Data Visualization With Stata (The Basics)

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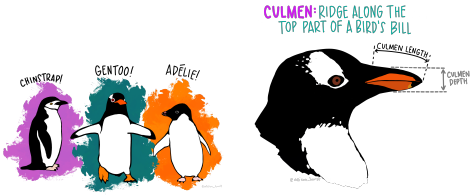
1 Introduction

99% of data visualization work seems to consist of creating bar graphs (`graph bar y, over(x)`) and scatterplots (`twoway scatter y x`). (For the sake of completeness, I am also going to mention histograms (`histogram x`).)

> Note: In some commands, I use `///` so that Stata commands can be on multiple lines.

This is a quick guide to these ideas using the Palmer Penguins Data.



2 Setup

```
clear all

use "penguins.dta", clear
```

Or, click here to download the data.

> I am not a particular fan of the default `s2color` graph scheme in earlier versions of Stata. In earlier versions of Stata, I might use the `s1color` scheme by typing `set scheme s1color`. This handout makes use of the `stcolor` graph scheme which is the default in newer versions of Stata.

3 Histogram: `histogram x`

```
histogram body_mass_g, title("Body Mass of Penguins") xtitle("Body Mass")
```

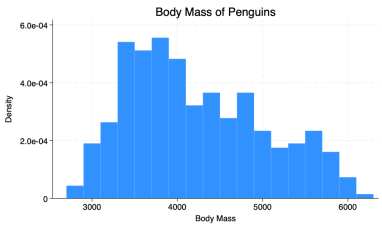


Figure 1: histogram

4 Bar Graph: `graph bar`

4.1 Counting Up Numbers In Each Group: `graph bar, over(x)`

```
graph bar, over(species) title("Penguin Species")
```

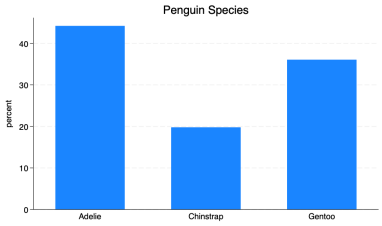


Figure 2: bar graph

4.2 Average Of A Continuous Variable Across Groups: `graph bar y, over(x)`

```
graph bar body_mass_g, over(species) title("Body Mass of Penguin Species")
```

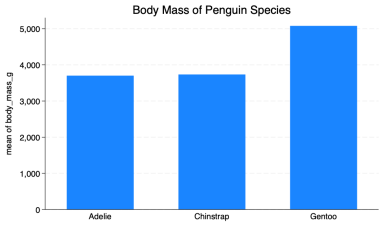


Figure 3: bar graph

5 Scatterplot: `twoway scatter y x`

```
twoway scatter culmen_length_mm body_mass_g, ///
title("Penguin Culmen Length by Body Mass") ///
xtitle("Body Mass") ///
ytitle("Culmen Length")
```

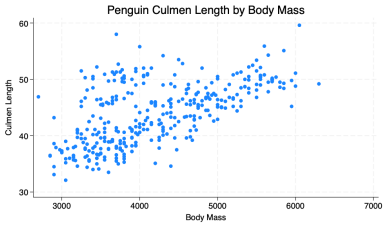


Figure 4: scatterplot

6 Linear Fit: `twoway lfit y x`

```
twoway lfit culmen_length_mm body_mass_g, ///
title("Penguin Culmen Length by Body Mass") ///
xtitle("Body Mass") ///
ytitle("Culmen Length")
```

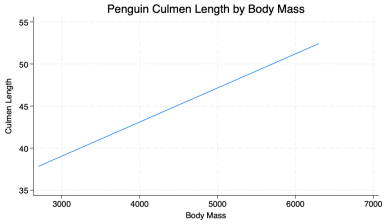


Figure 5: scatterplot