Crime Rates Exploration – Homework 1

Objective: Explore the relationship between unemployment rates and violent crime.

Hypothesis: Increased unemployment will drive increased violent crime.

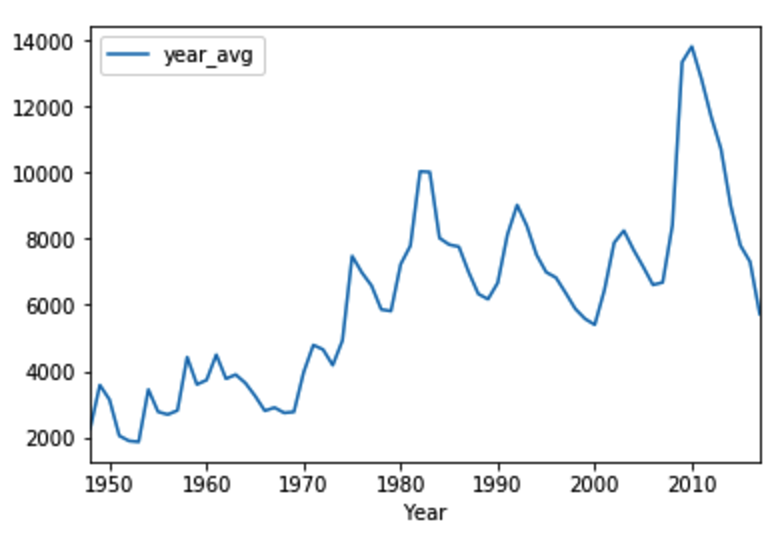
The Data: I pulled data from 3 separate sources:

* Labor Statistics 1948- 2017
  + <https://data.bls.gov/pdq/SurveyOutputServlet>
* Historical Crime Stats from FBI
  + <https://www.bjs.gov/ucrdata/Search/Crime/State/StatebyState.cfm?NoVariables=Y&CFID=213688725&CFTOKEN=d4025d863148eb0a-7D9A9A20-BE4A-6769-52AD0A9F6722F84C>
* I also ended up pulling some incarceration data from the Bureau of Justice Statistics
  + <https://www.bjs.gov/index.cfm?ty=nps>

I joined the data from the 3 tables on Year to explore relationships between unemployment vs different violent crimes.

Conclusion: This is complex stuff but pretty interesting – good summary here: [The Atlantic](https://www.theatlantic.com/politics/archive/2016/04/what-caused-the-crime-decline/477408/)

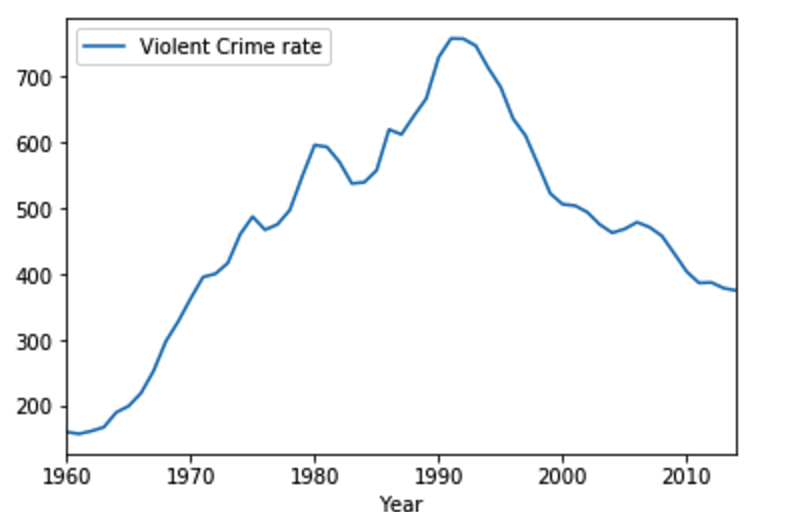
1. Gross unemployed by Year: Overall steady increase over time



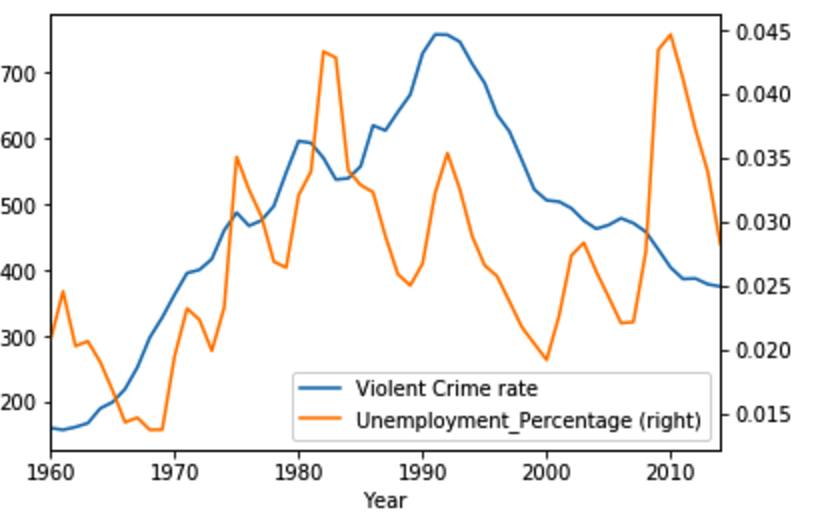
1. Unemployment by Year as a Percentage of Total Population (Not quite unemployment rate because of the denominator being used): We see a bit more variability over time



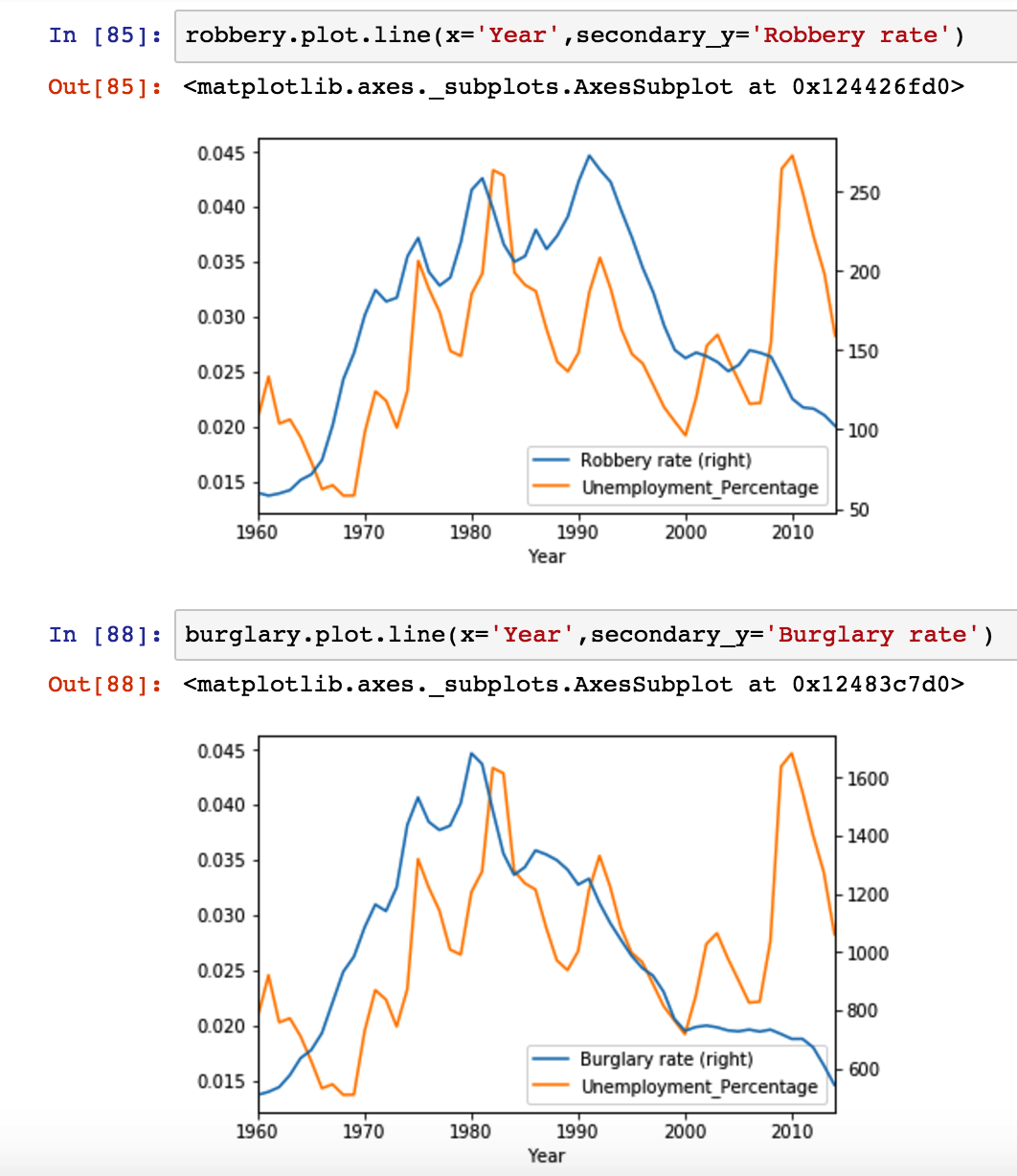
1. Violent Crime Rates over Time: Steady increase then decline in early 90’s:



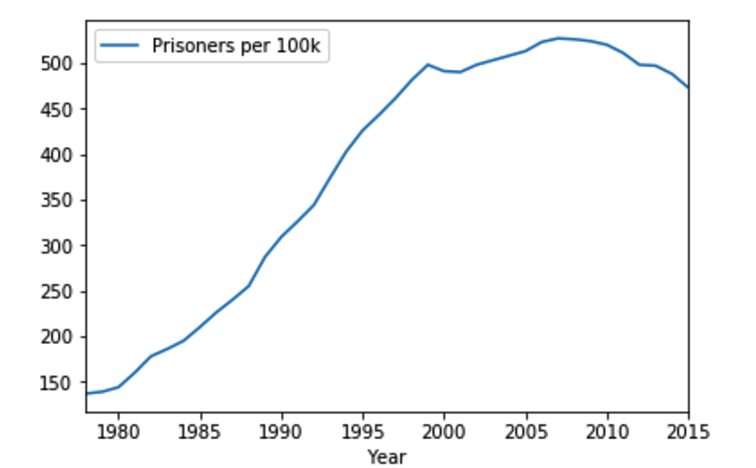
1. Violent Crime Rate vs Percentage Unemployment:



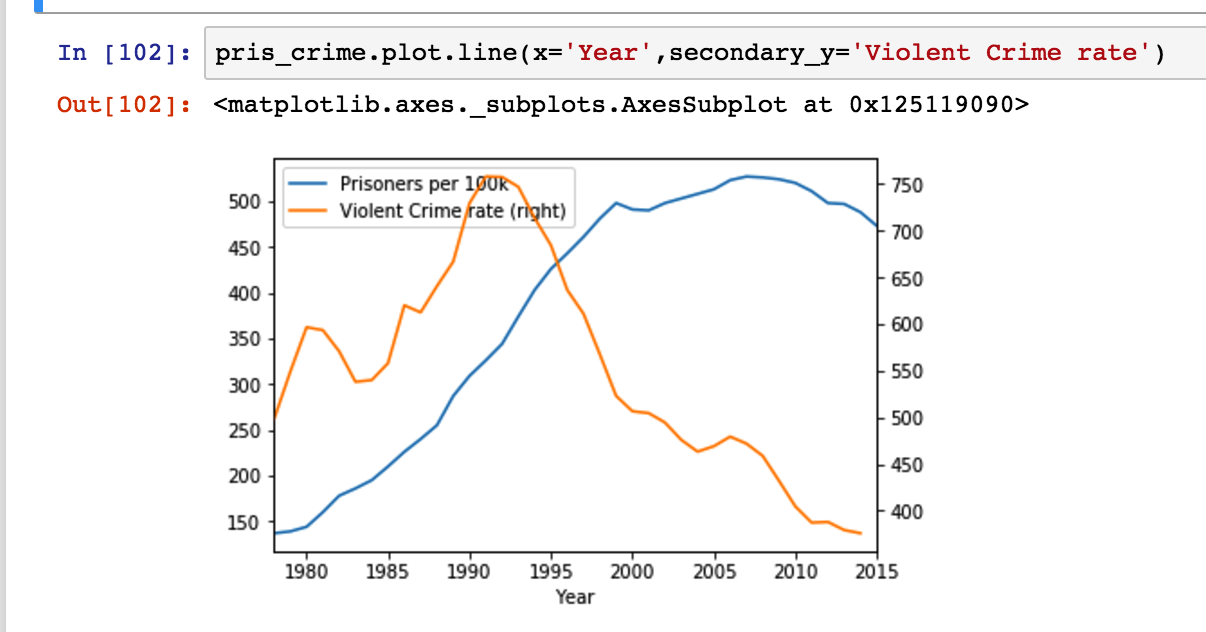
5) Pretty interesting when you look at robberies/burglaries: There seems to be a relationship up until the early 90s… which is when mass incarceration took off – so is that possibly an explanation? (No but let’s pull in that data for fun anyways. My hypothesis is actually that robberies/burglaries has decreased steadily as a result of more cyber crime but I wasn’t able to find a good data set to check that relationship out)



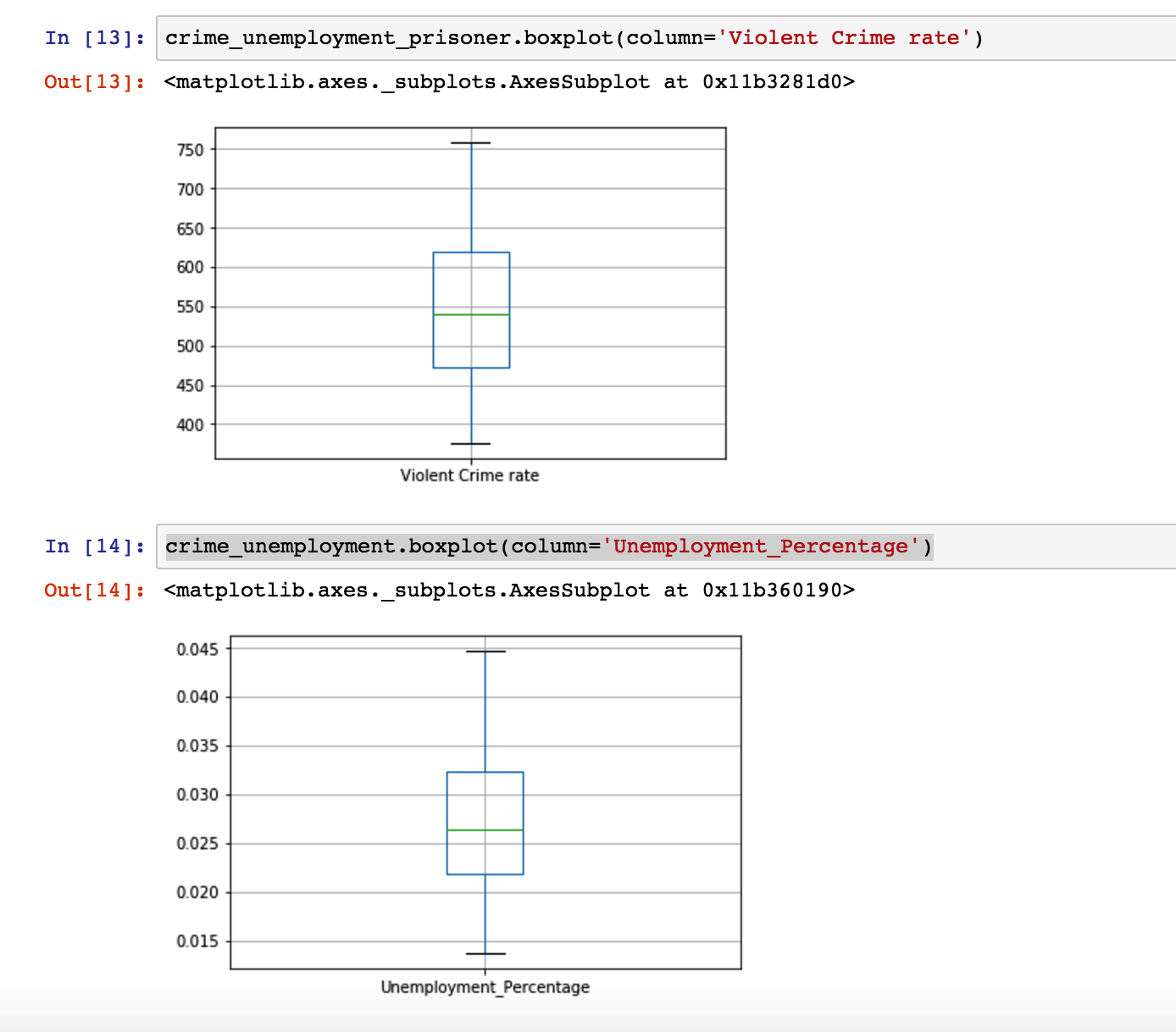
1. Incarceration rates have skyrocketed:



6) If incarceration rates was the reason for decreased crime… why did crime continue to increase from 1980-1990 despite increased incarceration?



1. Boxplots can be a fun way to visualize data:



1. Quick and dirty stats utilizing describe()

