

Creating a Time Series Using R

The data here are U.S. unemployment rates from 2001 to 2012 found in Navidi and Monk, *Elementary Statistics*, 2nd edition, McGraw-Hill Education 2016, on page 76.

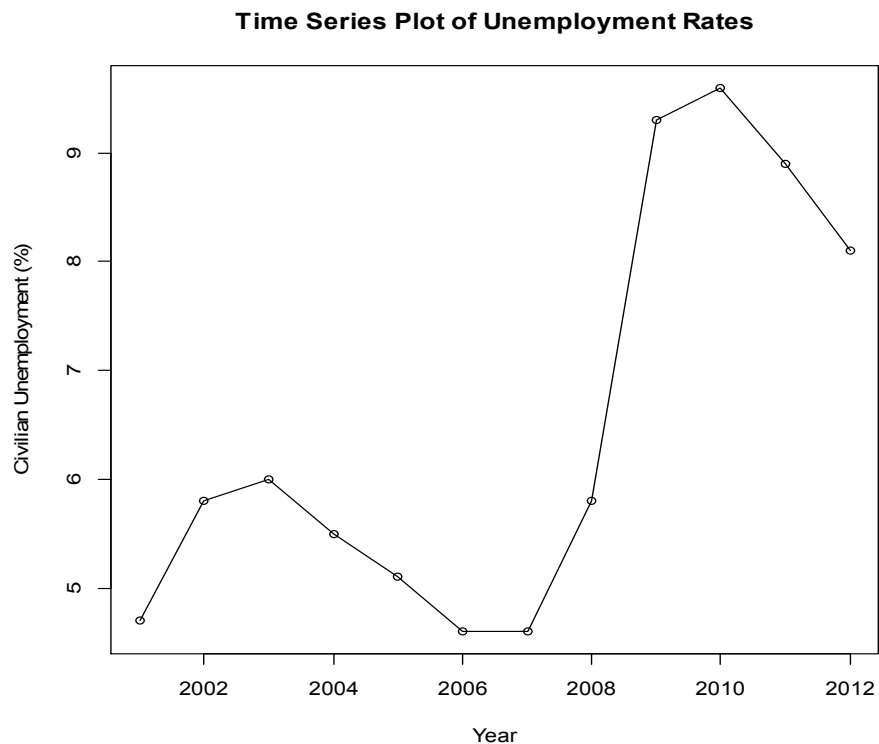
Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Rate	4.7	5.8	6.0	5.5	5.1	4.6	4.6	5.8	9.3	9.6	8.9	8.1

Open the R program and type in the following. The first greater than sign (>) appears automatically. If you have written a complete command, R will run the command and then a greater than sign will appear on the next line when the “ENTER” key is pressed. If the command is not complete, a plus sign (+) will appear when the “ENTER” key is pressed.

```
> year <- c(2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012)
> rate <- c(4.7, 5.8, 6.0, 5.5, 5.1, 4.6, 4.6, 5.8, 9.3, 9.6, 8.9, 8.1)
> plot(year, rate, type="o", main="Time Series Plot of Unemployment Rates",
+ xlab="Year", ylab="Civilian Unemployment (%)")
```

The symbol in quotes next to type should be the lower case letter oh. Using “o” for type tells R to mark the data points and connect consecutive points using line segments.

When you press “ENTER” after the last line, the dot plot will appear as shown below.



Right click on the graph and choose “Copy as Metafile”. Then paste the graph into a Microsoft Word document. If you right click on the pasted graph, and then choose “Text Wrapping” and “Behind Text”, you will be able to move the pasted graph around behind the text on the page.