

# Quick Report on Gun Murders

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# Introduction

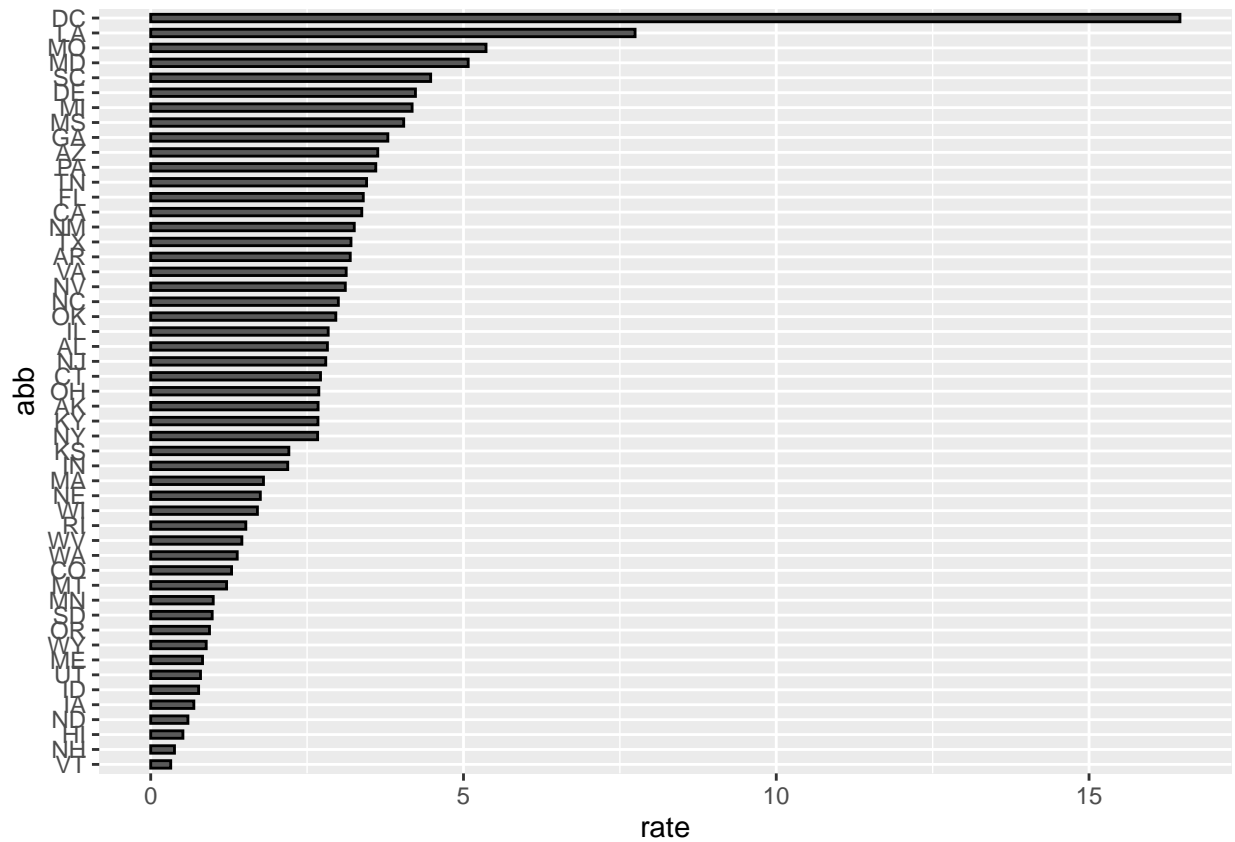
This is a quick report on 2010 gun murder rates obtained from FBI reports. The original data was obtained from this Wikipedia page.

I am using the following libraries: tidyverse, ggplot, ggrepel, ggthemes, & dplyr.

Load the data that has already been wrangled from `rda/murders.rda`

Murder rate by state per 100,000 in population.

Note the large state to state variability by generating a barplot showing the gun murder rate by state:



## US Gun Murders 2010 average rate per million.

We compute the average murder rate per million in population. and graph all the pertinent information.

```
r <- murders %>%
  summarize(rate = sum(total) / sum(population) * 10^6) %>%
  pull(rate)
r
```

```
## [1] 30.34555
```

## Visualize the data

A color coordinated graph of each state compared to the average gun murder rate in log scale.

```
murders %>% ggplot(aes(population/10^6, total, label = abb)) +
  geom_abline(intercept = log10(r), lty = 2, color = "darkgrey") +
  geom_point(aes(color=region), size = 3) +
  geom_text_repel() +
  scale_x_log10() +
  scale_y_log10() +
  xlab("Population in millions (log scale)") +
  ylab("Total number of murders") +
  ggtitle("US Gun Murders in 2010") +
  scale_color_discrete(name = "Region") +
  theme_economist()
```

