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## Data Visualization: Common Mistakes, Part II - Quiz

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### Question 1

1/1 point (graded)

True or False: Simplifying a graph might reduce the raw information that is presented to the reader.

☒ a. True ✓

☐ b. False

### Explanation

This statement is true. Think back to example presented in class from Schwabish (2014) regarding Education and Exports of Office Machines. The original graph shown looked like this:

- ▶ Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression

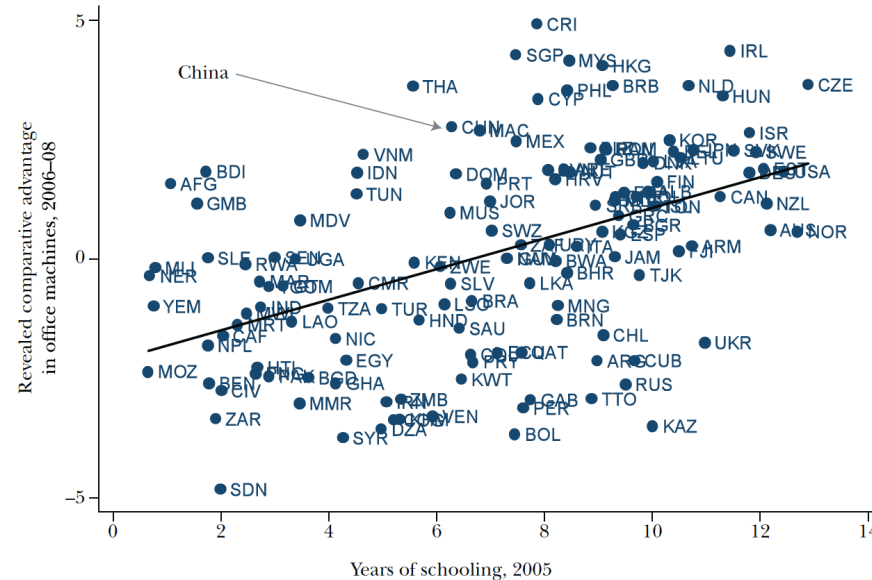
- ▶ Module 6: Special Distributions, the Sample Mean, the Central Limit Theorem, and Estimation

- ▶ Module 7: Assessing and Deriving Estimators - Confidence Intervals, and Hypothesis Testing

- ▶ Module 8: Causality, Analyzing Randomized Experiments, & Nonparametric Regression

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## Education and Exports of Office Machines




*Source:* Hanson (2012).

<https://courses.edx.org/courses/course-v1:MITx+14.310x+3T2016/courseware/c469023af4f043dd9c5ca75818e49042/277d5171a3b743618cf90233327cc317/>


## Models

- ▶ Module 10: Practical Issues in Running Regressions, and Omitted Variable Bias
- ▼ Module 11: Intro to Machine Learning and Data Visualization


### Machine Learning I

Finger Exercises due Dec 12, 2016  
05:00 IST 

### Machine Learning II

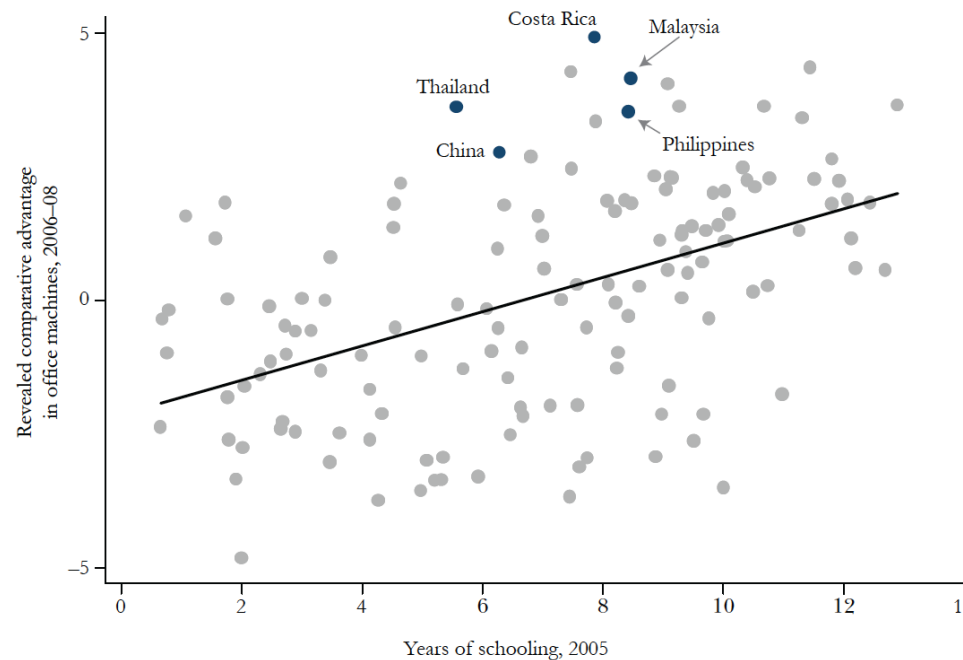
Finger Exercises due Dec 12, 2016  
05:00 IST 

### Visualizing Data

Finger Exercises due Dec 12, 2016  
05:00 IST 

- ▶ Module 12: Endogeneity, Instrumental Variables, and Experimental Design
- ▶ Exit Survey

Education and Exports of Office Machines

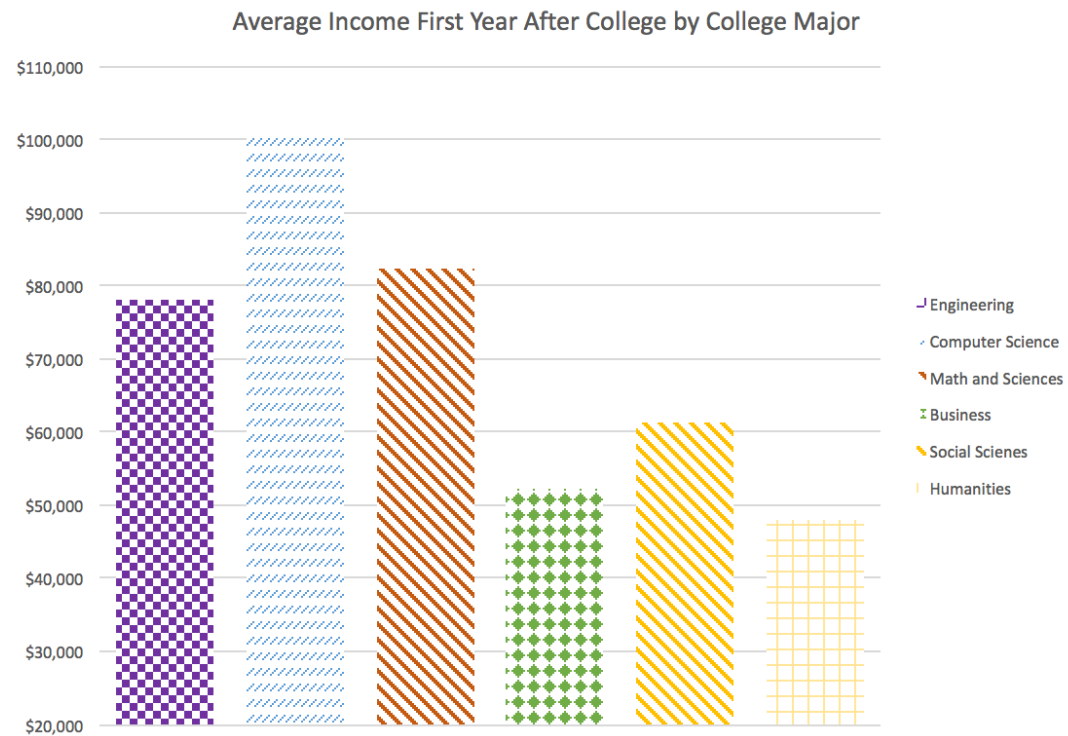


While this graph is generally more easily to interpret, if somebody is specifically concerned about how a country other than the ones marked, such as Bulgaria, fits in this graph they would not be able to know with the improved graph. However, less raw information might lead to the better cognitive process of all the information which might matter more, depending on the information that you aim to convey.

You have used 1 of 1 attempt

✓ Correct (1/1 point)

The below bar chart presents the average income for recent college graduates from a fake university during their first year after graduation based on their major.



## Question 2

0/1 point (graded)

The above bar chart could be improved by (Select all that apply):

- ☒ a. Adding a squiggly zig-zag line at the origin to indicate the jump from the origin to your starting point.
- ☒ b. Starting the bar graphs at zero
- ☒ c. Removing the patterns inside the bars
- ☒ d. Replacing the legend with labels underneath each of the bars



### Explanation

Since analyzing bar graphs depends on the height interpretations, it can be misleading not to start at 0 even after adding for a squiggly line and makes comparisons of the heights of the bar charts much more difficult to do. As discussed in class, with bar charts, it is best to avoid patterns that require a legend, and instead to place the information presented in the legend with labels underneath each of the bars.

Submit

You have used 2 of 2 attempts

✘ Incorrect (0/1 point)

## Discussion

**Topic:** Module 11 / Data Visualization: Common Mistakes, Part II - Quiz

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