



Gun Policy: A WorldWide View

Phone Kant, QAC Apprenticeship, Wesleyan University
Professor Maryam Gooyabadi, QAC, gun [policy.org](https://gunpolicy.org) & Center for the Study of Guns & Society



Introduction

Understanding the global landscape of civilian gun ownership and its relationship to gun violence is crucial for informing public policy and promoting safety. This project looks into international data to uncover key patterns and disparities in firearm prevalence, homicide rates, and the legal frameworks governing gun ownership worldwide. By examining these factors, we aim to provide a clearer picture of how different regions and countries experience and manage firearms.

Research Questions

- How do civilian gun ownership rates vary globally, which countries exhibit the highest and lowest rates?
- What are the prevailing patterns of firearm homicide rates internationally, which regions are most affected?
- Is there a statistical correlation between the level of civilian gun ownership and firearm homicide rates?
- Do geographical factors, such as proximity to major arms exporters or coastal access, influence firearm homicide rates?
- What are the average rates of civilian gun ownership and firearm homicide across major world regions (Americas, Europe, Asia, Oceania, Africa)?

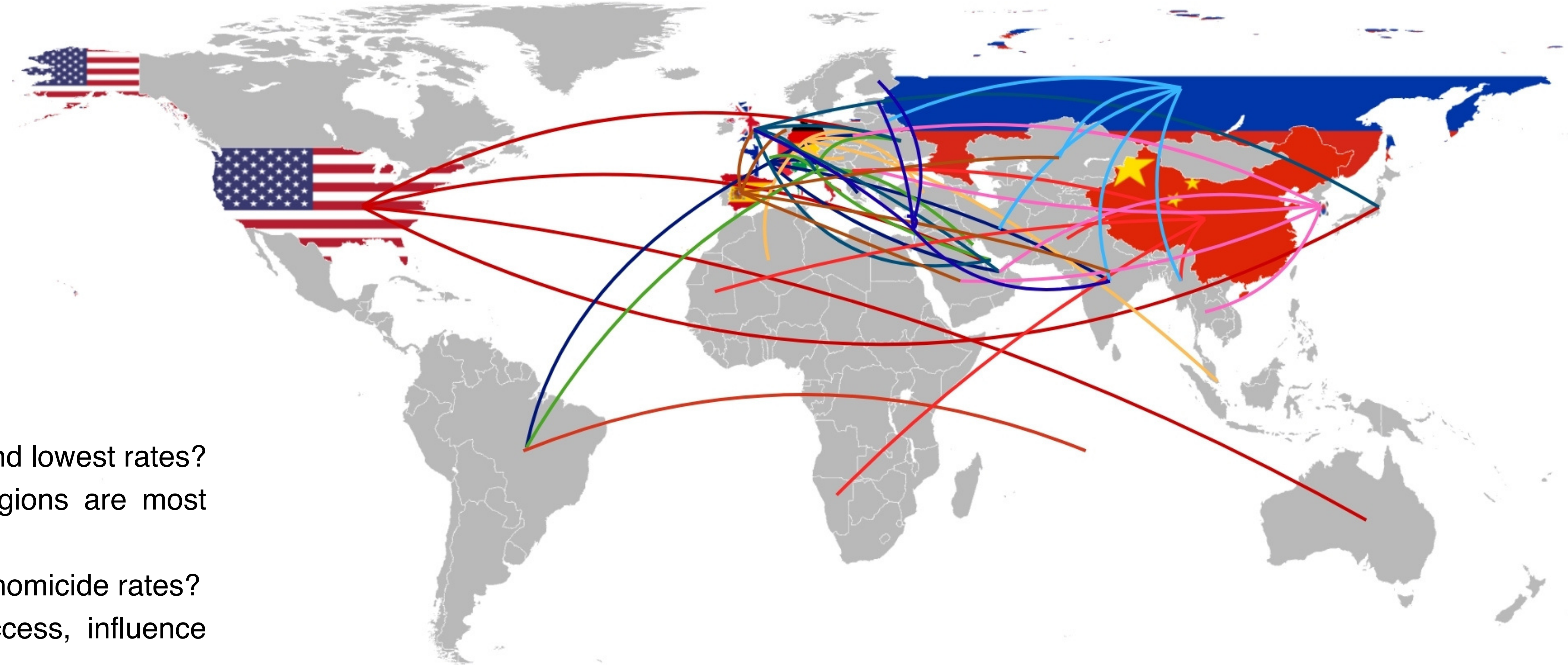


Figure 1: World Map of Top 10 Weapon Exporters and their top 5 importers in 2024 (SIPRI)

Methodology

Data:

197 countries, 1962-2024, put together from [GunPolicy.org](https://gunpolicy.org), [Small Arms Survey](https://smallarmsurvey.org), [SIPRI Arms Transfer Database](https://sipri.org/databases/armstransfers), [WDI](https://data.worldbank.org). Merged into a country-year panel dataset

Measures:

[Country Demographics](#) (economic, governance, population, etc.), [Gun laws](#), [ownership](#), and [mortality](#), [Civilian firearm holdings](#), [top exporters and importers](#).

Analysis Period: 2000-2023

R Shiny: interactive graphical interface

This Shiny app can be deployed locally or on a website and it is a graphical user interface which allows for the [gunPolicy.org](https://gunpolicy.org) researchers to visualize the data with the corresponding numeric and categorical variables from across the dataset across a year range.

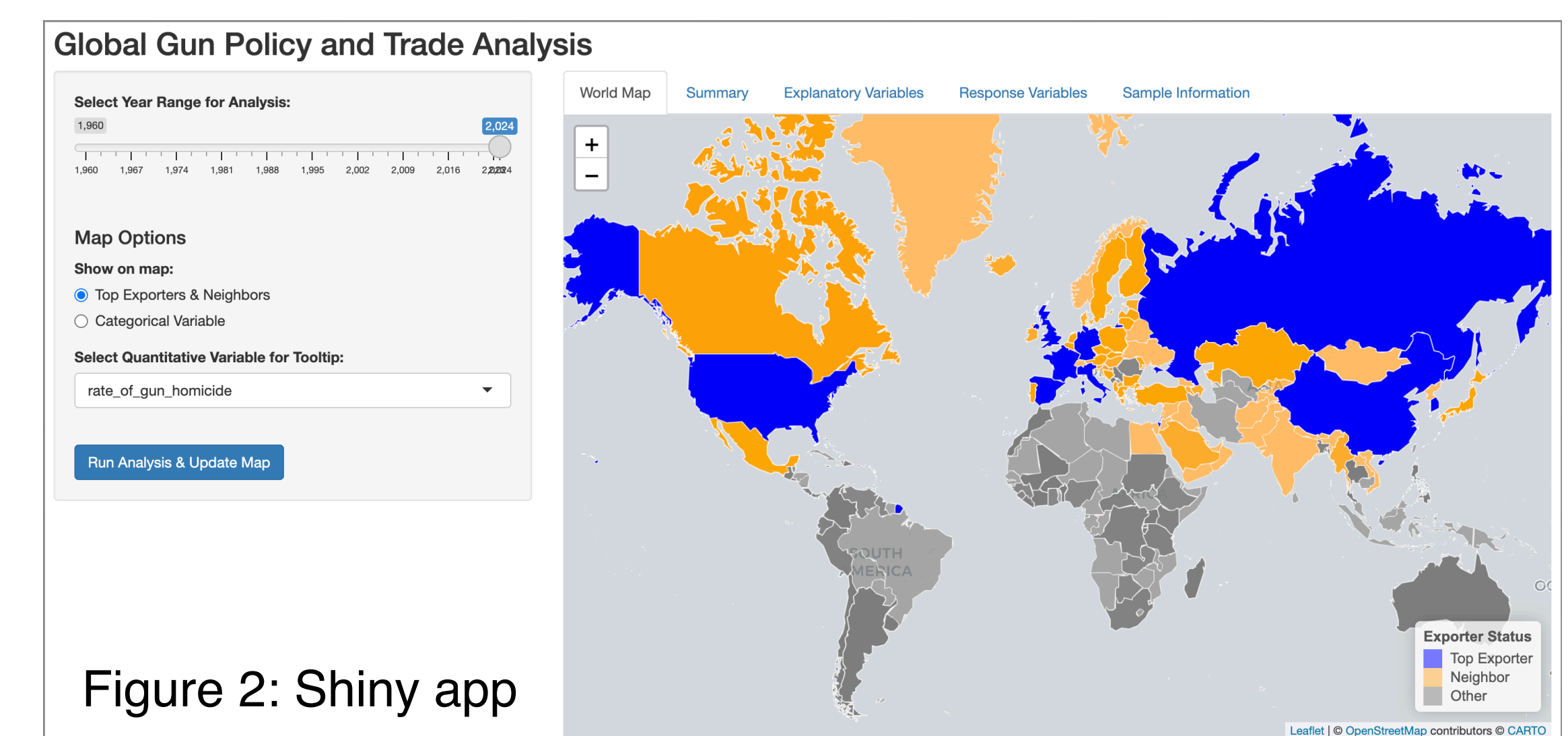


Figure 2: Shiny app

Results

- Gun ownership rates vary dramatically worldwide. The US leads with ~120 guns per 100 people, accounting for nearly half of all civilian firearms globally.
- High rates are also seen in Yemen (~53), Montenegro (39), Serbia (39), and Canada (35).
- Very low rates (<1 per 100) are found in East and Southeast Asia (e.g., Japan, South Korea, Singapore, Indonesia).
- On average, the Americas (16.2 firearms per 100 people) and Europe (15.9) have the highest civilian gun ownership, while other regions are lower.
- Latin America and South America lead in gun violence, with Brazil, Mexico, El Salvador, Honduras, and Venezuela at times exceeding 40–50 homicides per 100k.
- The US gun homicide rate (~6 per 100k) is 6x higher than most high-income countries.

- Surprisingly, there is no correlation between gun ownership and higher gun homicide ($R=0.006, p=0.97$).
- The Americas also lead the world in firearm homicide (9.36 per 100,000 people), followed by Africa (7.67). Asia, Oceania, and Europe report much lower rates.
- Most countries treat gun ownership as a regulated privilege, not a right. Only a few nations (e.g., US, Switzerland, Philippines) constitutionally protect gun rights.
- Proximity to major arms exporters predicts higher gun violence; neighboring countries averaged ~1.52 gun homicides compared to ~0.12 for non-neighbors ($p=9e-04$).
- Landlocked countries had lower average gun homicides (~0.13) versus coastal (~0.73), a statistically significant difference ($p=0.0161$).

Limitations & future steps

Data quality varies – not all countries report firearm deaths accurately (some low-income countries might under-report, and suicide data can be especially unreliable). Gun ownership estimates (especially illicit firearms) have uncertainties. the “effectiveness” of a law can’t be determined just by presence/absence in data; enforcement levels differ. The laws are also grouped into broad categories as the data gatherer saw fit. There may be bias.

This project opens several avenues for further study. One would be a deeper qualitative analysis of outliers. Another area is investigating gun trafficking routes in detail. Finally, as more data become available, a longitudinal analysis using methods like difference-in-differences could help isolate the impact of specific gun law changes on outcomes.

References

<https://gunpolicy.org>
<https://www.sipri.org/databases/armstransfers>
<https://www.smallarmssurvey.org>

Many thanks to Professor Gooyabadi on working with me for this project. Special thanks to Professor Kaparakis and the QAC Department for this Apprenticeship Program and the Workshops.