

Proposition on a Longitudinal Geosocial Study of the US Crimes and the Prison System

Problem Statement

The U.S. government incarcerates over 1,500,000 inmates in the prison system, which is the largest in the world and keeps growing. Amid concerns about the unsustainable growth of our prison system, begging in the 1980s, prison privatization became a booming industry under government programs to cut back on the federal workforce. The Justice Departments has been contracting private prison corporations for the incarceration of prisoners.

To provide clients of the private prison industry a status report of the current market, this project aims to survey the geosociology of the U.S. justice and correction system, and summarize the longitudinal trends of crime and incarceration. Such studies would offer important information for business decision based on geodemographic and projection analysis, such as regional expansion of revenue and contract of operation in the future.

Data Source

The major data source comes from the public dataset uploaded to Kaggle.com (<https://www.kaggle.com/christophercorrea/prisoners-and-crime-in-united-states/downloads/prisoners-and-crime-in-united-states.zip/9>), *Crime and Incarceration in the United States – 21st Century state crime and prison custody statistics*.

The dataset consists of The Bureau of Justice Statistics' the National Prisoners Statistics Program's annual data report (<https://www.bjs.gov/index.cfm?ty=dcdetail&iid=269>), reflecting the yearly statistics of each state's prisoner population. Prisoners listed under federal jurisdiction are incarcerated by the U.S. Bureau of Prisons. The Uniform Crime Report is also included in the dataset, in which the Federal Bureau of Investigation collects crime information voluntarily submitted by local, state, and federal law enforcement agencies. Some U.S. municipalities choose not to participate fully in the program.

Approach

1. Exploratory Analysis

The project will take a multi-dimensional approach to visualize the geographic and longitudinal statistics of the prison system, in terms of yearly state and federal-wide inmate population and expense as well as reported crime occurrences. The visualization of the data and statistics should be able to provide intuitive information over financial and population scale of the U.S. prison system while illustrating regional variance and temporal trends.

2. Geographical Pattern and Correlation

The project will utilize various tools to reveal geographic patterns of the U.S. prison system's demographics and financial spending, and how they relate to regional crime rates. The analysis will also try to explore how specific geographic patterns come to form with the assistance of other potential geosocial data.

3. Longitudinal Study and Projection

The project will study the longitudinal trend of the aforementioned geo-patterns, using various tools available for time-series analysis to make projections about the U.S. prison system, and suggest regions of future potential for expansion of the private prison business.

Expected Outcome

The project should result in the form of a final report with deliverable analysis code and slides for presentation.