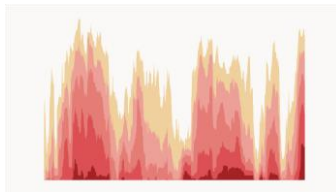




Off the Charts

The best of our data journalism



Welcome to our weekly newsletter highlighting the best of *The Economist's* data journalism. In *Off the Charts* we go behind the numbers to show you how our data team gathers, analyses and visualises data for our *Graphic detail* section and beyond.

This week [Graphic detail](#) asks whether in-person voting really did accelerate covid-19's spread in America last year. Places where a high share of votes were cast in person on election day also had high covid-19 rates. But these counties tended to have other things in common, such as low levels of income and education, and voted for Donald Trump in 2016. So how did we find out whether in-person voting is the reason why covid-19 cases have been climbing? We decided to build a statistical model to predict [each county's post-election change in covid-19 rates](#).

Meanwhile, coronavirus cases in England are rising steeply and politicians are anxiously watching hospital admissions and deaths. The former are now increasing more rapidly too, and some experts fret about the government's decision to end all restrictions, including mask wearing, on July 19th. The country could be embarking on a [risky epidemiological experiment](#).

Aside from covid-19, we reported on why air travellers have grown more confrontational; how football games are linked to a rise in domestic violence; and we found that an astonishing one-third of Americans deny that human activity is contributing to climate change.

Below, Helen Atkinson, one of our visual-data journalists, explains how we employ colour in our charts. With a handful of examples she demonstrates how colour can be used to illustrate different points and help make a chart stand out.

If you like what you see in this newsletter and want to learn to create charts like the ones below, come and join our team! We are looking for two trainee data-visualisation designers to work with us. And as ever, if you have any questions or comments about this newsletter or want to ask a question about our data-driven reporting, you can reach us on offthecharts@economist.com.



Marie Segger
Data journalist

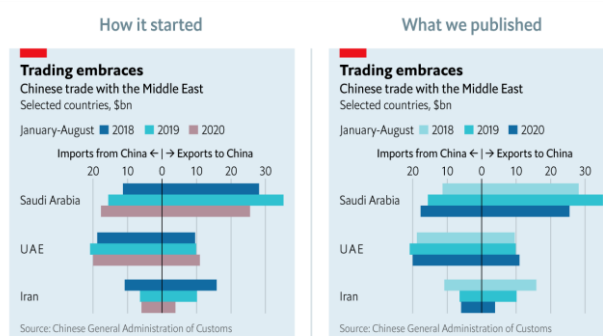
Between the lines

How we use colour in our chart design

At *The Economist* we are used to having to choose the best chart type for a dataset, but we also have to carefully consider the way in which we use colour to illustrate a chart. We have a standardised colour palette that we use for all our charts. But we still need to consider what the data are about; what the chart will show; and what the story is. Once we know this, we can decide how to make the best use of the colours at our disposal.

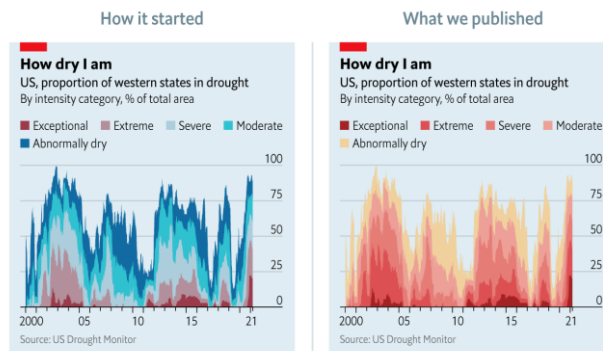
Colour as time

Usually a chart that plots data over time will be either lines or columns—but not always. Sometimes we may think a bar chart is the best way to visualise the data, but then you lose the chronology. One way to make a chart like this clearer is to use colour to represent time. In the example below, instead of using our standard palette (as shown in the left-hand chart), each bar gets progressively darker the more recent the data are. After you've read the key once, you're less likely to need it again because your brain can connect the colours with years more easily.



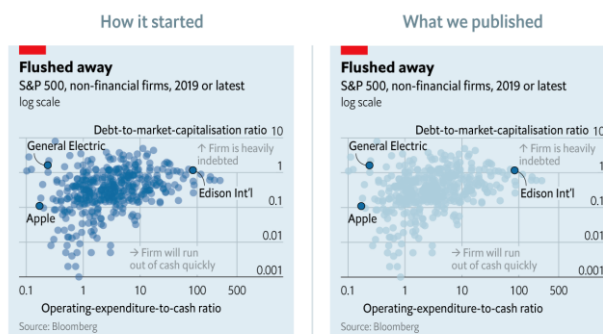
Colour as a range

In a similar vein we can also use colour to visualise data that span a range or are on a spectrum. When we have data like these, we can treat the colour choices more as we would if the chart were a map. And depending on the data, we can use colours that go either from subtle to strong, or from one extreme to another. The chart below showing the proportion of western US states suffering drought is one example where we needed to think a bit differently. The categories clearly range from bad to very bad, so a subtle to extreme colour palette was the obvious choice. The left-hand chart is presented with our standard colour palette whereas the right-hand chart does a much better job of communicating the pattern of drought intensity. We get bonus points for using colour contextually!



Colour as a highlight

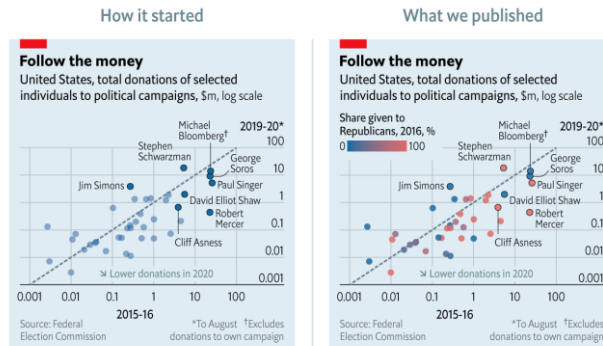
In print, we often face space constraints, This means that we sometimes have to sacrifice information in order to make the chart clear and legible. When we have a chart that has many data points such as the scatter below, it can be a good idea to highlight just a few points that are the most relevant to the story. It is often beneficial to be selective and to put the emphasis on certain elements that deserve the reader’s attention. In the example below, showing the performance of American firms, not every data point needs to be the star of the show. Picking out a couple of noteworthy companies among 500 is just as effective.



Colour as data

Rather than simplifying charts, occasionally we add a layer of complexity instead. Colour is often a good way of visualising complexity because it doesn’t interfere with how the data are plotted. The example below, which shows individual donations to political campaigns in America, is okay with all dots being blue. But adding a third variable—the share of donations that each individual gave to the Republicans—really brings it to

life. We can see that people who donate the most money tend to donate to a single party, whereas those that donate less are more likely to split their gift.



Settling on the right colour scheme for a chart can be a fun choice to make when designing and often there is a temptation to go overboard. But, as we have tried to show with these examples, when we use colour effectively and consider all the different ways in which it can make a chart shine, we can really elevate our data visualisation. Colours can carry information and make a chart more readable and memorable. But most importantly, they can add a layer of emotion that no other chart component can offer.

From: **The Economist**

Date: 13 July 2021

<https://view.e.economist.com/?qs=e2eb491699083554e6e0165e2847c6eb9636269b0813186674aa3827062bed98c961370554712fe4124b1bec408ce357d3802ee491d82b3f7417632c14f80ead2f41f962cddf634a1c54b0c4ba29e852>