Guns in American Cinema : Studying the Representation of Firearms across Time

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Introduction

Studying firearms in media is crucial for understanding their impact on public perceptions, cultural norms, and behaviors related to violence and gun ownership. The representation of firearms in American cinema offers a compelling lens through which to understand broader societal attitudes, historical contexts, and cultural narratives. The project aims to analyze the representation of firearms in film. The project adopts a historical and interdisciplinary approach to analyze gun representation by integrating data from firearm-specific databases and broader media databases.

This project builds on previous scholarly work, such as Lawrence, A. (2010) discussing the mythologizing of firearms in Western films [3] and Hanlon's (2012) study of historical shifts in gun portrayals in American films [1] and others [2,4,5,6]. The advantage of this projects is utilizing a comprehensive, and arguably exhaustive, dataset that was previously not studied. This analysis explores trends, shifts, and patterns in the cinematic portrayal of guns and has the ability to offer valuable insights into the complex relationship between firearms and American culture.

Methods

Sample

- Data was collected from the Internet Movie Firearms Database (IMFDB) which consists of 7,127 Domestic and international films with firearms. Combined with Internet Movie Database (IMDb) with additional 43,094 number of non-fire arms films and the Harvard Database also put together a list of US films that included 17,062 films

Measures

- Revenue (min: 24 max: ~2.07b avg: ~51m
- Rating (min: 1.5 max: 9.2 avg: 6.01)
- Budget (min: 0 max: ~350m avg: ~15.7m)
- Number Guns (min: 0 max: 59 avg: 2.35)
- Genre (18 different genres)
- American (American or Non-american
- Year (min: 1903 max: 2024 avg: 1991)

Research Questions

- How have guns been represented in film over time?
- How does the presence of firearms vary by genre and influence factors such as revenue and audience score?

Results

Univariate

- Among movies with multiple firearms (>1), the Glock 17 is the most popular showing up in about 13.2% of those films. For movies with only a single firearm (=1), the Glock 17 is still the most popular showing up in about 4.2% of those films
- For both films with multiple type of firearms and a single firearm, the top three for both lists are **handguns.**
- In *Figure 1*, we see that although there has been a steady increae of films with guns over the years, there has been a larger amount of non-gun films produced
- Among action movies, the most popular guns are the Glock 17, Beratta 92FS, M4A1 Carbine, Smith & Wesson Model 10, and Glock 19. For crime movies, the most popular guns are the Beretta 92FS, Glock 17, Colt Official Police, Smith & Wesson Model 10, and Colt Detective Special. For drama movies, the most popular guns are Glock 17, Luger P08, Colt Official Police, M1 Carbine, and Colt Detective Special. Finally for thriller movies, the most popular guns are the Beretat 92FS, Colt Python, Colt Detective Special, Glock 17, and Mossberg 500.

Figure 1 : Number of films with and without guns per decade (1950 - 2024)
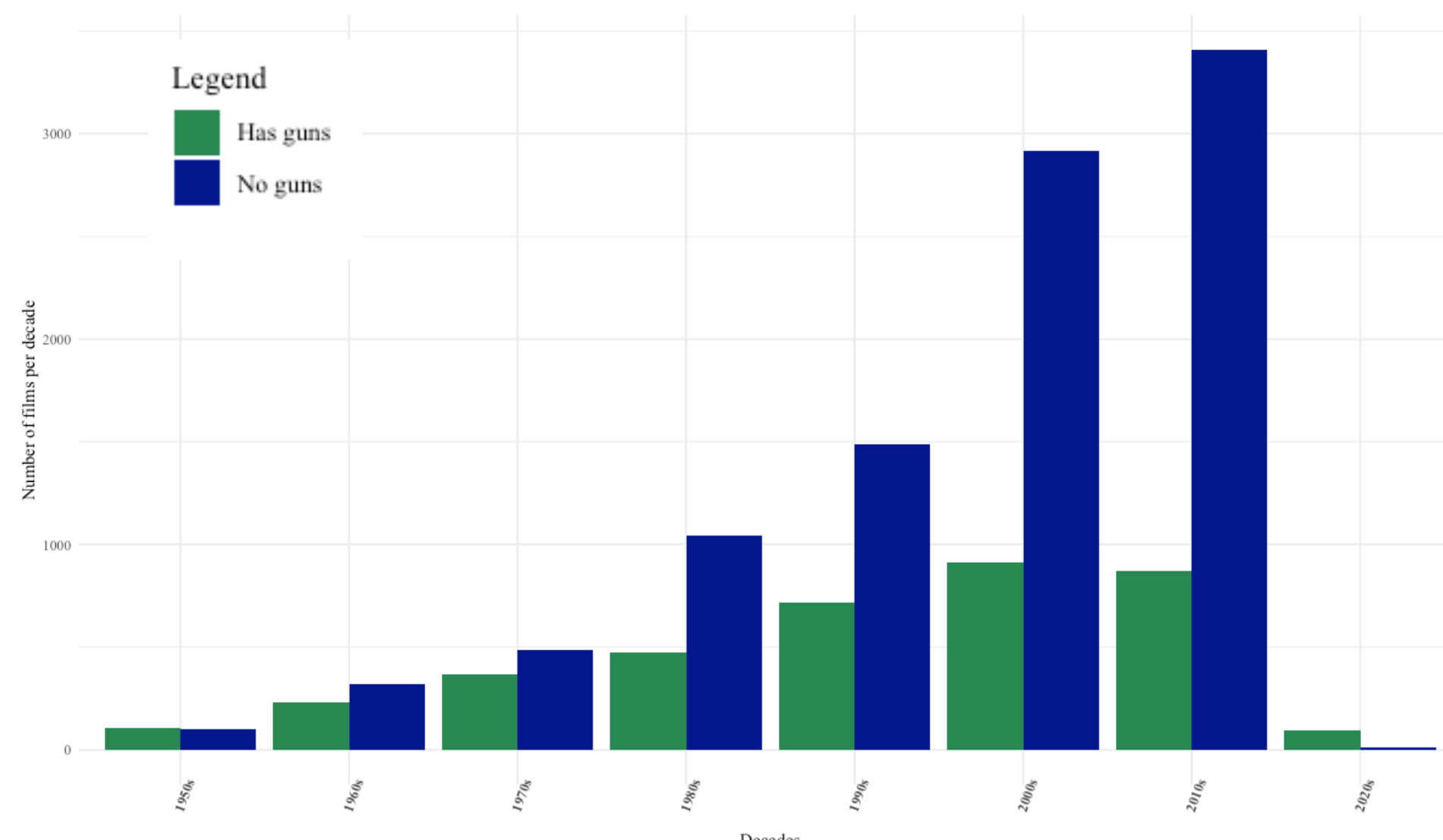
- In *Figure 2*, we are shown the genres that have the most amount of guns. We can see that action movies predominantely have the most amount of guns over time. About 57.59% of action films include guns in them
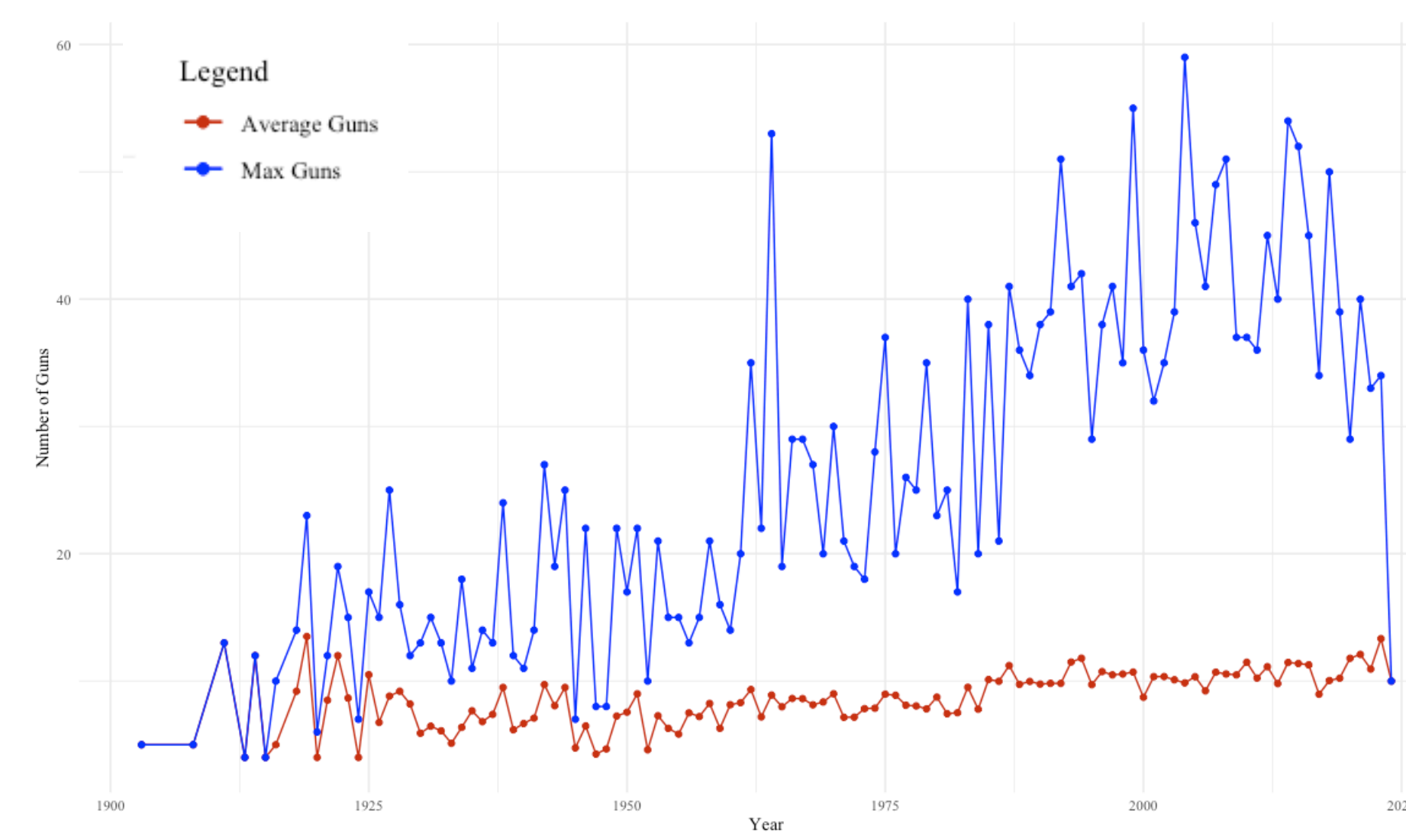

Figure 2 : Number of guns for the top four genres over (1950 - 2024)
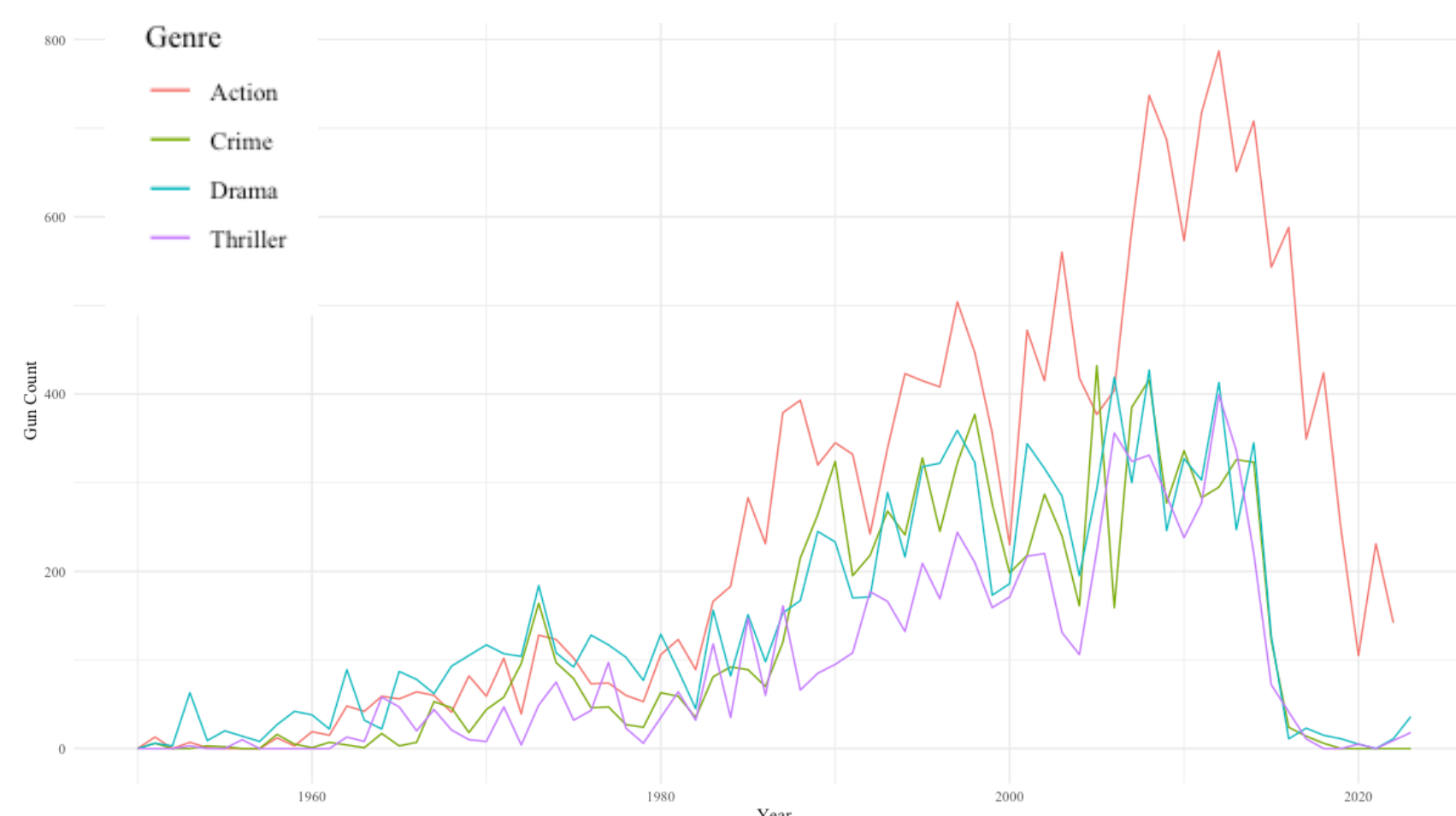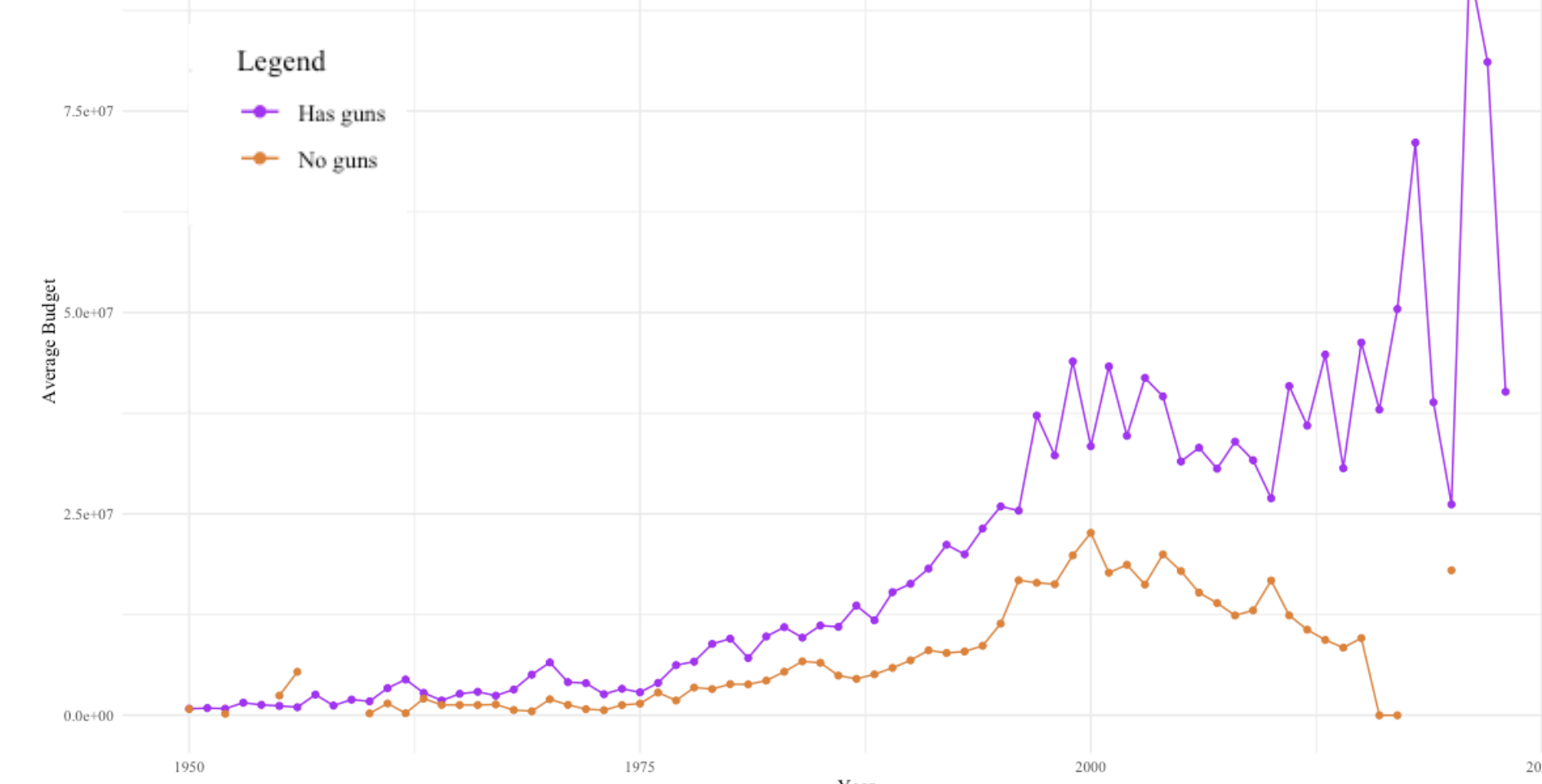
Bivariate

- Represented in *Figure 3*, there is also a statistically significant and positive relationship between the **number of guns** and **year**.

Figure 3 : Average and maximum number of guns in films (1903 - 2024)

- In *Figure 4*, we see that there exists a statistically significant and positive relationship between **budget** and whether a movie has a gun or not.

Figure 4 : Average budget for movies with and without guns (1950 - 2024)

- Additionally, there is a statistically significant relationship between **revenue** and **gun count** shown in *Figure 5* (p-value < 0.001)

Figure 5 : Average revenue of films with and without guns (1950-2024)
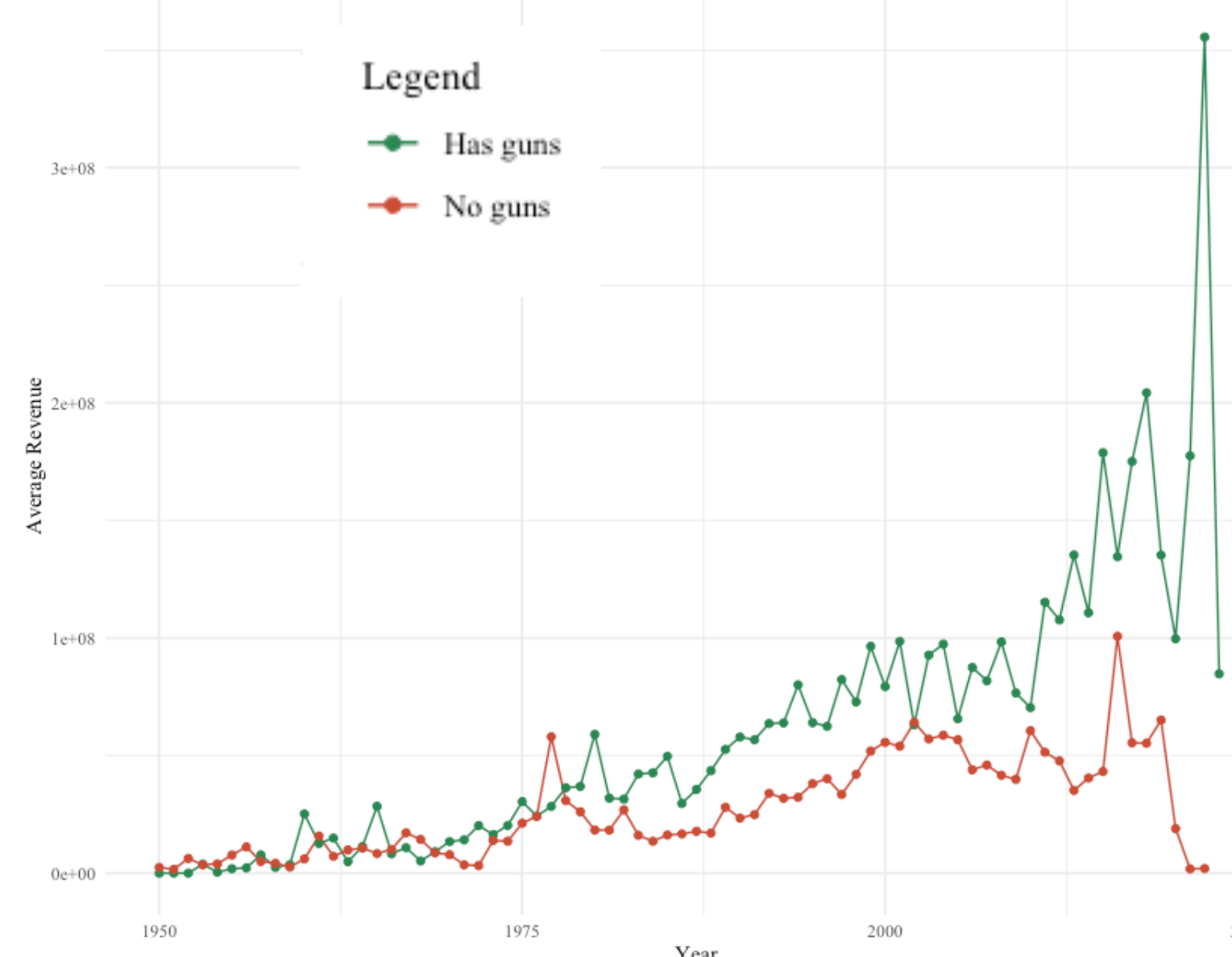
- Investigating the bivariate relationship between the significant variables show a significant correlation between **rating** and **gun count**, between **budget** and **gun count**, and **budget** and **rating** (Figure 6).

Figure 6 : Scatterplot matrix of number of guns, rating, budget, US films
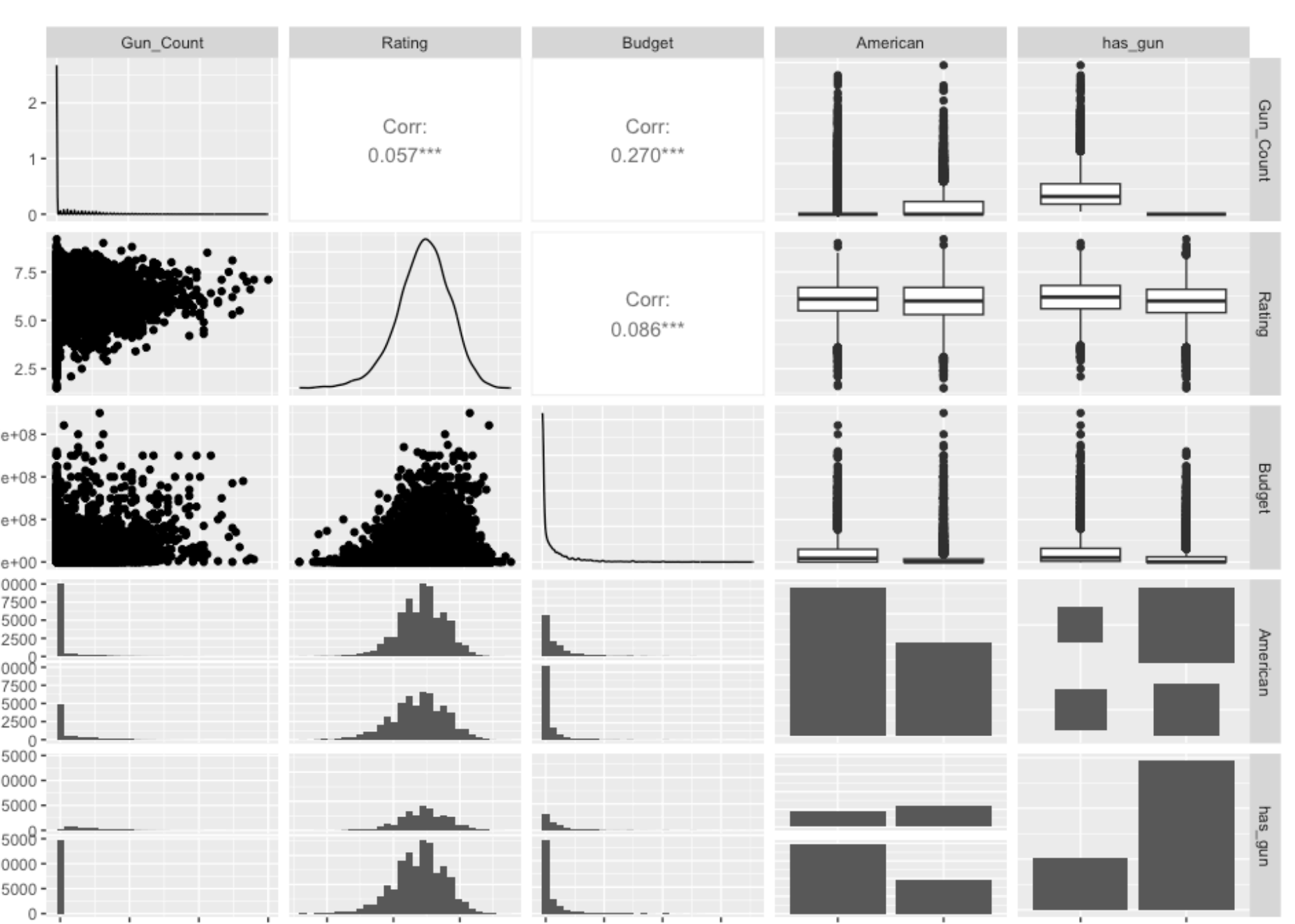
Multivariate

- When testing for **revenue** as the dependent variable, the multivariate model shows that there is a significant relationship with the rating and **budget** at the 0.001 level. Additionally, the **gun count** and the factor variable for whether a movie has a **gun** has a significance at the 0.01 level (Adjusted R-Squared = 0.586)
- Using **rating** as the dependent variable for the model, we have a significance for the gun factor variable, **budget**, and **revenue** at the 0.0001 level. However, we do not get any statistically significant relationship for the **number of guns** (Adjusted R-Squared = 0.05749)

Conclusion

- Overall, the study found some significant correlations that suggests that the uptick in guns shown in films is consistent across different variables. *Figure 2* shows us that the increase is relevant across different topics. However, we can observe that the **genres** depicted are types of movies that would be correlated with having more guns as opposed to a musical or comedy.
- *Figure 4* and *Figure 5* shows us the economical influence guns have over a film. Across both graphs, films that have guns consistently have, on average, a greater **budget** and **revenue** than films that do not have guns. An underlying effect that may be taking place is that **budget** and **revenue** are correlated and the inclusion of guns is secondary causation instead of a direct causation of this effect.

Discussion

- Findings suggest that a small number of firearms account for the highest number of appearances in media. Firearms are concentrated in certain genres, and films featuring guns generally have higher budgets than those without.
- Further research into societal impacts on gun representation could examine variables showing racial or gender biases. For instance, analyzing if certain races are depicted with specific types of guns more frequently than others could provide deeper insights into cultural stereotypes and biases in film.

References

[1] Hanlon, S. (2012). "From Westerns to Gangster Films: The Evolution of Firearm Depictions in American Cinema." Journal of Popular Film and Television.
[2] Johnson, D.R., & Jewkes, Y. (2011). "Media and Crime: The Case of Gun Violence in Hollywood Films." Crime, Media, Culture.
[3] Lawrence, A. (2010). "Firearms and the Cinematic Frontier: Myth and Reality in Western Films." Western American Literature.
[4] Miller, T., & McHoul, A.W. (1998). "Firepower: The Cultural and Political Economy of Cinema's Gun Fetish." Cultural Studies.
[5] Smith, S.L., & Donnerstein, E. (2000). "Gun Violence in the Media: The Role of Movies in Promoting Aggressive Behavior."
[6] Wright, J.D., & Rossi, P.H. (1986). "Armed and Considered Dangerous: A Survey of Felons and Their Firearms." Journal of Communication.