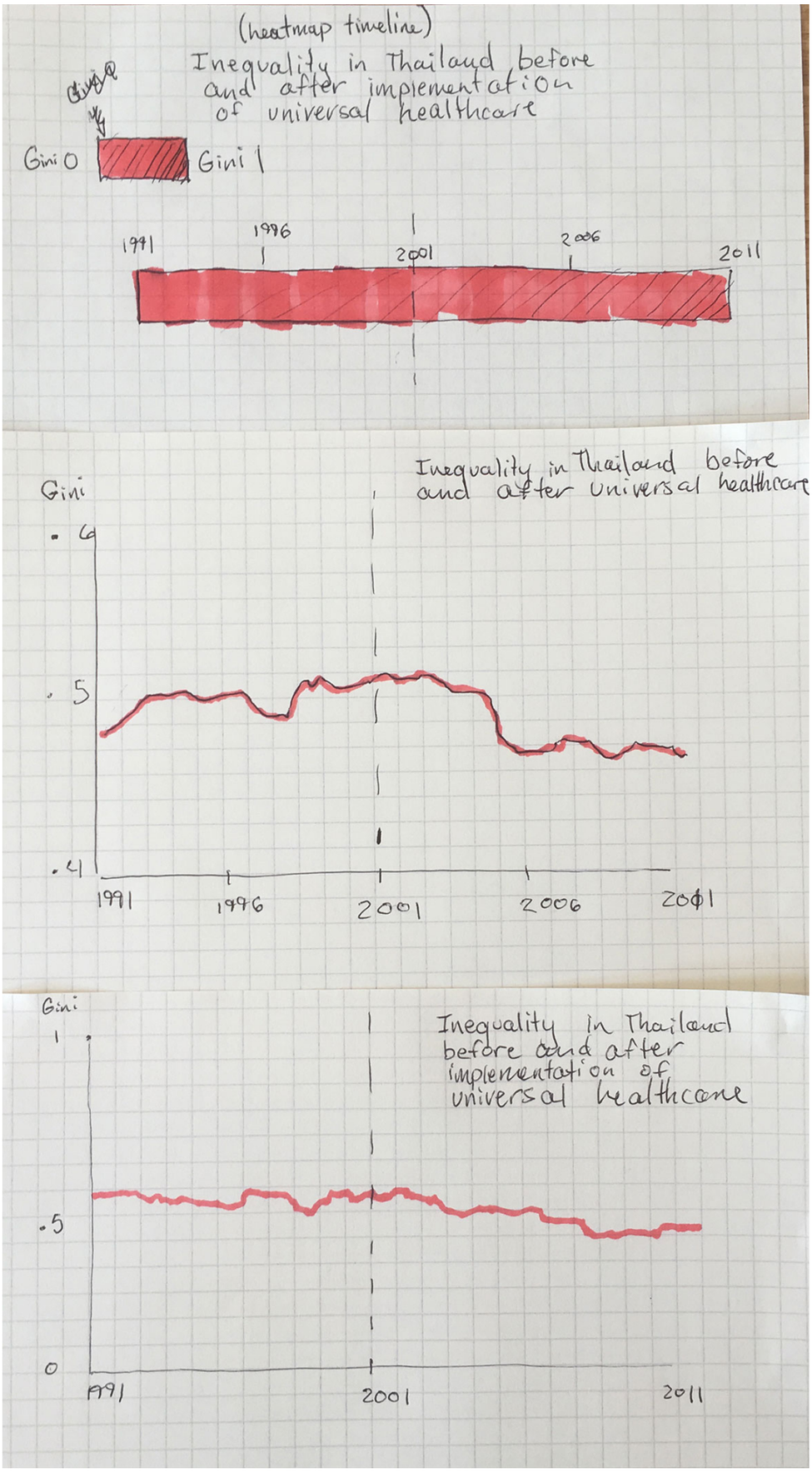
First sketches

Research question:
Is there a visible relationship between the implementation of universal healthcare and inequality in Thailand?

Goal:
Show the change in Gini ten years before and ten years after the 2001 implementation of universal healthcare in Thailand



Idea 1:
Heatmap Timeline

Idea 2:
Line chart with zoomed Gini

Idea 3:
Line chart with normal Gini

Attempt 1

I wanted to start by calling and logging the data, then build from there.

```
    var countryOne = [];
    var countryTwo = [];

// load data and parse it down to Thailand rows

    d3.csv('/project-1/data/wiid.csv', function(d) {
            return {
                // make sure numbers are read as numbers and not as strings
                Country : d.Country,
                Year : +d.Year,
                Gini : +d.Gini
            };
            // provide accessor function to d3.sv to return individual objects in data array
    }, function (data) {
        for (var i = 0; i<data.length; i++){
            var allData = data[i];
            if (allData.Country == "Thailand" && allData.Year >= 1991){
            countryOne.push(allData);
            }
        }

    });

    console.log (countryOne);
```

Input

I was able to parse and log the data so I pushed it to an array hoping to manipulate it. I wasn't able to access it from the array other than to log it.

```
▶ 0: {Country: "Thailand", Year: 1992, Gini: 42.7}
▶ 1: {Country: "Thailand", Year: 1992, Gini: 57}
▶ 2: {Country: "Thailand", Year: 1992, Gini: 51.5}
▶ 3: {Country: "Thailand", Year: 1992, Gini: 44.5}
▶ 4: {Country: "Thailand", Year: 1994, Gini: 43.2}
▶ 5: {Country: "Thailand", Year: 1994, Gini: 57.1}
▶ 6: {Country: "Thailand", Year: 1994, Gini: 43.1}
▶ 7: {Country: "Thailand", Year: 1996, Gini: 43.3}
▶ 8: {Country: "Thailand", Year: 1996, Gini: 55.5}
▶ 9: {Country: "Thailand", Year: 1996, Gini: 42.9}
▶ 10: {Country: "Thailand", Year: 1998, Gini: 43.2}
▶ 11: {Country: "Thailand", Year: 1998, Gini: 55.6}
▶ 12: {Country: "Thailand", Year: 1998, Gini: 42.1}
▶ 13: {Country: "Thailand", Year: 1999, Gini: 42.3}
▶ 14: {Country: "Thailand", Year: 1999, Gini: 56}
▶ 15: {Country: "Thailand", Year: 1999, Gini: 44.4}
▶ 16: {Country: "Thailand", Year: 2000, Gini: 43.9}
▶ 17: {Country: "Thailand", Year: 2000, Gini: 42.83}
▶ 18: {Country: "Thailand", Year: 2001, Gini: 41.9}
```

Product

```
d3.csv('/project-1/data/wiid.csv', function(error, data) {
        if (error) throw error;
        // svg(data);
        data.forEach(function(d, i) {

            if (d.Country == "Thailand" && d.Year>= 1991){
                i=i-7825;
                console.log (i);
                svg.append('text')
                    .text (d.Year)
                    .attr('x', i * 40)
                    .attr('y', innerHeight/1.1)
                    .style('text-anchor', 'float: left')
                    .style('fill', 'black')
                    .style("font", "9px times");
            }


            });


});
```

Input

I was able to access individual rows of data from within my forEach conditional. From there I appended the year text to my svg. The iterator was huge, though, so I manipulated i before using it to space out my dates.

Unfortunately I wasn't able to append any other elements to data using this method

Product

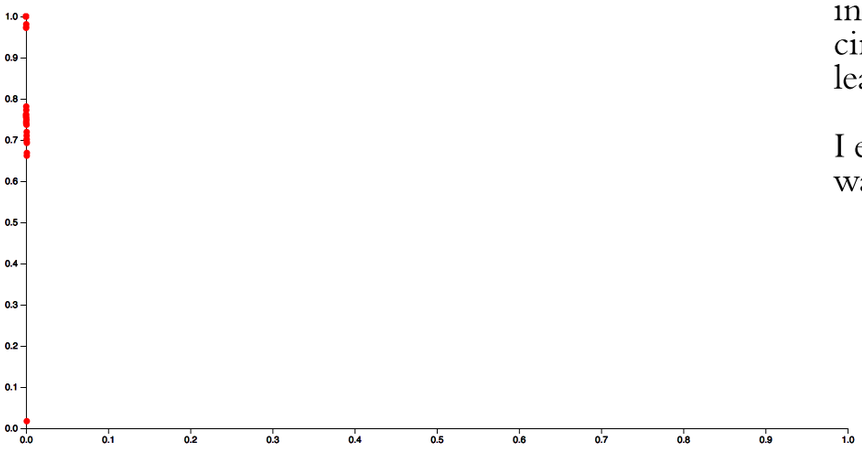
992 1992 1994 1994 1994 1996 1996 1996 1998 1998 1998 1999 1999 1999 2000 2000 2001 2002 2004 2006 2007 2008 2009 2009 2010 2011 2011 2012 2013

Attempt 2

```
var margin = {top: 20, right: 20, bottom: 30, left: 40},
    width = 960 - margin.left - margin.right,
    height = 500 - margin.top - margin.bottom;


var xValue = function(d) {
    if (d.Country == "Thailand" && d.Year>= 1993){
                return d.Year
    }
    ;}, // data -> value
    xScale = d3.scaleLinear().range([0, width]), // value -> display
    xMap = function(d) {

        if (d.Country == "Thailand" && d.Year>= 1993){
        return xScale(xValue(d));
        }
    }, // data -> display
    xAxis = d3.axisBottom().scale(xScale);

var yValue = function(d) {
    if (d.Country == "Thailand" && d.Year>= 1993){
                return d.Gini;
    }
    }, // data -> value
    yScale = d3.scaleLinear().range([height, 0]), // value -> display
    yMap = function(d) { return yScale(yValue(d));}, // data -> display
    yAxis = d3.axisLeft().scale(yScale);

// setup fill color
var cValue = 'red';

// add the graph canvas to the body of the webpage
var svg = d3.select("#lineChart").append("svg")
    .attr("width", width + margin.left + margin.right)
    .attr("height", height + margin.top + margin.bottom)
  .append("g")
    .attr("transform", "translate(" + margin.left + "," + margin.top + ")");

// add the tooltip area to the webpage
var tooltip = d3.select("body").append("div")
    .attr("class", "tooltip")
    .style("opacity", 0);


    d3.csv('/project-1/data/wiid.csv', function(error, data) {
            if (error) throw error;
            // svg(data);
            data.forEach(function(d, i) {

                if (d.Country == "Thailand" && d.Year>= 1993){
                  // x-axis
                  svg.append("g")
                      .attr("class", "x axis")
                      .attr("transform", "translate(0," + height + ")")
                      .call(xAxis)
                    .append("text")
                      .attr("class", "label")
                      .attr("x", width)
                      .attr("y", -6)
                      .style("text-anchor", "end")
                      .text("hello");

                // y-axis
                  svg.append("g")
                      .attr("class", "y axis")
                      .call(yAxis)
                    .append("text")
                      .attr("class", "label")
                      .attr("transform", "rotate(-90)")
                      .attr("y", 6)
                      .attr("dy", ".71em")
                      .style("text-anchor", "end")
                      .text(d.Gini);


                }
```

Input

I began with a Mike Bostock scatterplot template and added in conditionals to parse the data.



Product

I was able to connect the circles visually on my chart to Gini index, but thousands of empty circles were being sent to my svg leading to a really slow load time.

I experimented for a while but wasn't able to make this work.

Attempt 3

```
var svgContainer = d3.select("body")
                .append("svg")
                .attr("width", window.innerWidth)
                .attr("height", window.innerHeight);


var backGround = svgContainer.append("rect")
                .attr("width", window.innerWidth)
                .attr("height",window.innerHeight);

var circle = svgContainer.append("circle")
                .attr("cx", 30)
                .attr("cy", 30)
                .attr("r", 2);
                circle.style("fill", "red");

var leftBound = svgContainer.append("line")
                .attr("x1", window.innerWidth/8)
                .attr("y1", window.innerHeight - 100)
                .attr("x2", window.innerWidth/8)
                .attr("y2", window.innerHeight/14)
                .attr("stroke", "White")
                .attr("stroke-width", .5);

var bottomBound = svgContainer.append("line")
                .attr("x1", window.innerWidth-50)
                .attr("y1", window.innerHeight -100)
                .attr("x2", window.innerWidth/8)
                .attr("y2", window.innerHeight-100)
                .attr("stroke", "white")
                .attr("stroke-width", .5);

var countryOne = [];
var countryOneYear = [];
var countryOneGini = [];


d3.request("/project-1/data/wiid.csv")
  .mimeType("text/csv")
  .response(function (xhr) { return d3.csvParse(xhr.responseText); })
  .get(function(data) {
      for (var i = 0; i<data.length; i++){
            var allData = data[i];
            if (allData.Country == "Thailand" && allData.Year >= 1993){
                 var text = svgContainer.append('text')
                       .text (allData.Year)
                       .attr('x', window.innerWidth/8+i*.0013)
                       .attr('y', window.innerHeight -90*i*.00013)
                       .style('text-anchor', 'float: left')
                       .style('fill', 'white')
                       .style("font", "9px times");
```

Input

I manually scripted all visual elements first and then used my first, most successful code in attempt to connect the data

Product

As in my first attempt, I was able to connect the text to the data but not anything else.

Attempt 4

I manually converted my data to a .JSON file and worked directly off of Daniel's template

Product

Everything connected properly, but I had run out of time to finish this

Conclusions

Working within templates can be more difficult than hand coding. Looking back my most successful attempts were hand coded

I'm not comfortable using callback functions and that really limits my understanding and use of Javascript