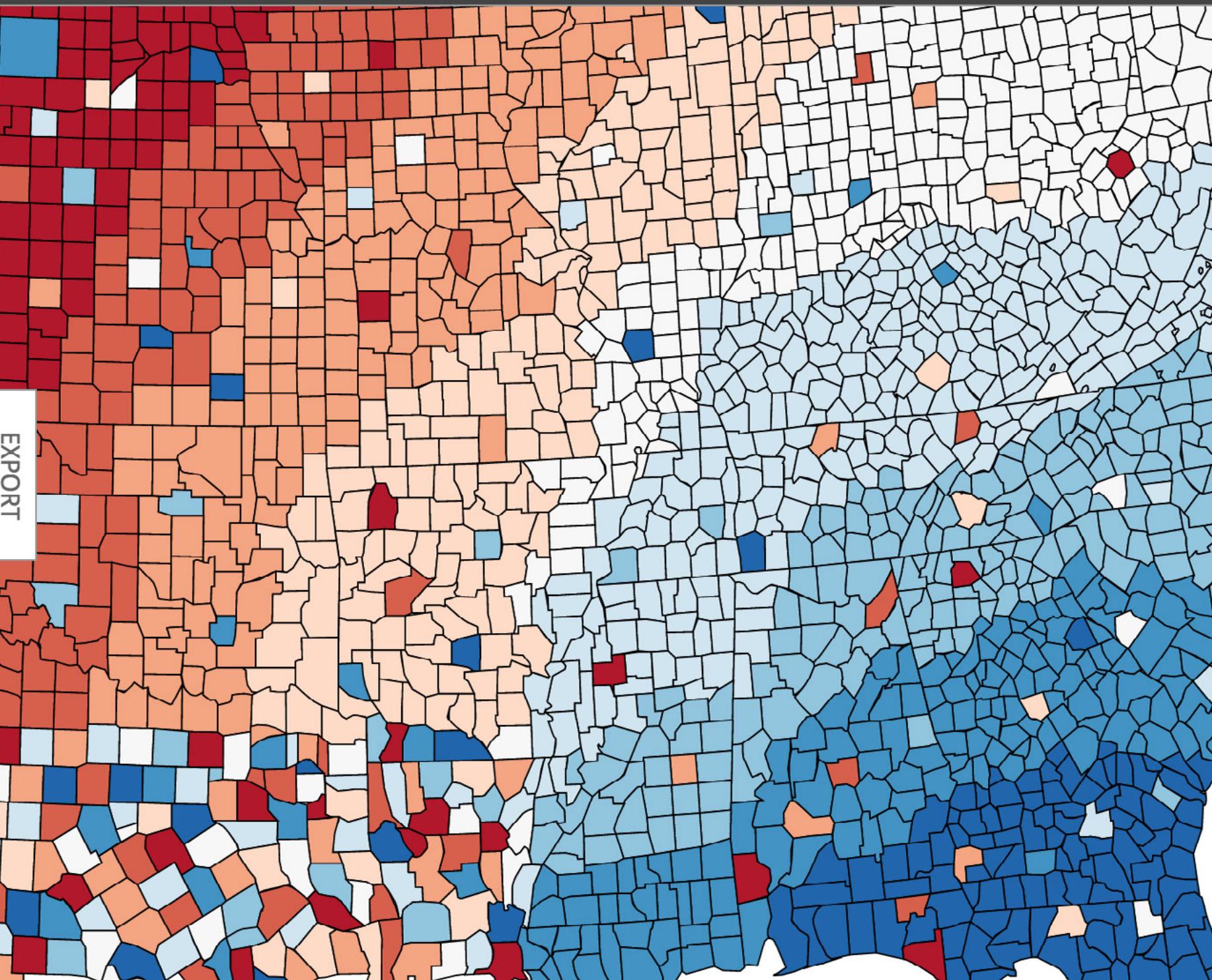
Context:
 roads
 cities
 borders [i](#)

Background:
 solid color 
 terrain 
 color transparency

9-class RdBu [i](#)
 eye X [EXPORT](#)
 HEX [▼](#)

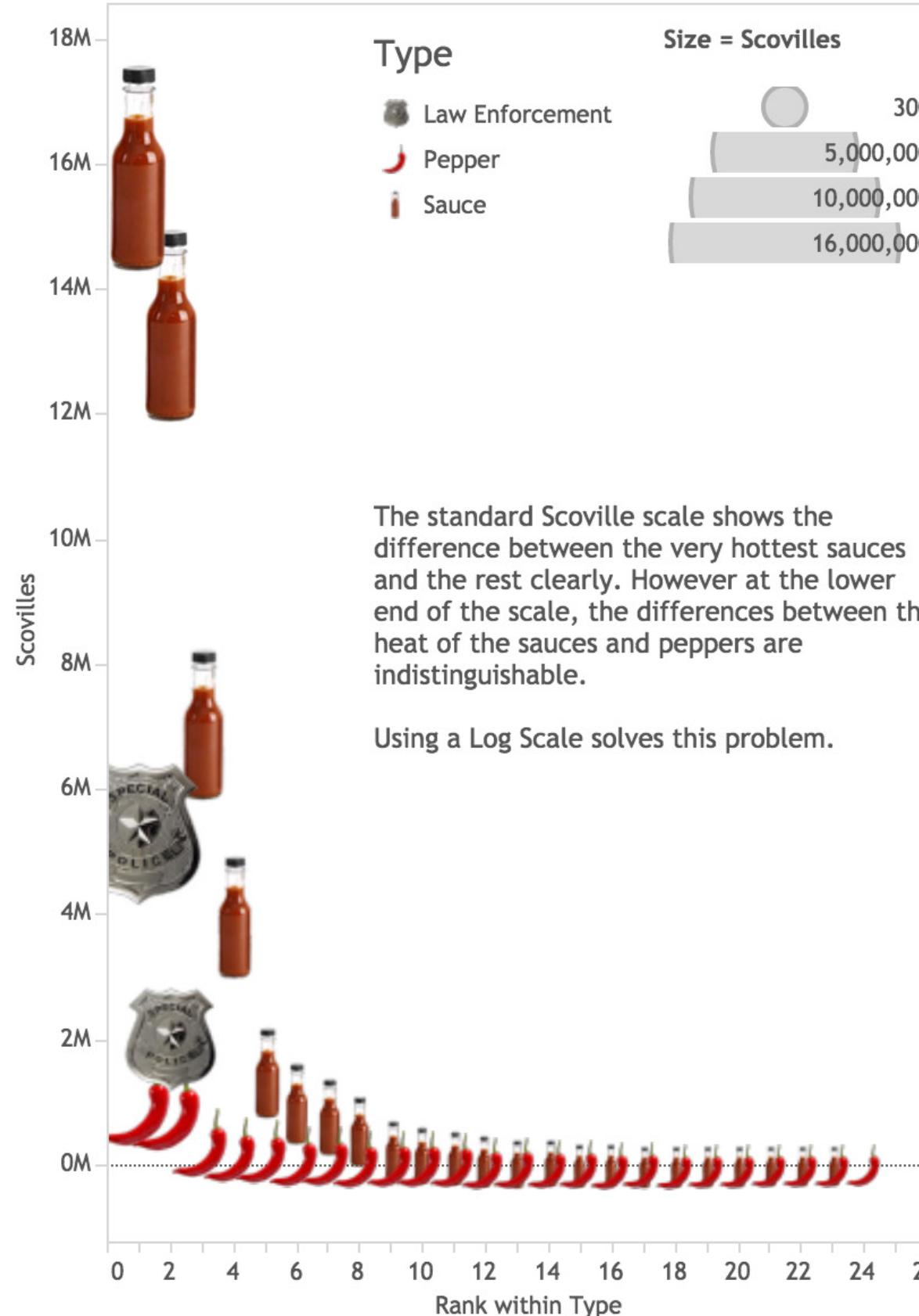
#b2182b
#d6604d
#f4a582
#fdbbc7
#f7f7f7
#d1e5f0
#92c5de
#4393c3
#2166ac

how to use | updates | downloads | credits [COLORBREWER 2.0](#)
 color advice for cartography

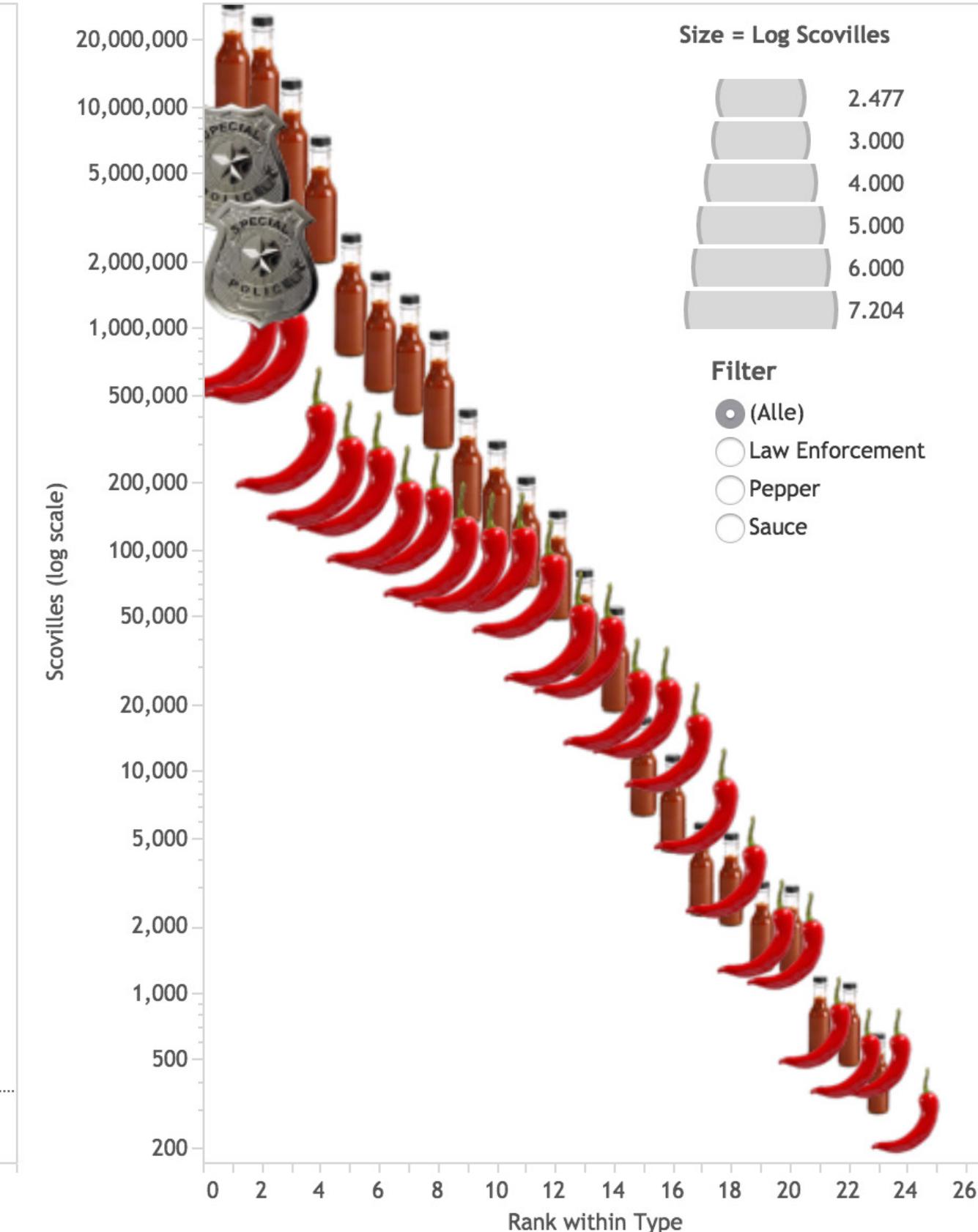


Context & Comparison / Don't: Logarithmic scales

Standard Scale

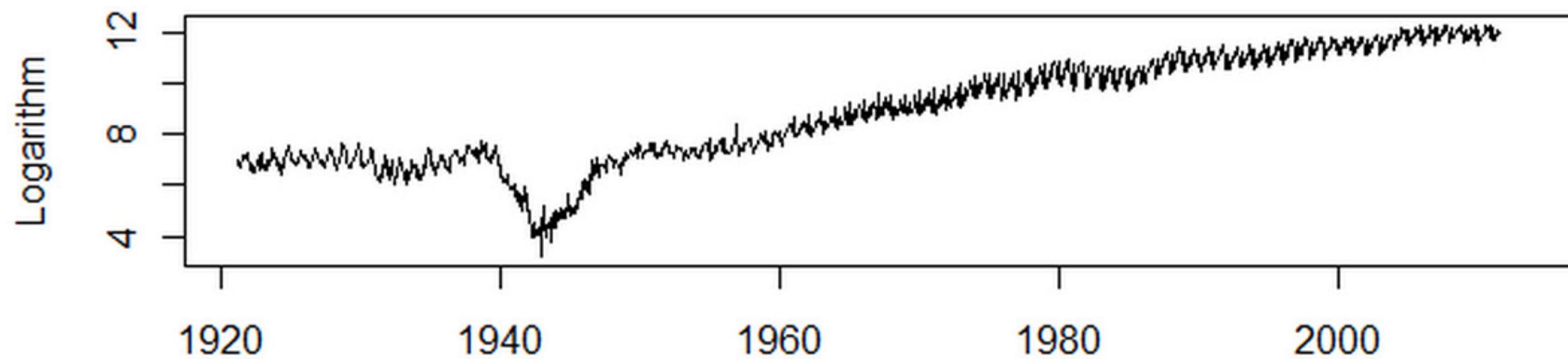
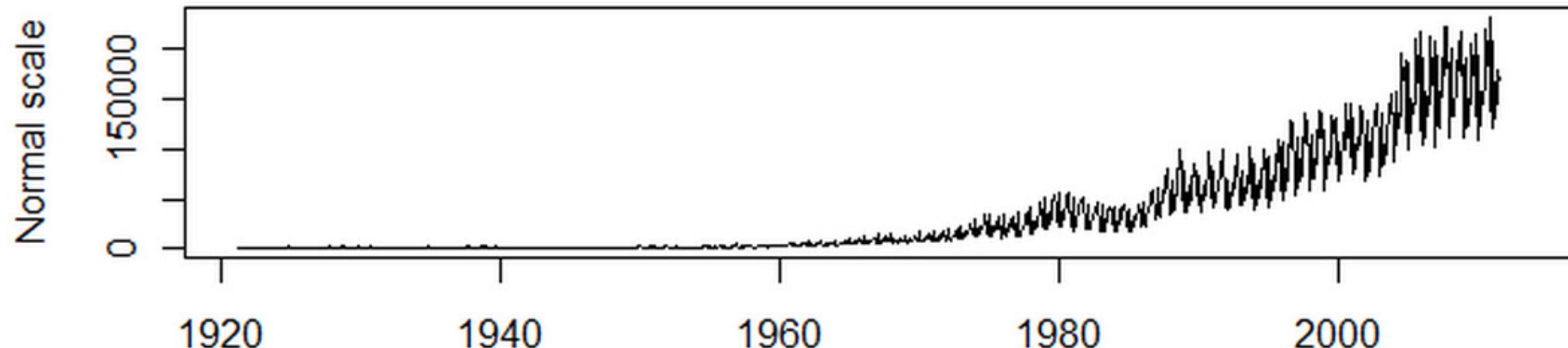


Log Scale

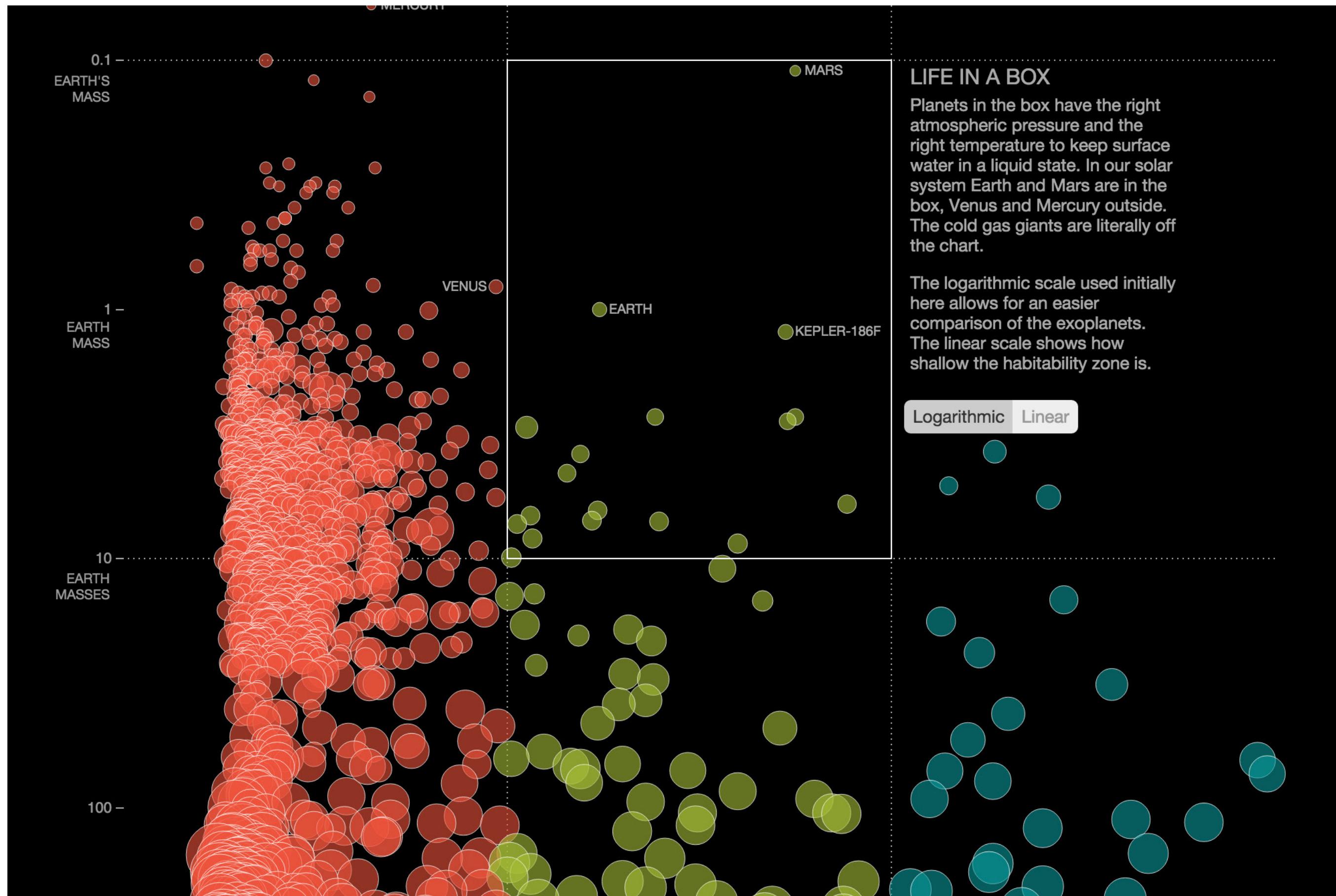


Context & Comparison / Do: **Logarithmic scales**

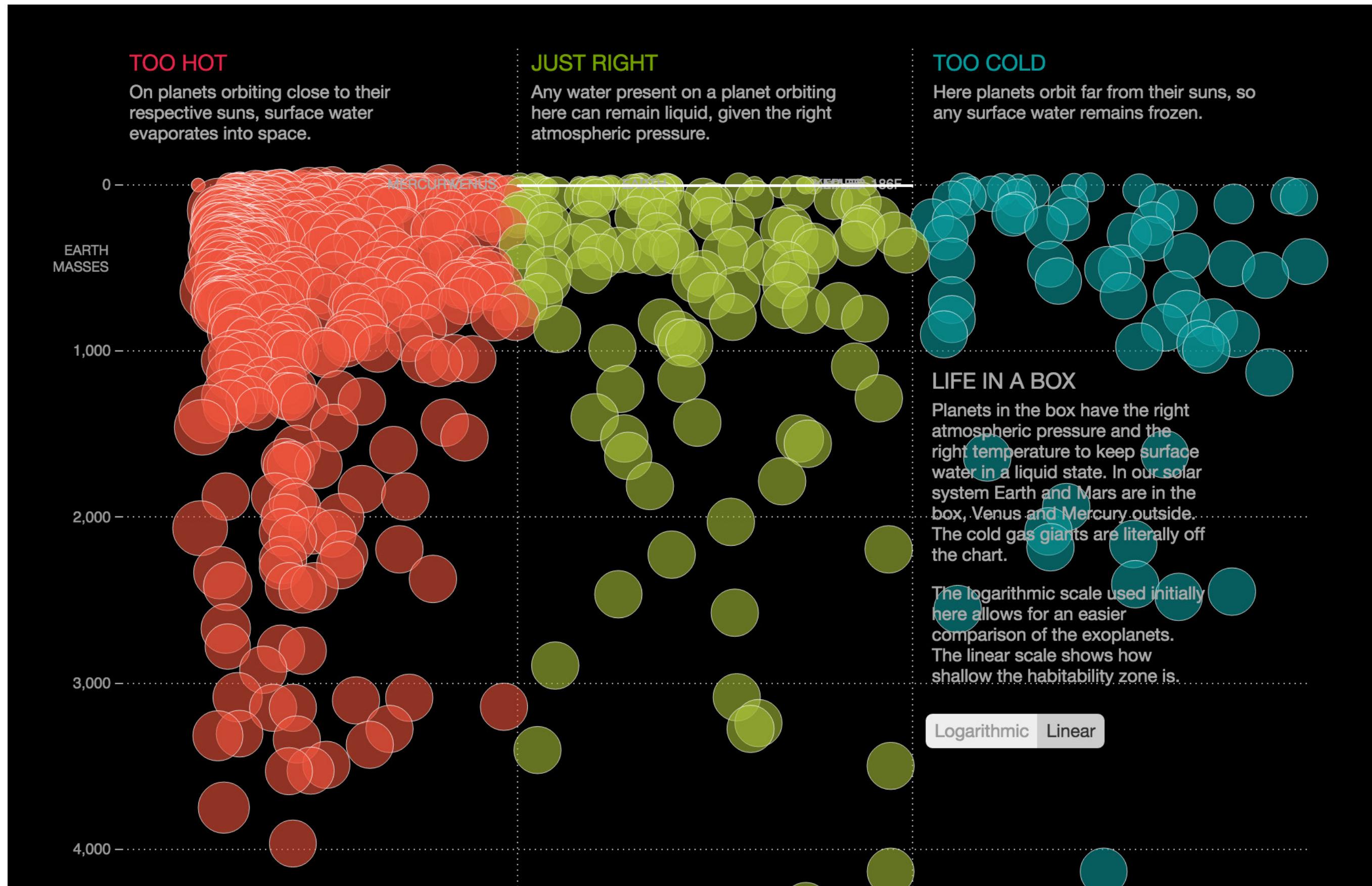
Monthly short term arrivals in New Zealand



Context & Comparison / Do: Logarithmic scales

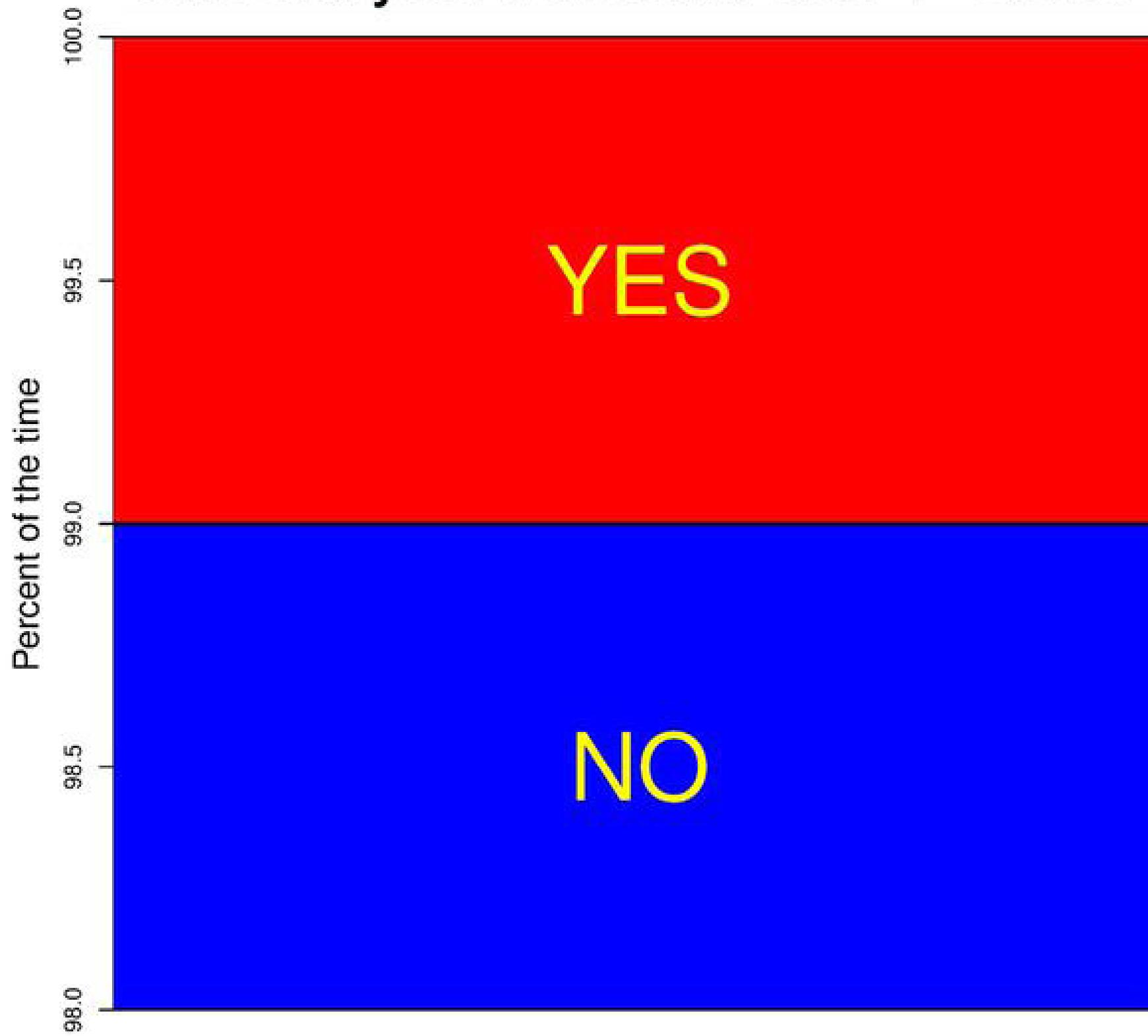


Context & Comparison / Do: Logarithmic scales

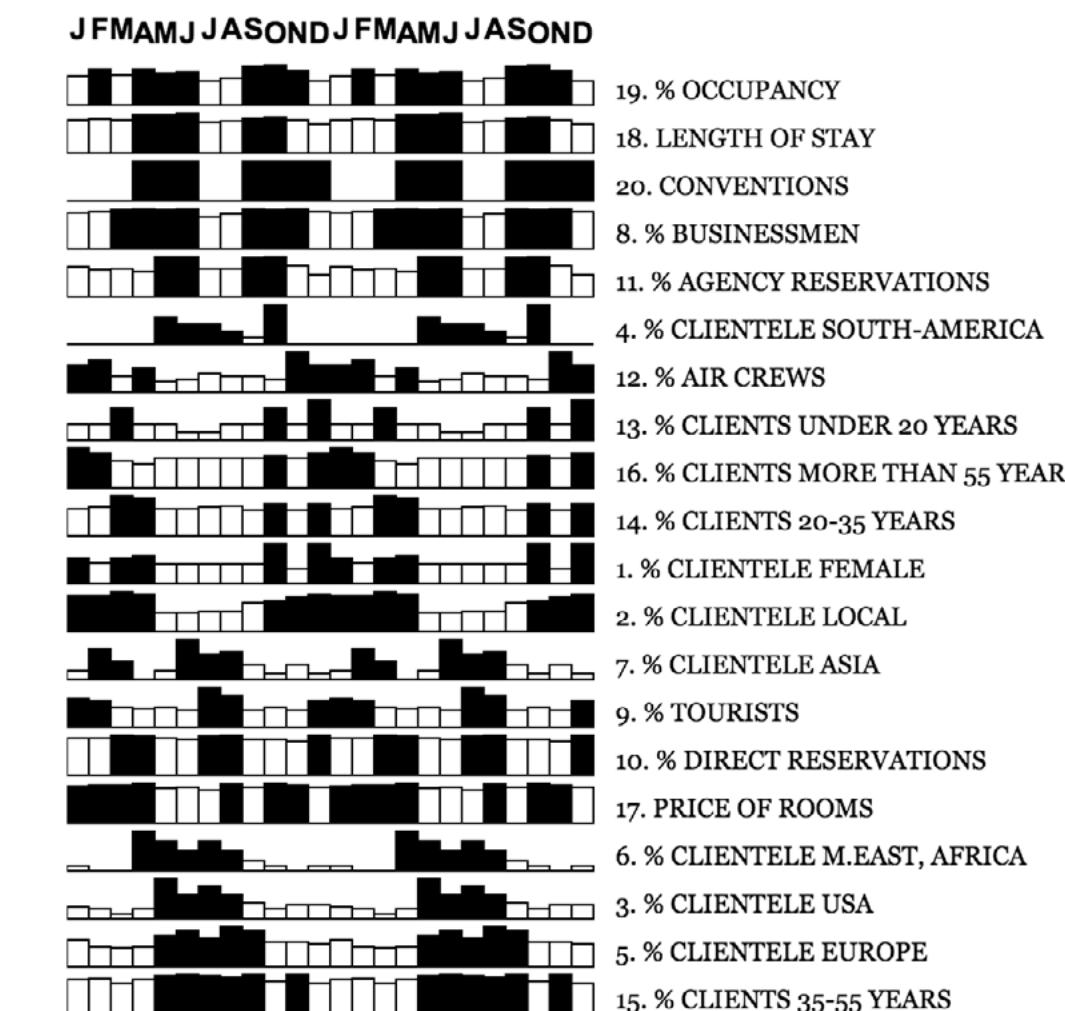
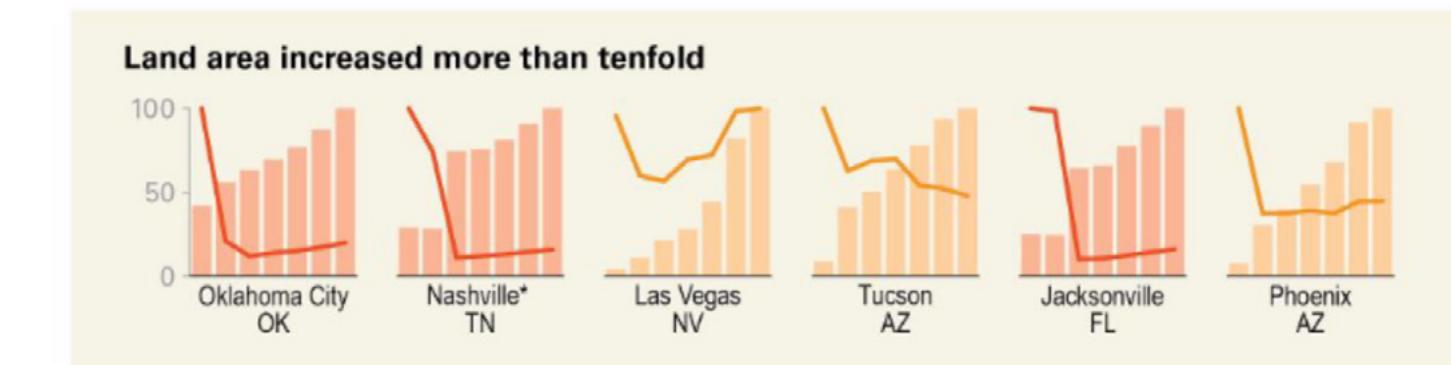
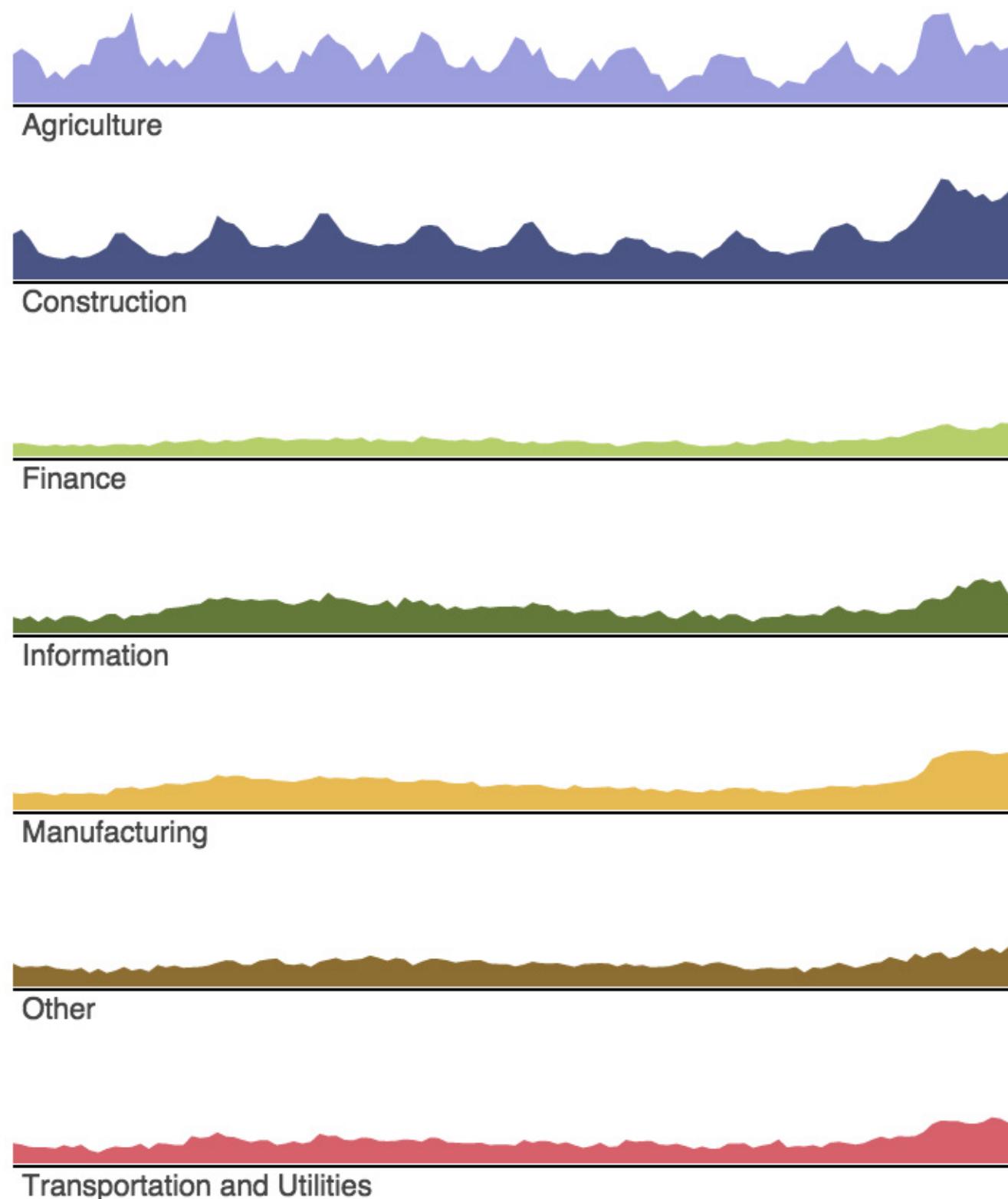


Context & Comparison / Don't: Cut Y-axes

Should you truncate the Y-axis?



Context & Comparison / Do: Small multiples

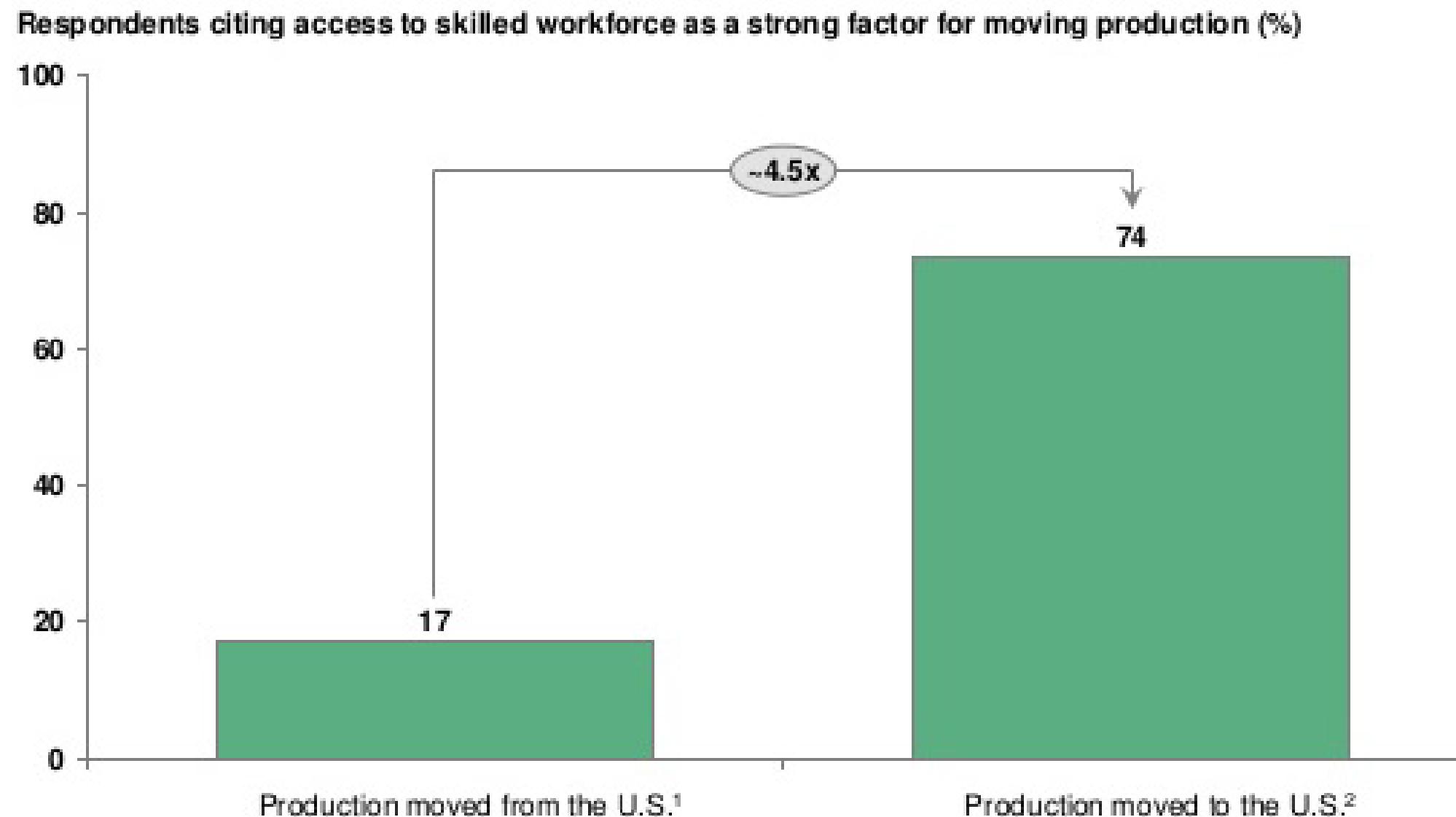


2. Do's and Don'ts

- > Context & Comparison
- > **Prioritisation**

Prioritisation / Do: Explain what the reader can see: Headlines

③ Manufacturers are ~4.5 times more likely to move production *to* the U.S. than *from* the U.S. to access skilled labor



Source: BCG Manufacturing Survey, August 2014.

Note: Chart counts respondents who marked "Strongly or somewhat agree." Numbers atop the bar charts have been rounded; percentage changes outside the bar charts are based on the actual numbers before rounding.

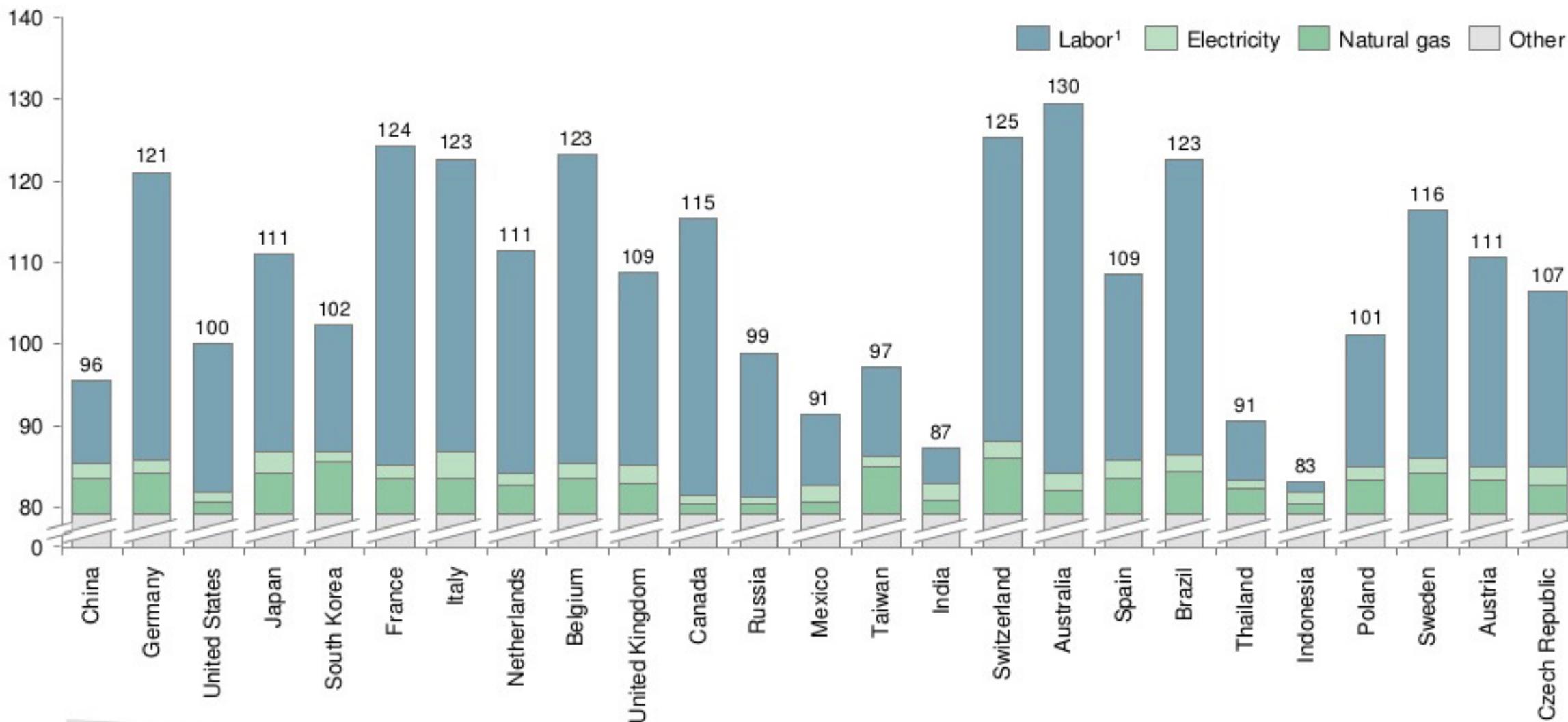
¹ Question asked: "Why did your company move production to another country from the U.S.? Please select how much you agree or disagree with each of the following reasons for change."

² Question asked: "Why did your company move production to the U.S. from another country? Please select how much you agree or disagree with each of the following reasons for change."

Prioritisation / Do: Explain what the reader can see: Headlines

Dramatic shifts have led to a wide spread in cost competitiveness across the top 25 export economies

Manufacturing-cost index, 2014 (U.S. = 100)



Size of exports (highest to lowest)

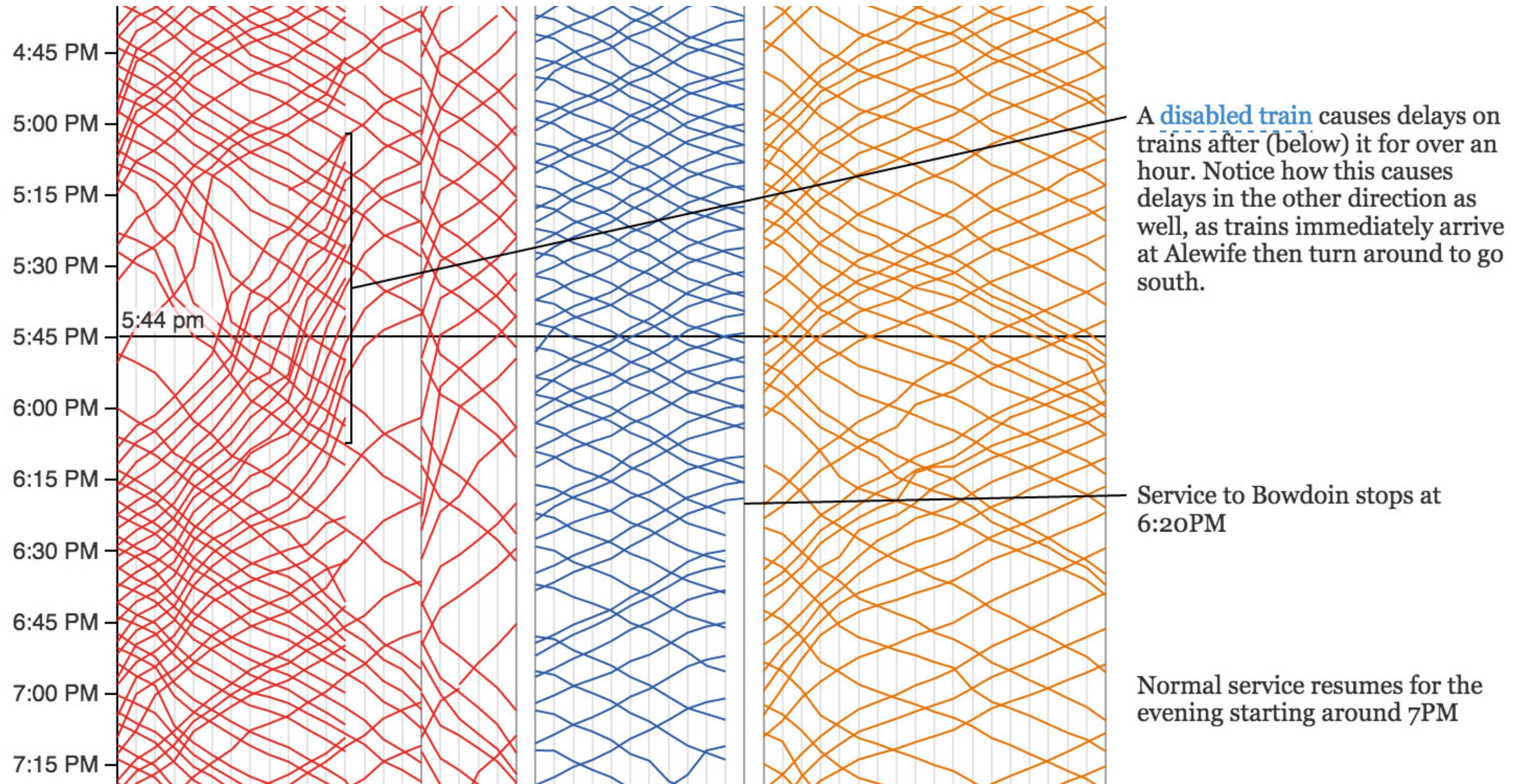
Sources: U.S. Economic Census; BLS; BEA; ILO; Euromonitor; EIU; BCG.

Note: Index covers four direct costs only. No difference assumed in "other" costs (for example, raw-material inputs, machine and tool depreciation); cost structure calculated as a weighted average across all industries

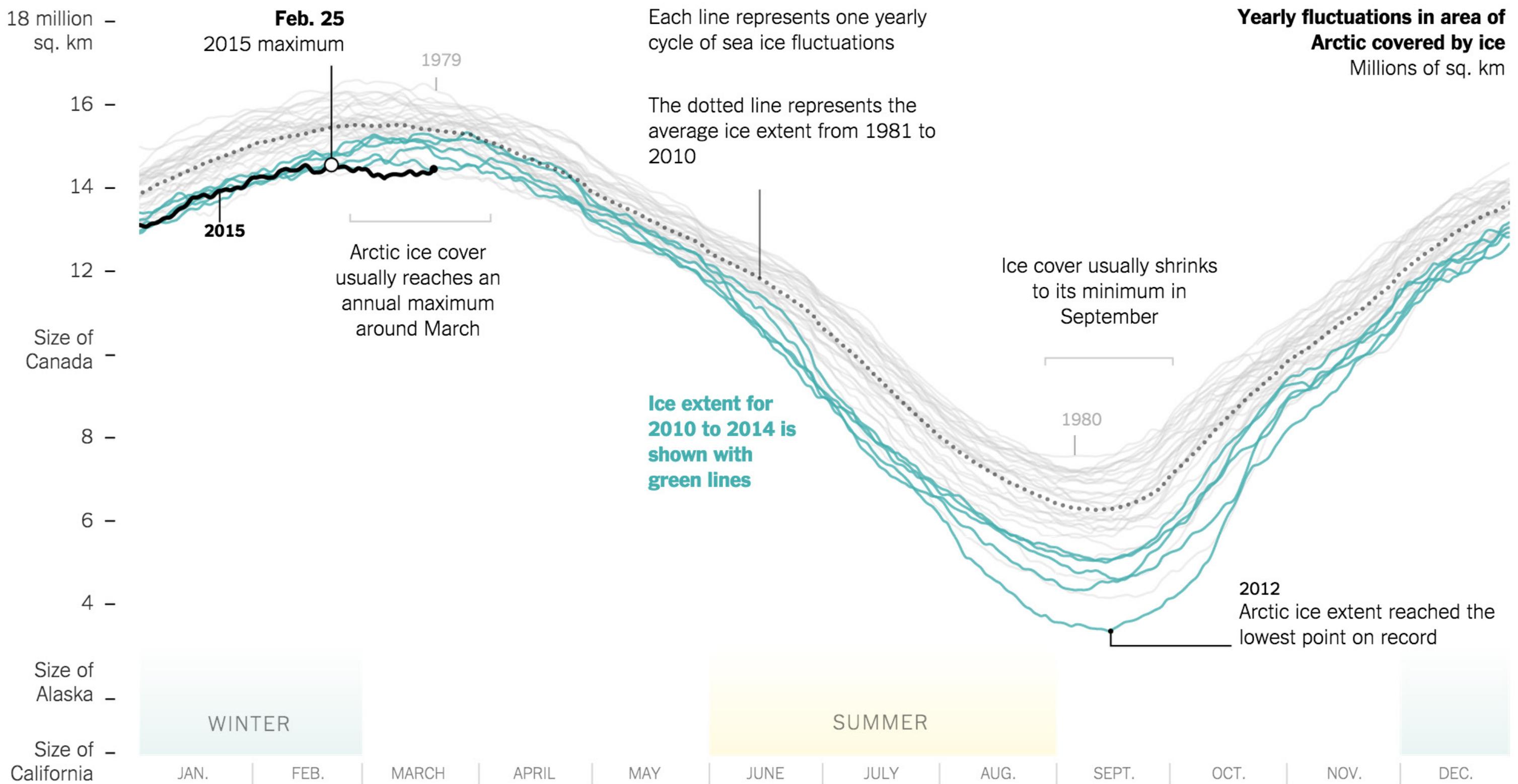
¹Productivity-adjusted.

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Prioritisation / Do: Explain what the reader can see: Annotations



Prioritisation / Do: Explain what the reader can see: Annotations



Prioritisation / Do: One statement per graphic.

 HOME  SEARCH

The New York Times

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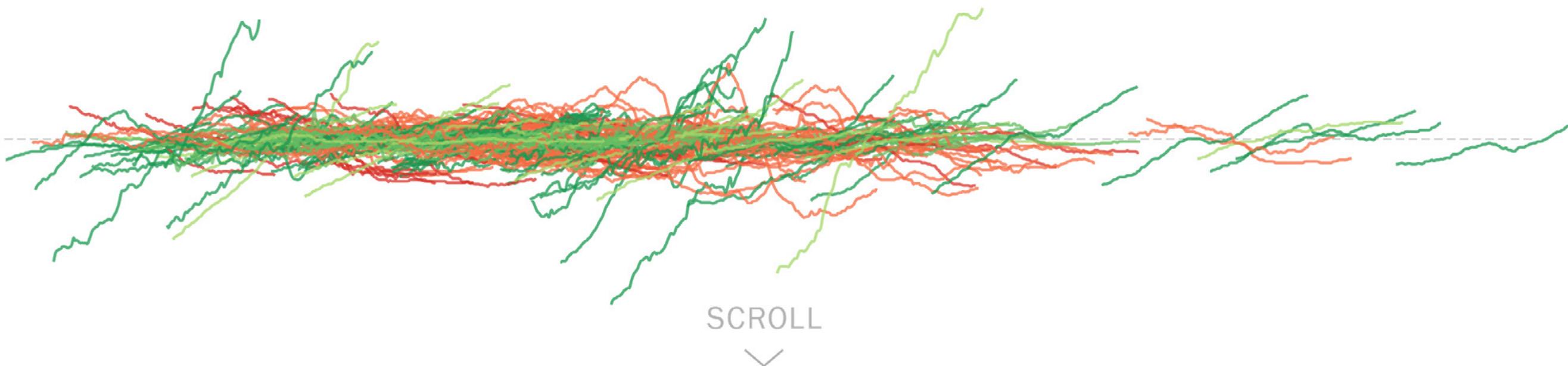


 TheUpshot

How the Recession Reshaped the Economy, in 255 Charts

By JEREMY ASHKENAS and ALICIA PARLAPIANO Updated: JUNE 6, 2014

Five years since the end of the Great Recession, the economy has finally regained the nine million jobs it lost. But not all industries recovered equally. Each line  below shows how the number of jobs has changed for a particular industry over the past 10 years. Scroll down to see how the recession reshaped the nation's job market, industry by industry.



Prioritisation / Do: One statement per graphic.



THE UPSHOT

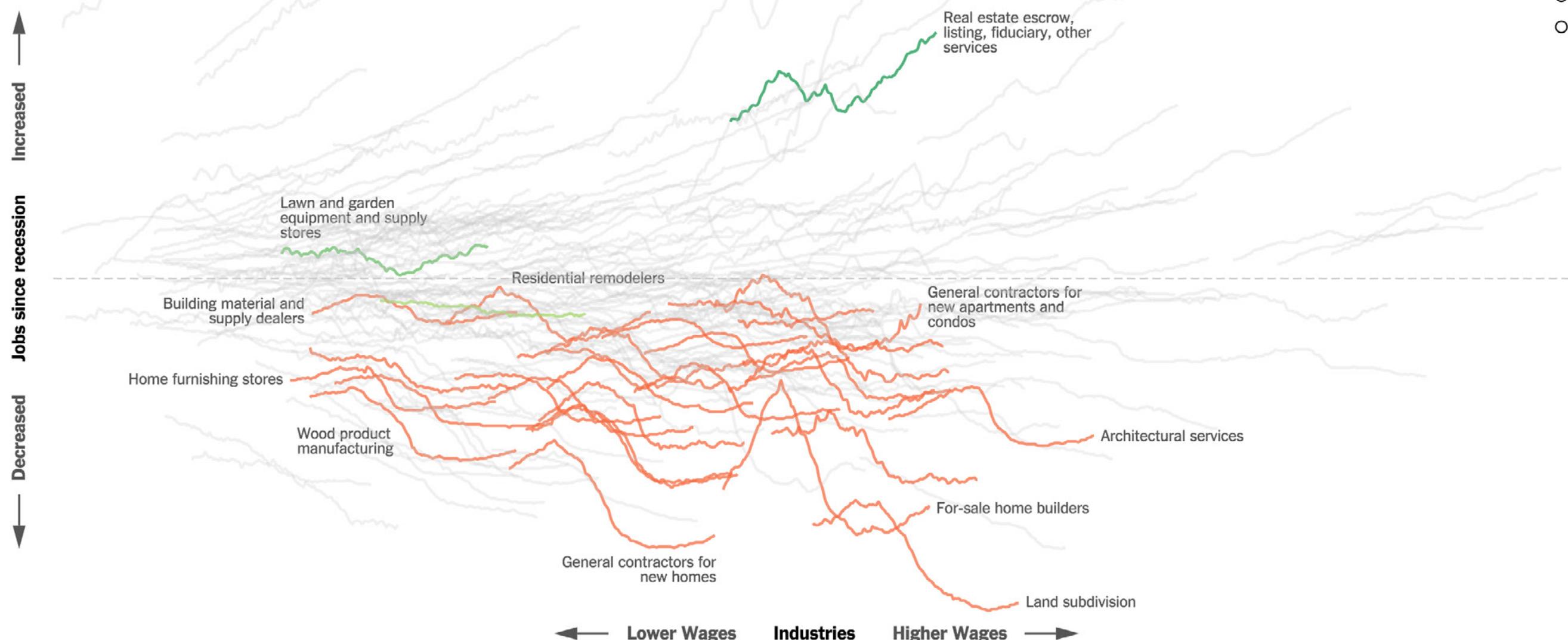
| How the Recession Reshaped the Economy, in 255 Charts



MORE

A Long Housing Bust

Home prices have rebounded from their crisis lows, but home building remains at historically low levels. Overall, industries connected with construction and real estate have lost 19 percent of their jobs since the recession began — hundreds of thousands more than health care has added. [NEXT »](#)



Prioritisation / Do: One statement per graphic.



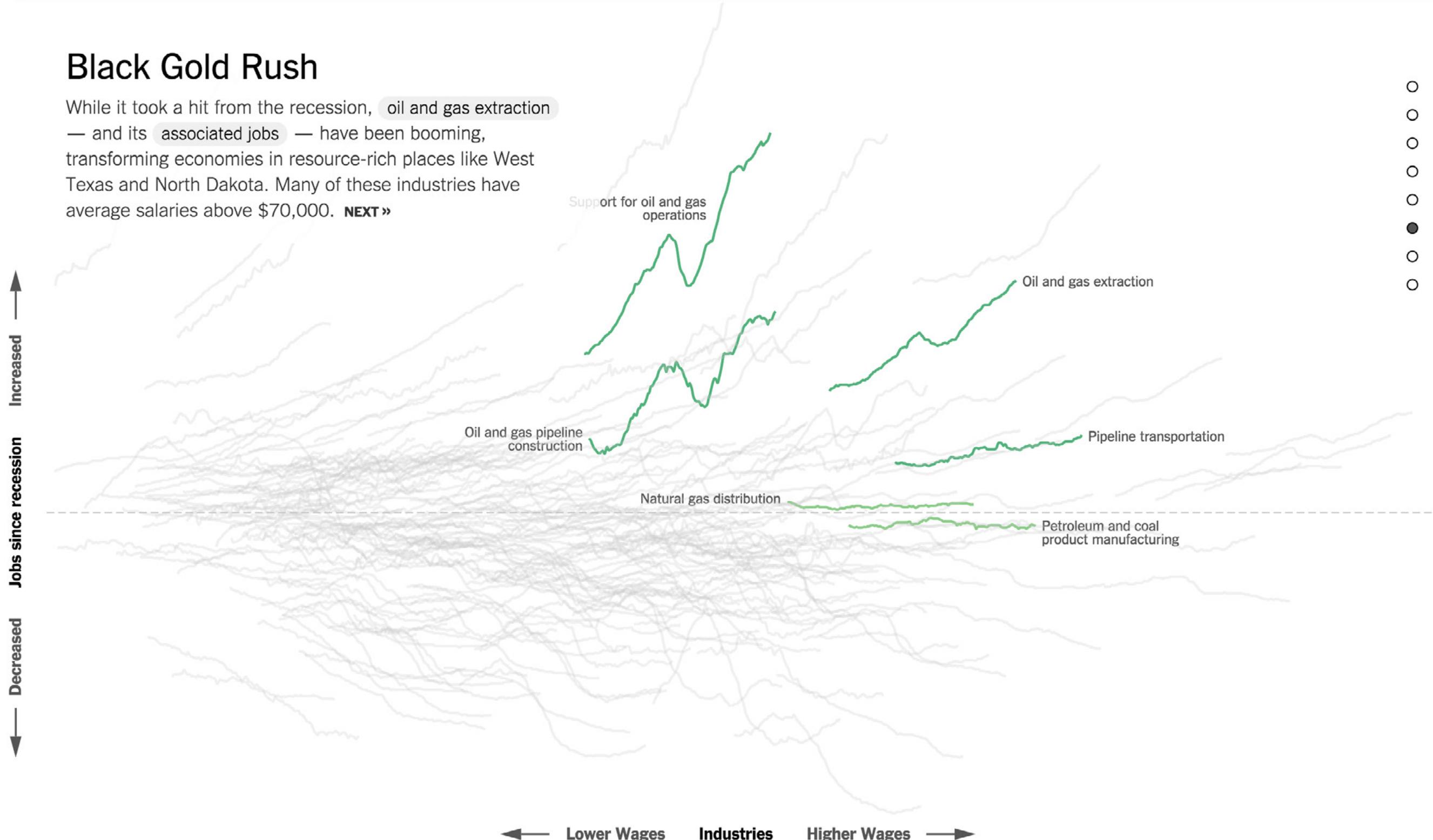
Q

THE UPSHOT | How the Recession Reshaped the Economy, in 255 Charts

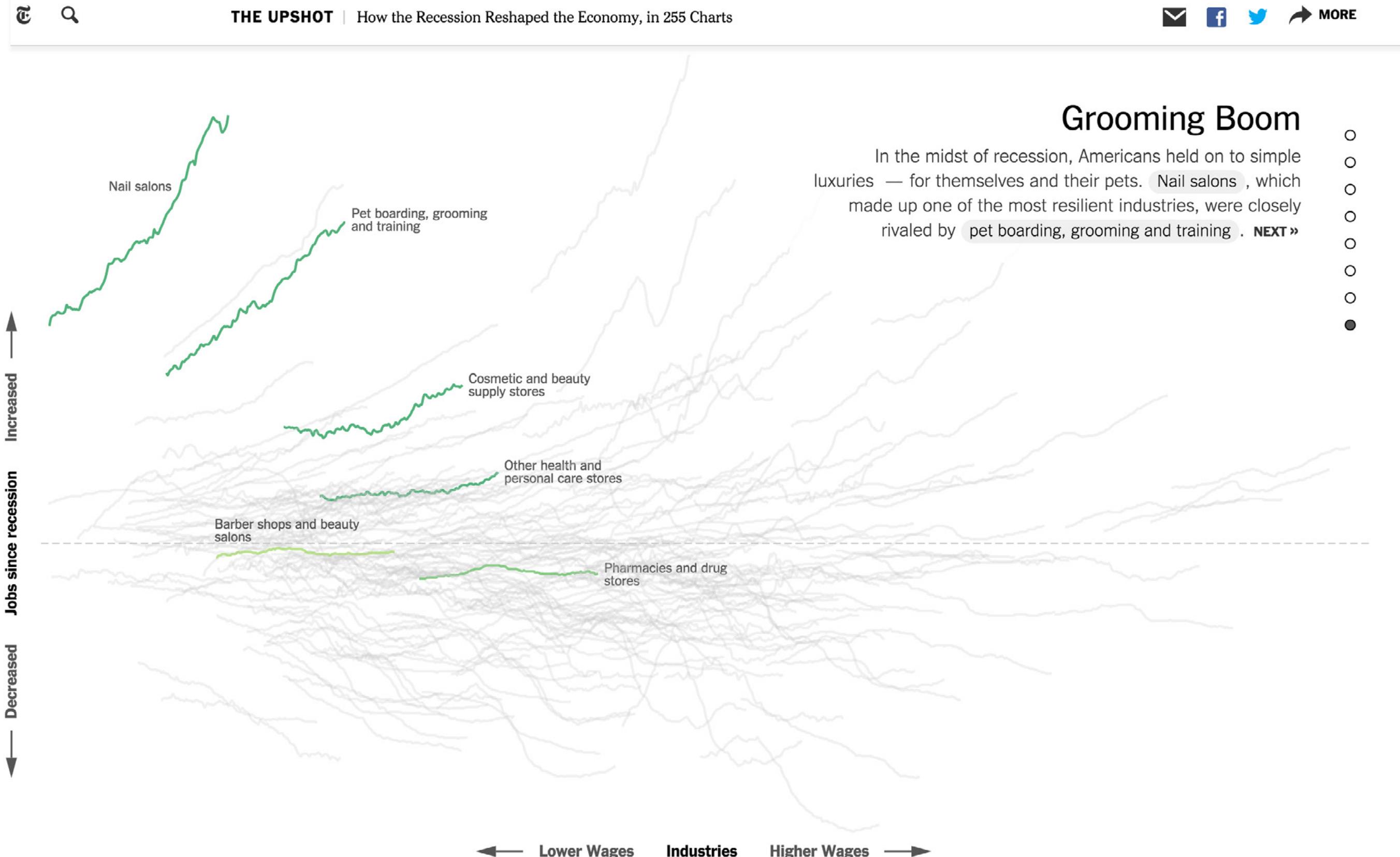
✉️ 📱 MORE

Black Gold Rush

While it took a hit from the recession, oil and gas extraction — and its associated jobs — have been booming, transforming economies in resource-rich places like West Texas and North Dakota. Many of these industries have average salaries above \$70,000. [NEXT >](#)



Prioritisation / Do: One statement per graphic.



Prioritisation / Do: Highlighting. Grey is your friend!

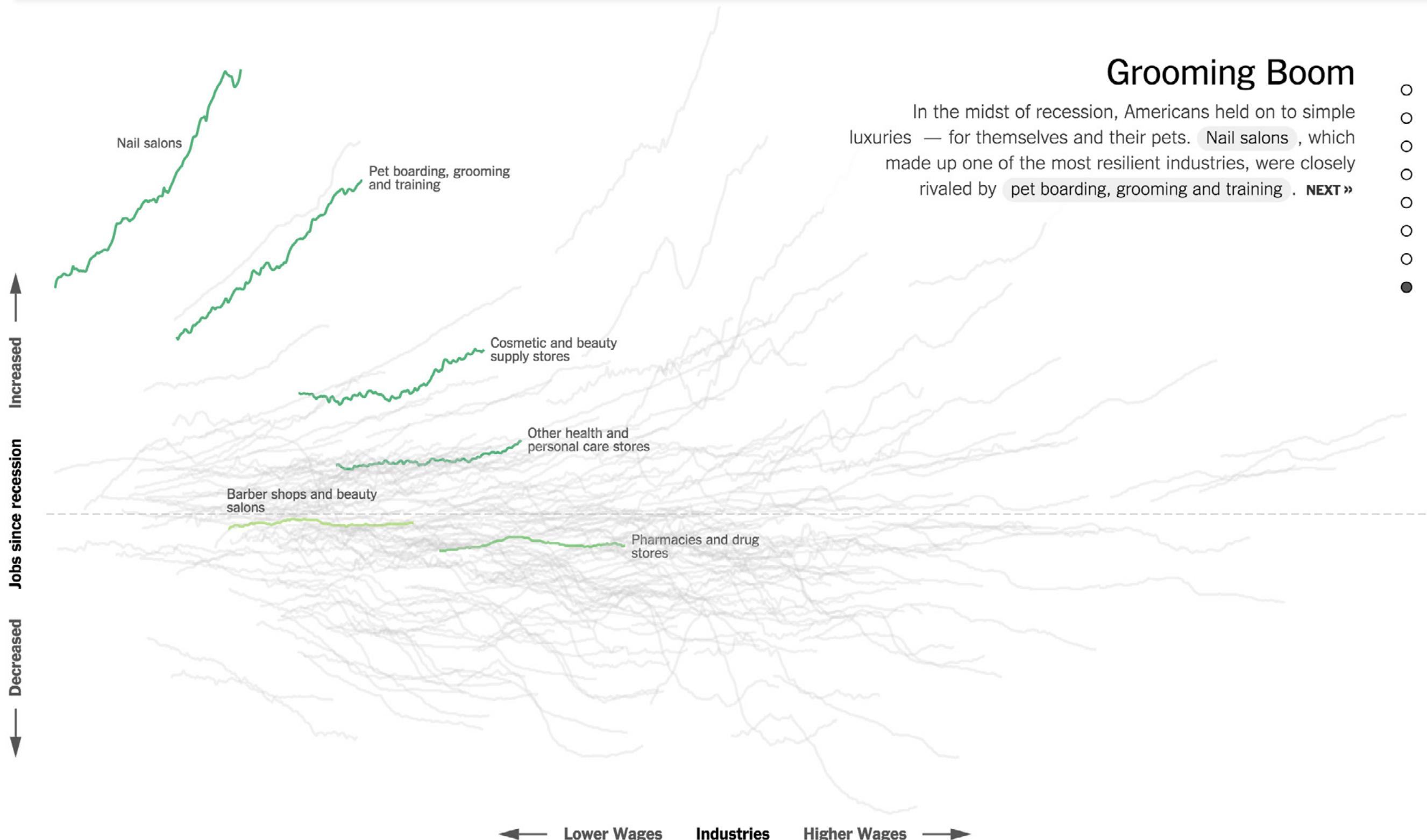


Q

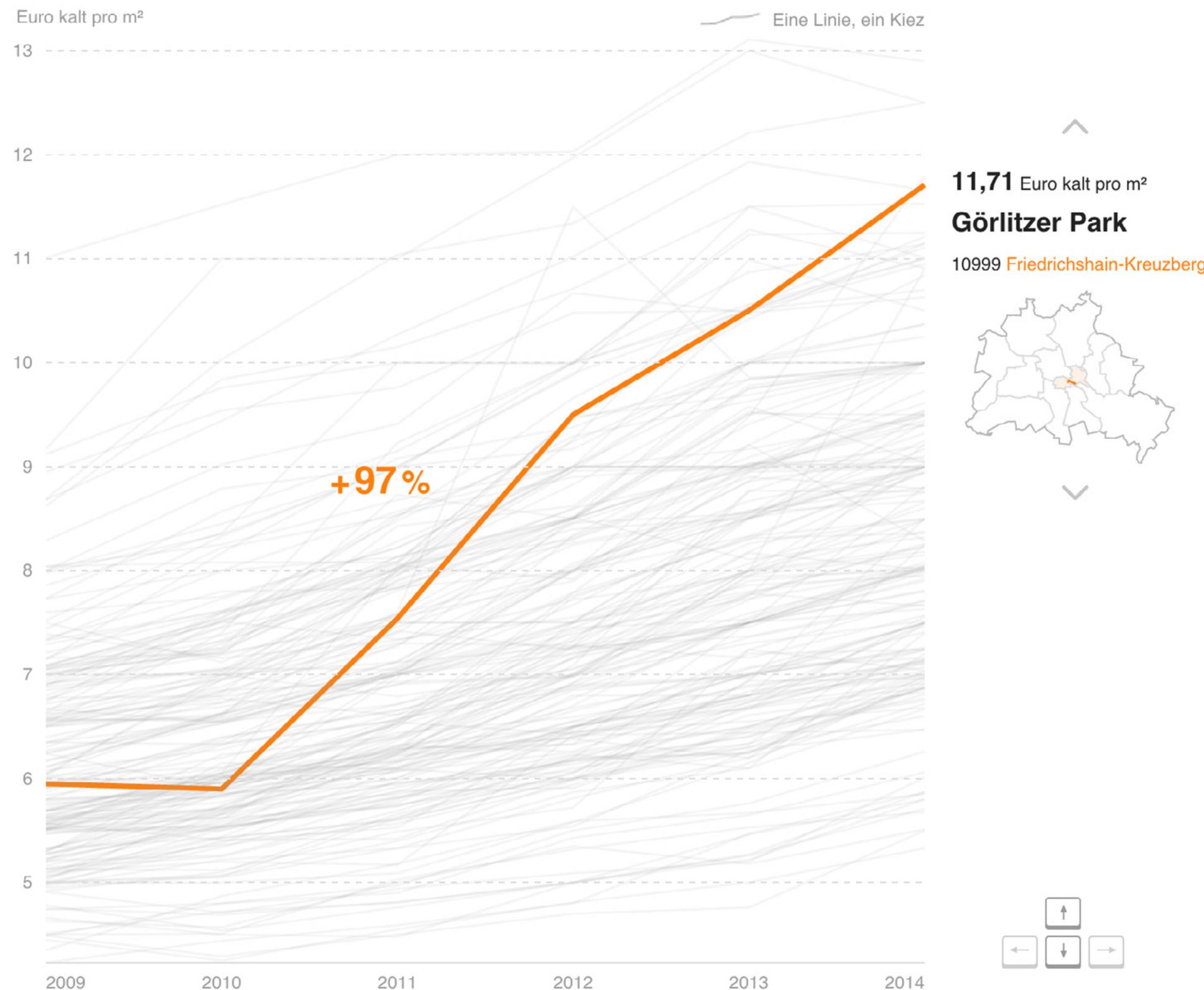
THE UPSHOT | How the Recession Reshaped the Economy, in 255 Charts



MORE

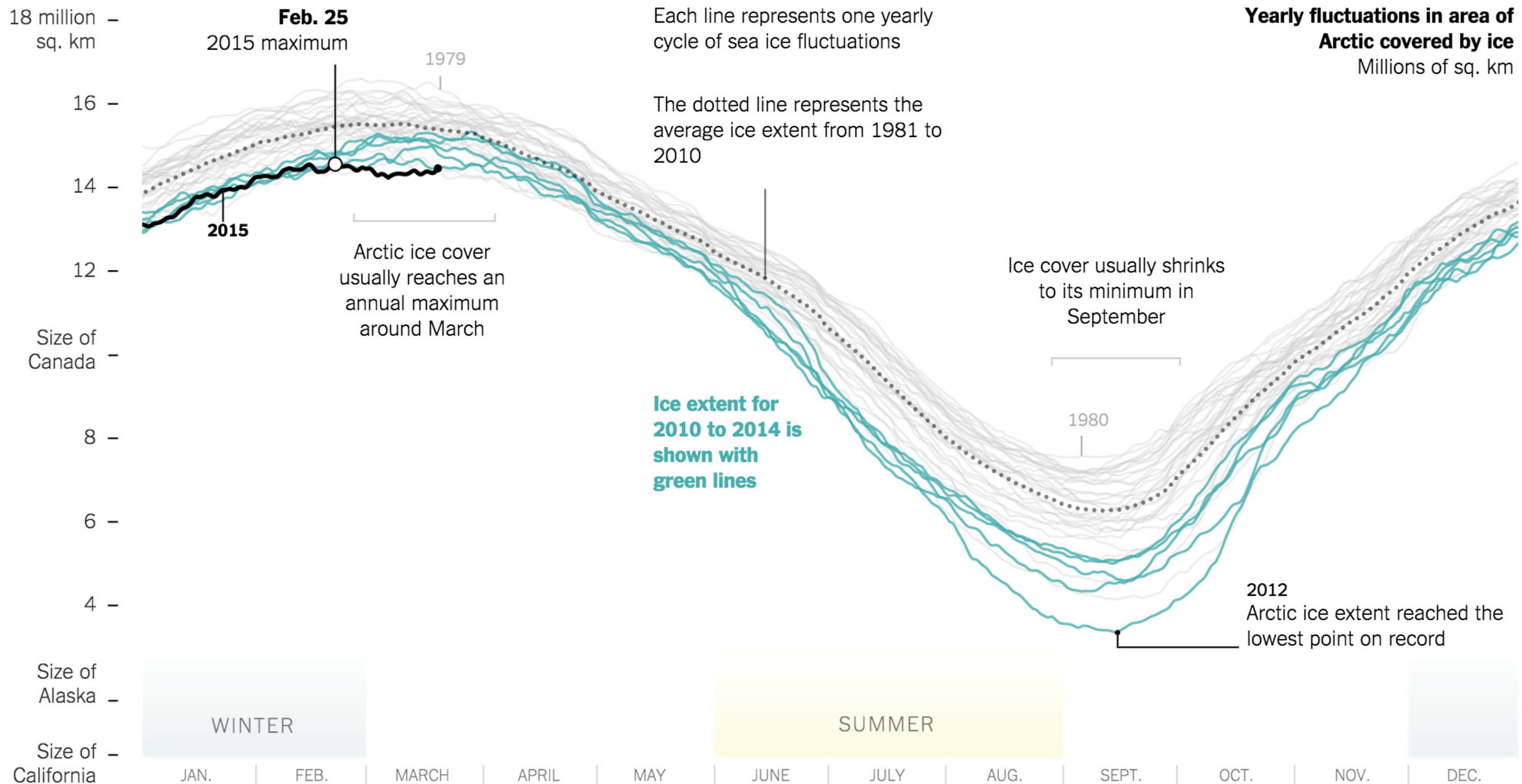


Prioritisation / Do: Highlighting. Grey is your friend!

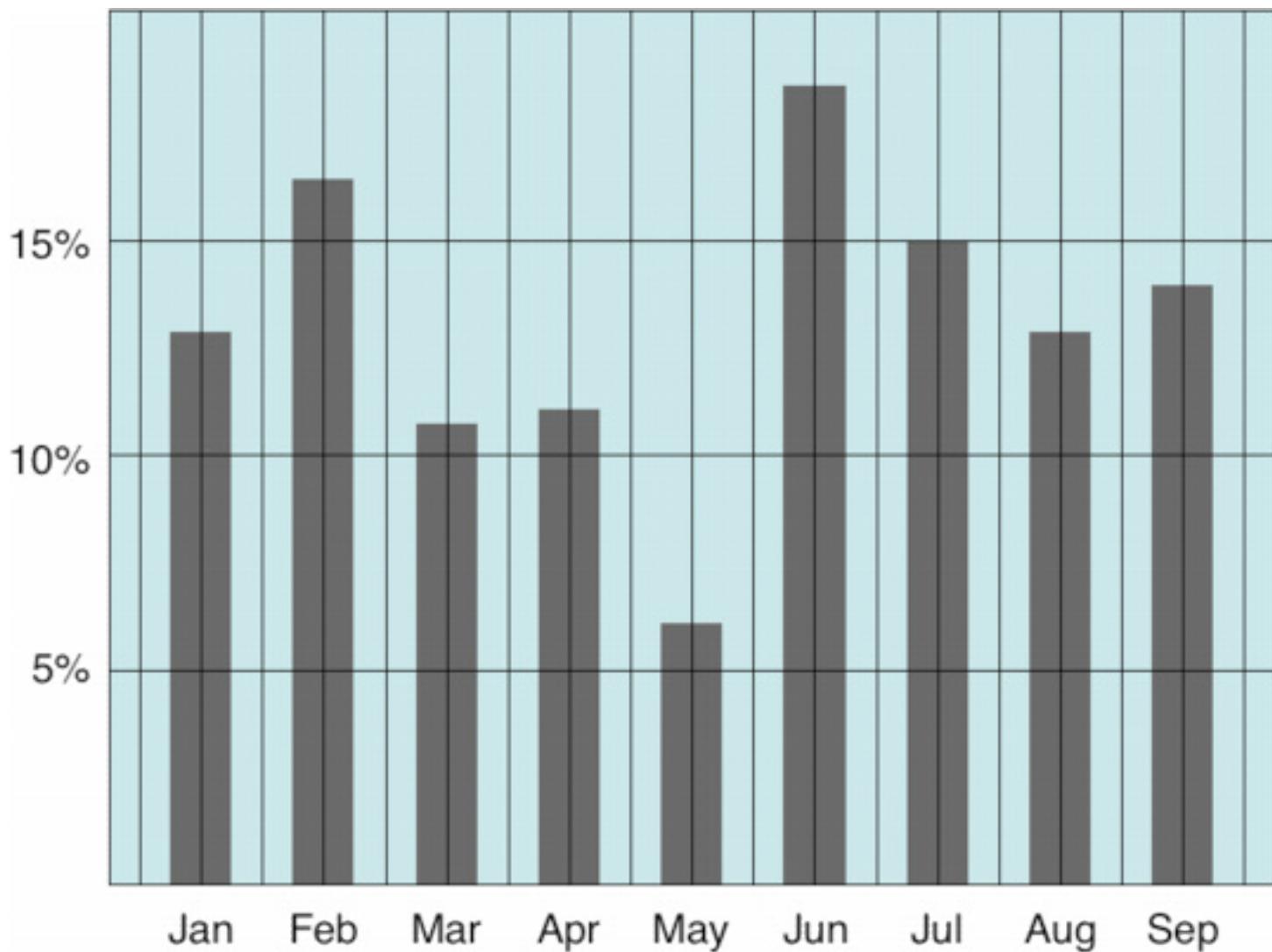


Quelle: Berliner Wohnmarktreporte 2010, 2011, 2012, 2013, 2014 (CBRE, GSW), 2015 (CBRE, Berlin Hyp)

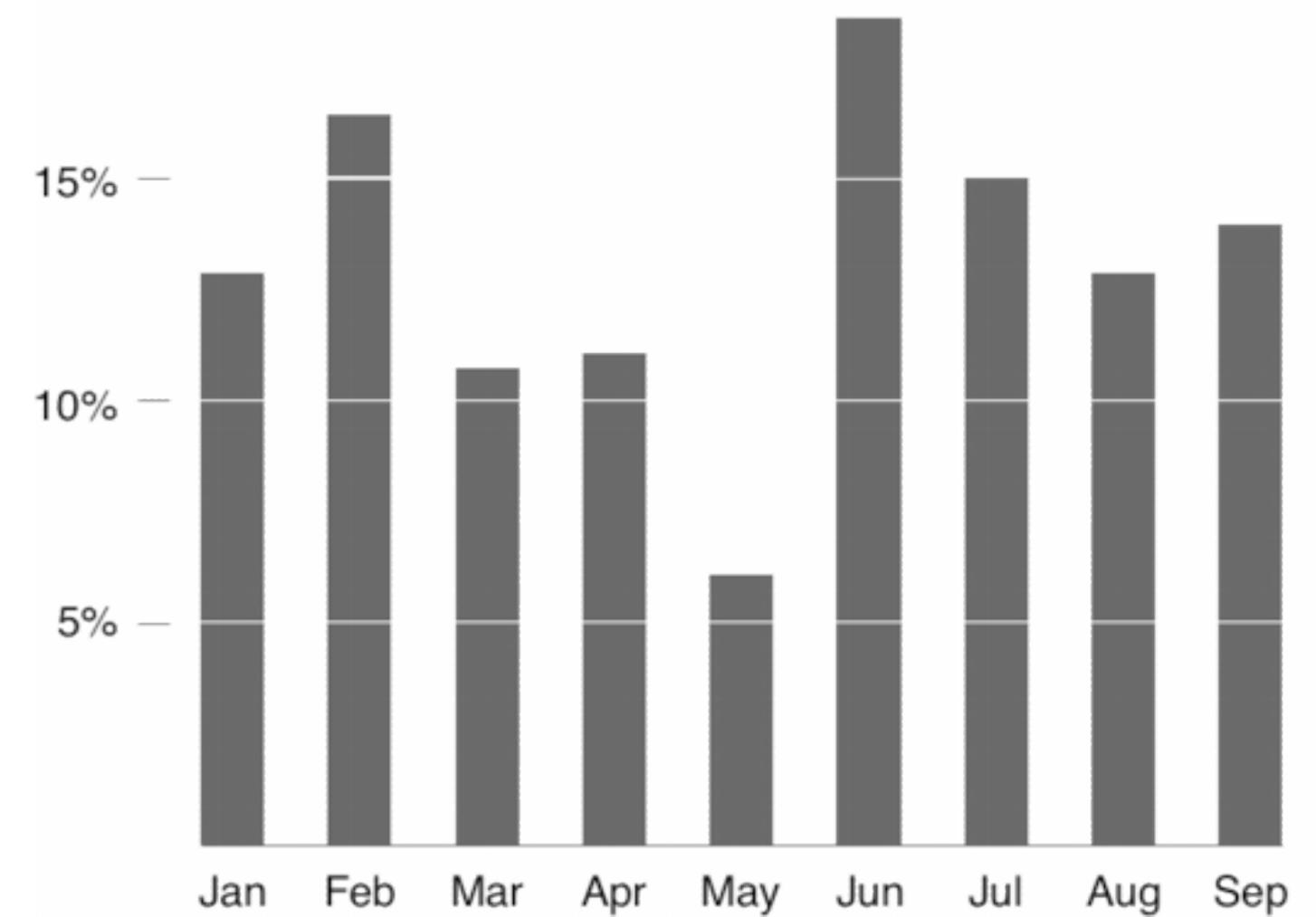
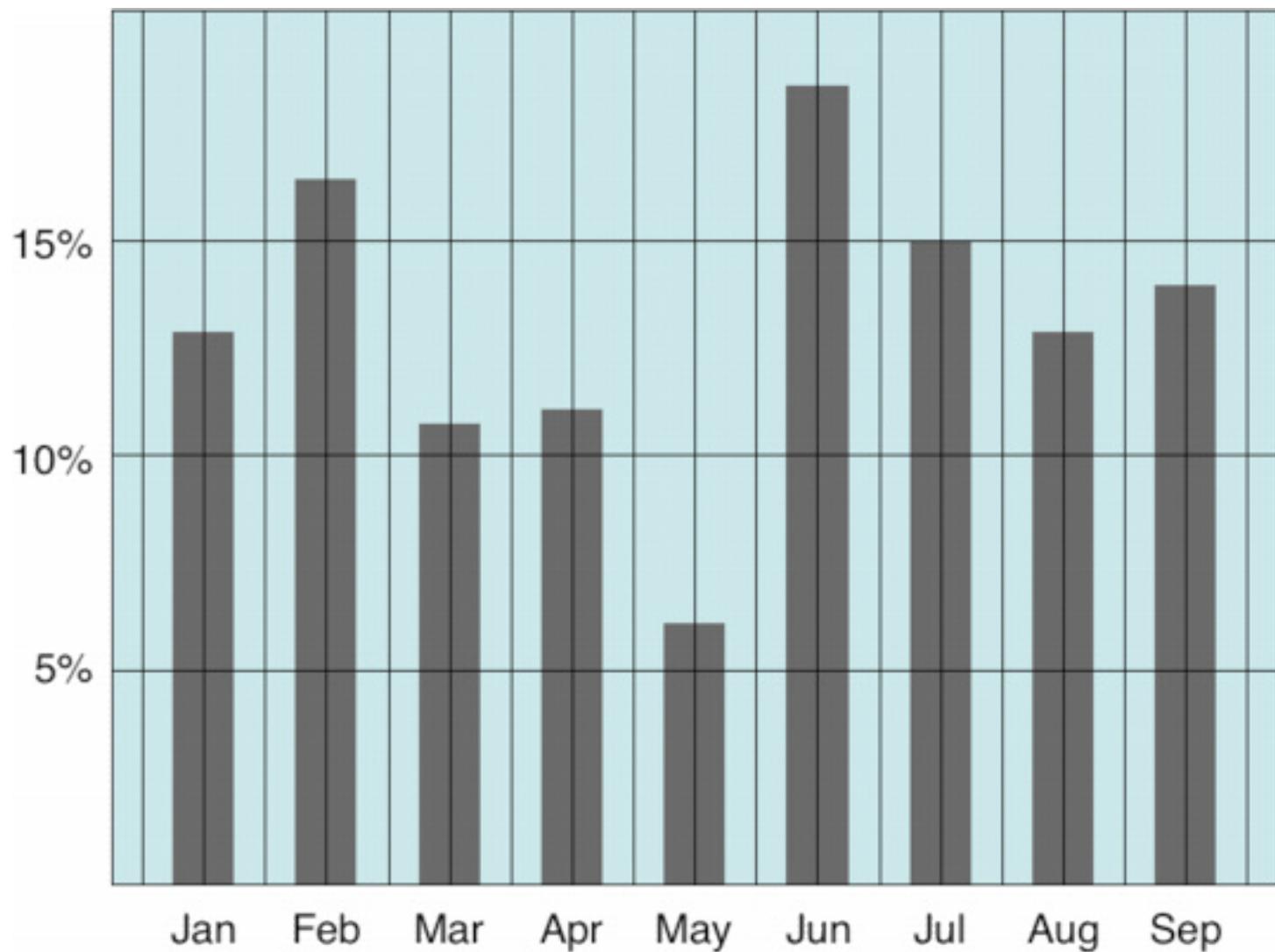
Prioritisation / Do: Highlighting. Grey is your friend!



Prioritisation / Do: Reduce



Prioritisation / Do: Reduce (Edward Tufte)



Prioritisation / Do: Only keep relevant information.

Prioritisation / Do: Only keep relevant information.

What's relevant?

Prioritisation / Do: Only keep relevant information.

What's relevant?

- Everything that supports your statement.

Prioritisation / Do: Only keep relevant information.

What's relevant?

- Everything that supports your statement.
- Everything that provides context.

2. Do's and Don'ts

- > Context & Comparison
- > Prioritisation

2. Do's and Don'ts

If a reader doesn't understand your chart, it's your fault.

Lisa Charlotte Rost

3. Tools for Quick Graphics

Analysis

Presentation

Google Sheets

Datawrapper

RAW

R

Tableau

d3.js

Python

QGIS

Mapbox

HighCharts

Illustrator

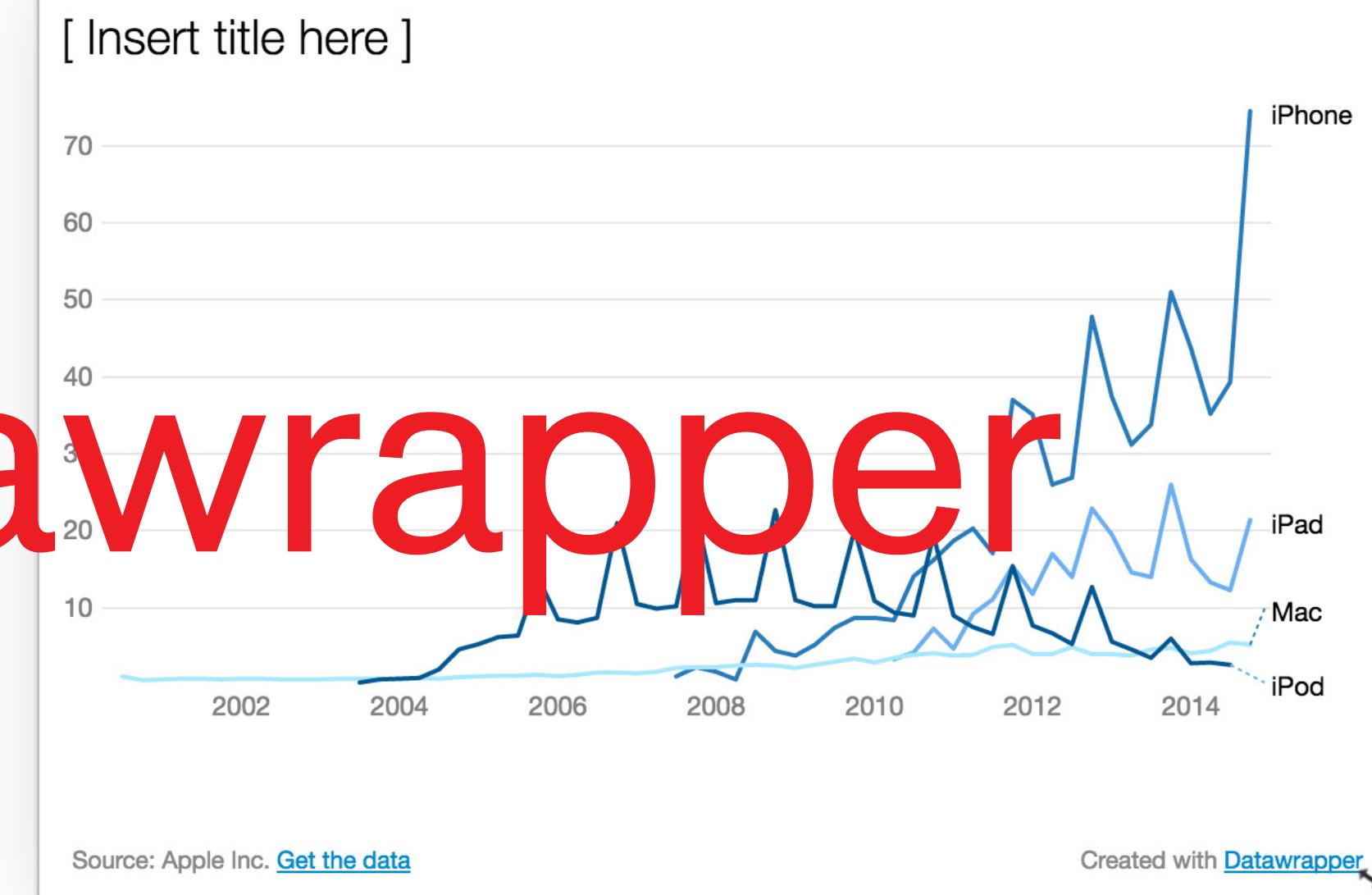
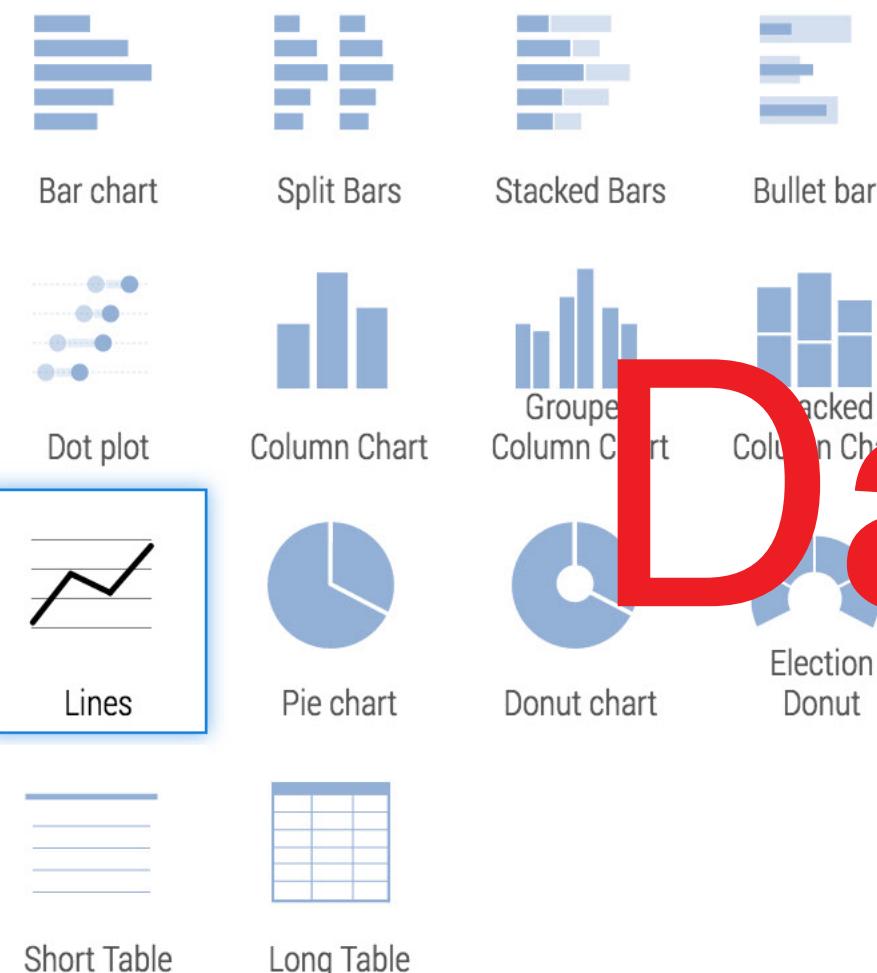
Plotly

1 Upload Data ✓

2 Check & Describe ✓

3 Visualize

4 Publish & Embed

Chart type Refine Annotate Design

Archived chart types:

Resize to: 600 × 400 (e.g. 500×600 480×320 320×480 100%×450)

Hint: In case the visualization doesn't look like you expected,
you should try to transpose the data

[Back](#) Proceed

Congressional dysfunction

EDITED BY EZRA KLEIN

MAY 15, 2015, 6:18P

EMBED: </>

2. Is Congress popular?

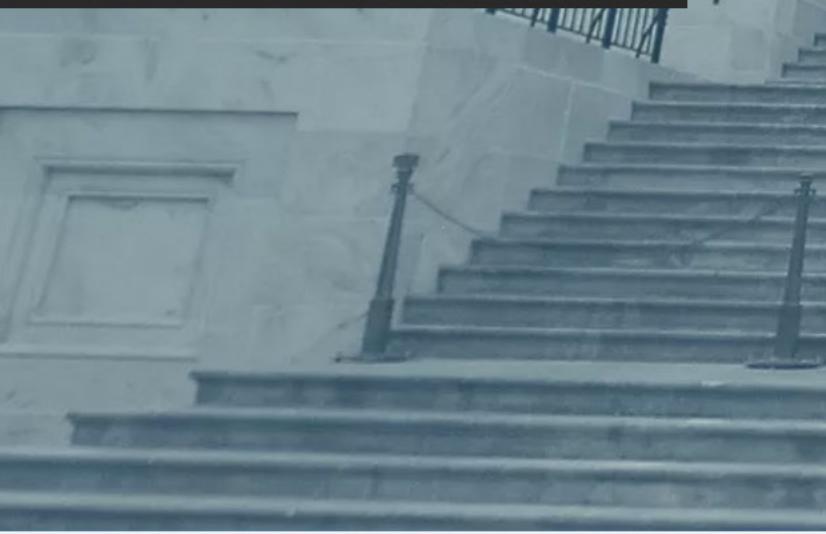
3. Is Congress less productive than it used to be?

4. What is political polarization?

5. Have both parties polarized equally?

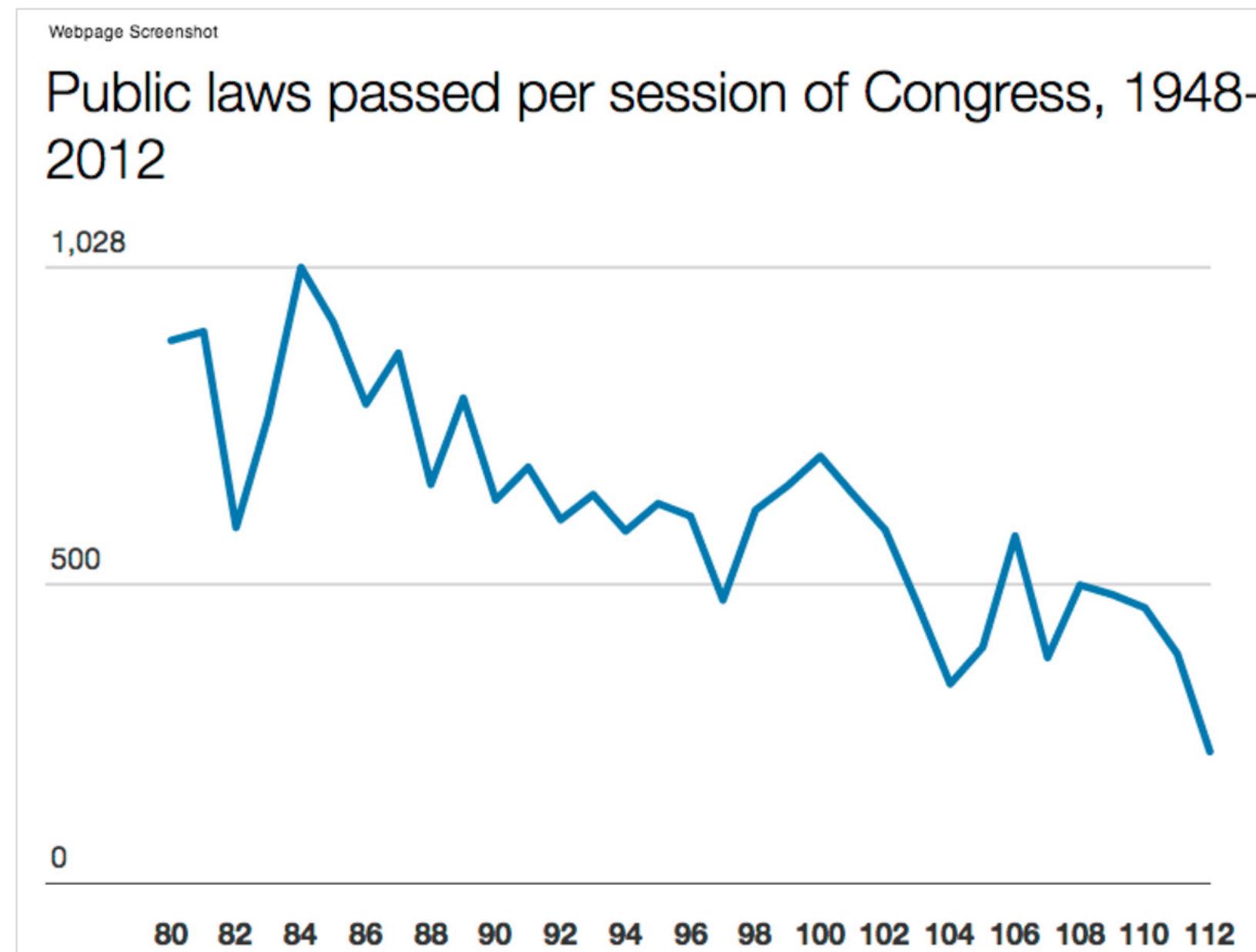
6. What is the filibuster?

▼



Is Congress less productive than it used to be?

Congressional productivity is a tricky thing to measure. The simple approach is to count the number of public laws passed by different congresses. Give that a shot and you'll see that yes, recent congresses have been some of the least productive since 1948, when we began keeping track of these numbers:



Created with [Datawrapper](#)

Source: Congress

<http://cf.datawrapper.de/962eH/2/> Sat Apr 05 2014 15:59:39 GMT-0400 (EDT)

1. Open bit.ly/storyhunt
2. Open datawrapper.org
3. “Create a chart”



This repository

Search

Pull requests Issues Marketplace Gist



okfde / storyhunt-workshops

Watch

12

Star

4

Fork

17

Code

Issues 0

Pull requests 7

Projects 0

Wiki

Insights ▾

Branch: master ▾

storyhunt-workshops / Workshop Week 4 / EU_subsidies_prep.csv

Find file Copy path

michaeljokf fixed mistake

e1a038a 12 days ago

1 contributor

30 lines (29 sloc) | 2.68 KB

Raw

Blame

History



Search this file...

1	Country Code	Country	EU Amount	Member State Amount	Total Amount	2014 GDP in €	
2	AT	Austria	4.922.866.429 €	5.732.094.837 €	10.654.961.266 €	330.417.000.000 €	0,21%
3	BE	Belgium	2.710.285.897 €	3.330.521.519 €	6.040.807.416 €	400.805.000.000 €	0,10%
4	BG	Bulgaria	9.877.574.865 €	1.856.448.143 €	11.734.023.008 €	42.762.000.000 €	3,30%
5	CY	Cyprus	874.161.294 €	245.836.875 €	1.119.998.169 €	17.567.000.000 €	0,71%
6	CZ	Czech Republic	23.980.000.586 €	8.311.365.441 €	32.291.366.027 €	156.660.000.000 €	2,19%
7	DE	Germany	27.934.975.460 €	16.822.546.496 €	44.757.521.956 €	2.923.930.000.000 €	0,14%
8	DK	Denmark	1.540.390.792 €	712.665.638 €	2.253.056.430 €	260.581.000.000 €	0,08%
9	EE	Estonia	4.458.872.261 €	1.544.230.379 €	6.003.102.640 €	19.758.000.000 €	3,22%
10	ES	Spain	37.400.958.940 €	15.877.552.486 €	53.278.511.426 €	1.037.025.000.000 €	0,52%
11	FI	Finland	3.759.258.101 €	4.664.333.330 €	8.423.591.431 €	205.364.000.000 €	0,26%
12	FR	France	26.736.000.877 €	19.047.587.648 €	45.783.588.525 €	2.139.964.000.000 €	0,18%
13	GR	Greece	20.352.316.870 €	4.613.045.571 €	24.965.362.441 €	177.940.000.000 €	1,63%
14	HR	Croatia	10.740.101.414 €	1.005.000.000 €	10.747.101.414 €	10.077.000.000 €	0,57%

1 Upload Data ✓

2 Check & Describe

3 Visualize

4 Publish & Embed

Make sure the data looks right

Please make sure that Datawrapper interprets your data correctly. In the table number columns should be shown in blue, dates in green and text in black.

First row as label

Output locale

Defines decimal and thousand separators as well as translation of month and weekday names.

english (en-US)

Back Proceed

Transpose data table

Customize column format

	A <input type="checkbox"/>	B <input type="checkbox"/>	C <input type="checkbox"/>	D <input type="checkbox"/>	E <input type="checkbox"/>	F <input type="checkbox"/>	G <input type="checkbox"/>
1	Country Code	Country	EU Amount	Member State Amount	Total Amount	2014 GDP in €	perc
2	AT	Austria	4,922,866,429	5,732,094,837	10,654,961,266	330,417,000,000	0.21
3	BE	Belgium	2,710,285,897	3,330,521,519	6,040,807,416	400,805,000,000	0.1
4	BG	Bulgaria	9,877,574,865	1,856,448,143	11,734,023,008	42,762,000,000	3.30
5	CY	Cyprus	874,161,294	245,836,875	1,119,998,169	17,567,000,000	0.71
6	CZ	Czech Republic	23,980,000,586	8,311,365,441	32,291,366,027	156,660,000,000	2.19
7	DE	Germany	27,934,975,460	16,822,546,496	44,757,521,956	2,923,930,000,000	0.14
8	DK	Denmark	1,540,390,792	712,665,638	2,253,056,430	260,581,000,000	0.08
9	EE	Estonia	4,458,872,261	1,544,230,379	6,003,102,640	19,758,000,000	3.22
10	ES	Spain	37,400,958,940	15,877,552,486	53,278,511,426	1,037,025,000,000	0.52
11	FI	Finland	3,759,258,101	4,664,333,330	8,423,591,431	205,364,000,000	0.26
12	FR	France	26,736,000,877	19,047,587,648	45,783,588,525	2,139,964,000,000	0.18
13	GR	Greece	20,352,316,870	4,613,045,571	24,965,362,441	177,940,000,000	1.63
14	HR	Croatia	10,742,121,414	1,935,025,695	12,677,147,109	42,977,000,000	3.57
15	HU	Hungary	25,013,873,769	4,632,801,667	29,646,675,436	104,953,000,000	3.40
16	IE	Ireland	3,357,980,141	2,774,376,184	6,132,356,325	193,159,000,000	0.25
17	IT	Italy	42,667,897,430	30,956,533,270	73,624,430,700	1,620,381,000,000	0.38

Transpose dataset

Add column...

Revert changes...



1 Upload Data ✓

2 Check & Describe ✓

3 Visualize

4 Publish & Embed

[Chart type](#)
[Refine](#)
[Annotate](#)
[Design](#)
Customize scatterplot axes
x axis 2014 GDP in €

 customize log. [?](#)
 CUSTOM RANGE CUSTOM TICKS

format: 123k

position bottom

y axis Total Amount

 customize log. [?](#)
 CUSTOM RANGE CUSTOM TICKS

format: 123k

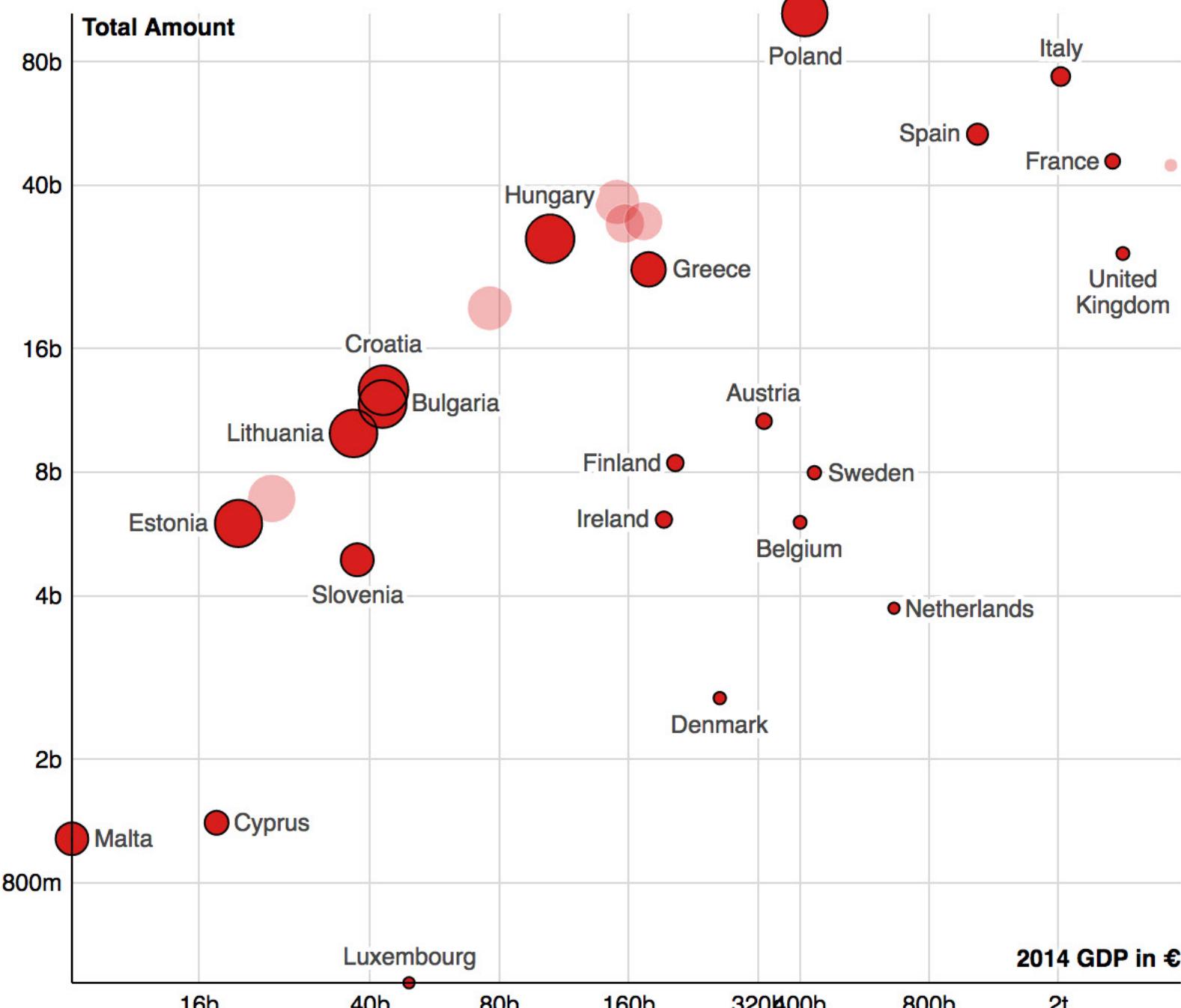
position left

Customize symbols
 fixed size variable

size column perc

 max size

[Insert title here]



Mobile (S)

Mobile (L)

Desktop

Resize to: 600 × 600



1 Upload Data ✓

2 Check & Describe ✓

3 Visualize

4 Publish & Embed

Chart type Refine Annotate Design

Customize scatterplot axes

x axis 2014 GDP in €

customize min max 10,20,30 log.

format: 123k

position bottom

y axis Total Amount

customize min max 10,20,30 log.

format: 123k

position left

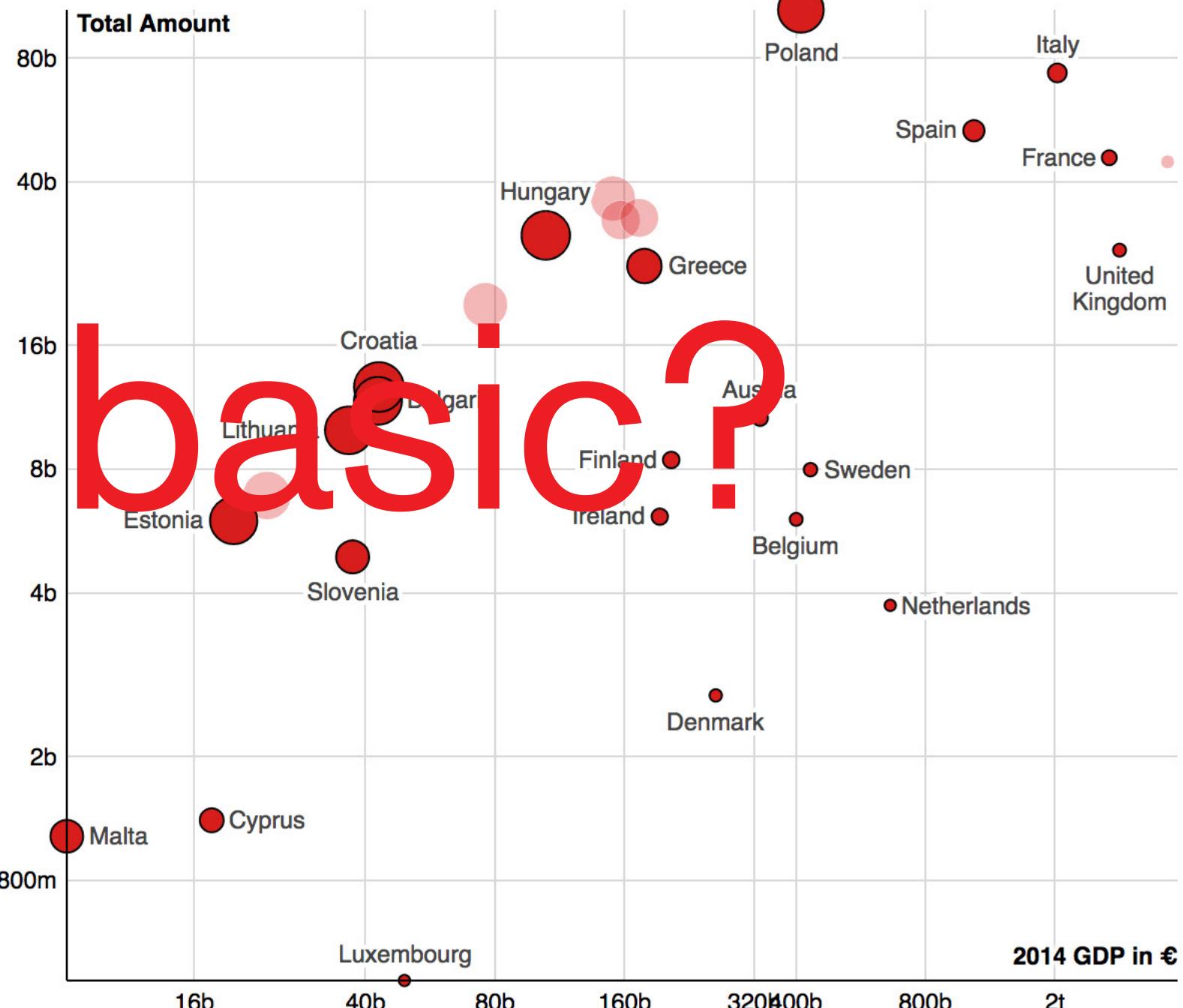
Customize symbols

size fixed size variable

size column perc

max size 22

[Insert title here]



Mobile (S)

Mobile (L)

Desktop



Resize to: 600 x 600

1.  THE SATURDAY PROFILE
Remembering the World's Oldest Person, in the Objects She...

2.  Paris Shootout Leaves Police Officer and Gunman Dead

3.  4 Hours at the White House With Ted Nugent, Sarah Palin and Kid Rock

4.  Arkansas Puts Ledell Lee to Death, in Its First Execution Since 2005

5.  THE CLIMATE ISSUE
How Singapore Is Creating More Land for Itself

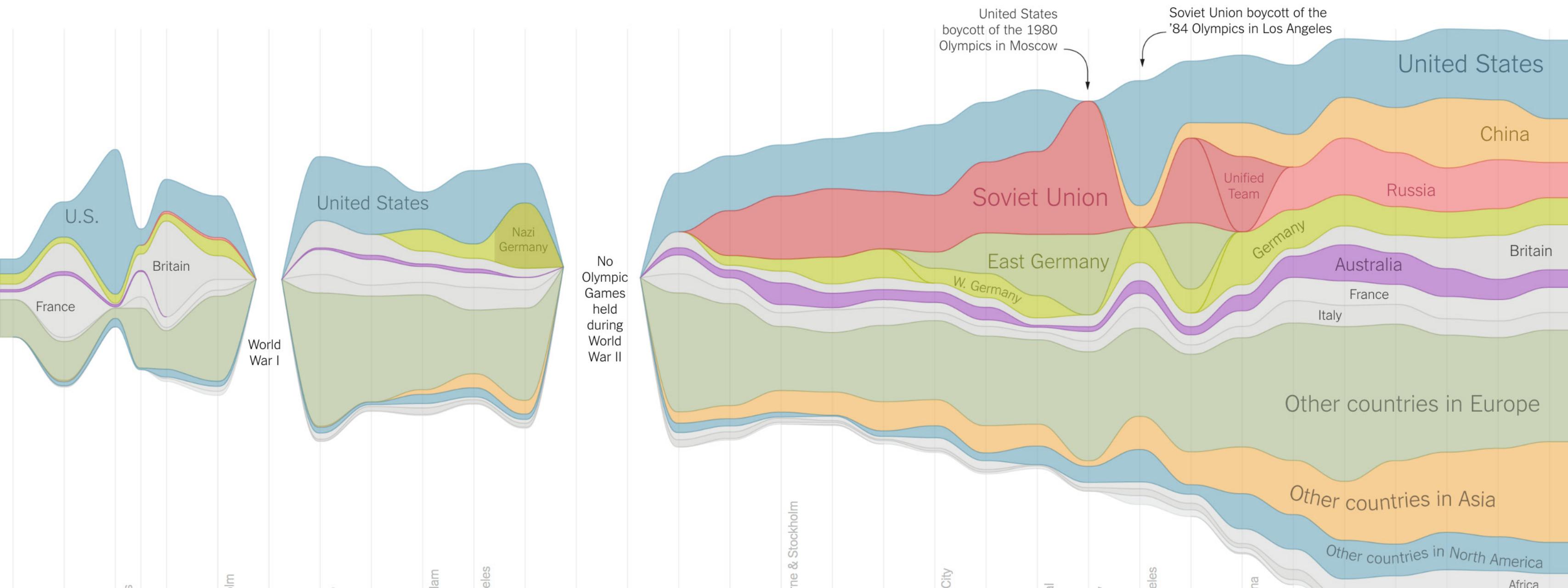
6.  Jeff Sessions Dismisses Hawaii as 'an Island in the Pacific'

7. 

Rio2016

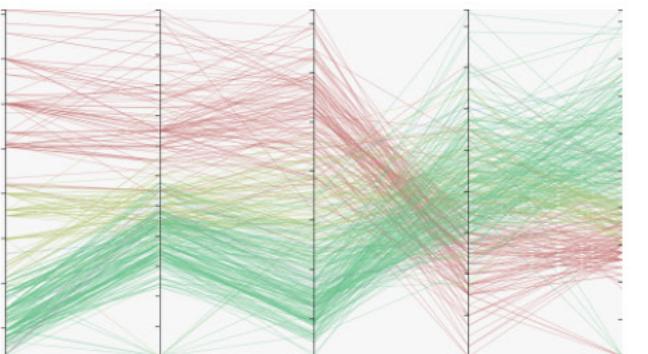
A Visual History of Which Countries Have Dominated the Summer Olympics

By GREGOR AISCH and LARRY BUCHANAN UPDATED August 22, 2016



Parallel Coordinates

Multivariate



Parallel coordinates is a common way of visualizing high-dimensional geometry and analyzing multivariate data. To show a set of points in an n-dimensional space, a backdrop is drawn consisting of n parallel lines, typically vertical and equally spaced. A point in n-dimensional space is represented as a polyline with vertices on the parallel axes; the position of the vertex on the ith axis corresponds to the ith coordinate of the point.

Based on

<http://bl.ocks.org/jasondavies/1341281>



Convex Hull
Dispersion



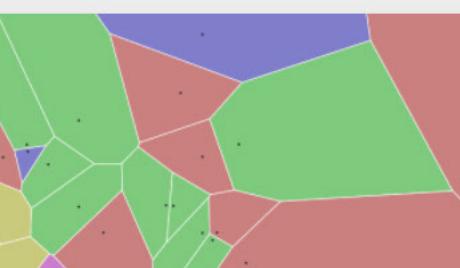
Delaunay Triangulation
Dispersion



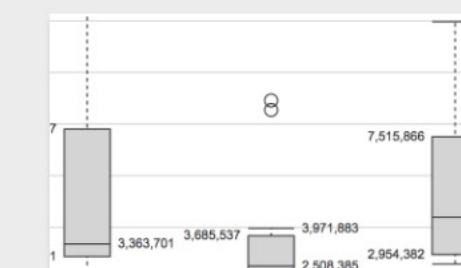
Hexagonal Binning
Dispersion



Scatter Plot
Dispersion



Voronoi Tessellation
Dispersion



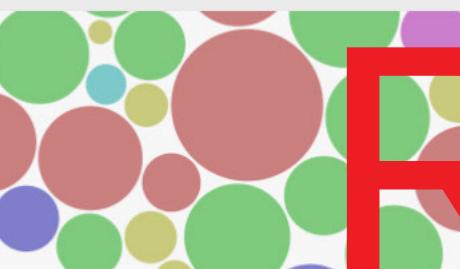
Box plot
Distribution



Circular Dendrogram
Hierarchy



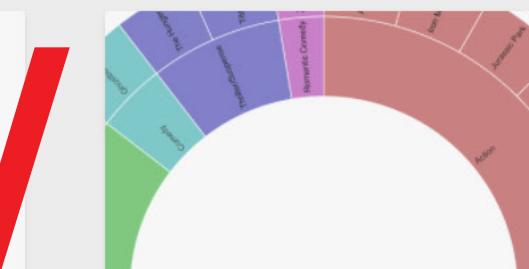
Cluster Dendrogram
Hierarchy



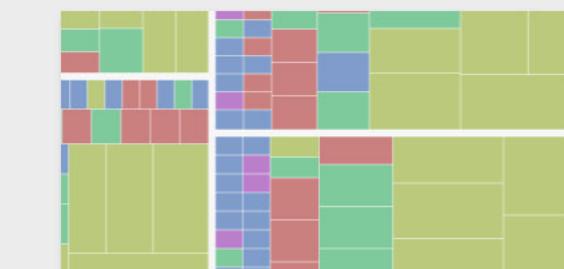
Circle Packing
Hierarchy (weighted)



Clustered Force Layout
Hierarchy (weighted)



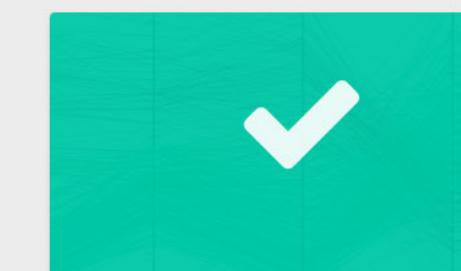
Sunburst
Hierarchy (weighted)



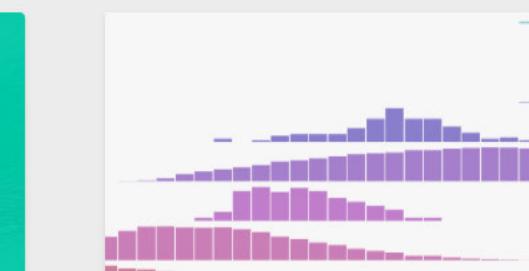
Treemap
Hierarchy (weighted)



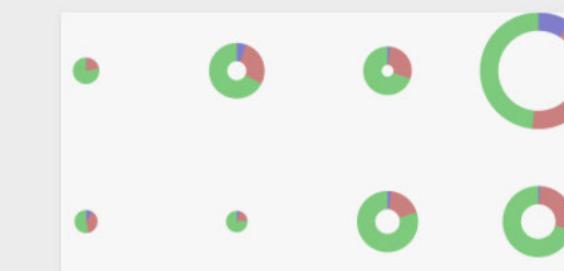
Alluvial Diagram
Multi categorical



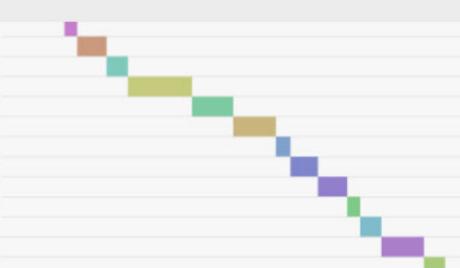
Parallel Coordinates
Multivariate



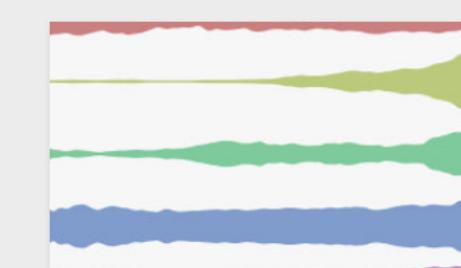
Bar chart
Other



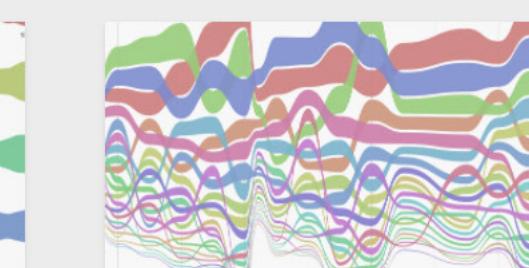
Pie chart
Other



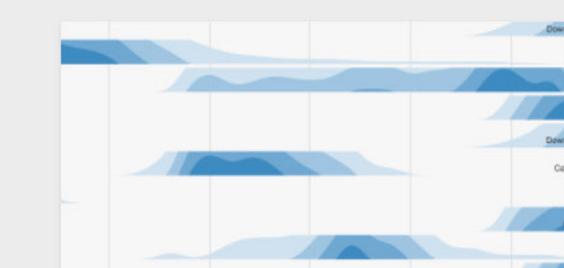
Gantt Chart



Area graph



Bump Chart



Horizon graph

1. Open rawgraphs.io
2. “Use it now”

own newsroom
charting tool

New York Times: Mr Chartmaker

NZZ: Q

The Globe and Mail: Chart Tool

Dallas News: Chartwerk

Quartz: Chartbuilder

own newsroom
charting tool



Chartbuilder

1 Select chart type

XY Chart

Chart grid

Load previous chart

2 Input your data

* If you have a json file to load, drop that here

	date	Juice	Travel	
2000-01-01	106.3	49.843099		
2000-02-01	106.0	49.3192		
2000-03-01	105.4	51.8133		
2000-04-01	102.8	58.93167		
2000-05-01	95.9	61.223861		
2000-06-01	94.1	65.601574		

Your first column is

Dates

Names

Numbers

3 Set series options

Juice

Color
Right axis

Line

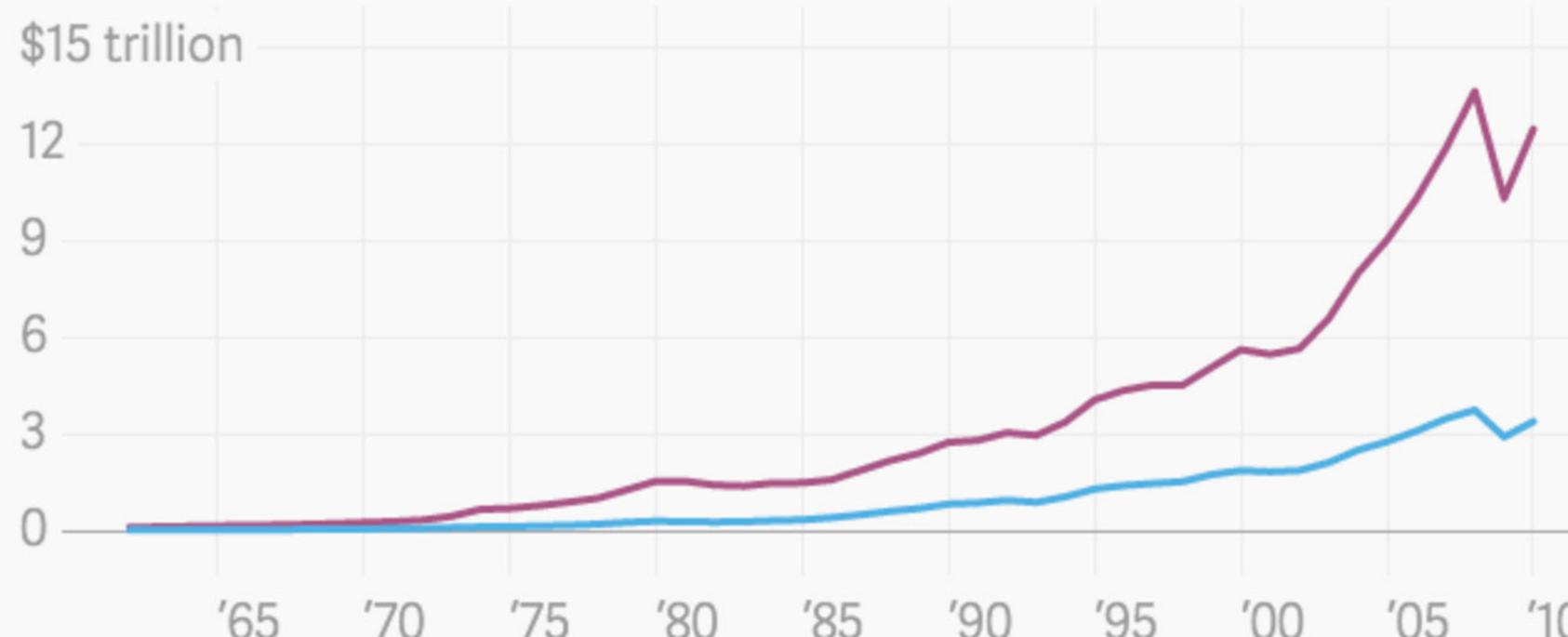
Columns

Dots

The economists called this dynamic “intra-industry trade,” and [wrote a book](#) by the same name. Since publication, intra-industry trade has grown three-times faster than the old-fashioned way of trading across industries.

Intra-industry trade is a quarter of all trade

■ Total trade ■ Intra-industry trade



△ T L △ S | Data: Cameron Thies and Timothy Peterson

Why trade for things you already have?

Economic theory has a hard time explaining why a country would trade for something it can make for itself. To understand, consider cheese.

Analysis

Presentation

Google Sheets

Datawrapper

RAW

R

Tableau

d3.js

Python

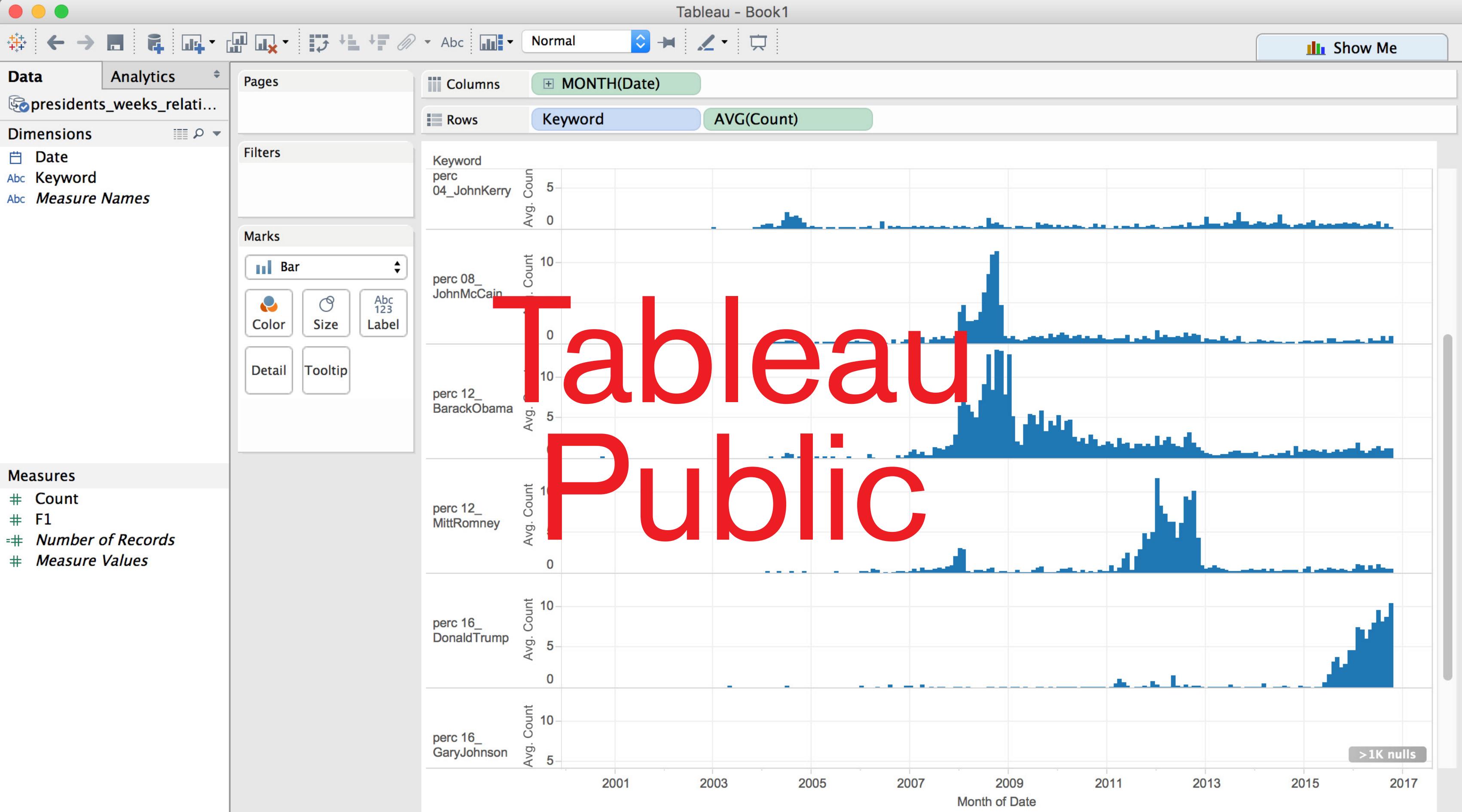
QGIS

Mapbox

HighCharts

Illustrator

Plotly



DATA BLOG

Facts are sacred

[Previous](#)[Blog home](#)[Next](#)

What each job gets paid: find yours and see how it compares

The Annual Survey of House and Earnings is out - and with it an unrivalled layer of detail showing wages by job and gender across the UK. See how much each job gets paid and how yours compares with this interactive data explorer from **Maxime Marboeuf of Tableau**

- [Explore the data](#)



Simon Rogers

theguardian.com, Thursday 22 November 2012 15.28 GMT



4. Tools for High Demands

Analysis

Presentation

Google Sheets

Datawrapper

RAW

R

Tableau

d3.js

Python

QGIS

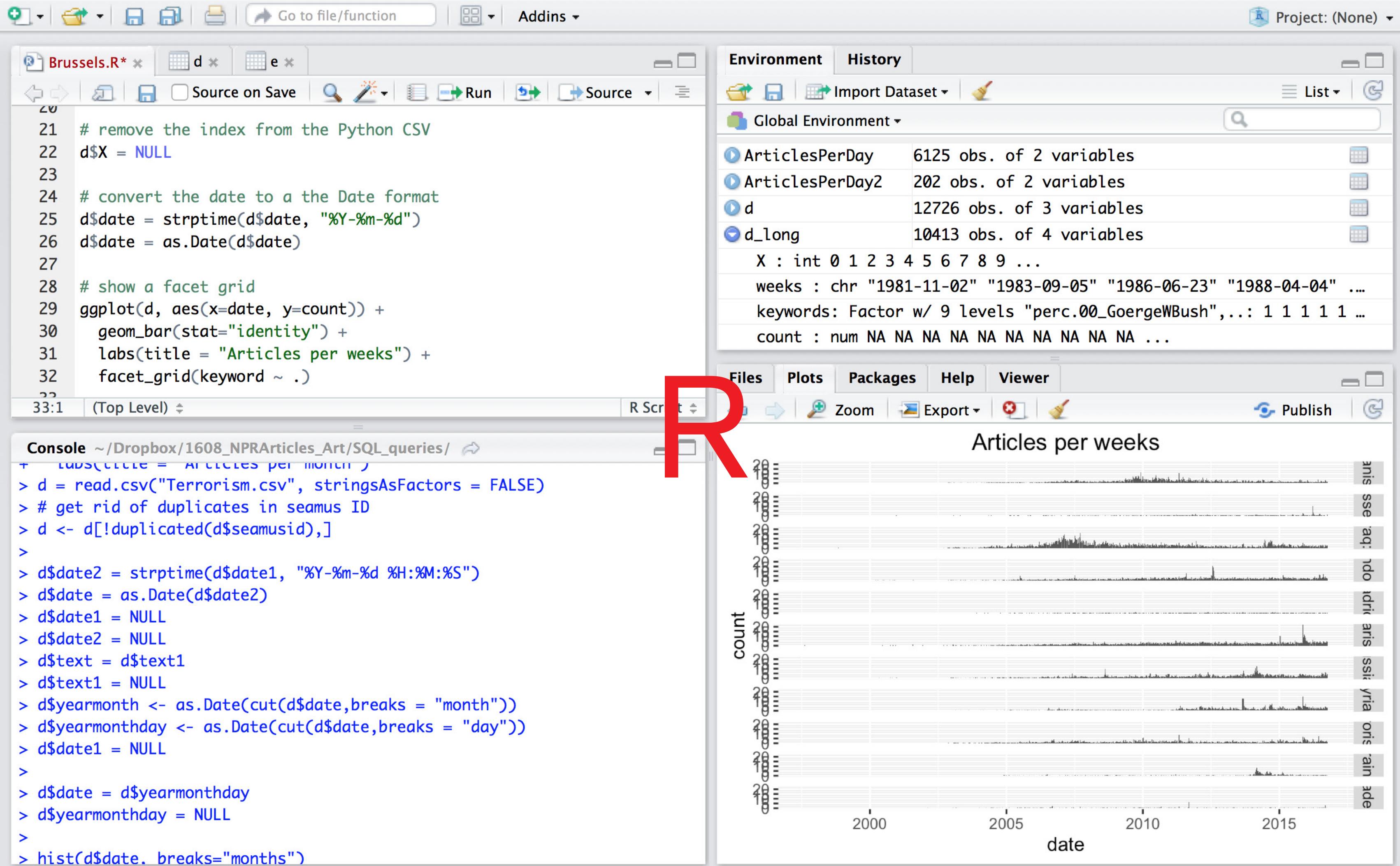
Mapbox

HighCharts

Illustrator

Plotly

R



“R is used in every step of the data journalism process:
for cleaning and processing data,
for exploratory graphing and statistical analysis,
[...] and to create publishable data visualizations.”

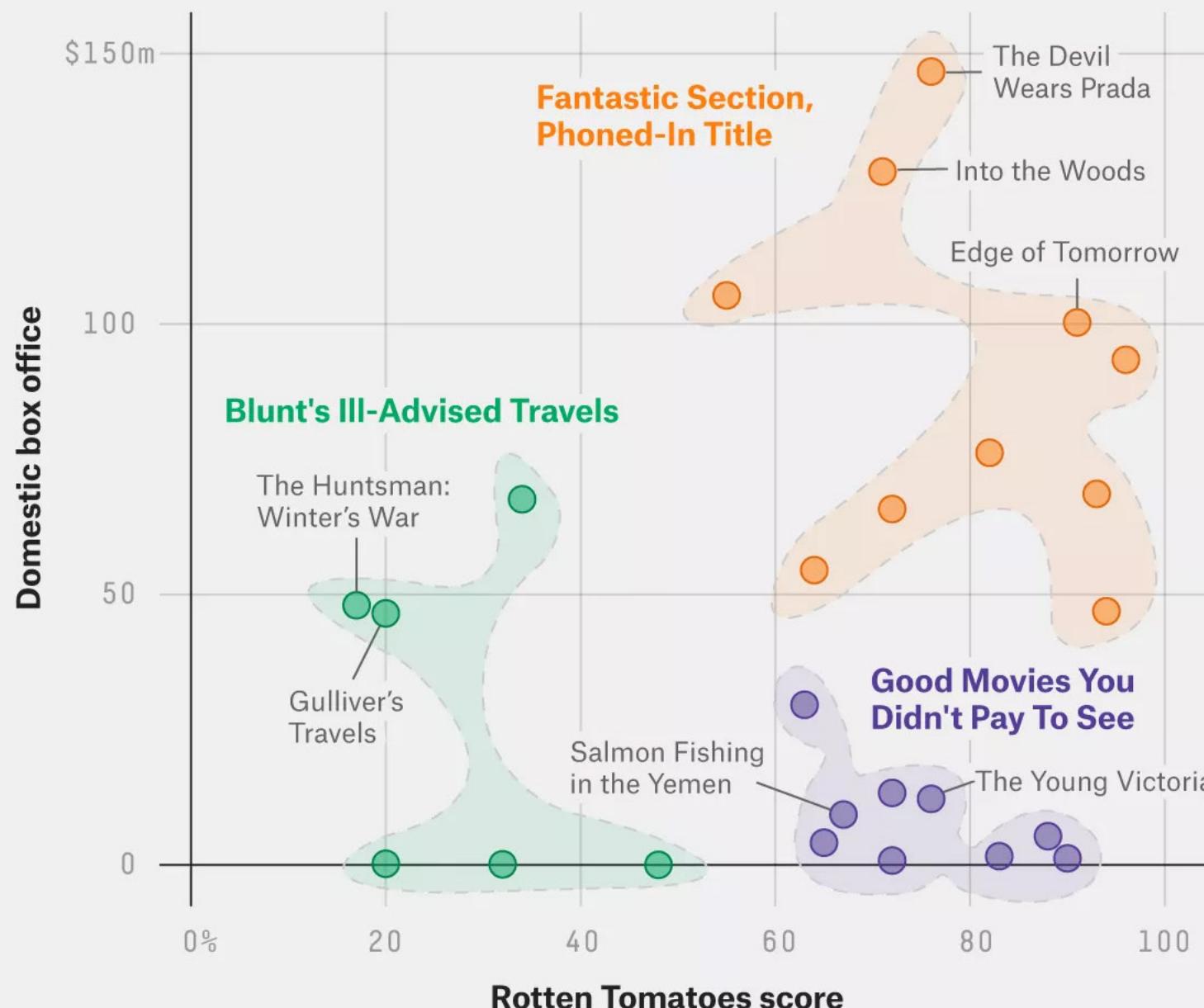
Andrew Flowers for FiveThirtyEight

MOST BRITISH-SOUNDING AWARD.

As I've done before, I pulled Blunt's filmography, getting domestic box office totals from [OpusData](#), which is the database behind The Numbers, and grabbing the critic score from Rotten Tomatoes.

Emily Blunt takes good gambles

Domestic box office in 2015 dollars vs. Rotten Tomatoes score



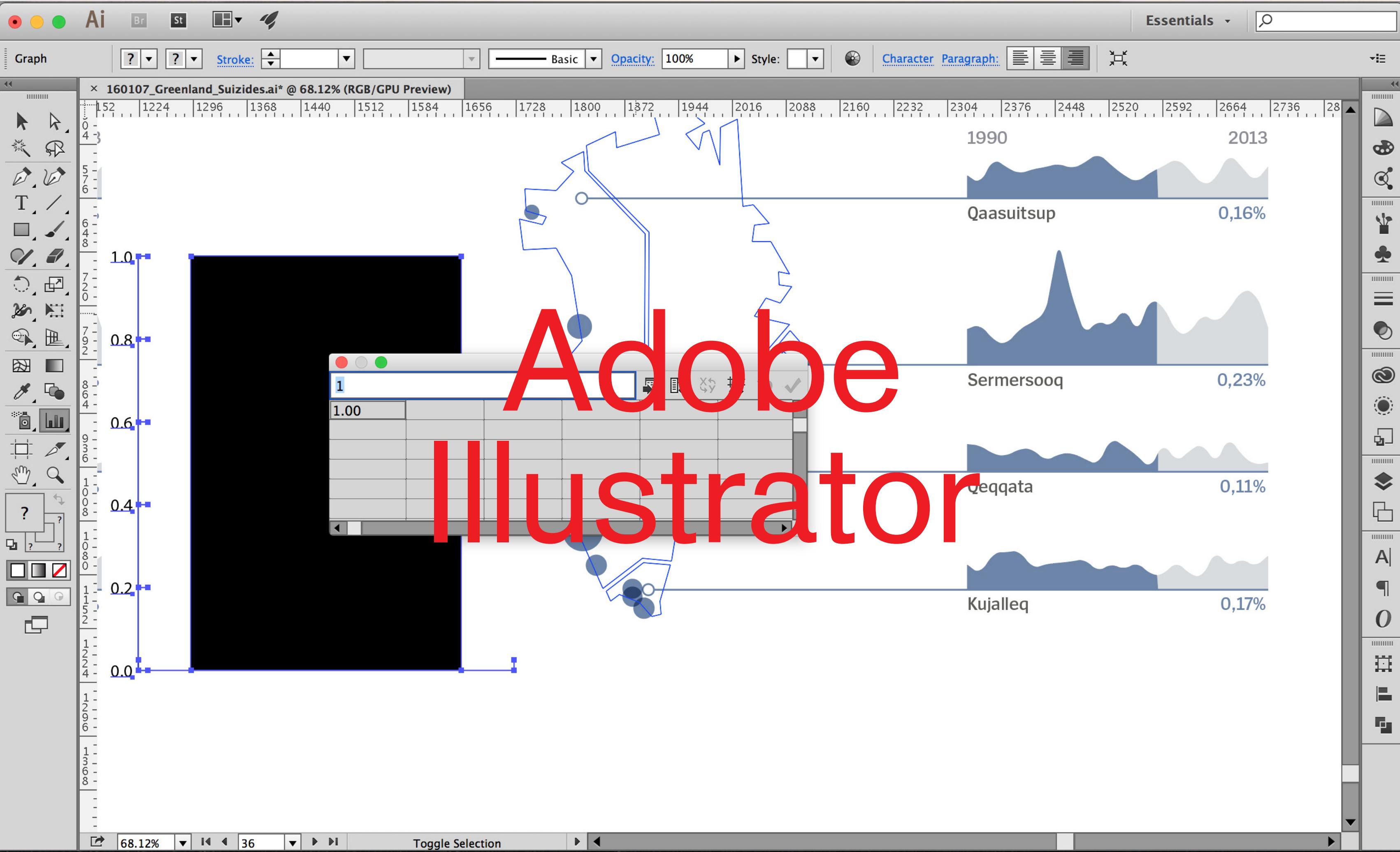
NFL Predictions

UPDATED 1 HOUR AGO

Favorites in upcoming games

GB over NYG	76%
CAR over TB	80%
DEN over SD	75%
NE over CIN	66%

See all NFL teams and games



```
51
52 /*
53  * Format graphic data for processing by D3.
54 */
55
56 var formatData = function() {
57   DATA.forEach(function(d) {
58     d['date'] = d3.time.format('%m/%d/%Y').parse(d['date']);
59
60     for (var key in d) {
61       if (key != 'date' && d[key] != null && d[key].length > 0) {
62         d[key] = +d[key];
63       }
64     }
65   });
66
67 recession_dates.forEach(function(d) {
68   d['begin'] = d3.time.format('%Y-%m-%d').parse(d['begin']);
69   d['end'] = d3.time.format('%Y-%m-%d').parse(d['end']);
70 });
71
72 /*
73  * Restructure tabular data for easier charting.
74 */
75
76 for (var column in DATA[0]) {
77   if (column == 'date') {
78     continue;
79   }
80
81   dataSeries.push({
82     column: column,
83     values: DATA.map(function(d) {
84       return d[column];
85     })
86   });
87 }
88
89
90
91
92
93
94
95
96
97
98
99
```

D3.js/CSS

Hack Your Way To Scientific Glory



You're a social scientist with a hunch: **The U.S. economy is affected by whether Republicans or Democrats are in office.** Try to show that a connection exists, using real data going back to 1948. For your results to be publishable in an academic journal, you'll need to prove that they are "statistically significant" by achieving a low enough p-value.

1 CHOOSE A POLITICAL PARTY

Republicans

Democrats

2 DEFINE TERMS

Which politicians do you want to include?

- Presidents
- Governors
- Senators
- Representatives

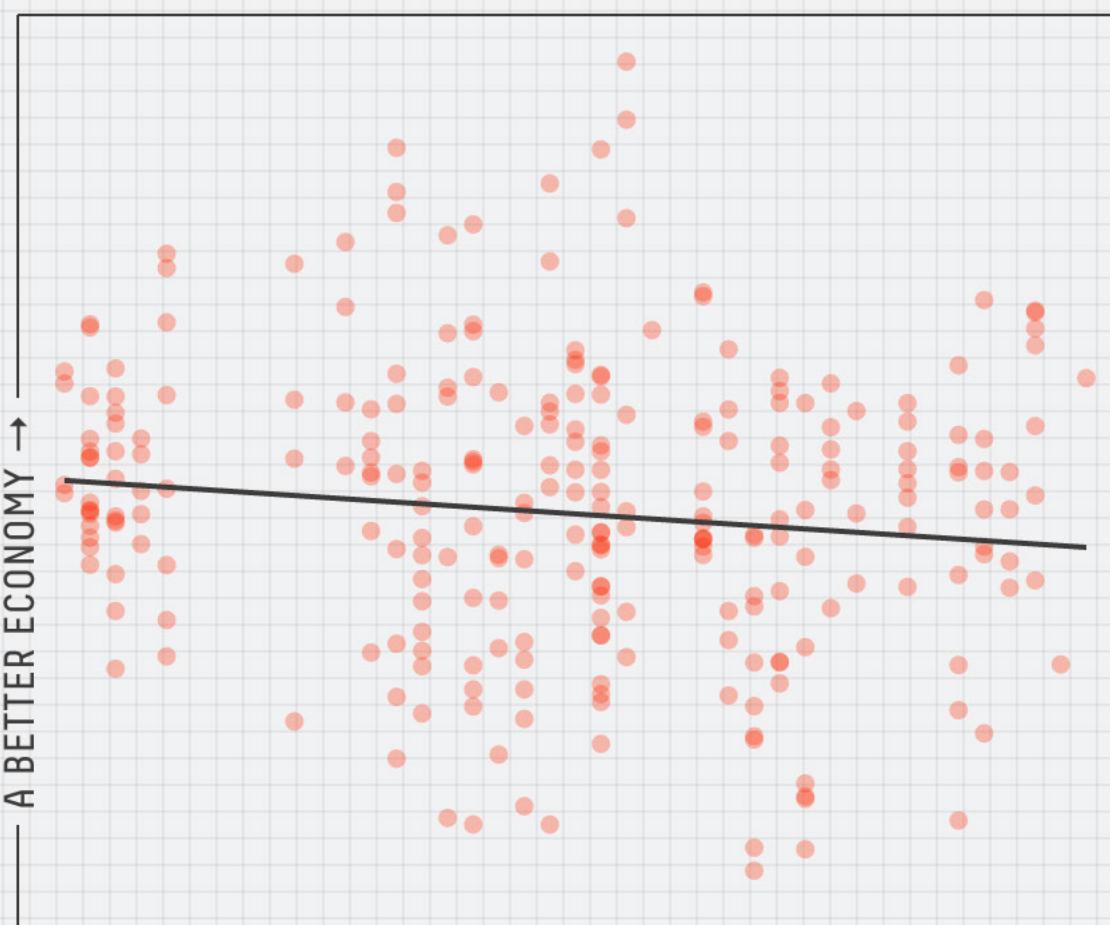
How do you want to measure economic performance?

- Employment
- Inflation
- GDP
- Stock prices

Other options

3 IS THERE A RELATIONSHIP?

Given how you've defined your terms, does the economy do better, worse or about the same when more Republicans are in office? Each dot below represents one month of data.



4 IS YOUR RESULT SIGNIFICANT?

If there were no connection between the economy and politics, what is the probability that you'd get results at least as strong as yours? That probability is your p-value, and by convention, you need a **p-value of 0.05 or less** to get published.

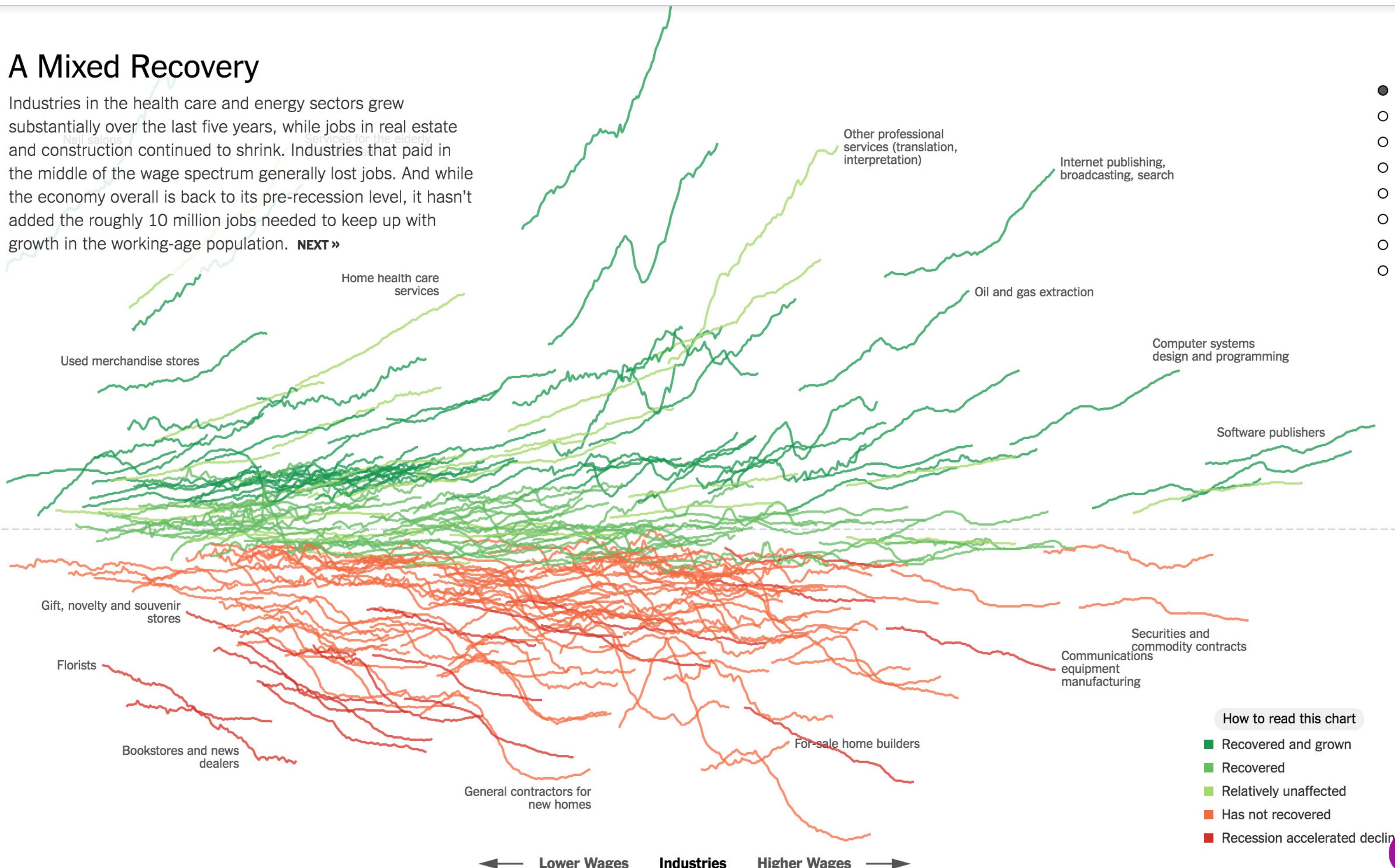


Result: Almost

Your **0.06** p-value is close to the 0.05 threshold. Try tweaking your variables to see if you can push it over the line!

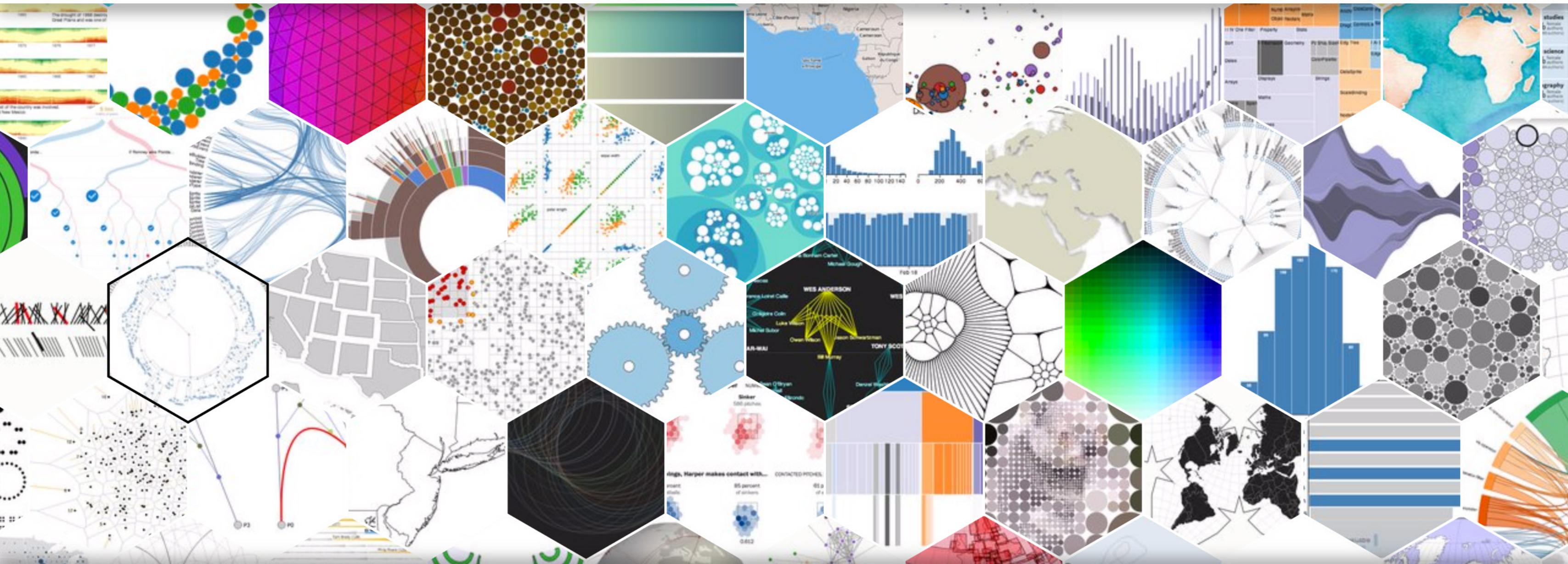
A Mixed Recovery

Industries in the health care and energy sectors grew substantially over the last five years, while jobs in real estate and construction continued to shrink. Industries that paid in the middle of the wage spectrum generally lost jobs. And while the economy overall is back to its pre-recession level, it hasn't added the roughly 10 million jobs needed to keep up with growth in the working-age population. [NEXT »](#)





Data-Driven Documents



D3.js is a JavaScript library for manipulating documents based on data. **D3** helps you bring data to life using HTML, SVG, and CSS. D3's emphasis on web standards gives you the full capabilities of modern browsers without tying yourself to a proprietary framework, combining powerful visualization components and a data-driven approach to DOM manipulation.

See [more examples](#).

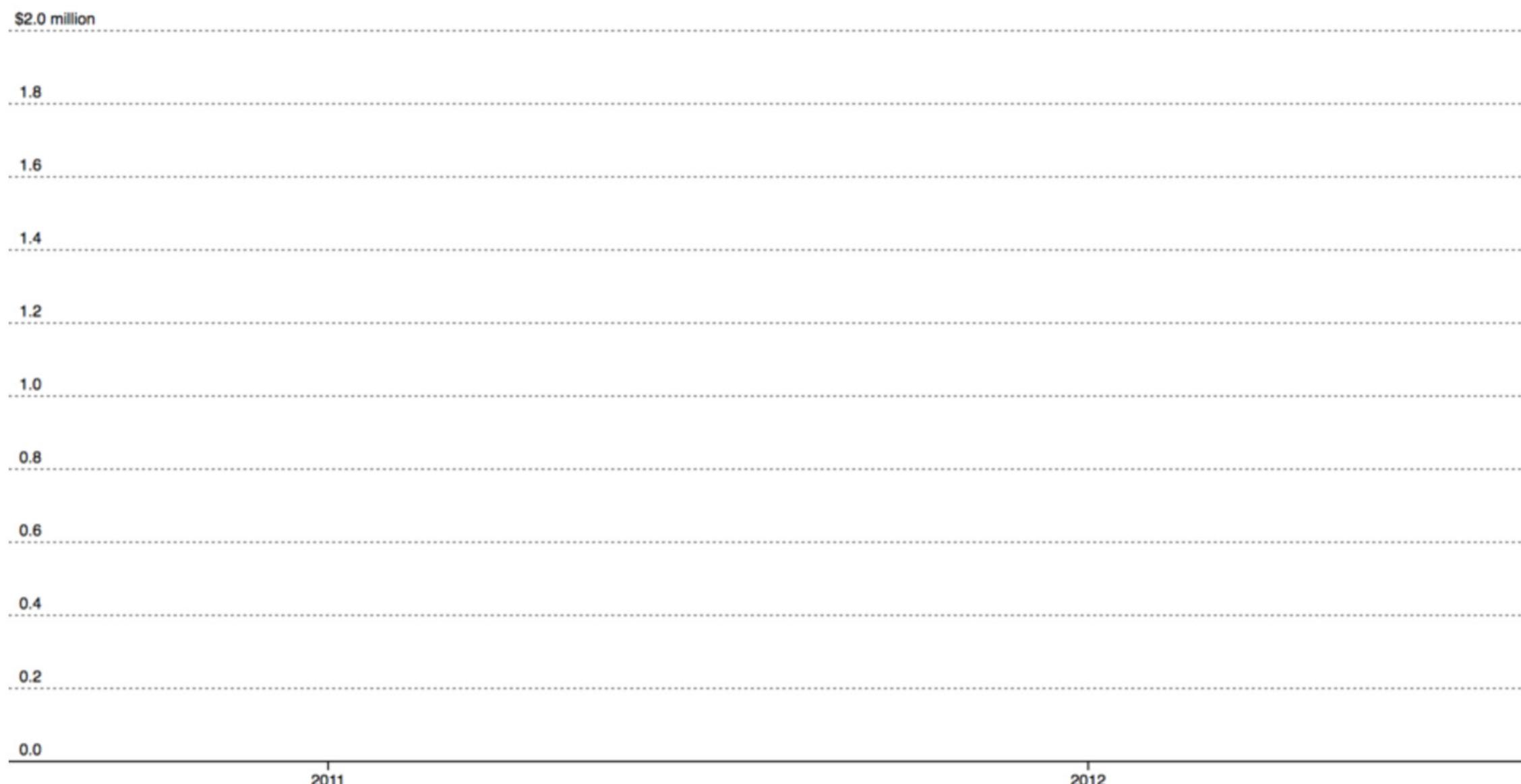
What is a library?

What is a library?

Making things easy you
do again and again.

What is a library?
Making things easy you
do again and again.

to make



What is a library?
Making things easy you
do again and again.

instead of

```
<g fill="none" font-size="10" font-family="sans-serif" text-anchor="middle">
  <path class="domain" stroke="#000" d="M0.5,6V0.5H880.5V6"></path>
  <g class="tick" opacity="1" transform="translate(0,0)">
    <line stroke="#000" y2="6" x1="0.5" x2="0.5"></line>
    <text fill="#000" y="9" x="0.5" dy="0.71em">0.0</text>
  </g>
  <g class="tick" opacity="1" transform="translate(176,0)">
    <line stroke="#000" y2="6" x1="0.5" x2="0.5"></line>
    <text fill="#000" y="9" x="0.5" dy="0.71em">0.2</text>
  </g>
  <g class="tick" opacity="1" transform="translate(352,0)">
    <line stroke="#000" y2="6" x1="0.5" x2="0.5"></line>
    <text fill="#000" y="9" x="0.5" dy="0.71em">0.4</text>
  </g>
  <g class="tick" opacity="1" transform="translate(528,0)">
    <line stroke="#000" y2="6" x1="0.5" x2="0.5"></line>
    <text fill="#000" y="9" x="0.5" dy="0.71em">0.6</text>
  </g>
  <g class="tick" opacity="1" transform="translate(704,0)">
    <line stroke="#000" y2="6" x1="0.5" x2="0.5"></line>
    <text fill="#000" y="9" x="0.5" dy="0.71em">0.8</text>
  </g>
  <g class="tick" opacity="1" transform="translate(880,0)">
    <line stroke="#000" y2="6" x1="0.5" x2="0.5"></line>
    <text fill="#000" y="9" x="0.5" dy="0.71em">1.0</text>
  </g>
</g>
```

What is a library?
Making things easy you
do again and again.

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    <text fill="#000" y="9" x="0.5" dy="0.71em">1.0</text>
  </g>
</g>
```

you can say:

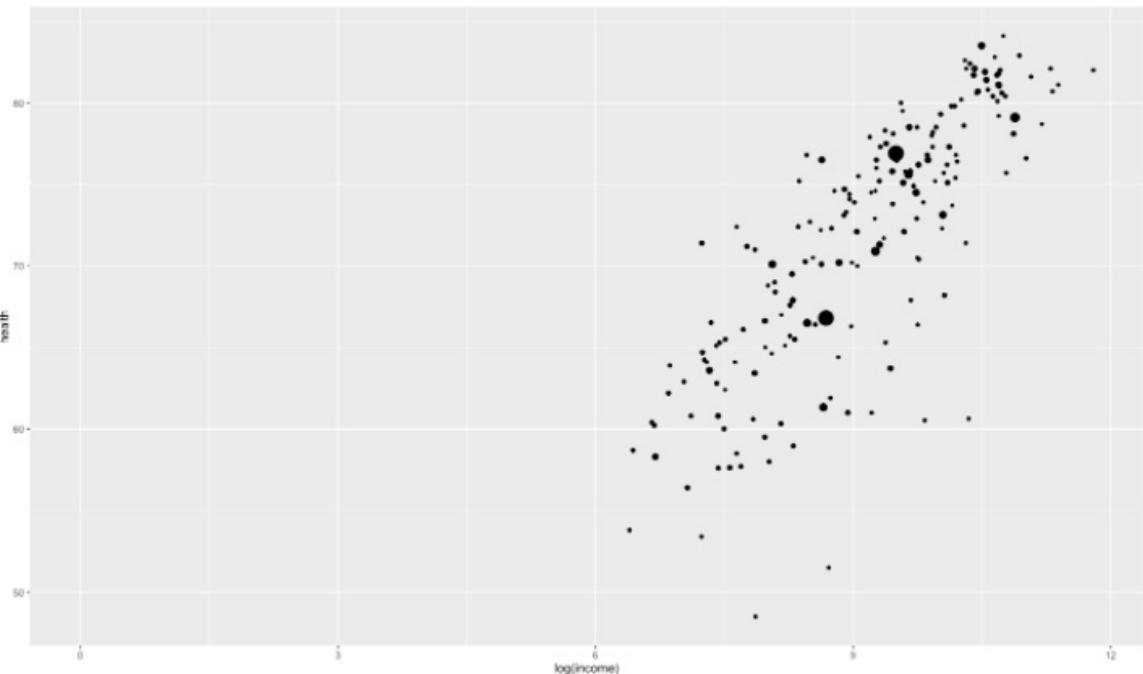
```
<script src="https://d3js.org/d3-axis.v1.min.js"></script>
<script>

var axis = d3.axisLeft(scale);

</script>
```

R

d3.js



```
#import library  
library(ggplot2)  
  
#set working directory  
setwd("Desktop")  
  
#read csv  
d = read.csv("data.csv", header=TRUE)  
  
#plot chart  
ggplot(d) +  
  geom_point(aes(x=log(income),y=health,size=population)) +  
  expand_limits(x=0)
```

```
<body>  
  <script type="text/javascript">  
  
    // load data  
    var data = D3.csv("data.csv", function(error, data) {  
  
      // change string (from CSV) into number format  
      data.forEach(function(d) {  
        d.health = +d.health;  
        d.income = Math.log(+d.income);  
        d.population = +d.population;  
        console.log(d.population, Math.sqrt(d.population))  
      });  
  
      // set scales  
      var x = D3.scale.linear()  
        .domain([0, D3.max(data, function(d) {return d.income;}))])  
        .range([0, 1000]);  
  
      var y = D3.scale.linear()  
        .domain([D3.min(data, function(d) {return d.health;}),  
          D3.max(data, function(d) {return d.health; })])  
        .range([500, 0]);  
  
      var size = D3.scale.linear()  
        .domain([D3.min(data, function(d) {return d.population;})),  
          D3.max(data, function(d) {return d.population; })])  
        .range([2, 10]);
```

What's the best way to make a d3.js visualisation layout responsive?

[Ask Question](#)

172



140

Assume I have a histogram script that builds a 960 500 svg graphic. How do I make this responsive so on resize the graphic widths and heights are dynamic?

```
<script>

var n = 10000, // number of trials
    m = 10,      // number of random variables
    data = [];

// Generate an Irwin-Hall distribution.
for (var i = 0; i < n; i++) {
    for (var s = 0, j = 0; j < m; j++) {
        s += Math.random();
    }
    data.push(s);
}

var histogram = d3.layout.histogram()
    (data);

var width = 960,
    height = 500;

var x = d3.scale.ordinal()
    .domain(histogram.map(function(d) { return d.x; }))
    .rangeRoundBands([0, width]);

var y = d3.scale.linear()
    .domain([0, d3.max(histogram.map(function(d) { return d.y; }))])
    .range([0, height]);

var svg = d3.select("body").append("svg")
    .attr("width", width)
    .attr("height", height);

svg.selectAll("rect")
    .data(histogram)
    .enter().append("rect")
    .attr("width", x.rangeBand())
    .attr("x", function(d) { return x(d.x); })
```

asked 5 years, 1 month ago

viewed 72678 times

active 3 months ago

Linked

2 [How to auto-scale <svg> element and contents? \(d3.js\)](#)

1 [Responsive D3 js chart](#)

0 [Dynamic viewport for d3.js](#)

0 [How to make D3 bar graph responsive?](#)

109 [Resize svg when window is resized in d3.js](#)

33 [responsive D3 chart](#)

40 [How to make force layout graph in D3.js responsive to screen/browser size](#)

1 [dimple.js/d3.js auto size chart when window size changes](#)

3 [How to create a responsive map using d3](#)

4 [How to make a stream graph responsive \(d3.js\)?](#)

[see more linked questions...](#)

Related

3615 [What is the most efficient way to deep clone an object in JavaScript?](#)

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[Ask Question](#)

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    .range([0, height]);

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    .attr("height", height);

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    .data(histogram)
    .enter().append("rect")
    .attr("width", x.rangeBand())
    .attr("x", function(d) { return x(d.x); })
```

asked 5 years, 1 month ago

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1 [dimple.js/d3.js auto size chart when window size changes](#)

3 [How to create a responsive map using d3](#)

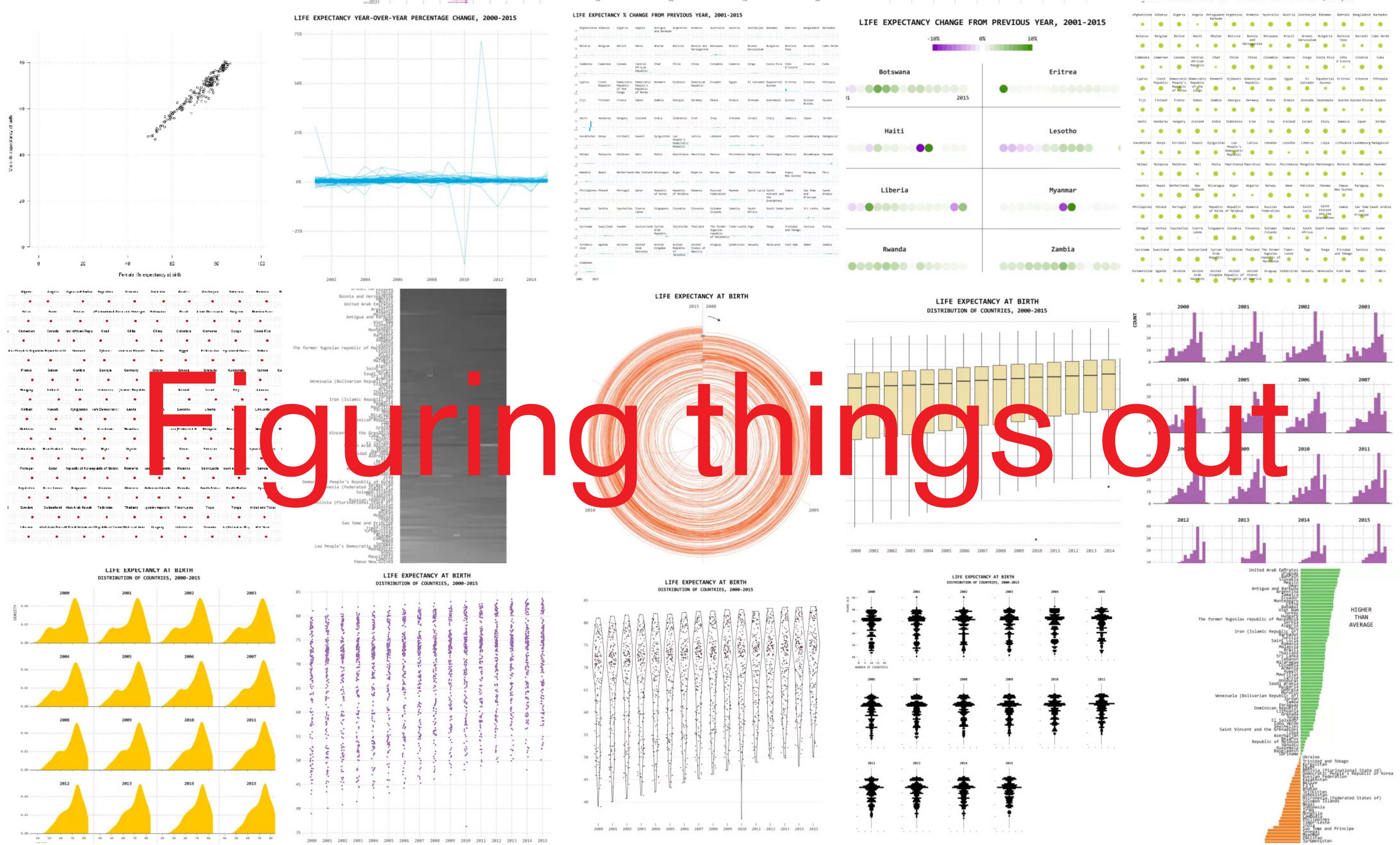
4 [How to make a stream graph responsive \(d3.js\)?](#)

[see more linked questions...](#)

Related

3615 [What is the most efficient way to deep clone an object in JavaScript?](#)

Figuring things out



5. What about maps?

5. What about maps? Let's make one!

1 Upload Data ✓

2 Check & Describe ✓

3 Visualize

4 Publish & Embed

Chart type Refine Annotate Design

Customize scatterplot axes

x axis 2014 GDP in €

customize min max 10,20,30 log.

format: 123k

position bottom

y axis Total Amount

customize min max 10,20,30 log.

format: 123k

position left

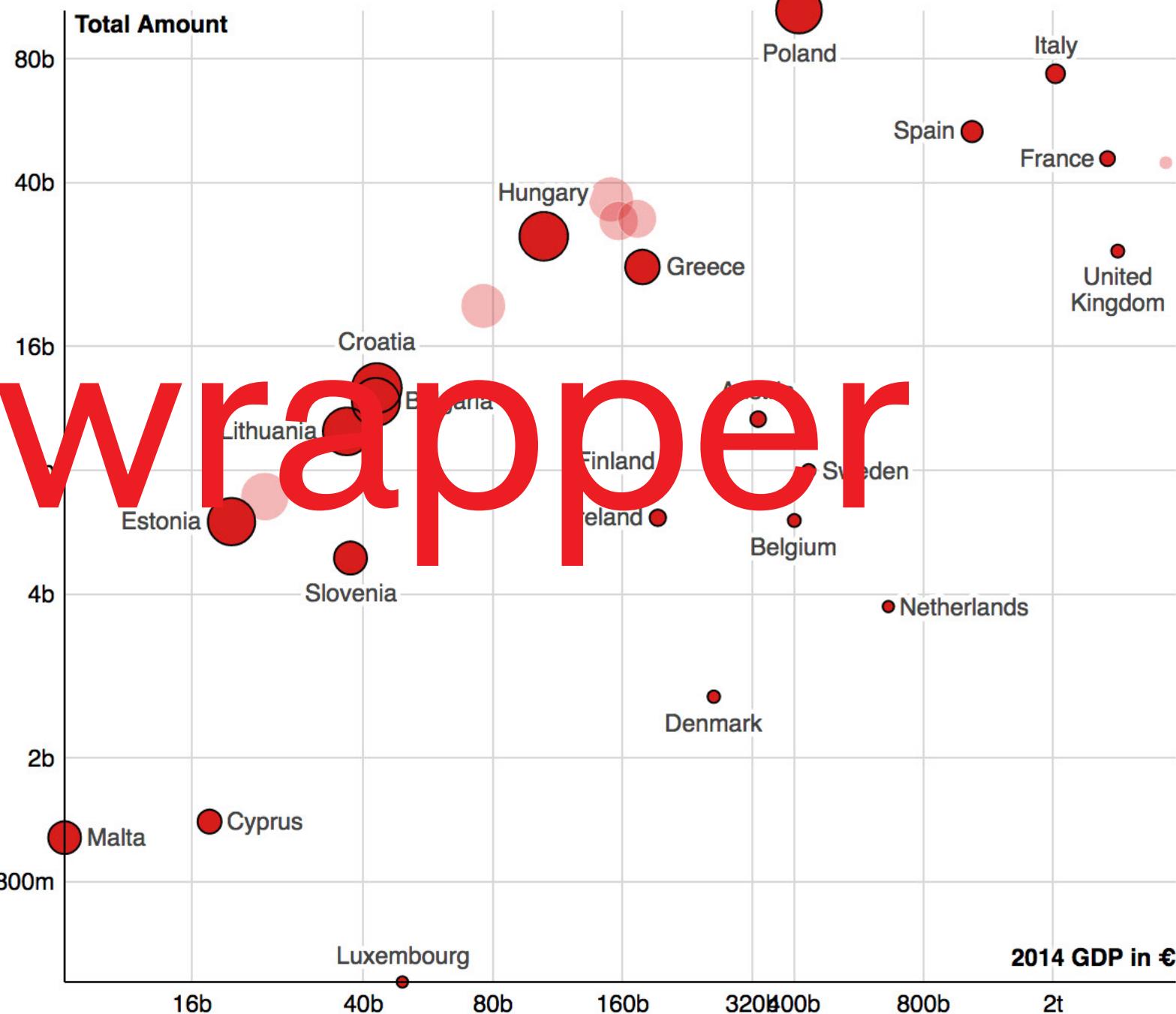
Customize symbols

size fixed size variable

size column perc

max size 22

[Insert title here]



Mobile (S)

Mobile (L)

Desktop

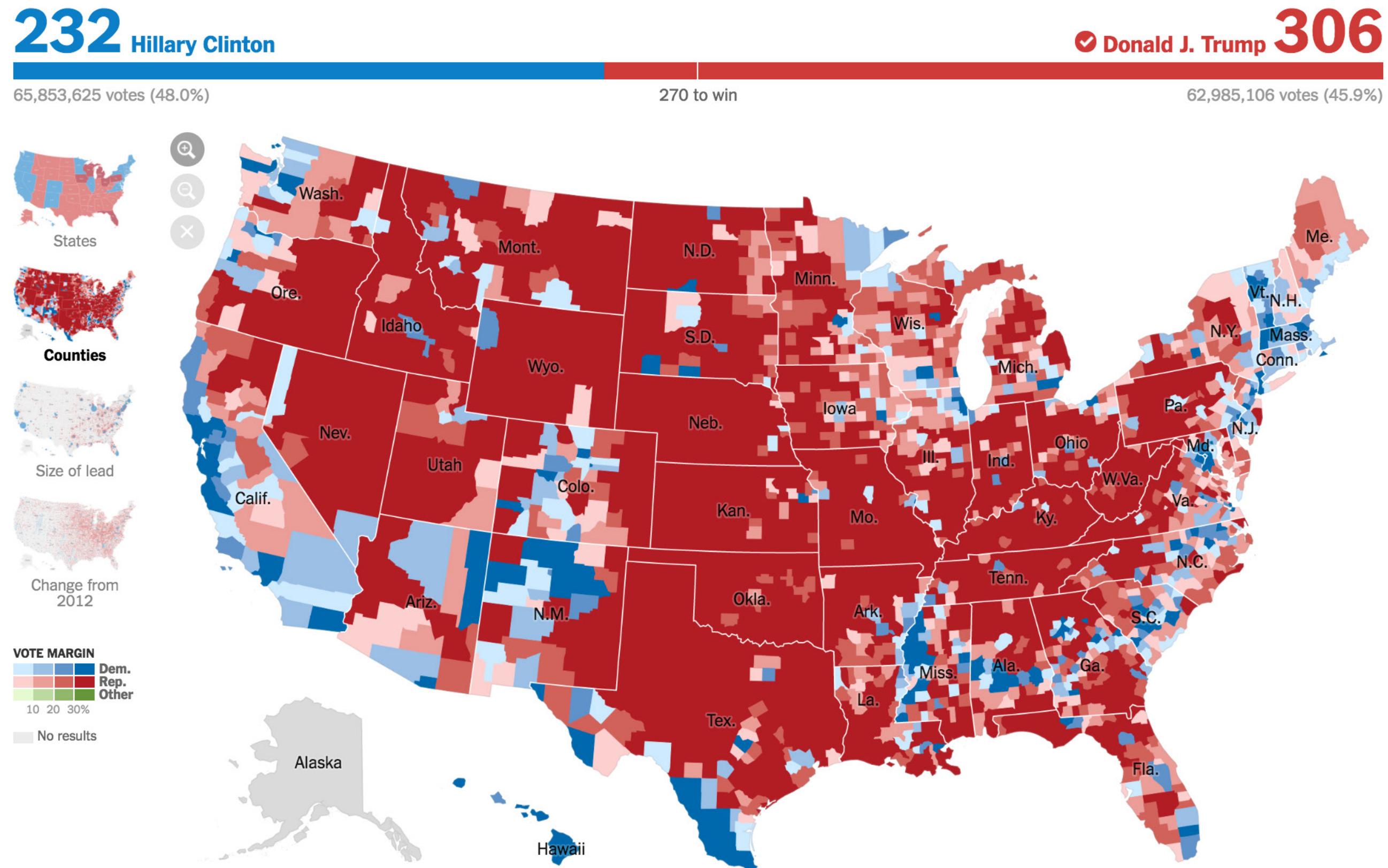
Resize to: 600 × 600

1. Open bit.ly/storyhunt
2. Open datawrapper.org
3. “Create a Map”

Presidential Election Results: Donald J. Trump Wins

FEB. 10, 2017, 4:38 PM ET

Donald J. Trump won [the Electoral College](#) with 304 votes compared to 227 votes for Hillary Clinton. Seven electors voted for someone other than their party's candidate.



1. Open datawrapper.org
2. “Create a Map”

3. Open bit.ly/storyhunt

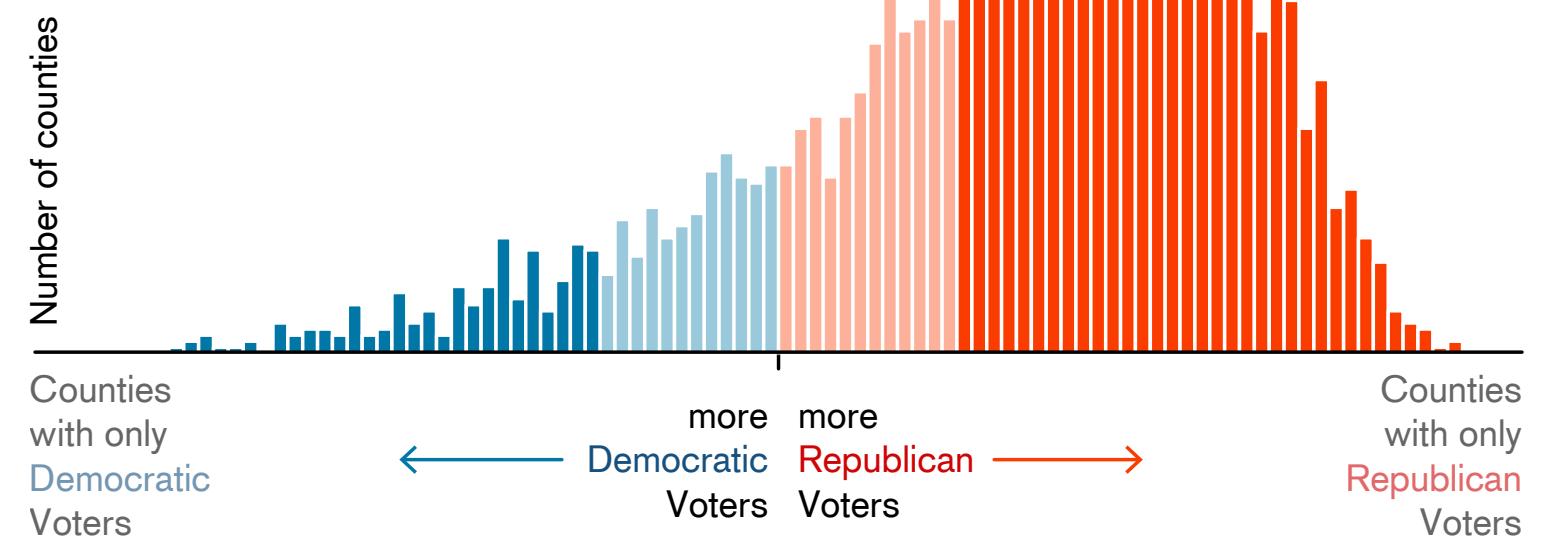
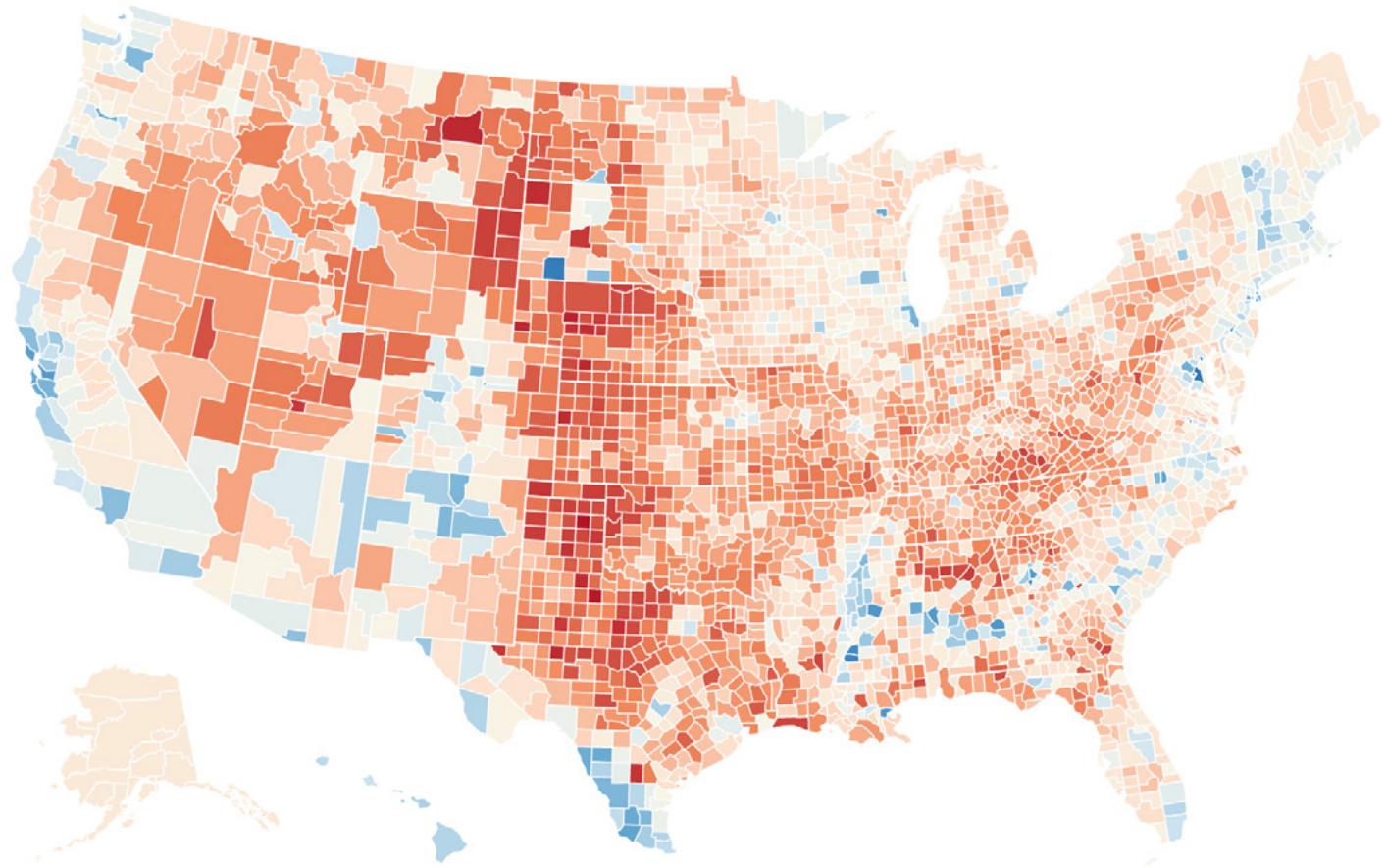
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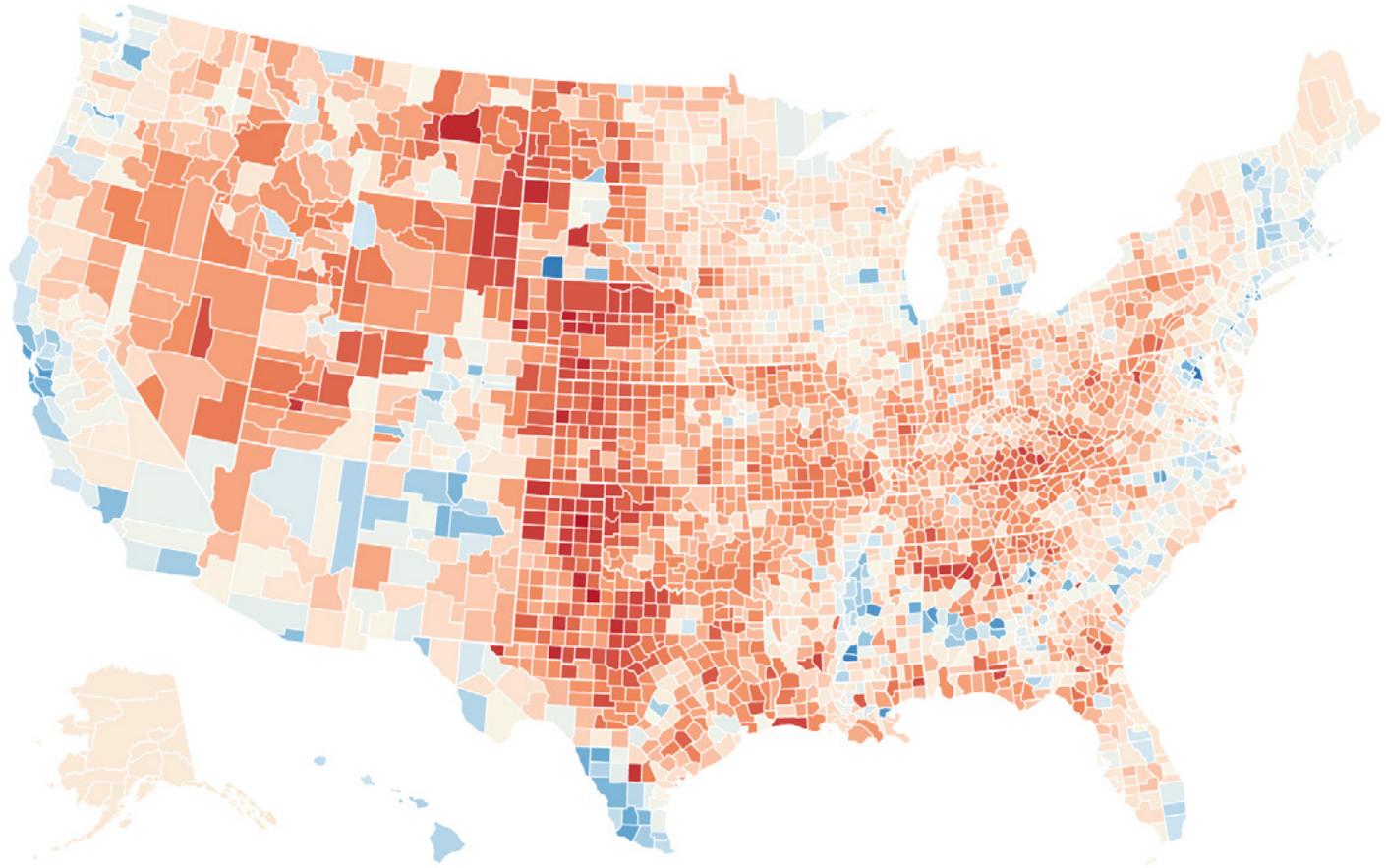
3. Open bit.ly/storyhunt

FIPS-Code	county_name	per_thirdparties	per_democratic	per_gop	perpoint_diff
01001	Autauga County	2.6	24.0	73.4	49.5
01003	Baldwin County	3.1	19.6	77.4	57.8
01005	Barbour County	1.1	46.7	52.3	5.6
01007	Bibb County	1.6	21.4	77.0	55.5
01009	Blount County	1.7	8.5	89.9	81.4
01011	Bullock County	0.7	75.1	24.2	-50.9
01013	Butler County	0.9	42.8	56.3	13.5
01015	Calhoun County	2.9	27.9	69.2	41.4
01017	Chambers Count	1.5	41.8	56.6	14.8
01019	Cherokee County	1.6	14.5	83.9	69.4
01021	Chilton County	1.5	15.9	82.5	66.6
01023	Choctaw County	0.8	42.8	56.4	13.7
01025	Clarke County	0.9	44.2	55.0	10.8

Do maps make sense?



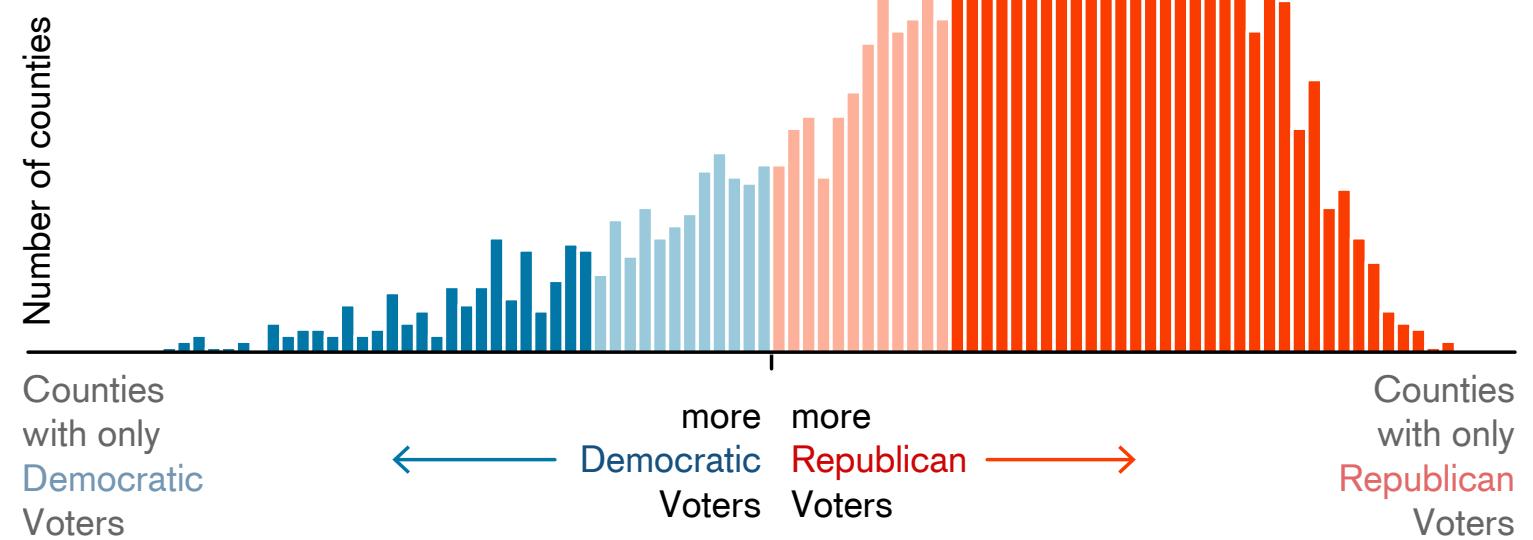
Do maps make sense?



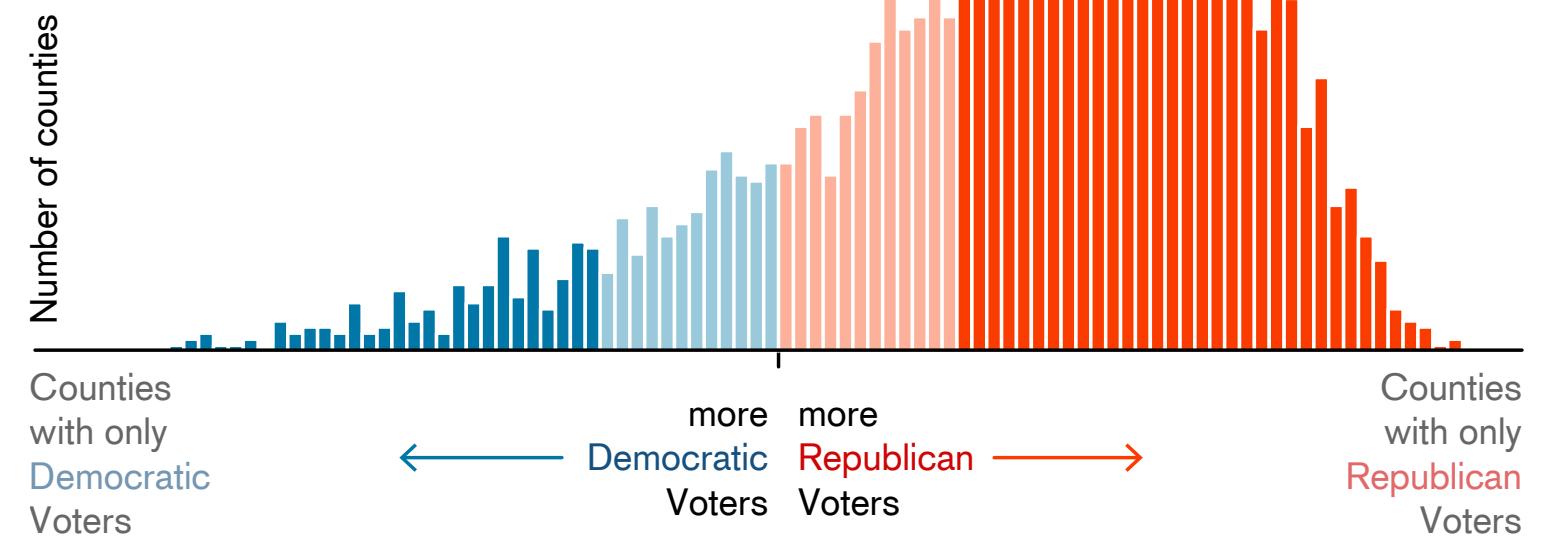
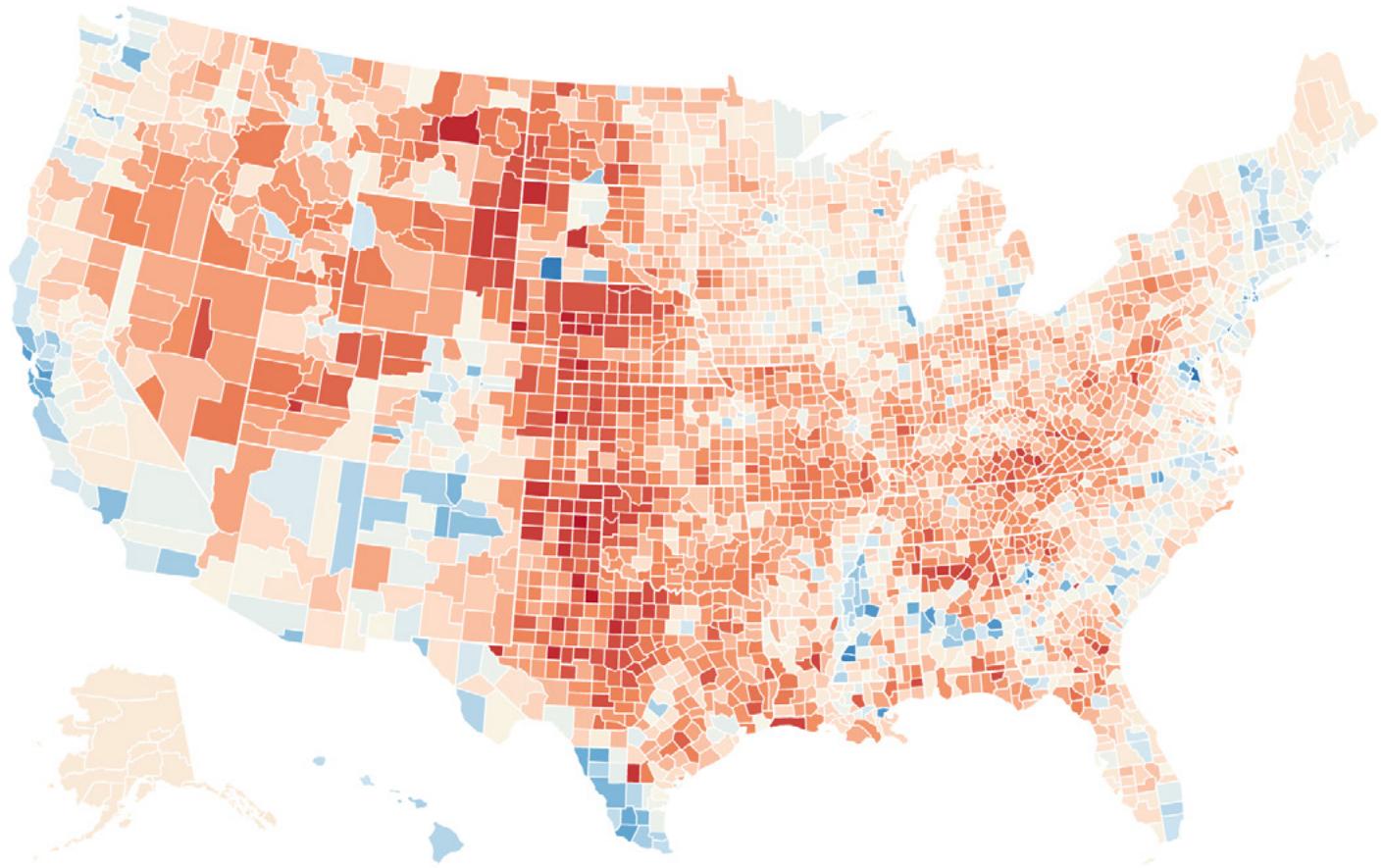
A map...

Or

...a chart?



Do maps make sense?



A map...

and

...a chart?

lisacharlotterost.de

@lisacrost

lisacharlotterost@gmail.com

