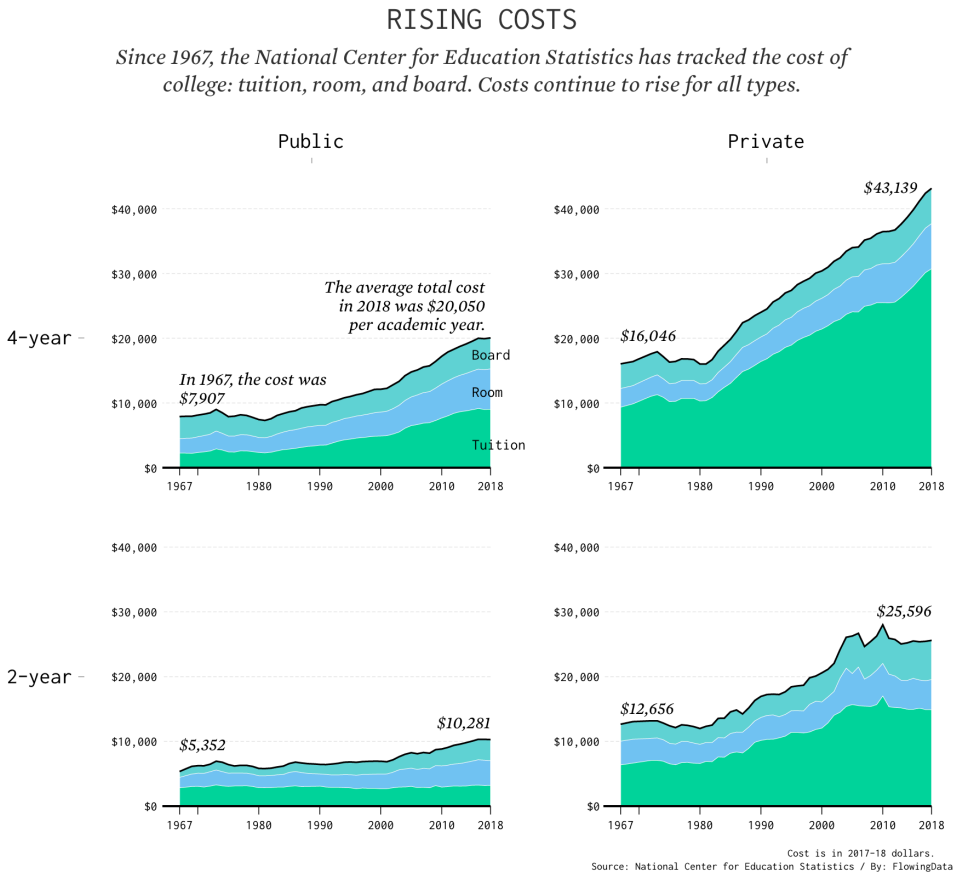
HW03 Part1: Visualization critique

MACS 30200 - Perspectives on Computational Research

Ellen Hsieh



This data visualization is about the rising costs of college, which contains four subplots that represent the changes of cost for 2-years and 4-years public college and 2-years and 4-years private college during 1976 and 2018, respectively. In each plot, it includes three types of expense for college: board, room, and tuitions. It provides title and subtitle. However, the title seems not so clear. It only said " Rising Cost" but we cannot know what kind of rising cost is presented here in the plot until we read the subtitle. Therefore, in my opinion, it would be more clear and straightforward if the author of the plot gives a title such as "The rising costs of college". As for subtitle, it

did pretty good on describing the time line and details of costs for the plot. Also, the subplots are organized in a clear way, not too hard to read.

To begin with the truthfulness of this plot, first, all the subplots are well-labeled for both x and y-axis. Second, the range of cost are well labeled from $10,000 to $40,000 according to its proportion and the years are also proportionally well-labeled from 1967 until 2018. Therefore, this plot truthfully and appropriately presents the situation based on different conditions. It also provides the average total cost for the initial time point and the last year of the years observed.

As for the functionality of this plot, the main purpose of this plot is to show how the cost of college increased based on year and various types of college. It is pretty easy for readers to perceive and interpret the information it wants to convey. For instance, first, we can see that in general the cost of private college is always the higher than the public ones. Also, the cost of studying at a 4-years private college is almost tripled over time. Even though the cost of 4-year public college has almost tripled across the time as well, the expense of 4-year private college is still a double of 4-year public college. As for 2-year public college, the average total cost is less than a double for original cost, and for 2-year college the cost is almost doubled. When we look into details for the distribution of various types of cost, we can see that the changes in tuition are significant. As for room and board, it has the tendency of rising but not that obvious. It seems that the rising costs are mainly caused by the change in tuition.

When interpreting the plot, we can gain some insights about the rising cost of college. As it is shown, we know that the main reason for the rising cost is the increase in tuition. Even though the cost of room and board also increase slightly, the reason why the average total cost has doubled or tripled is due to the doubled or tripled tuition. However, there are also some concerns about the interpretation. Since the time we considered in the plot is quite long, the money might has different value across the time. If we really want to know how the cost changes, we might need to convert all the cost in to present value and then compare the result to see whether the increase in tuition still change dramatically. If so, we can know that colleges has risen their tuition price in a rate that is larger than the inflation rate. Otherwise, the inflation rate might be an important factor to cause the plot presenting such big difference across time. Therefore, to gain a deeper insight in how the cost of college increases, it would be nice to consider it with same money scale as well.

The topic of this plot is really straightforward. Apart from showing us how the cost changes across time, it also show that how big the difference could be among different types of college. For instance, the cost of private college is more than two times of the cost of public colleges for both 2-year and 4-year type. It showed the

absolute cost for each type of college based on monetary expense and the relative cost using the visualized lines, which are composed of different points according to the time. Therefore, for me, it already did a pretty nice work on presenting the data. However, if it can combine with other relevant topic it would be more enlightening and interesting. From this plot, we can only know about how the cost changes and which kind of cost plays a important role in those changes. Thus, adding some information about how people income changes or how the inflation rate increases over time on the plot would be interesting.

The design of the plot is neat and clear. It is comfortable for reader to read and get the information and insights easily. The notation for the cost in 1967 and 2018 is well explained in the first subplot and the rest of three subplots are clean but well understandable for the reader. To distinguish three types of cost, it uses three similar but different green and blue color to show that those are all for cost but different. All the labels are clear and not so crowed, easy to read. It also use gray dotted line in the background to help readers read the rising cost over time. Overall, this plot has a good sense in conveying the data and information in a aesthetic way.

To sum up, in general this plot did a good work regarding to different aspects of data visualization, including truthfulness, functionality, insightfulness, enlightenment, and design. However, if the author can revise the title into a more straightforward one, that would be more clear for the topic and data at the first glance for readers and audience. Then, probably combining different relevant topics to create more insights about the rising cost of college would be a good choice as well. Or, it can convert all the cost into present value and do the comparison again to see the difference. Apart from the suggestions above, in my opinion, the plot already did a nice work on visualizing the data.

Resource: https://flowingdata.com/2019/05/22/cost-of-college/