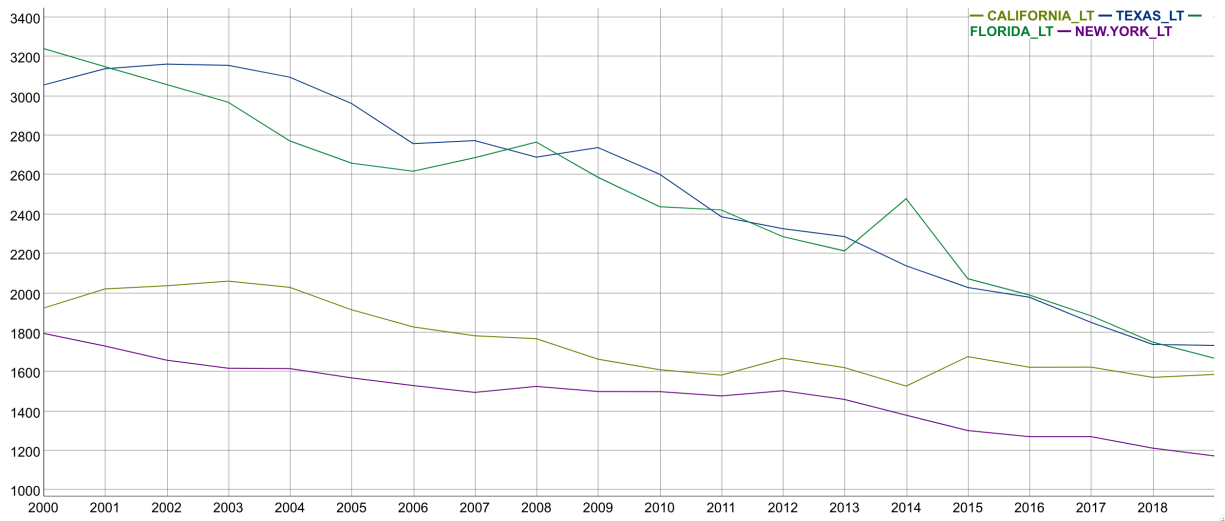
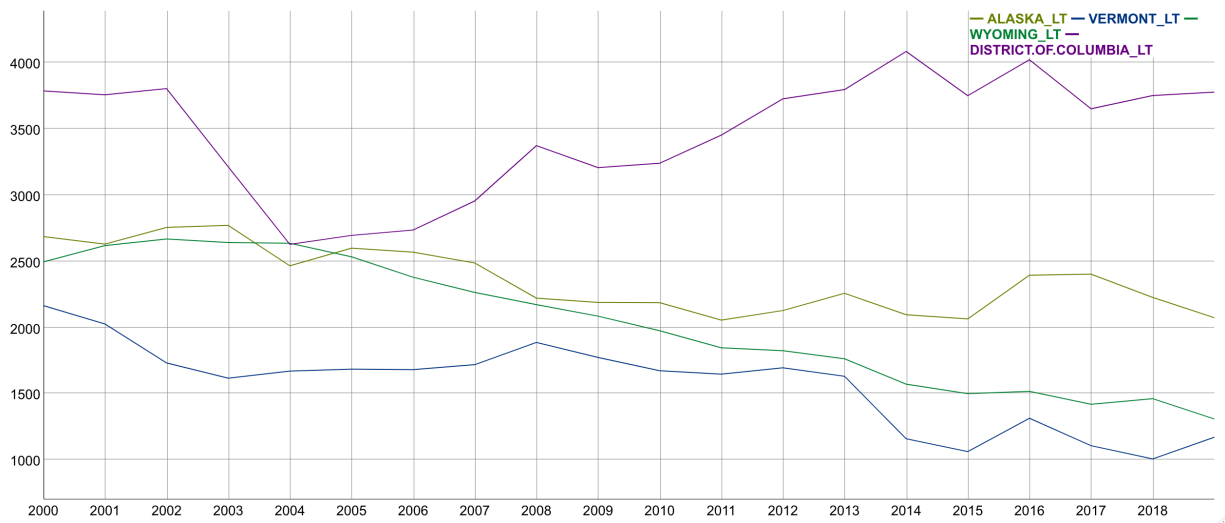


Variation trend for larceny theft

Large population



Small population



First of all, we use the trend function to obtain plots and then compare the trends for larceny theft in states which differ in size of population. The first plot shows the trend for 4 states with large population, while the second one plots the trend for 4 states with small population.

From the first plot we can infer that the trend for these states are quite similar to each other, which indicates that large population may weaken the effect of location to some extent.

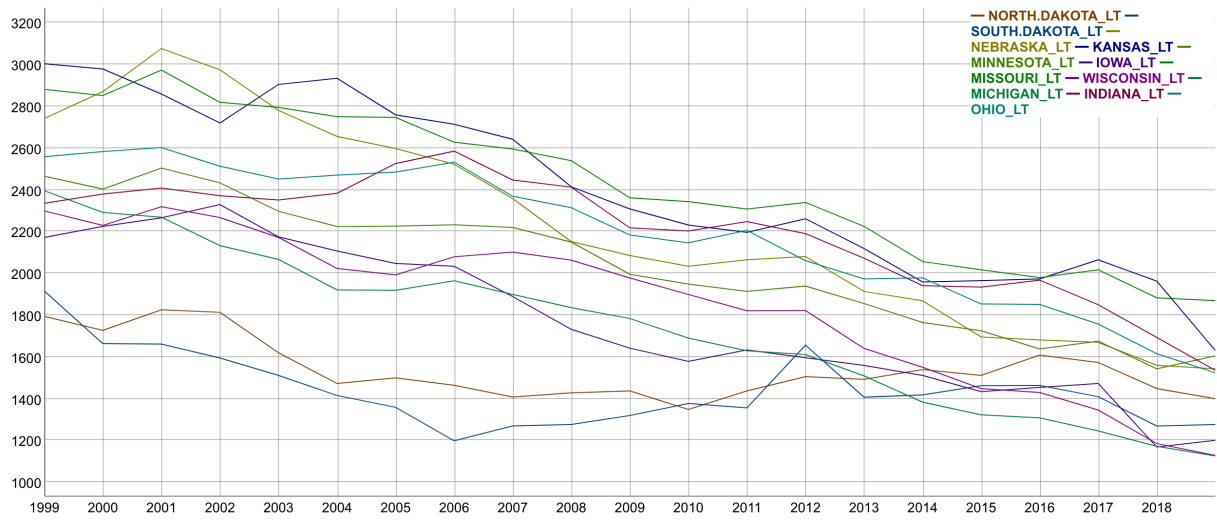
However, California, the state with largest population, does not have the most larceny theft record. Then we can assume that there may be other factors such as policies, major industry, and average degree of education that would affect the criminal record.

From the second plot we can discover that District of Columbia has an obviously different trend compared with other three states. In addition, the population of DC is not the largest among these 4 states. However, the larceny theft record for DC is not the highest, but also has a conversely rising trend. This phenomenon marks DC as a special case which worth further study.

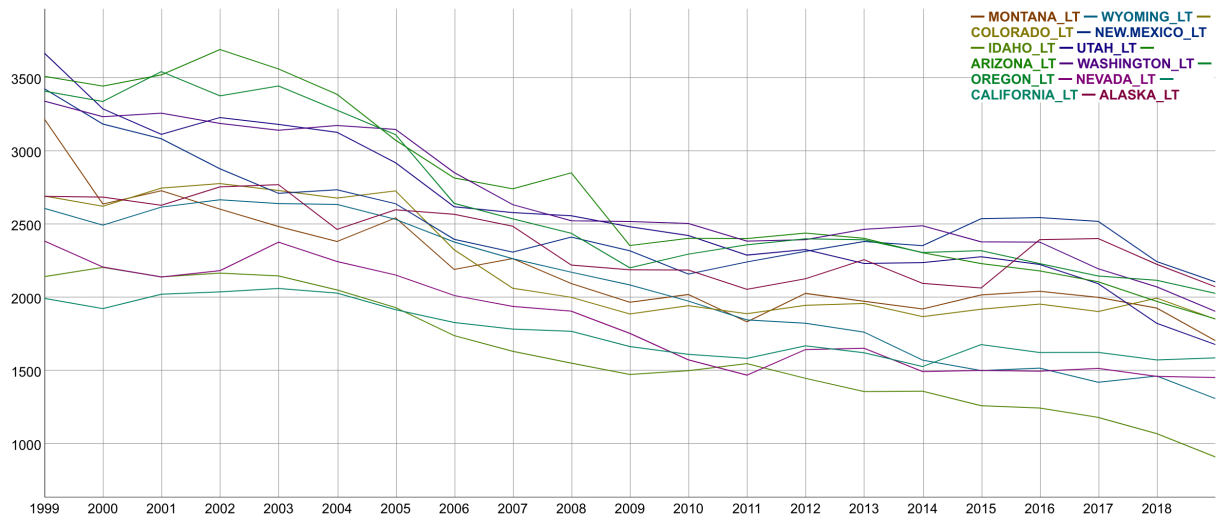
Comparing these two plots, we can tell the difference between the magnitude of criminal record. If the difference between population is nonnegligible, then large population leads to more records, small population leads to fewer records. Otherwise some other factors may have their affect.

Then we compare states in different locations.

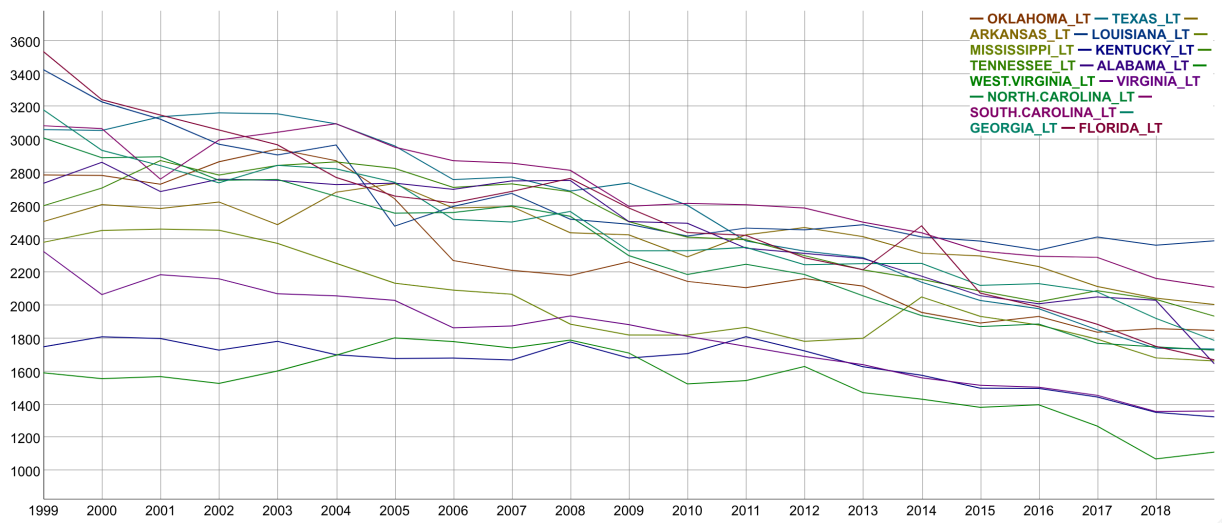
Midwest



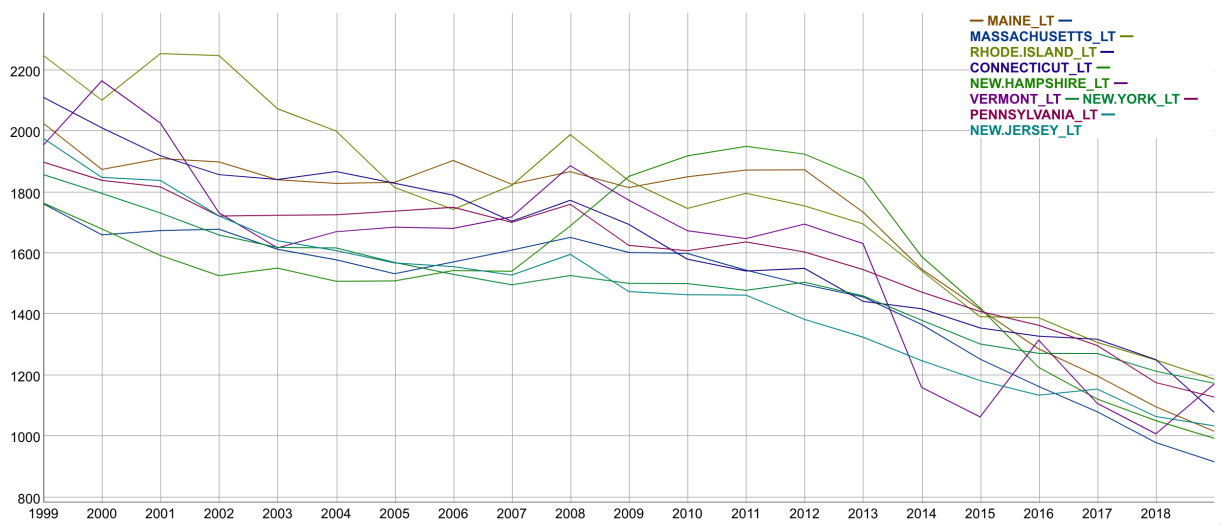
West



South



Northeast



These four plots above indicate states in the same region have similar trend in larceny record. However, the plot for Northeast region is worthwhile studying further. All the states have a rising trend in larceny theft record from 2007 to 2008. And New Hampshire's record increased obviously from 2007 to 2011 compared with other states. In addition, the average record number for Northeast is less than other 3 regions.