How to Create and Customize Histograms in Stata

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Histograms are graphical representations of the distribution of a numeric variable in a dataset. In Stata, histograms can be easily created and modified using built-in commands. To create a histogram, users can use the "histogram" command and specify the variable of interest. The resulting histogram will show the frequency of values on the x-axis and the count or density on the y-axis.

To modify the histogram, users can use various options such as changing the bin width, adding labels and titles, and adjusting the color and style. The "histogram" command also allows users to overlay multiple histograms for comparison.

Furthermore, Stata offers additional commands such as "histogram options" and "graph combine" to further customize and combine histograms. These commands allow users to adjust the layout, add legends, and apply transformations to the data before creating the histograms.

In summary, Stata provides a user-friendly and flexible approach to creating and modifying histograms, making it a powerful tool for visualizing and analyzing data distribution.

Create and Modify Histograms in Stata

A histogram is a type of chart that uses rectangular bars to represent frequencies. It's a helpful way to visualize the distribution of data values.

This tutorial explains how to create and modify histograms in Stata.

How to Create Histograms in Stata

We'll use a dataset called *auto* to illustrate how to create and modify histograms in Stata.

First, load the data by typing the following into the

Command box:

use http://www.stata-press.com/data/r13/auto

We can get a quick look at the dataset by typing the following into the Command box:

summarize

```
. use http://www.stata-press.com/data/r13/auto
(1978 Automobile Data)

. summarize
```

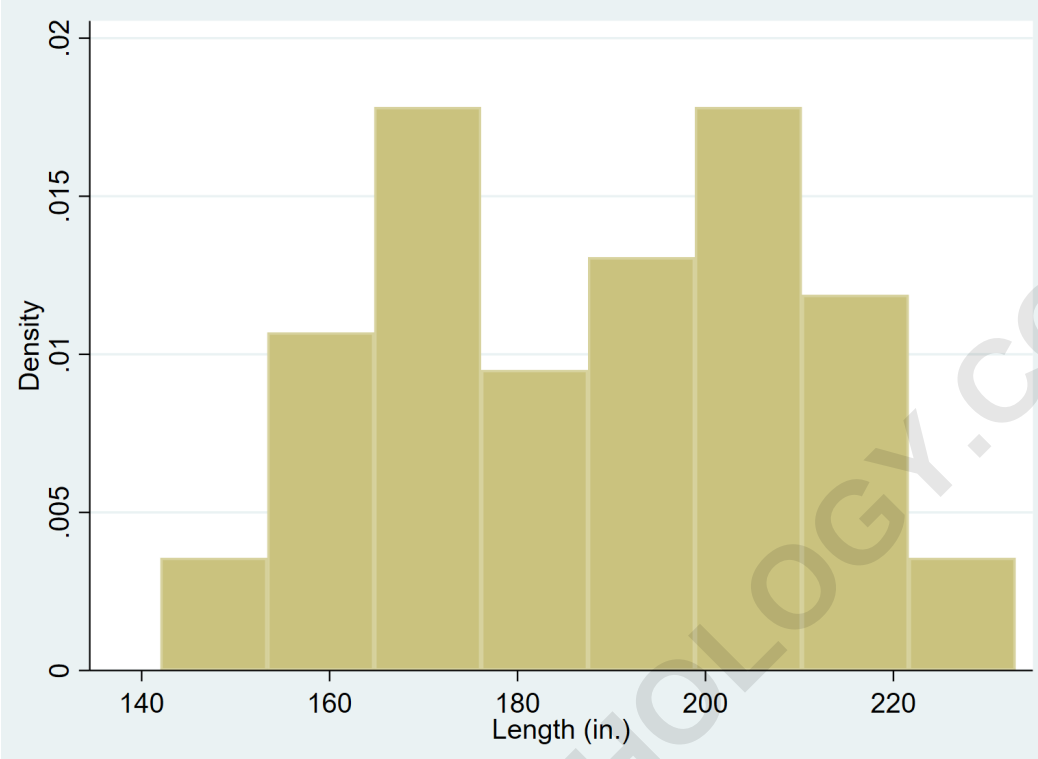
Variable	Obs	Mean	Std. Dev.	Min	Max
make	0				
price	74	6165.257	2949.496	3291	15906
mpg	74	21.2973	5.785503	12	41
rep78	69	3.405797	.9899323	1	5
headroom	74	2.993243	.8459948	1.5	5
trunk	74	13.75676	4.277404	5	23
weight	74	3019.459	777.1936	1760	4840
length	74	187.9324	22.26634	142	233
turn	74	39.64865	4.399354	31	51
displacement	74	197.2973	91.83722	79	425
gear_ratio	74	3.014865	.4562871	2.19	3.89
foreign	74	.2972973	.4601885	0	1

We can see that there are 12 total variables in the dataset.

Basic Histogram

We can create a histogram for the variable *length* by using the hist command:

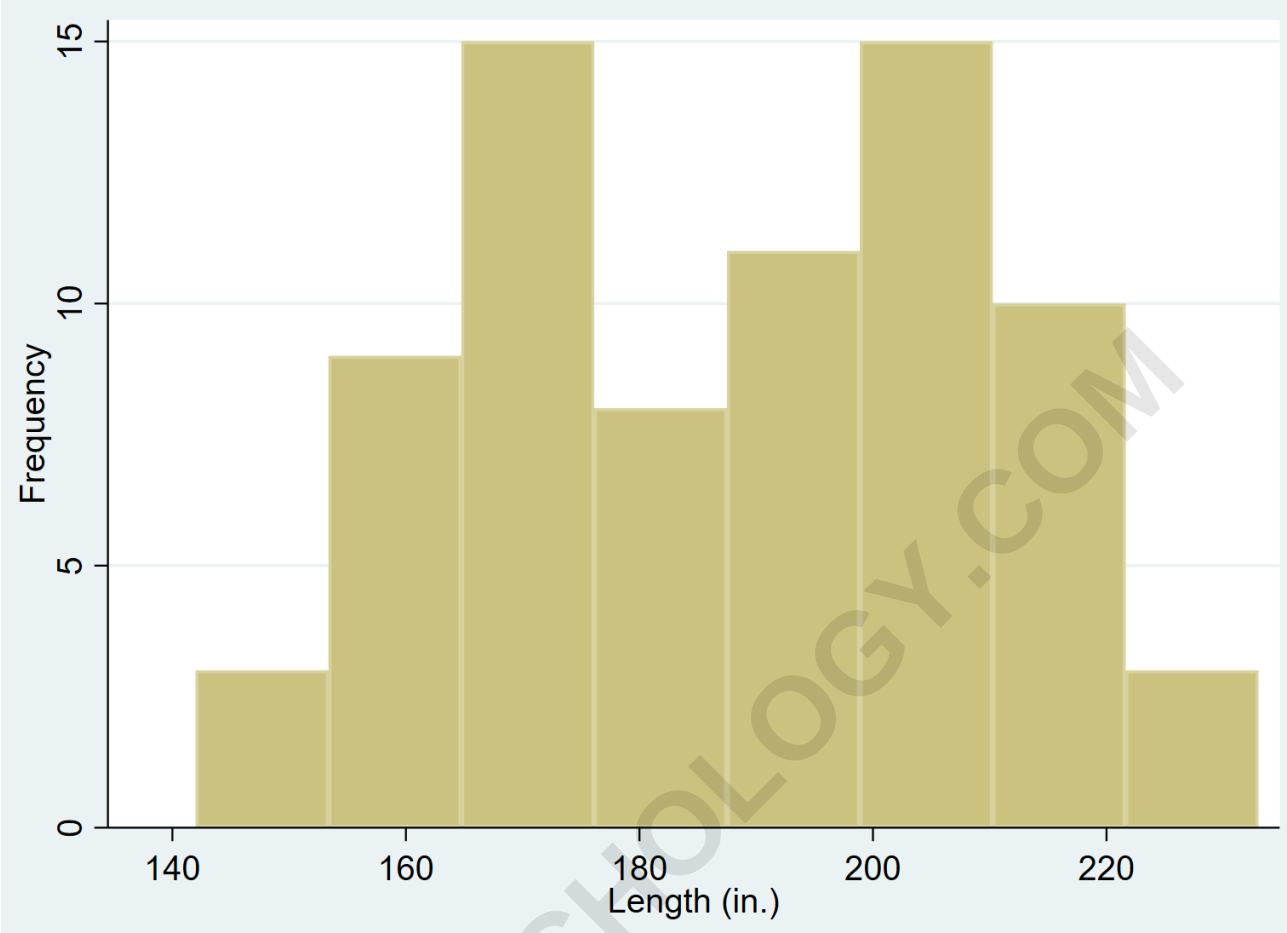
hist length



Histogram with Frequencies

By default, Stata displays the density on the y-axis. You can change the y-axis to display the actual frequencies by using the freq command:

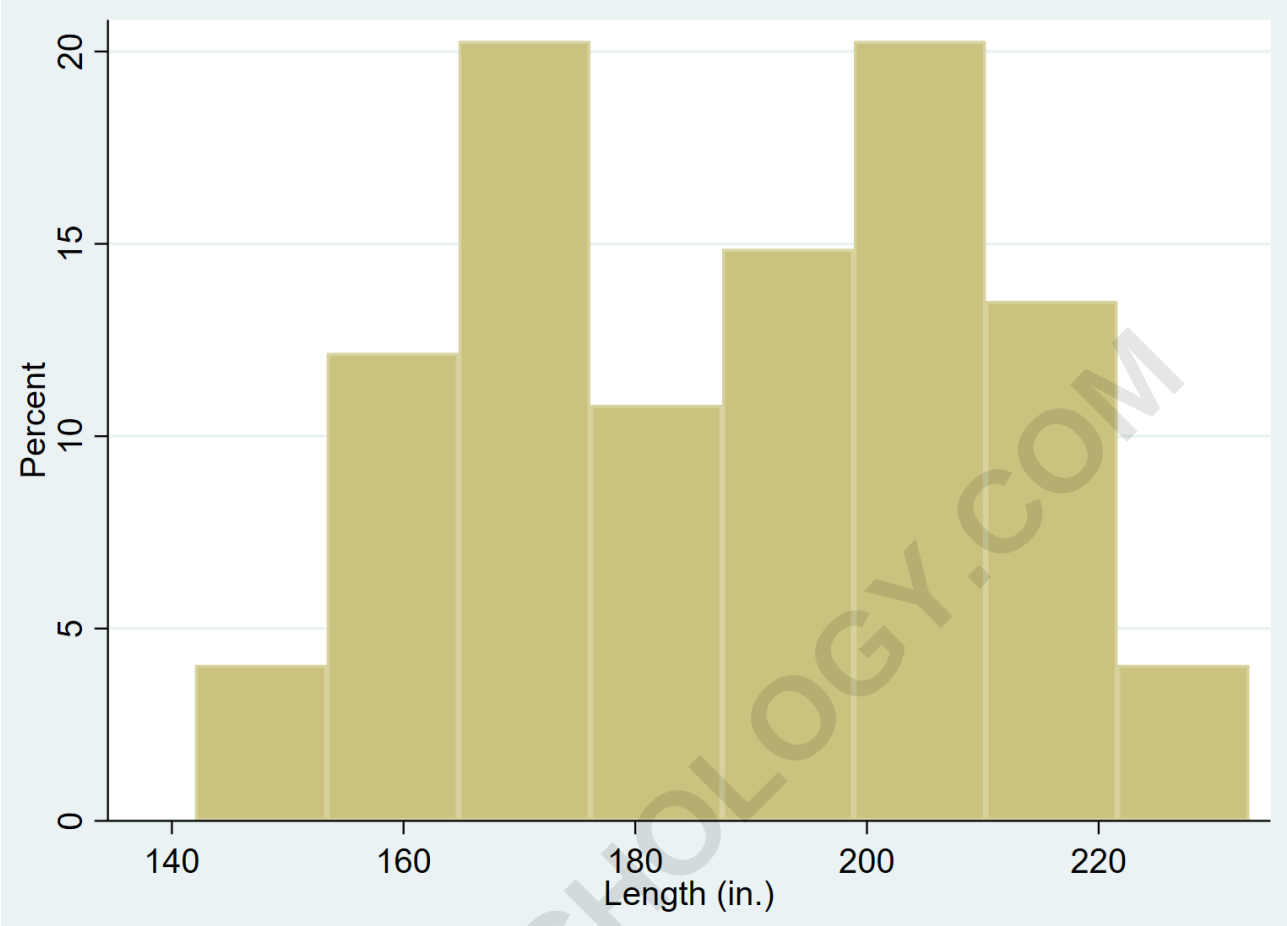
hist length, freq



Histogram with Percentages

You can also change the y-axis to display percentages instead of frequencies by using the percent command:

hist length, percent



Changing the Number of Bins

When you use the hist function in Stata, it automatically tells you how many "bins" it used. For example, in the previous examples it always used 8 bins:

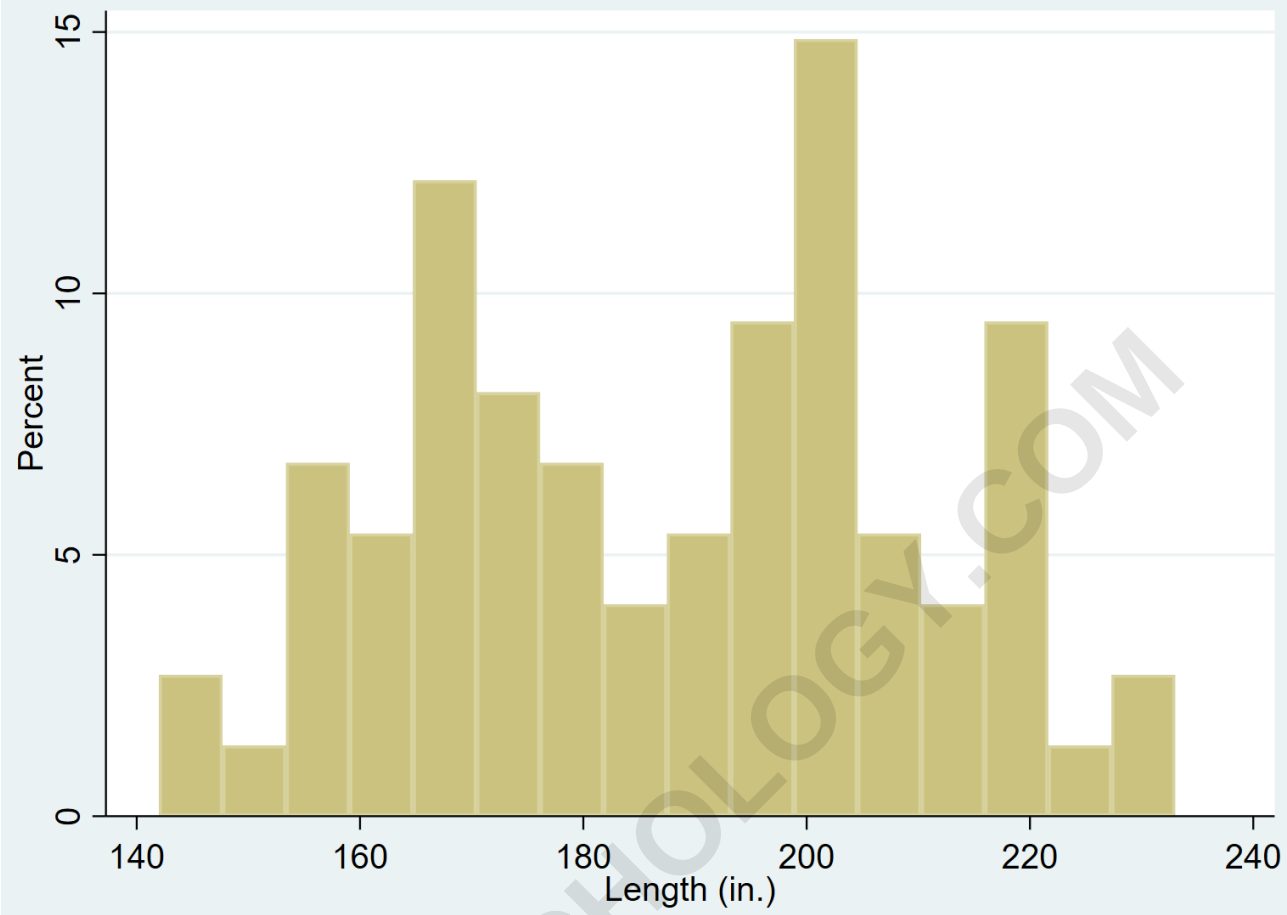
```
. hist length
(bin=8, start=142, width=11.375)

. hist length, freq
(bin=8, start=142, width=11.375)

. hist length, percent
(bin=8, start=142, width=11.375)
```

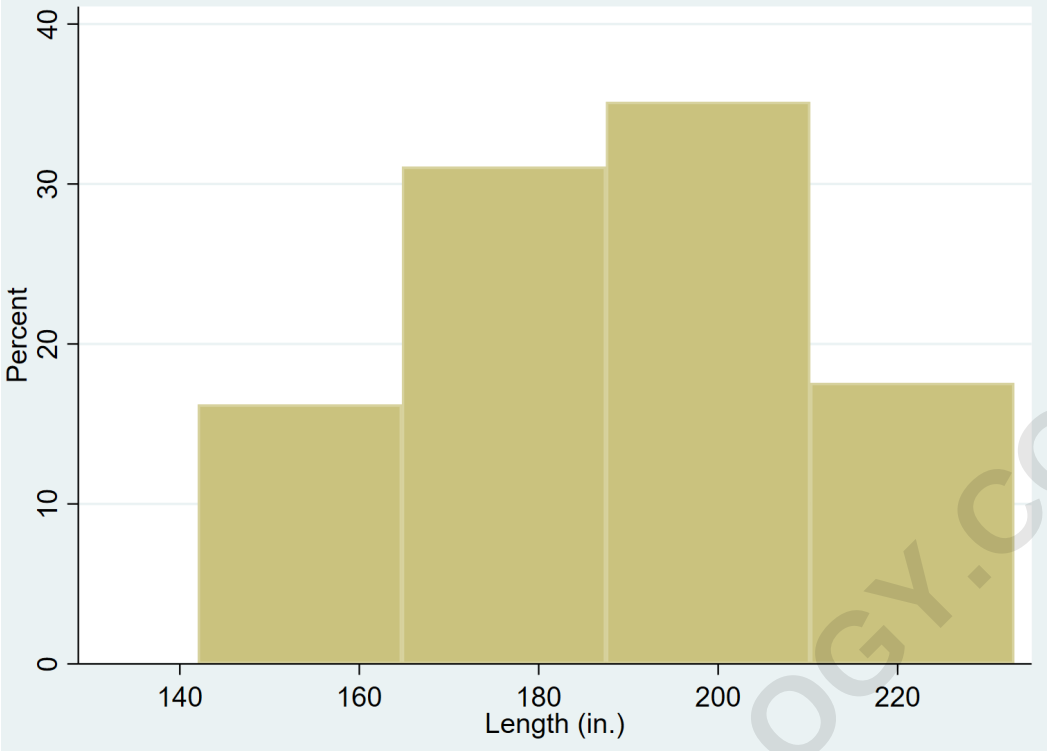
However, we can specify the exact number of bins by using the bin() command. For example, the following code tells Stata to use 16 bins instead of 8:

```
hist length, percent bin(16)
```



We can also tell Stata to use fewer bins:

hist length, percent bin(4)

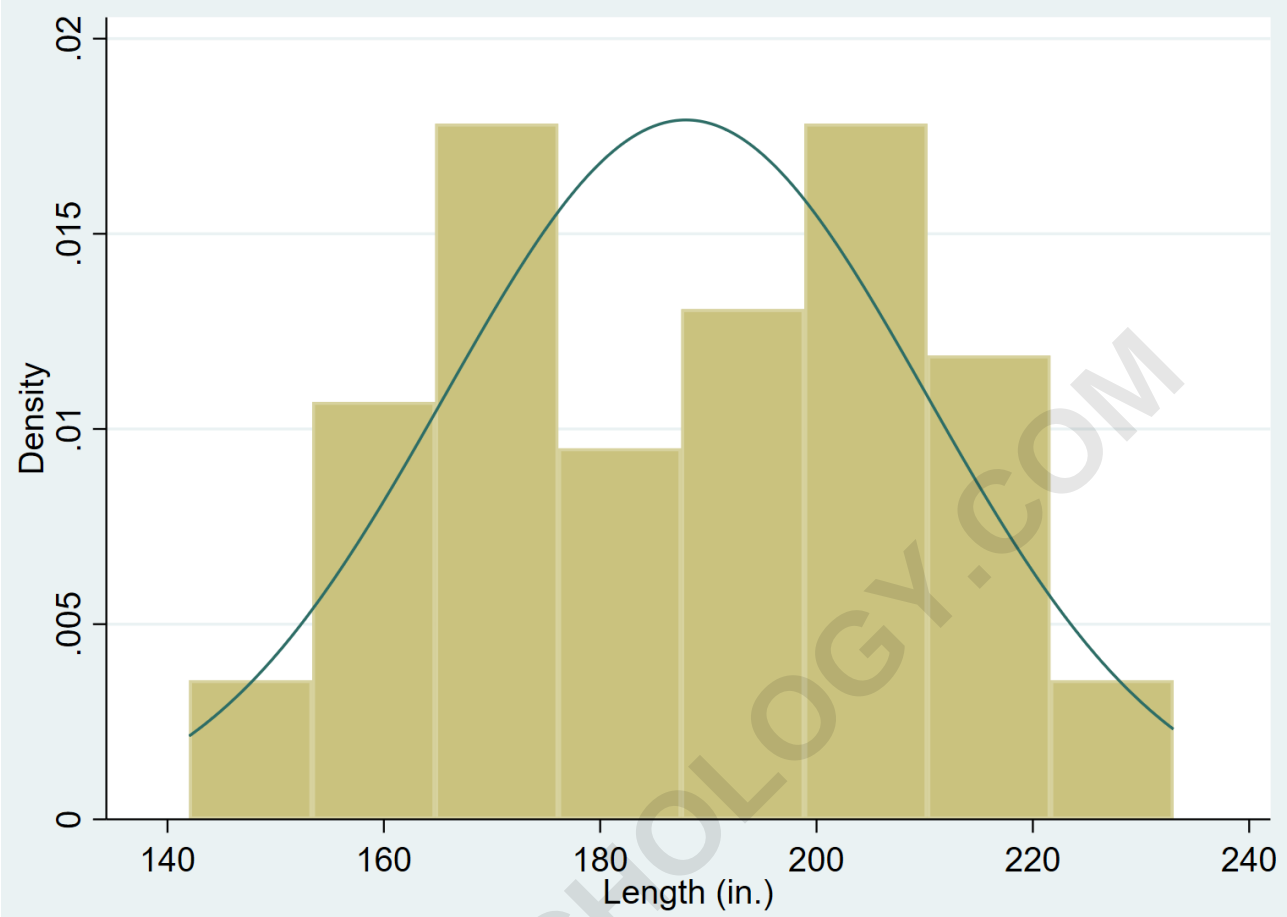


Notice that the more bins you use, the more granularity you can see in the data.

Adding a Normal Density to a Histogram

You can add a normal density curve to a histogram by using the normal command:

hist length, normal



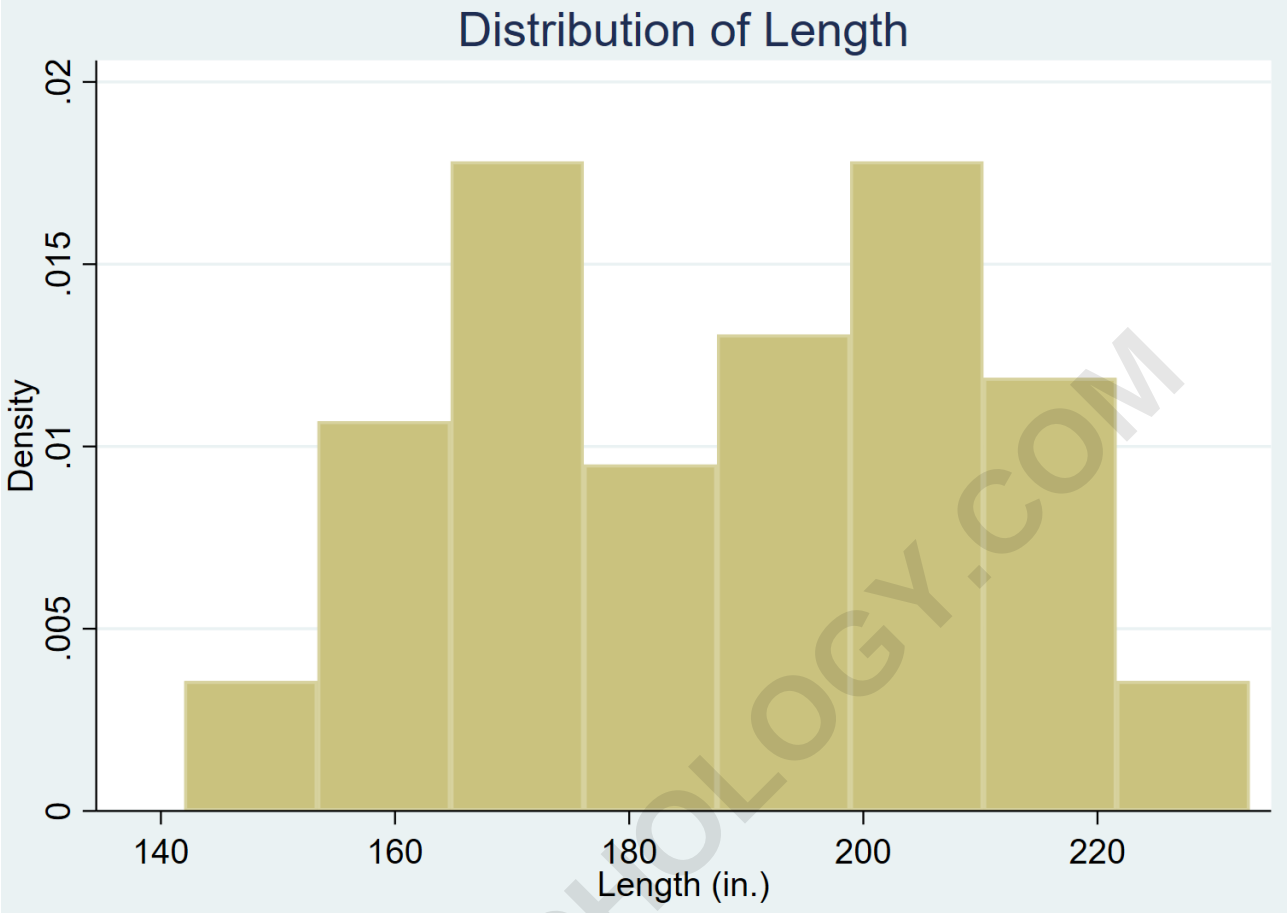
How to Modify Histograms in Stata

We can use several different commands to modify the appearance of the histograms.

Adding a Title

We can add a title to the plot using the title() command:

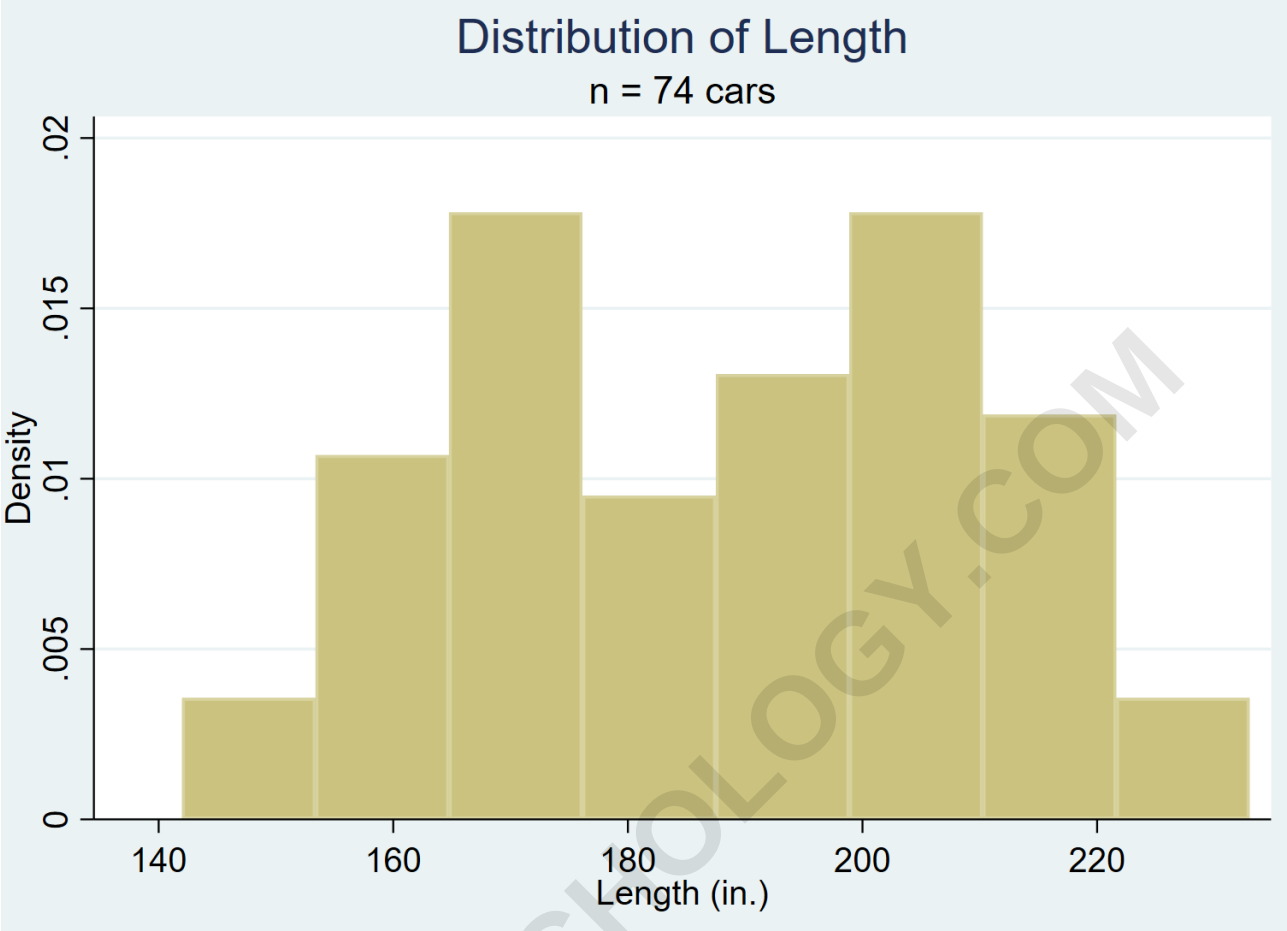
hist length, title("Distribution of Length")



Adding a Subtitle

We can also add a subtitle underneath the title using the subtitle() command:

hist length, title("Distribution of Length") subtitle("n = 74 cars")



Adding a Comment

We can also add a note or comment at the bottom of the graph by using the note() command:

hist length, note("Source: 1978 Automobile Data")