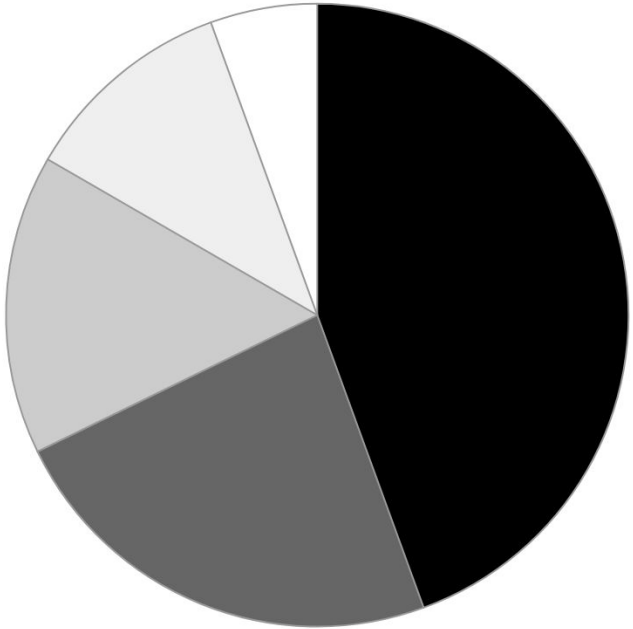
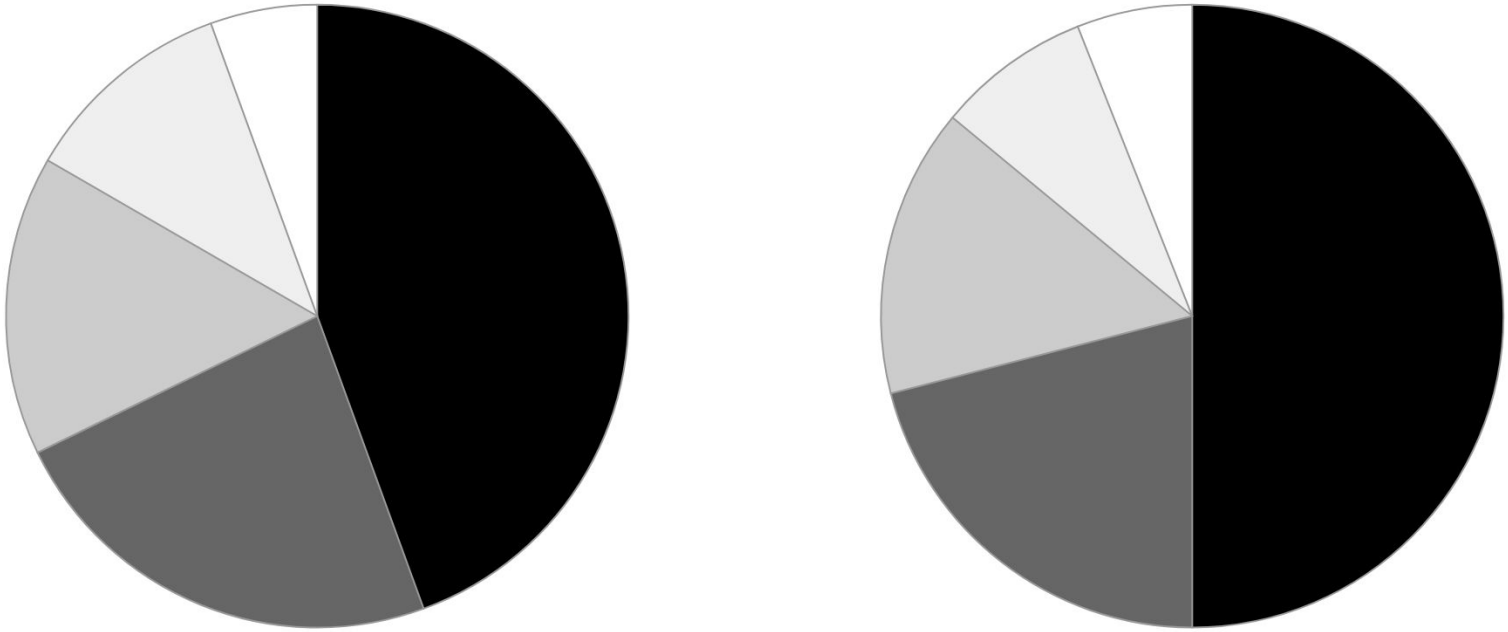
Using charts to communicate data

SF Free Coding Bootcamp



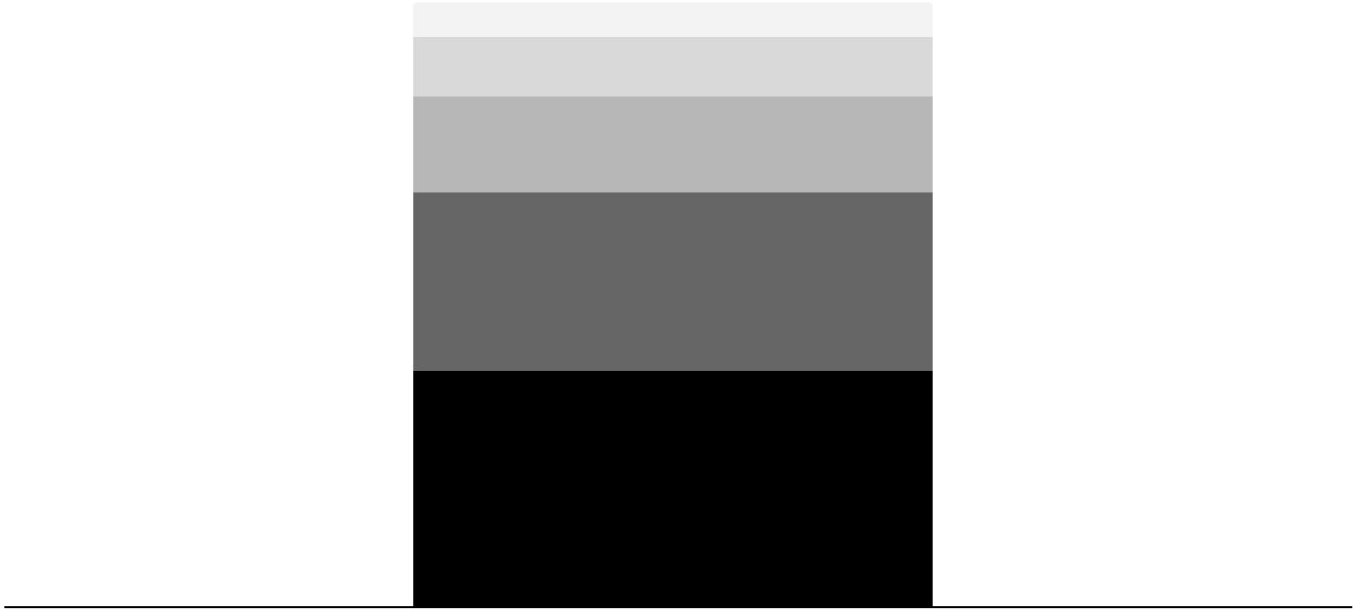
Pie Chart

- Comparison between components
- The components are part of a whole. All components sum to 100%



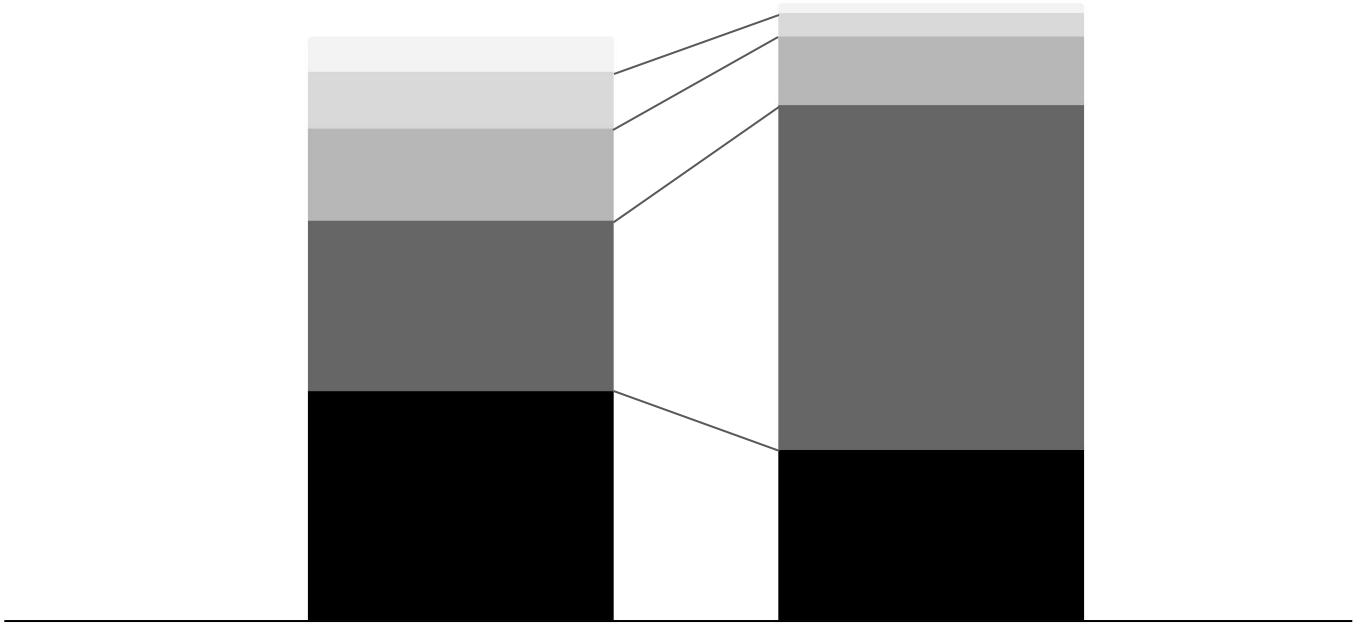
Multiple Pie Charts

- Comparison of two entities, *which are made up of the same components.*



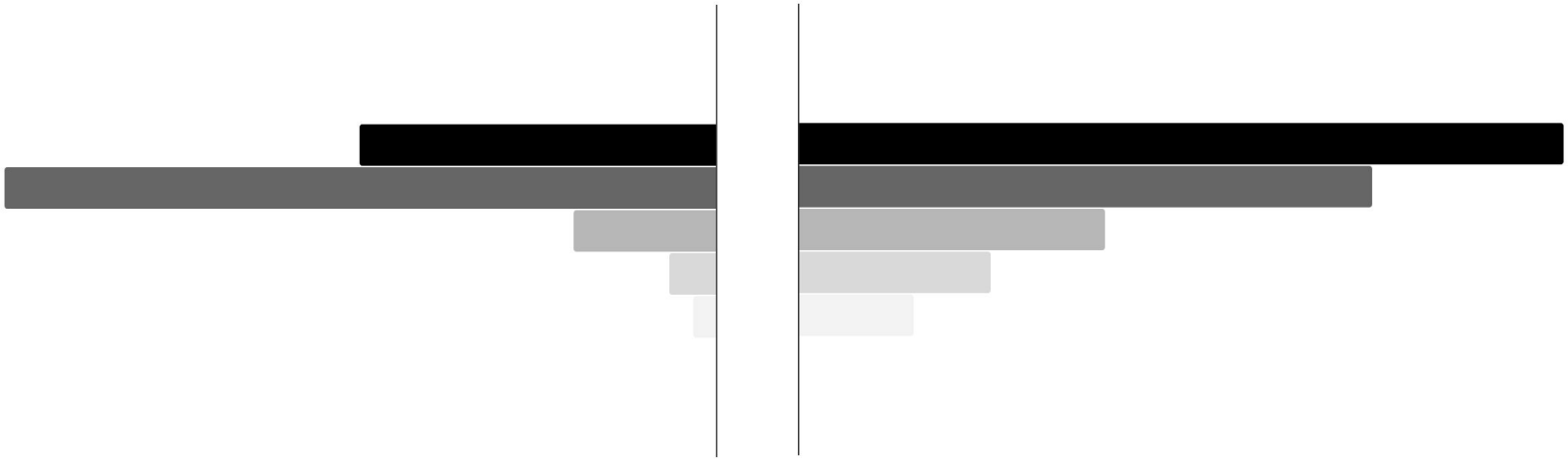
Stacked Column Chart

- Comparison of components that make up a whole.
- The whole can be measured in any units (like $1.2 Million) and not just as 100%.



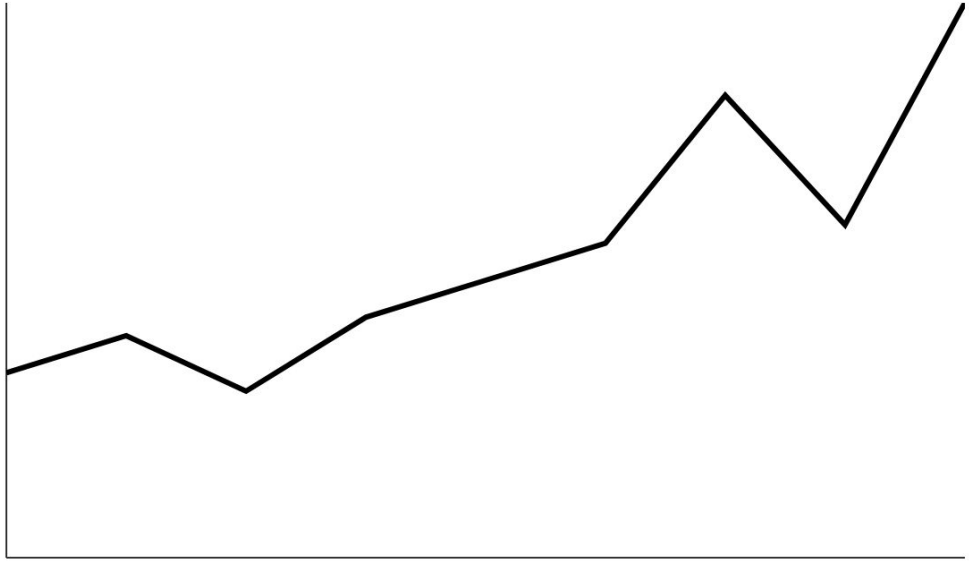
Stacked Column Chart

- Suggests that the components values changed over time.



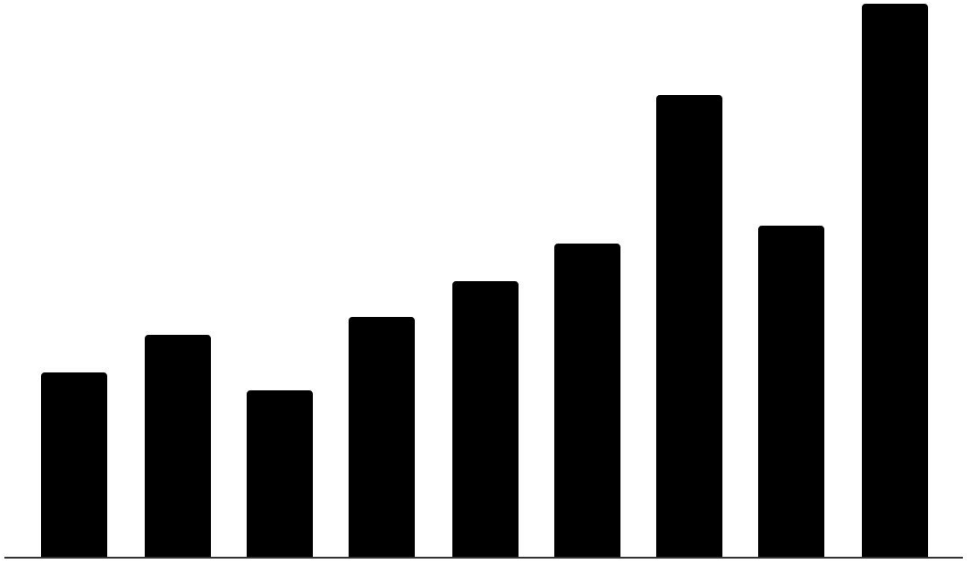
Bar Chart w/ comparison

- Compares two entities which have the same components.
- Similar to Multiple Pie Charts, but the components don’t have to sum to 100%



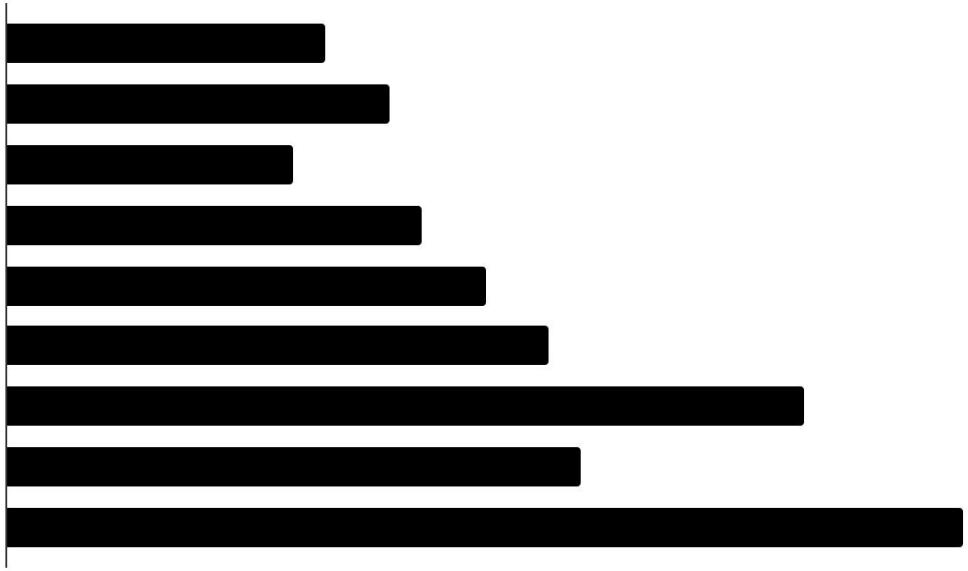
Line Chart

- There are axes. Both axes tend to have increasing values as they go right/up.
- A trend in *Y-value* is suggested, as *X-value* increases.



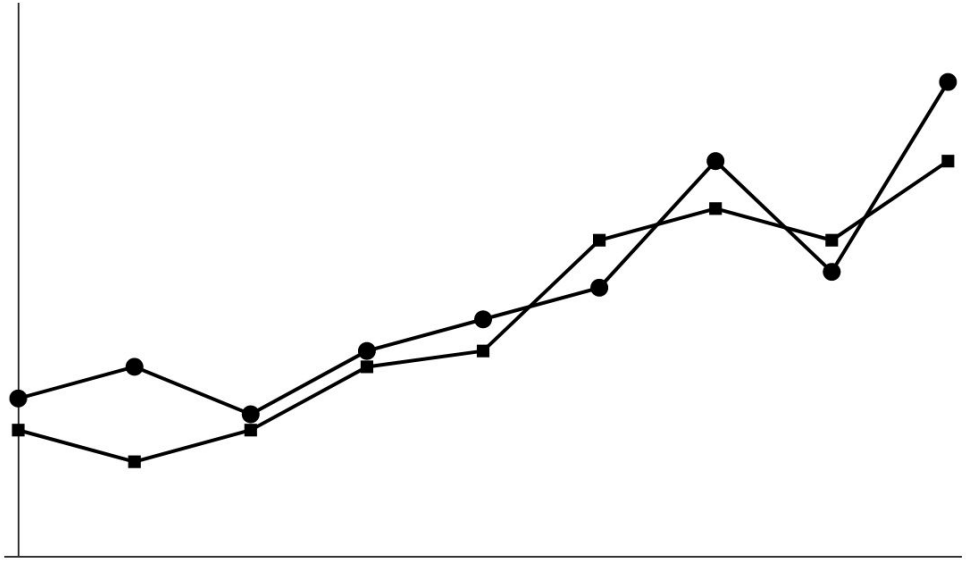
Column Chart

- Similar to line chart, more focus on exact Y-values.
- Too many columns makes it harder to read.



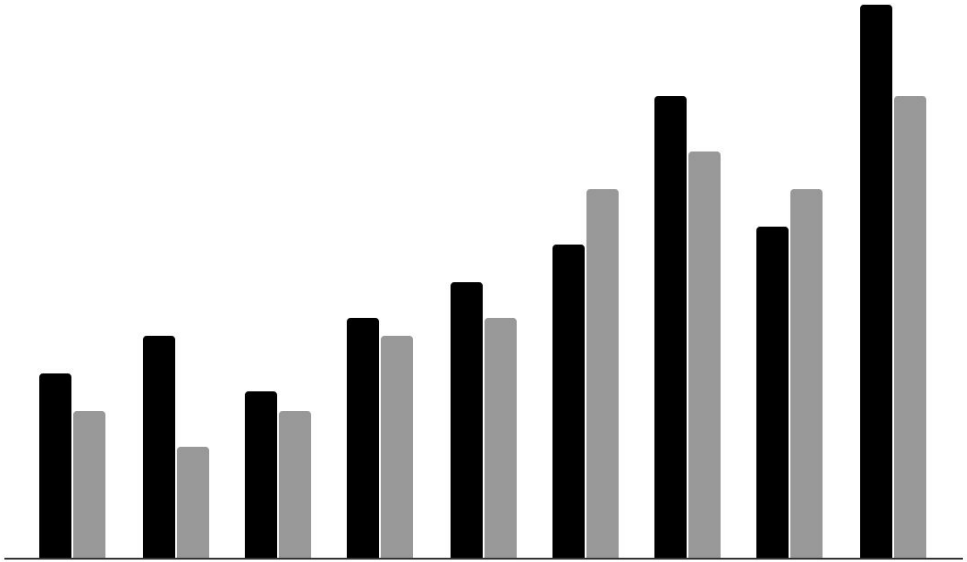
Bar Chart

- Reduced suggestion of order and trend in the vertical axis.
- It’s a good candidate for comparing multiple categories



Line Chart w/ multiple trends

- Comparison among multiple trends.
- More than 4-5 lines makes the chart hard to read.

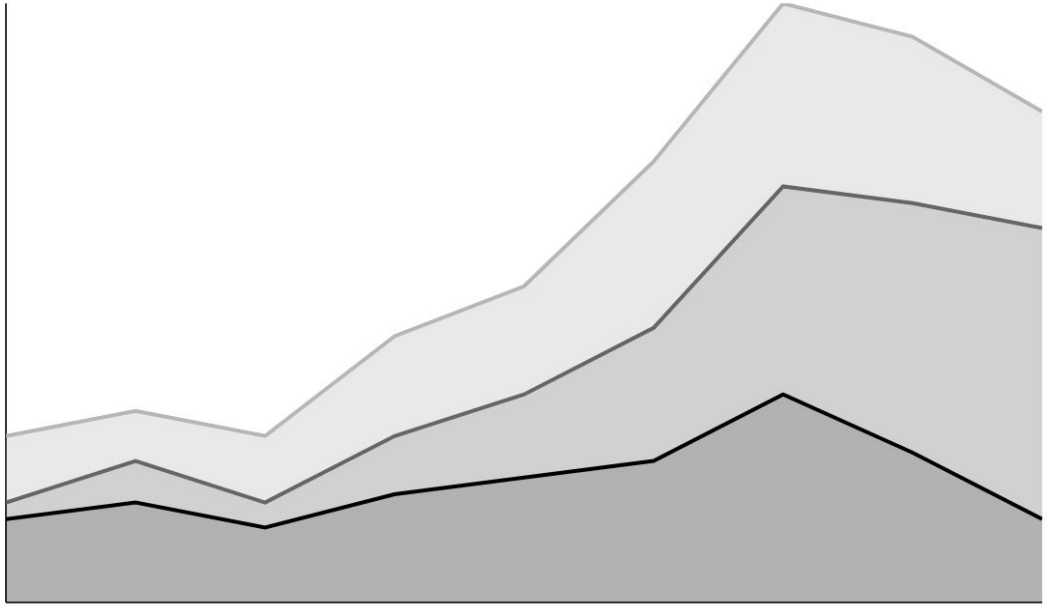


Column Chart w/ multiple series

- Similar to line chart, but with bigger focus on comparison between the two series.
- Trends are harder to spot.

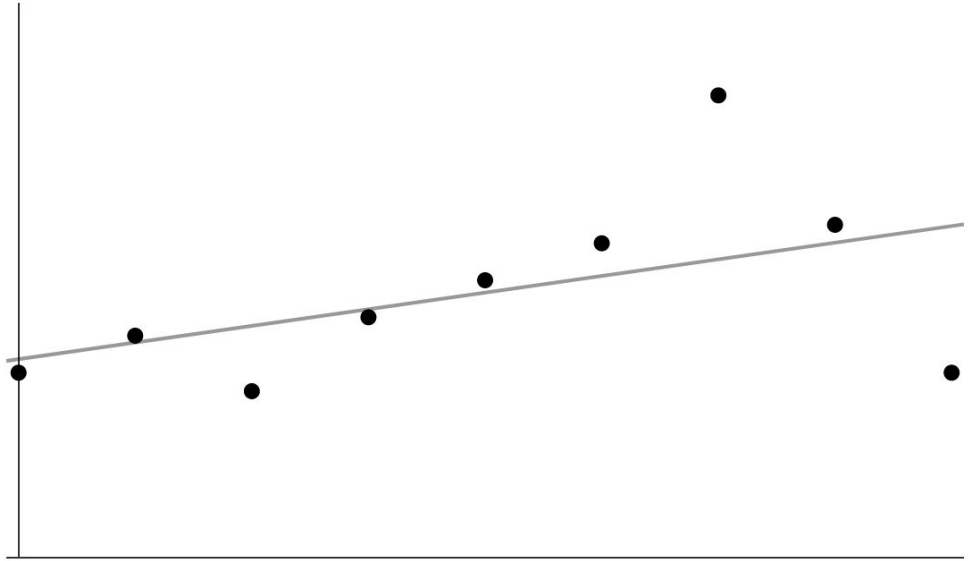
Bar Chart w/ multiple series

- There is no order in the vertical axis.



Stacked area chart

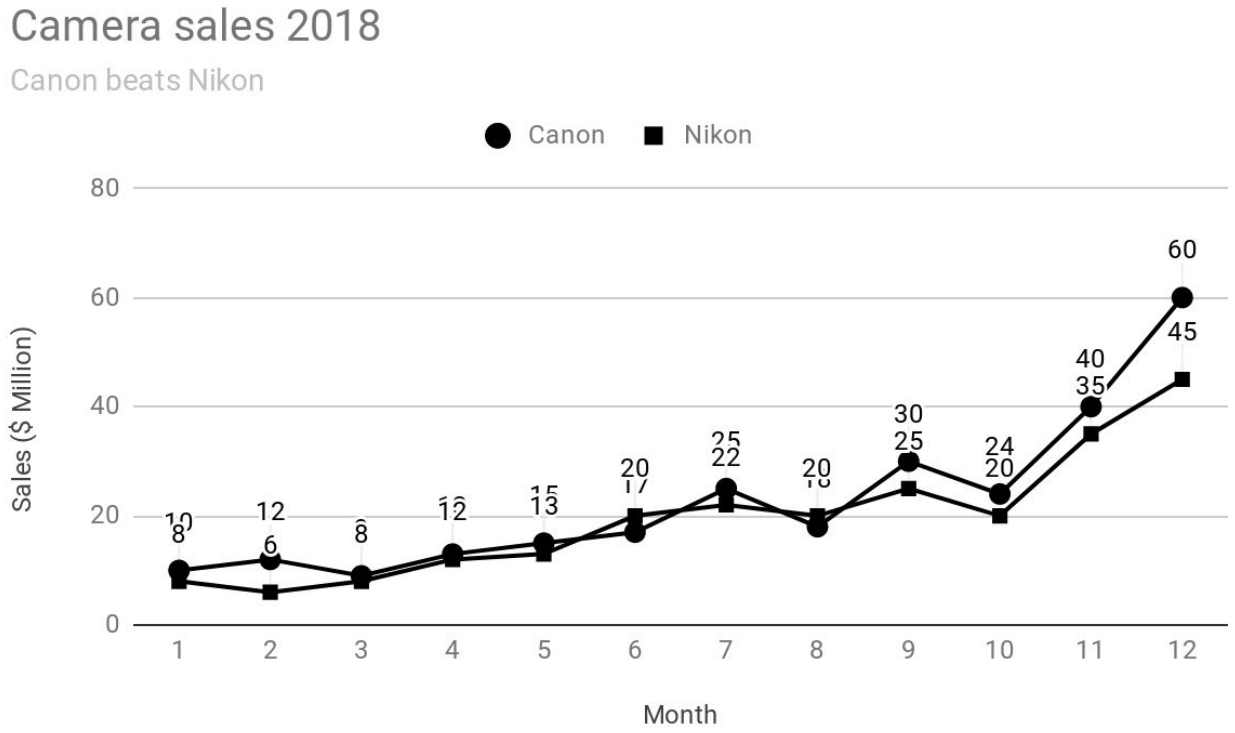
- Similar to Stacked Column Chart, but allows for much longer trends to be spotted.



Scatter chart

- To visualize correlation between X-axis values and Y-axis values.
- A trend line is nice to have.

Elements of a chart



Elements of a chart

Which elements did you notice from the last chart?

- The chart figure (lines)
- Title and Subtitle of chart
- Metric labels (legend) - used when multiple series are present
- Axes titles
- Axes labels (including axes’ value range)
- Data labels on figures - typically used in bar or pie charts

All charts may have these elements, but only some of these are required in each chart.

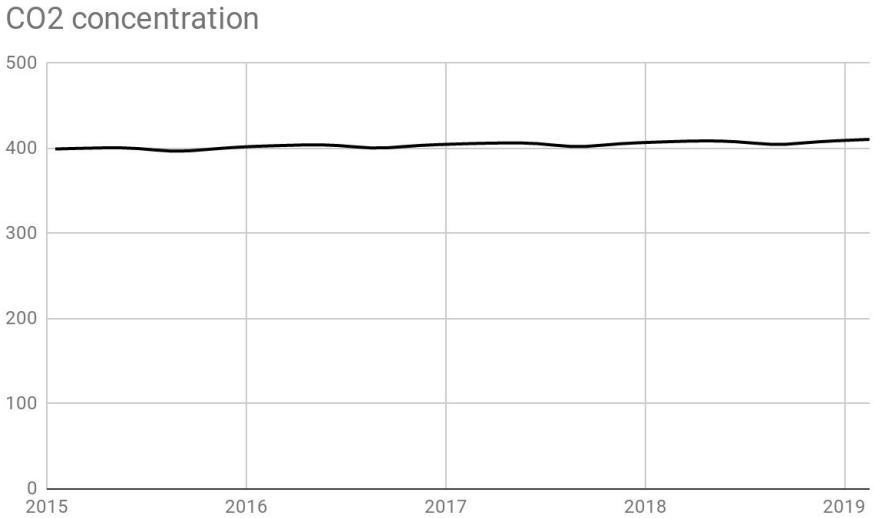
Title and Subtitle

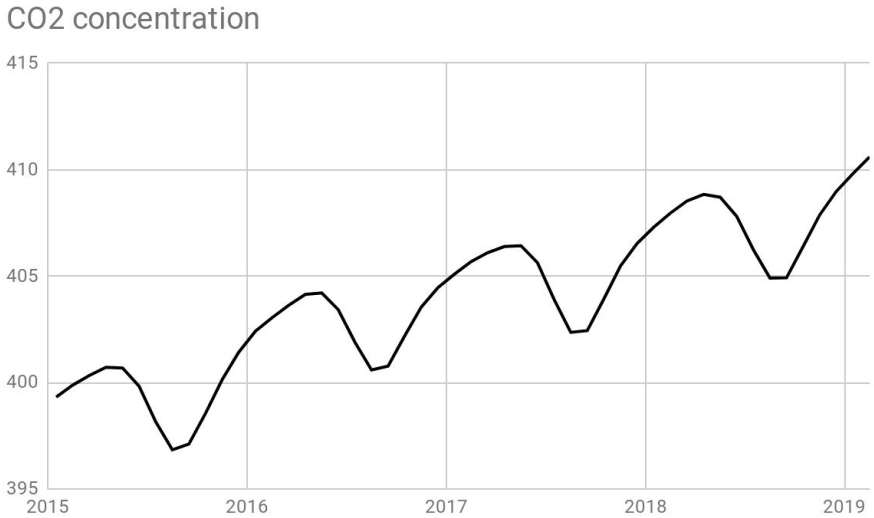
- Title typically denotes the fact that is contained in the chart. For e.g., sales, % penetration of internet, Average temperature, etc.
- Subtitle allows us to describe the main takeaway from this chart. For e.g., temperature is rising, internet penetration has flattened, etc.

Axes labels

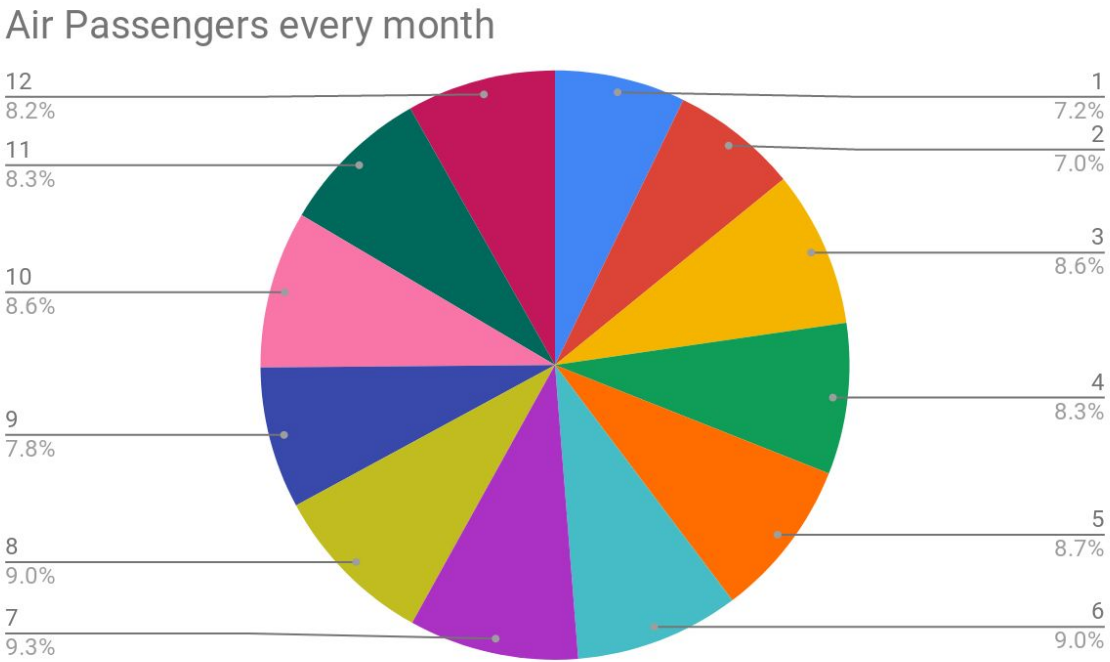
- These are highly dependent on the type of chart. They can be just categories (North, South, East, West), discrete values (months in a year), or continuous values (rainfall in inches).
- There are many decisions to be made when choosing the actual values of labels:
  - Too many categories can be overwhelming.
  - When the label is a number - the minimum, maximum values and the granularity can be very influential.

Axis labels - should Y-axis start at 0?

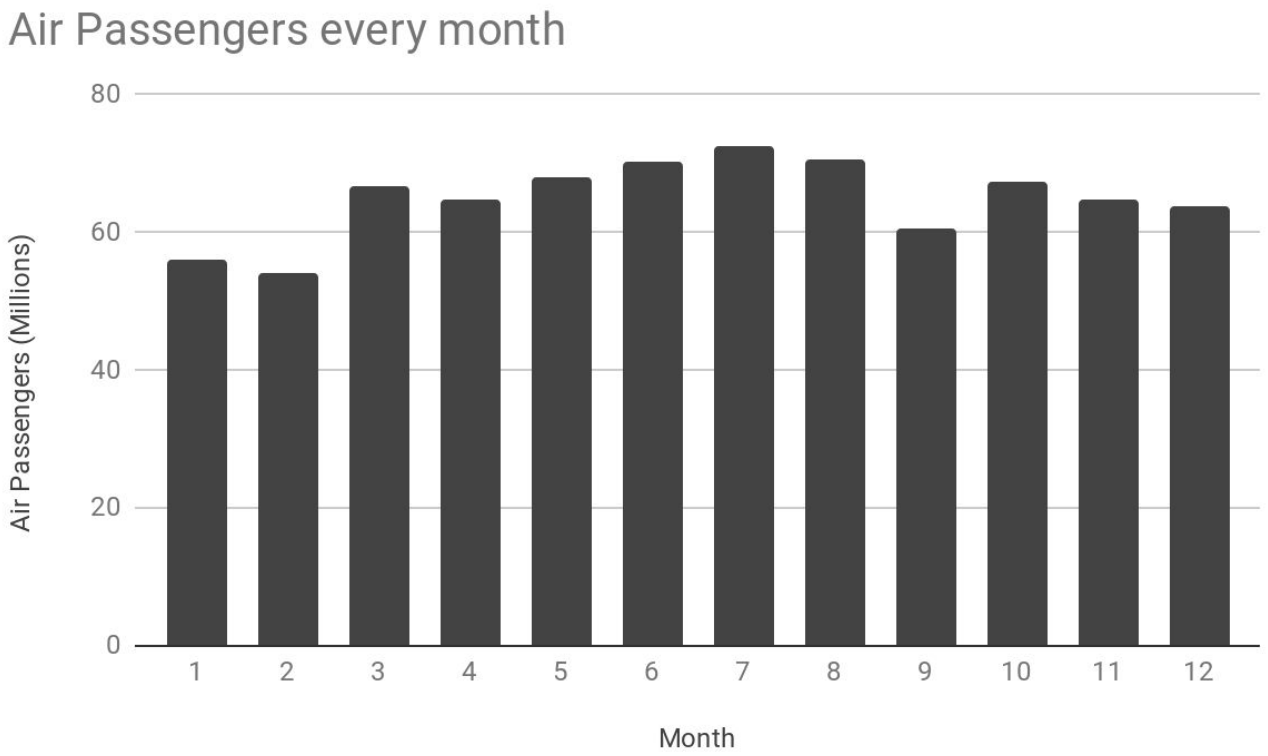




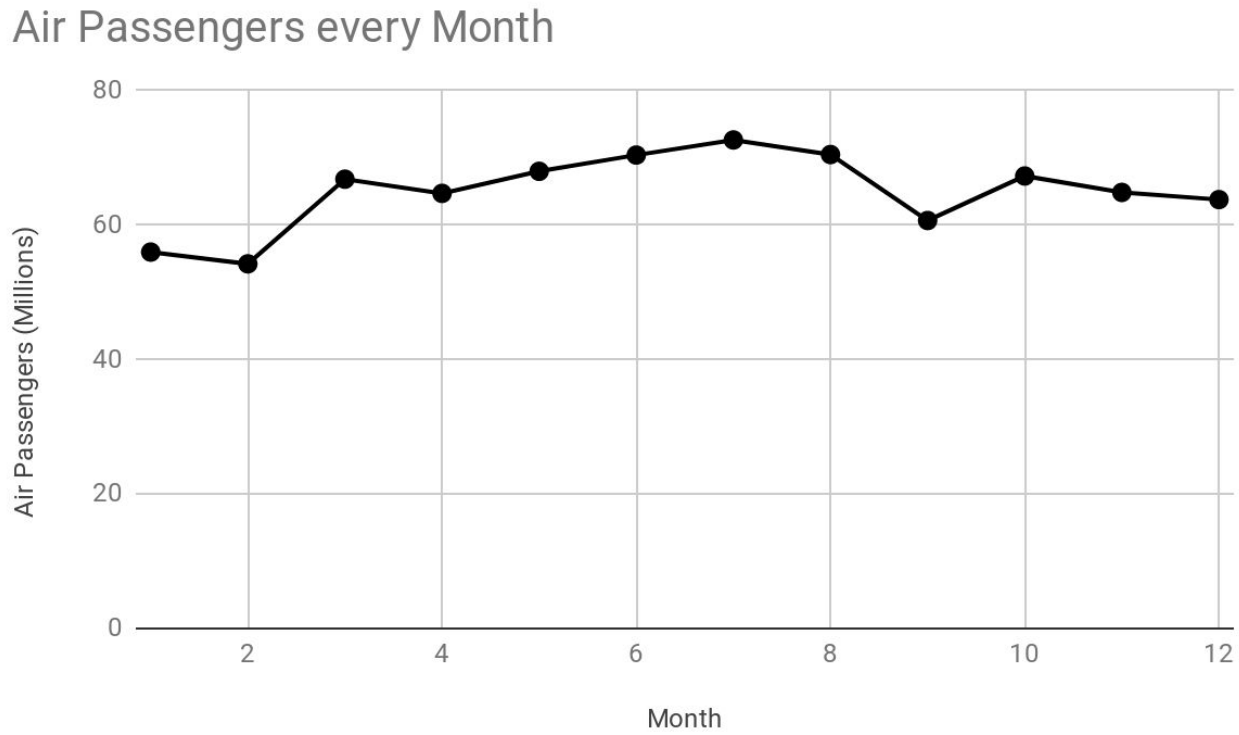
Air passengers by month (1)



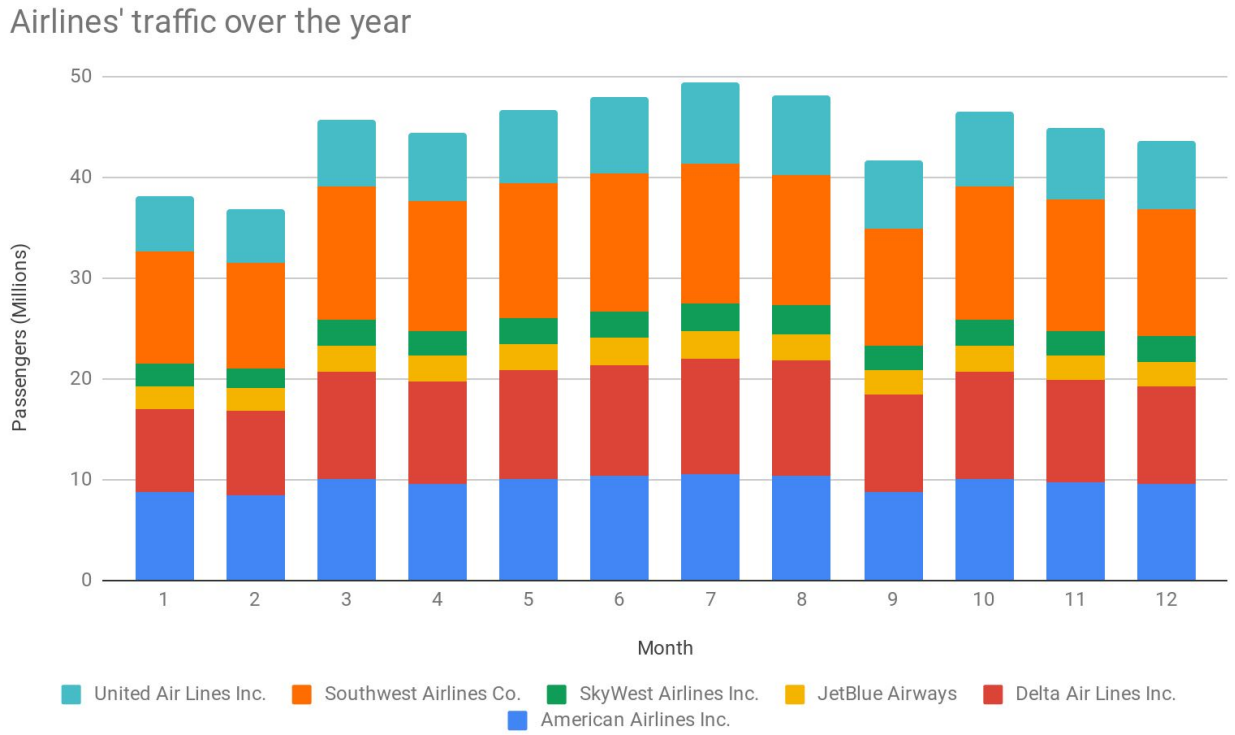
Air passengers by month (2)



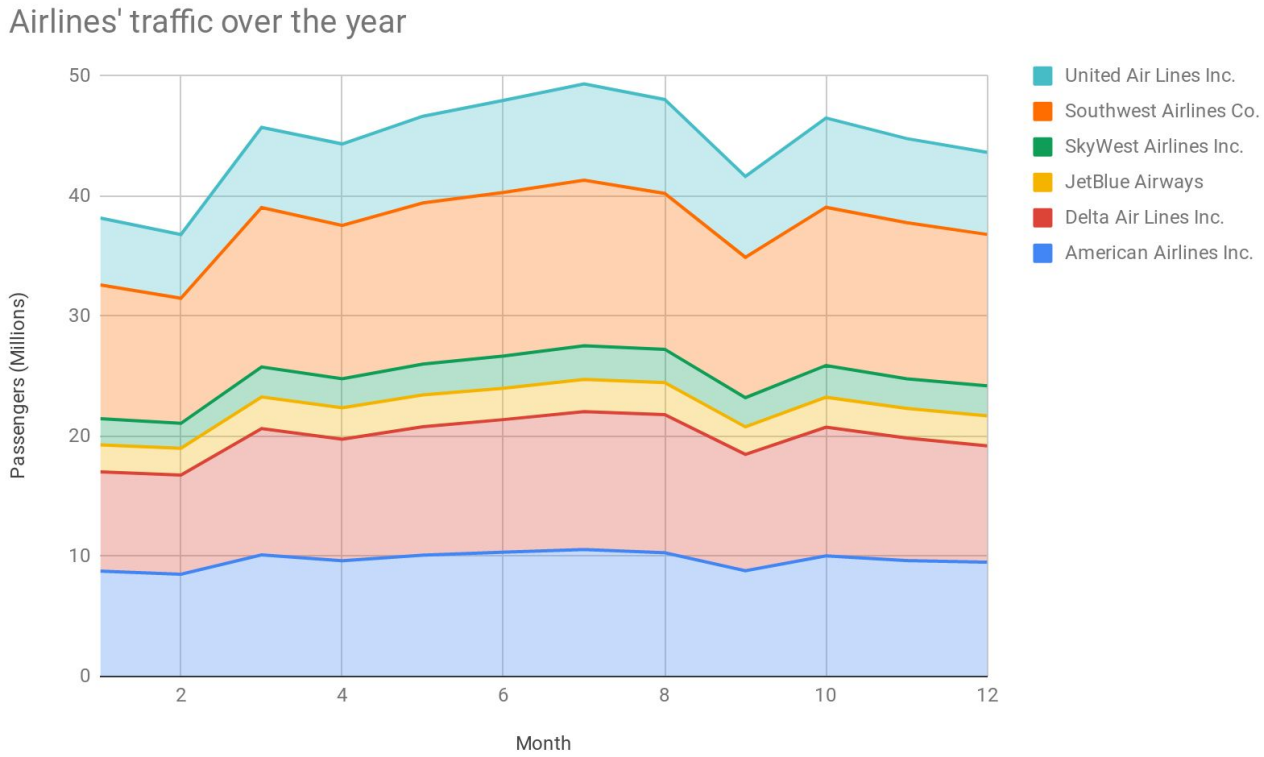
Air passengers by month (3)



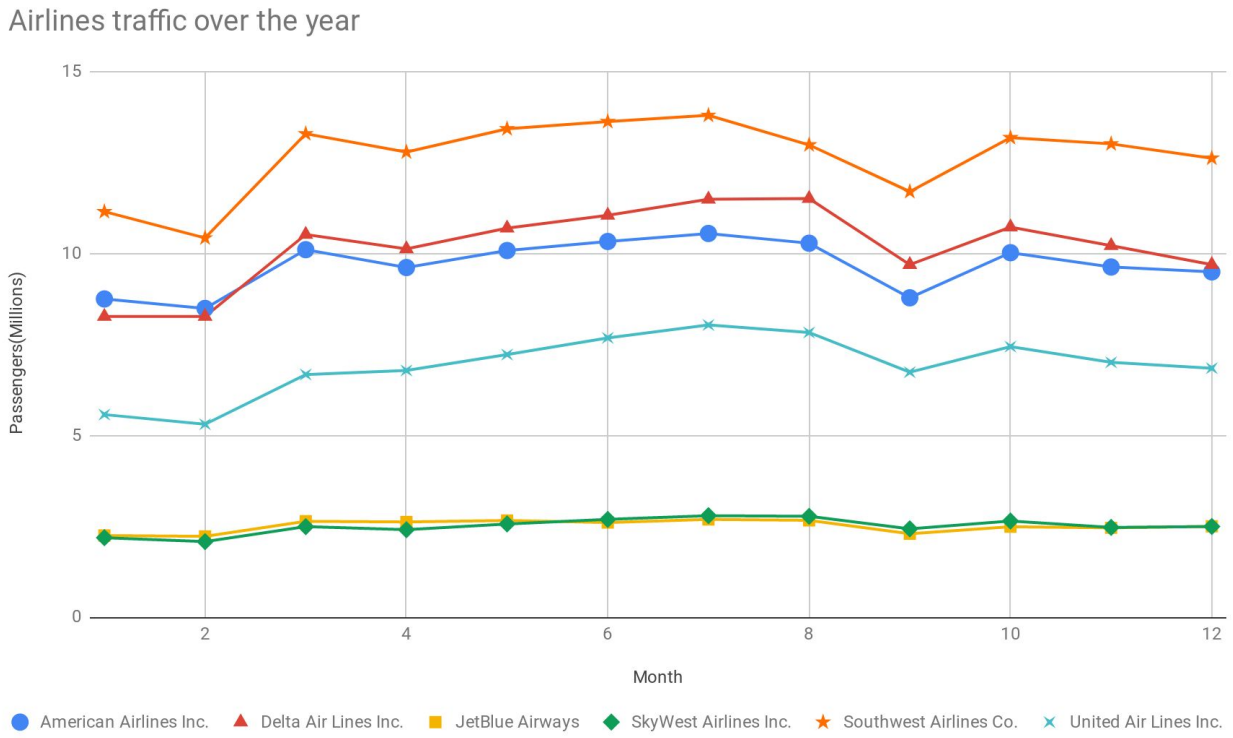
Monthly air traffic by airlines (1)



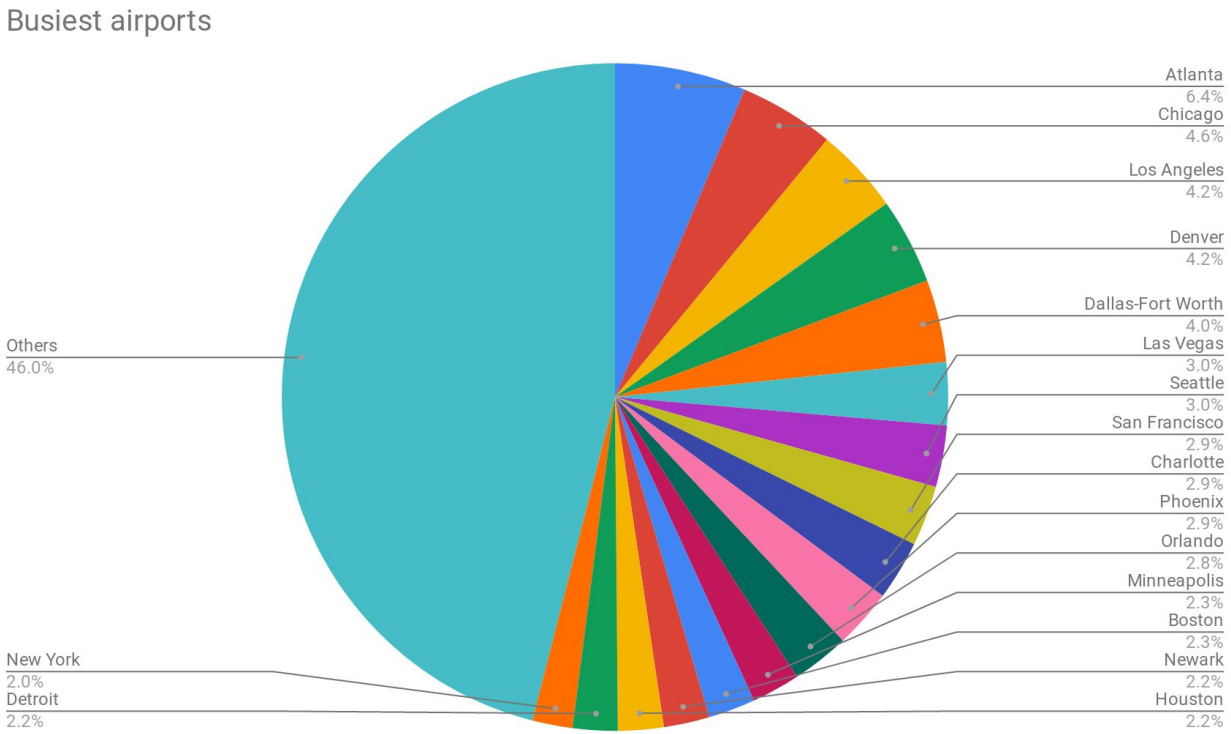
Monthly air traffic by airlines (2)



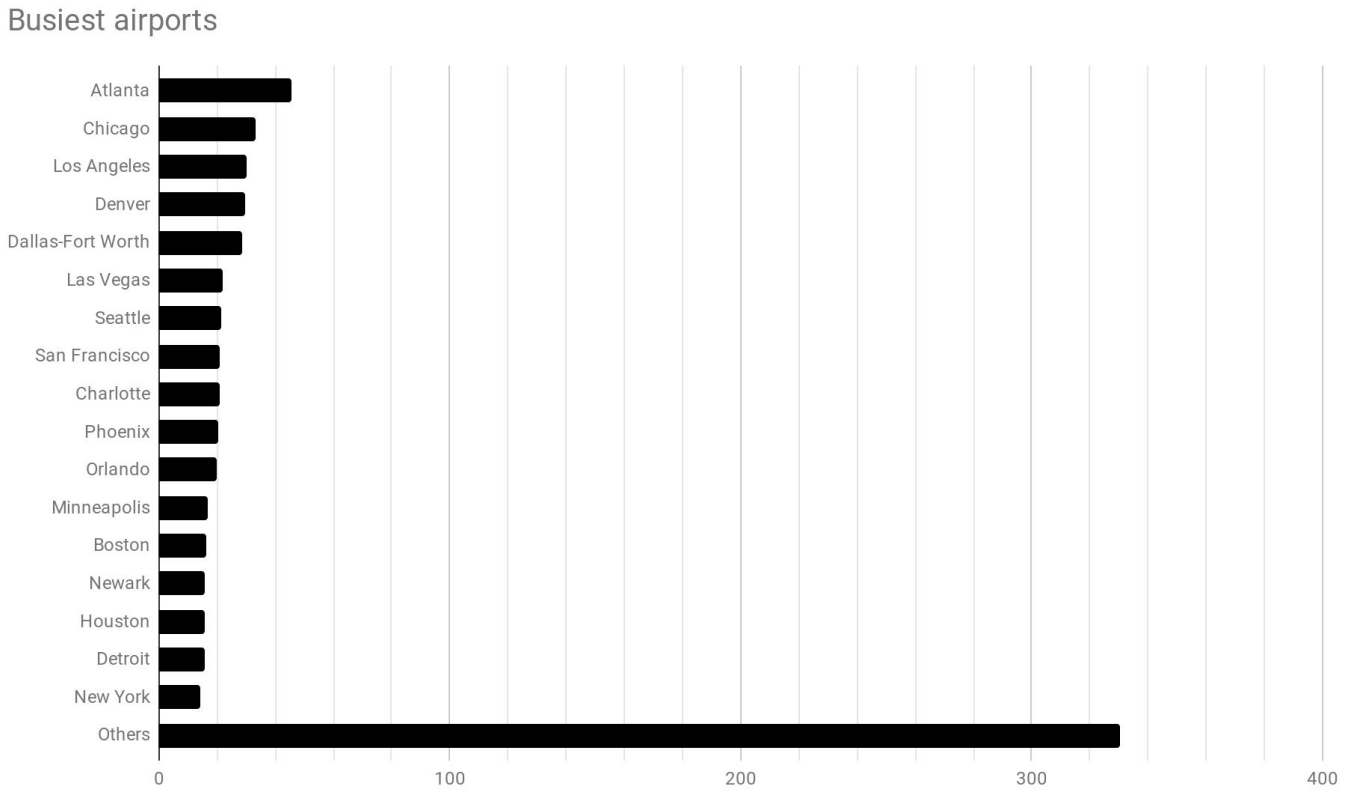
Monthly air traffic by airlines (3)



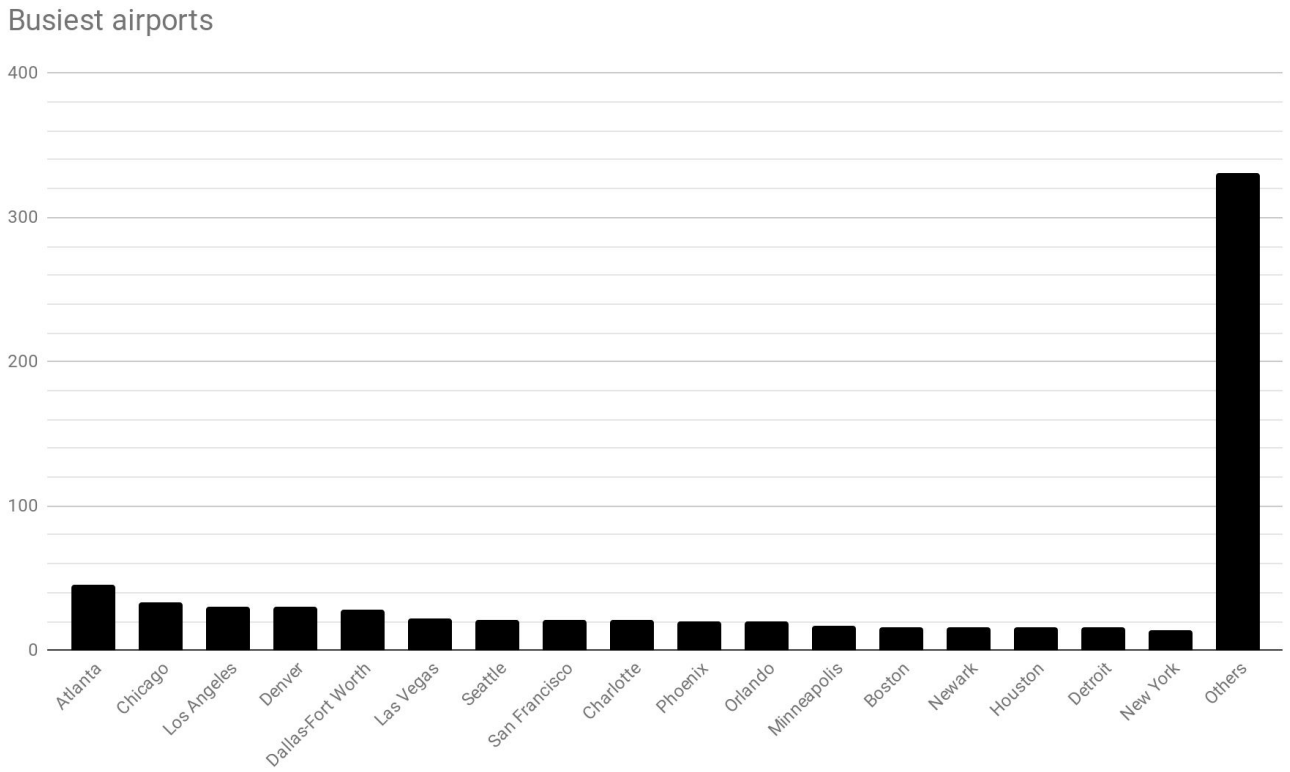
Busiest airports (1)



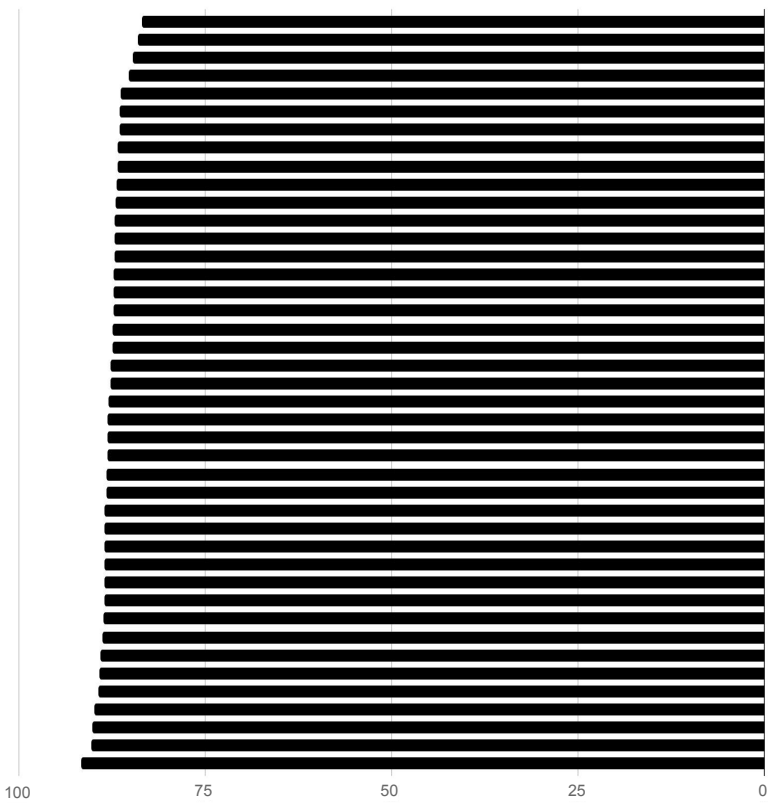
Busiest airports (2)

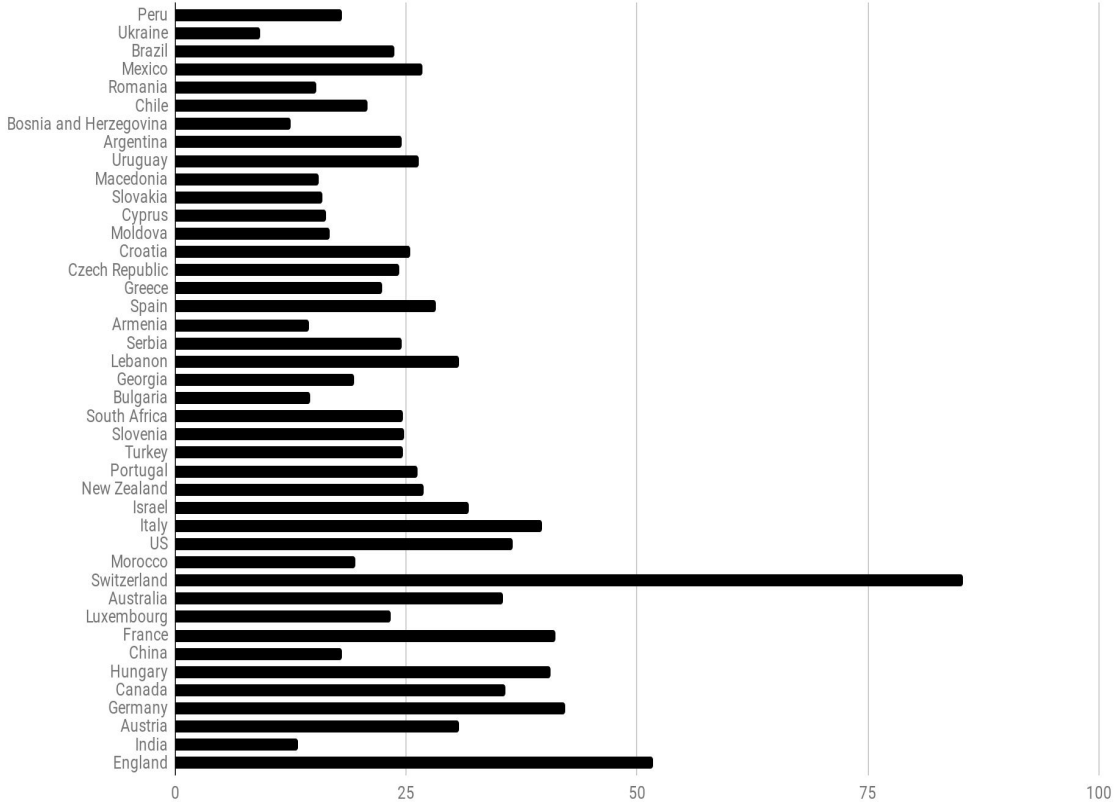


Busiest airports (3)



Wine price vs rating (1)





Wine price vs rating (2)