



**ECONOMIC DETERMINANTS OF GUN VIOLENCE IN THE UNITED STATES:
ANALYSING SOCIOECONOMIC TRENDS AND STATE-LEVEL DISPARITIES**

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AGENDA

1.Introduction

2.Datasets

3.Datapipeline

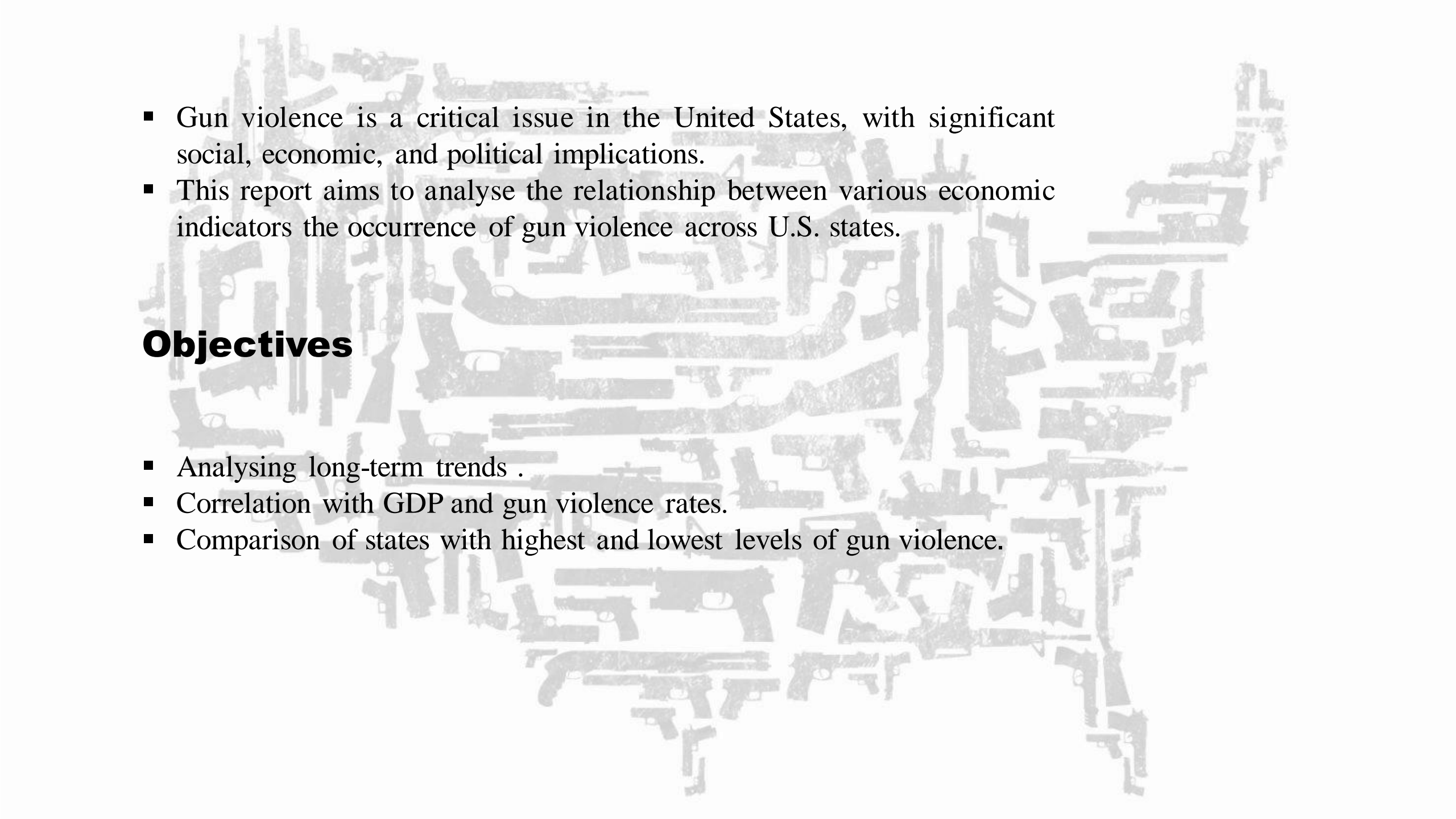
4.Results

5.Conclusions

6.Limitations

Introduction



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- Gun violence is a critical issue in the United States, with significant social, economic, and political implications.
 - This report aims to analyse the relationship between various economic indicators the occurrence of gun violence across U.S. states.

Objectives

- Analysing long-term trends .
- Correlation with GDP and gun violence rates.
- Comparison of states with highest and lowest levels of gun violence.

Datasets





Gun Violence Data (2013-2018):

- Contains information on gun violence incidents across the U.S., including location, date, number of killed and type of violence.

U.S. GDP by State (1997-2020):

- Provides GDP data for each U.S. state from 1997 to 2020 crucial for examining the economic landscape.

GDP per Capita by State(2013-2017):

- Offers GDP per capita information by state, allowing us to assess economic disparities at the individual state level.

Data pipeline



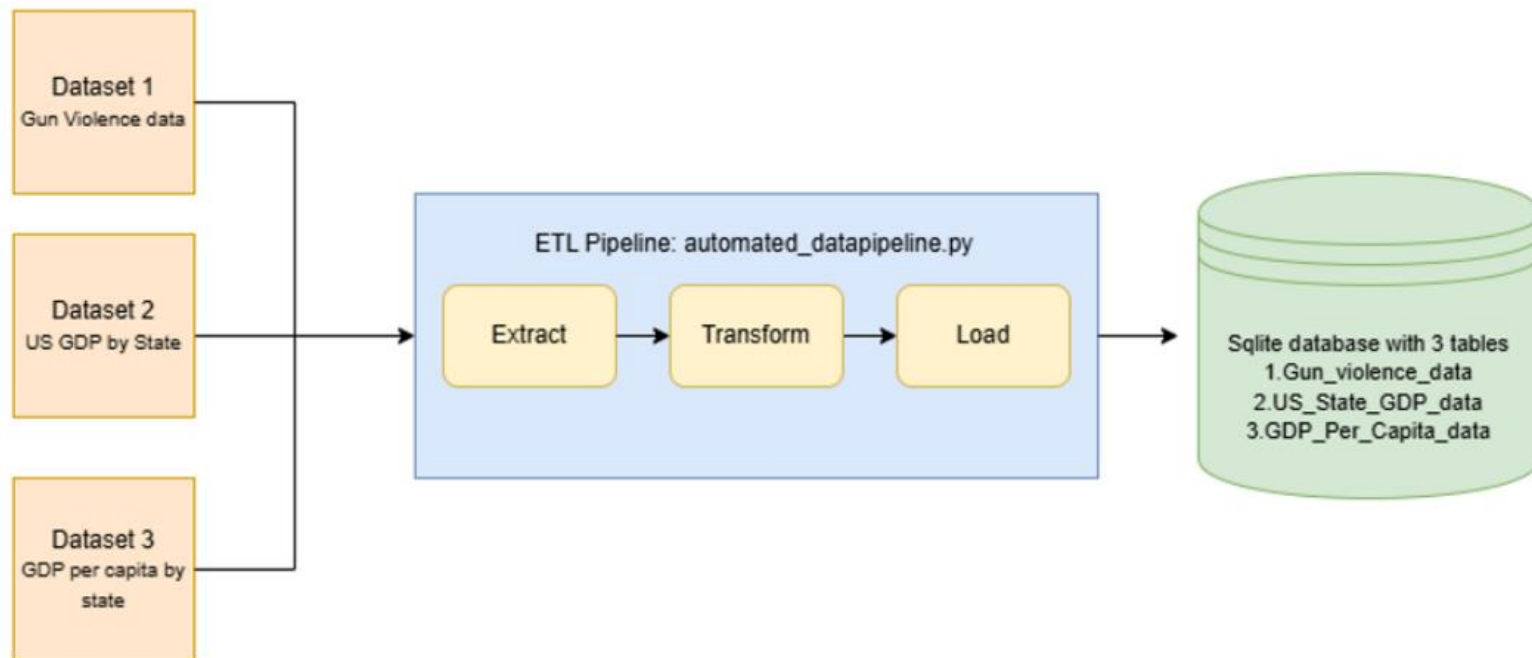


Figure 1 : ETL pipeline flowchart

Results



1.Long-term Trends

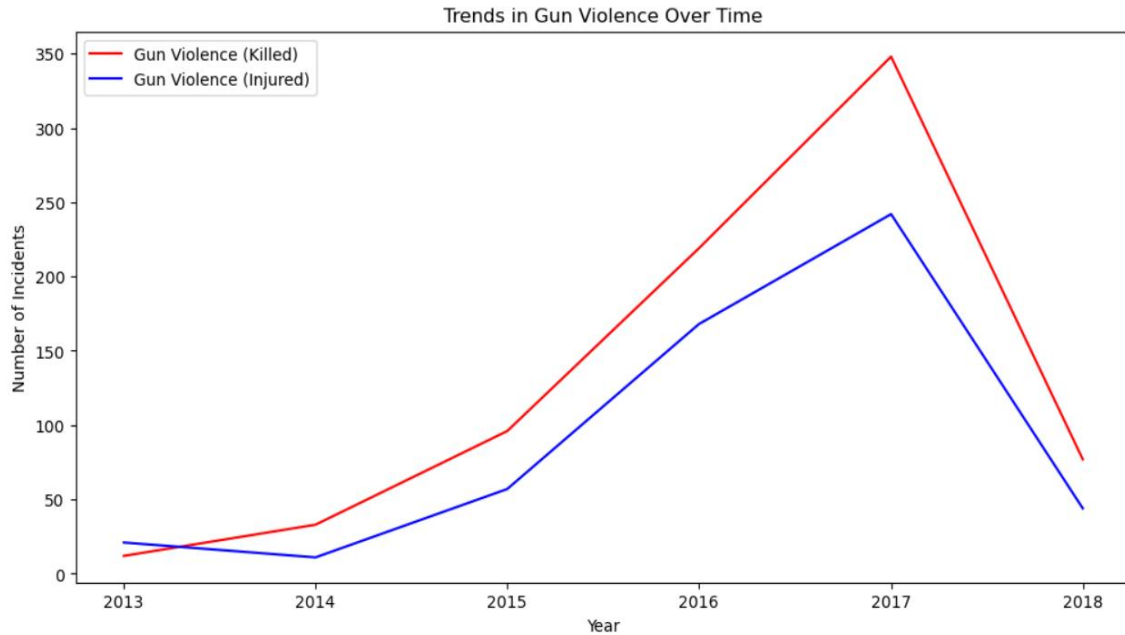


Figure 2: Gun violence trend

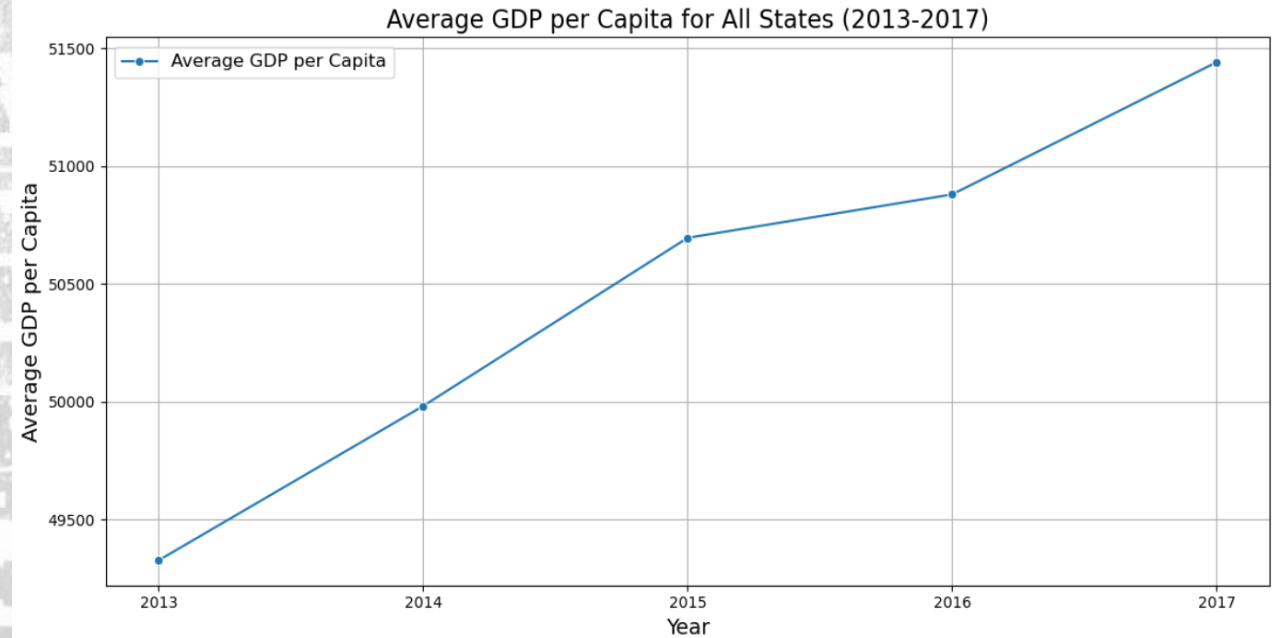


Figure 3 : Average GDP per capita

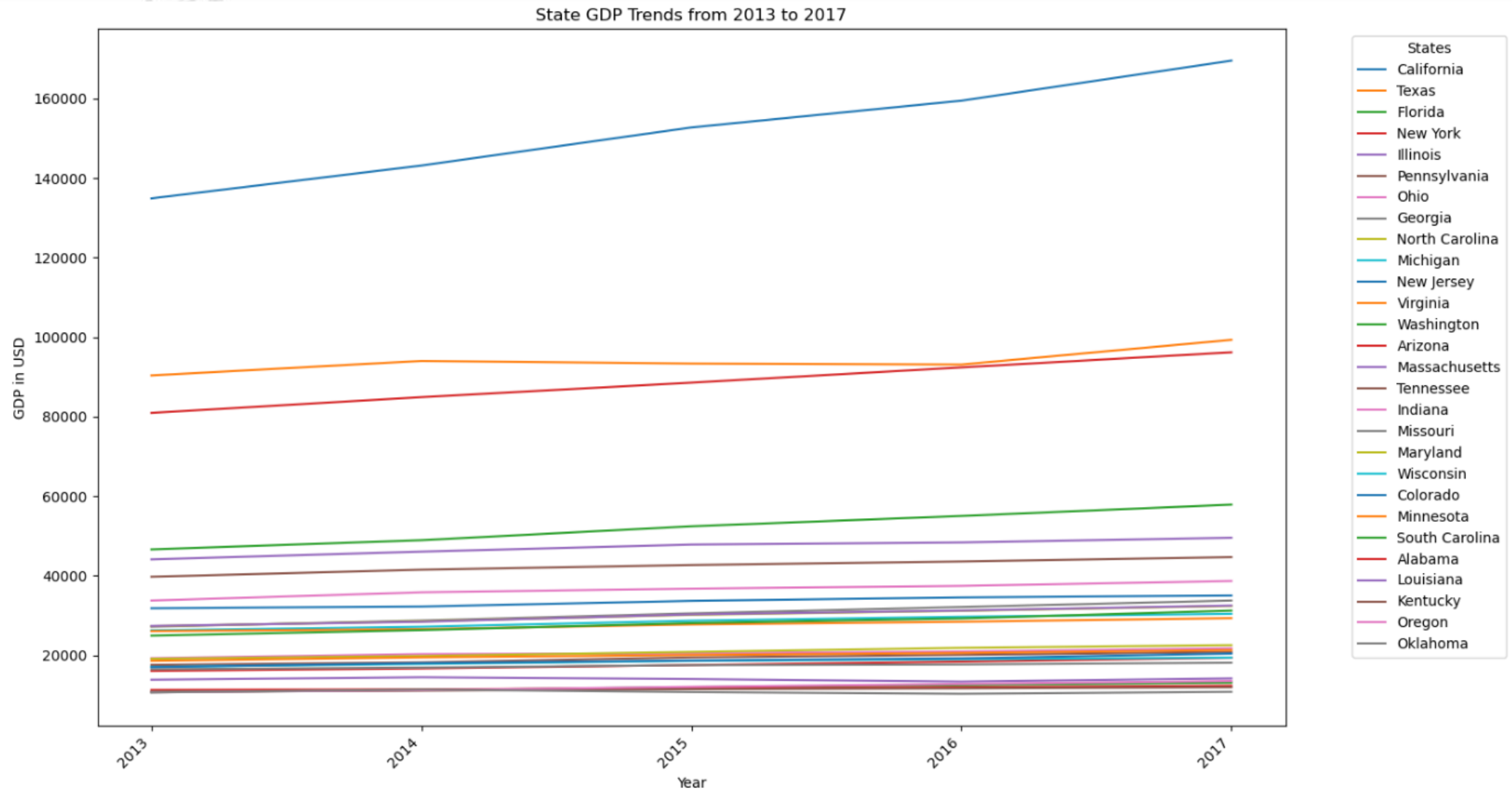


Figure 5: State GDP trend

Insights

- Gun violence across different states in the United States of America has steadily increased, and both income and state GDP have risen.
- However, there was dip seen in gun violence in the year 2018 compared to 2017 although the trends of increase in GDP of states and per capita seem to be growing in the steady phase.
- Bottom 10 states in the US haven't shown any significant increase in the state GDP

2. Analysing Gun violence per state

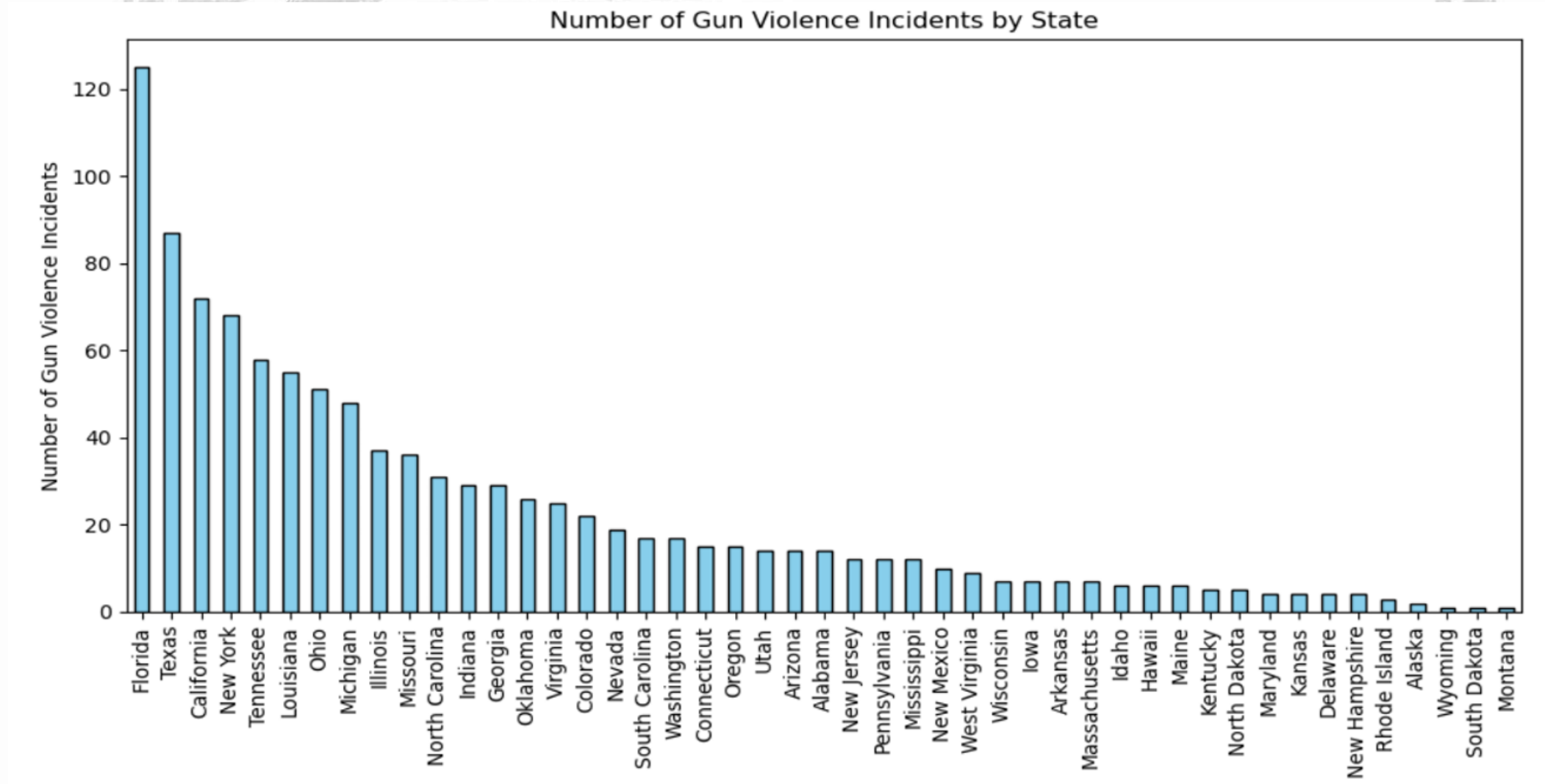


Figure 6 : Number of gun violence by states

Insights

- Looking at gun violence, states such as Florida, Texas, and California consistently appear among the top three states with the highest levels of gun violence over the years.
- On the other hand, states like Wyoming, South Dakota, and Montana report some of the lowest gun violence rates in the country.

3. Correlation between gun violence and GDP per capita

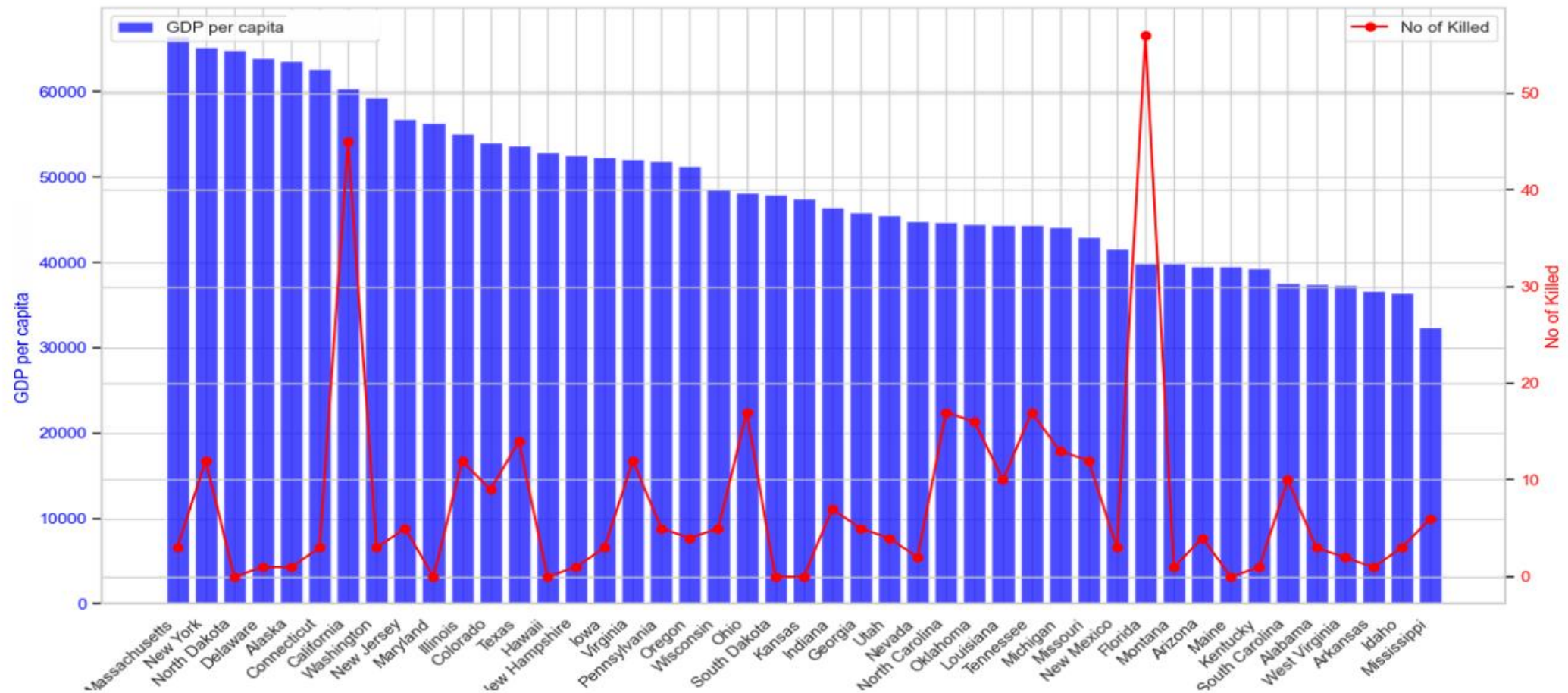


Figure 7: Gun violence and state GDP per capita

Insights

- States like Florida and California have higher gun violence(killed) but the top states with higher per capita like Massachusetts, New York have relatively lower gun violence.
- This plot does not give intuitive details about the trend but rather a confusing aspect.

4. Correlation of GDP and Gun violence over grouped range

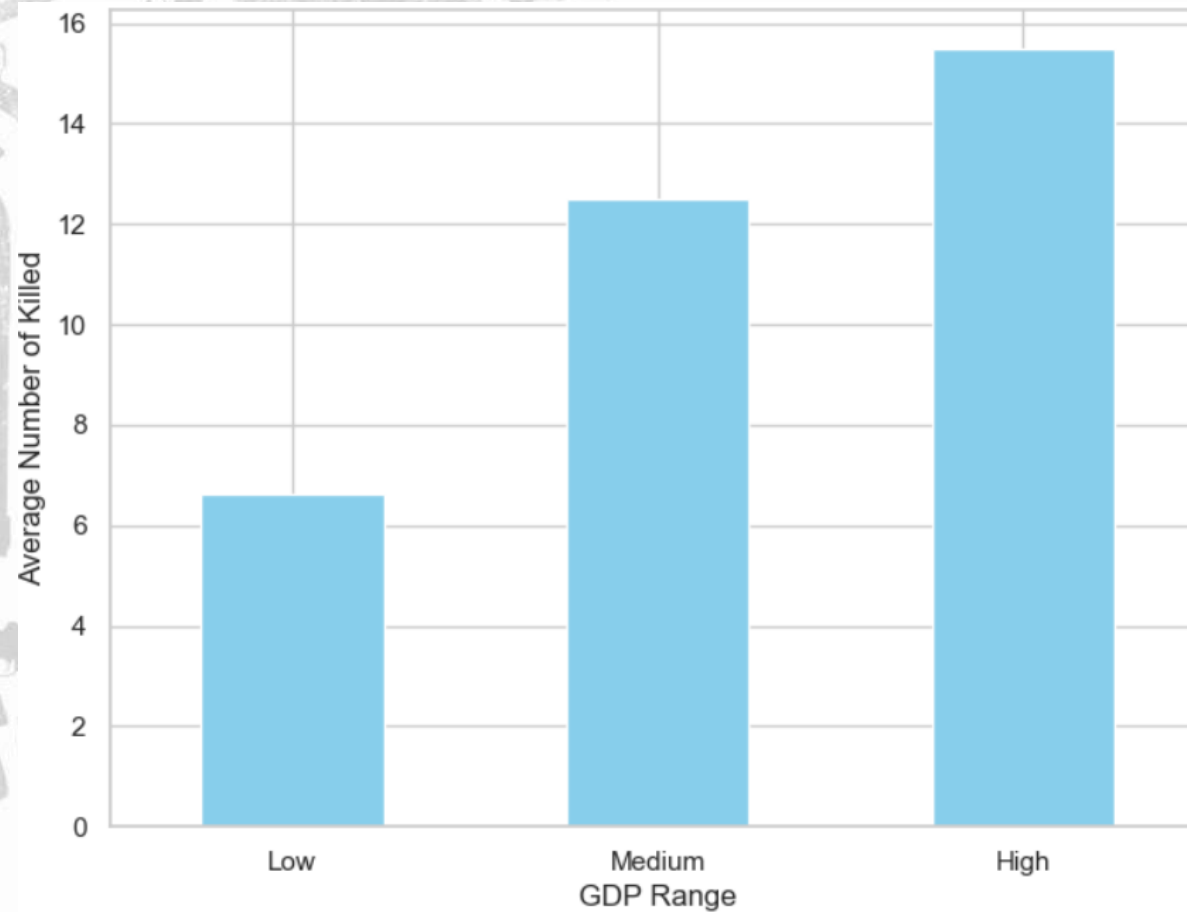


Figure 8 : Average Gun violence by GDP range

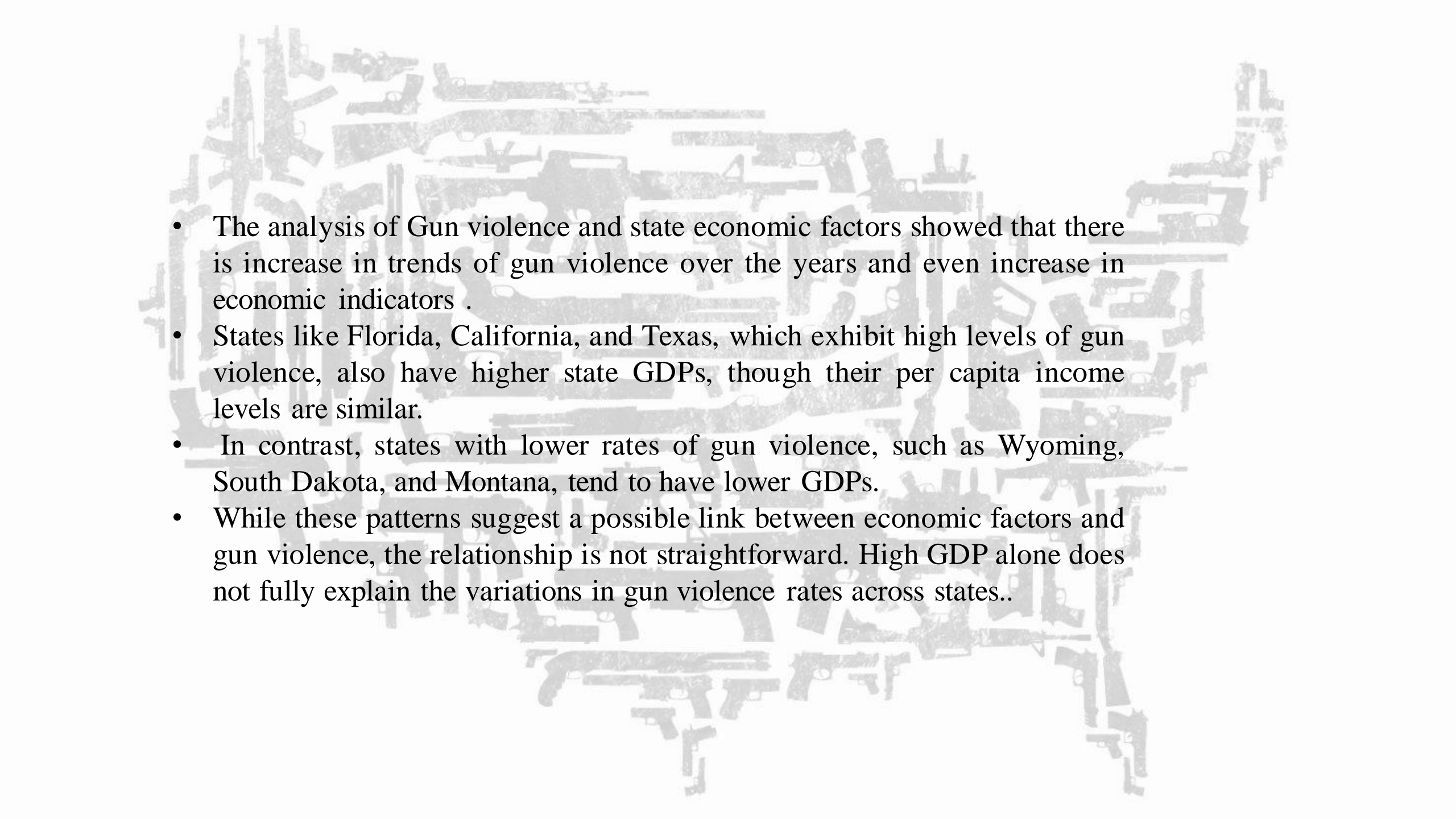
Insights



- Interestingly further analysis by clubbing the states in three categories of incomes showed that the states with high and medium income have a greater number of reported gun violence than those of low income.
- Further data is required for more detailed analysis.

Conclusion



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- The analysis of Gun violence and state economic factors showed that there is increase in trends of gun violence over the years and even increase in economic indicators .
 - States like Florida, California, and Texas, which exhibit high levels of gun violence, also have higher state GDPs, though their per capita income levels are similar.
 - In contrast, states with lower rates of gun violence, such as Wyoming, South Dakota, and Montana, tend to have lower GDPs.
 - While these patterns suggest a possible link between economic factors and gun violence, the relationship is not straightforward. High GDP alone does not fully explain the variations in gun violence rates across states..

Limitations & Future work



Limitations

- The dataset used is insufficient to capture the complex relationship between gun violence and GDP across the states in the US.
- Certainly, the most important factor influencing gun violence is the set of laws and regulations governing firearms in each state. The laws pertaining to gun should be considered for a more accurate and holistic understanding of the issue.

Future Work

- Incorporating of state-specific gun laws and regulations and additional socio-economic indicators such as income inequality, education levels, and healthcare access.
- Beyond economic indicators, the role of social support systems, such as mental health services etc could be explored.



Thank You