



Features of Highly Successful Movies



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Phase 2 Project

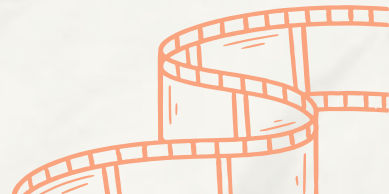
Flatiron Data Science Flex (June 2023)

Overview

In this analysis, a highly profitable subset of movies is defined using percent return. Then, this subset is analyzed by feature to determine how these movies behave in comparison to all movies.

The three features considered are:

- Production budget
- Genre
- Runtime

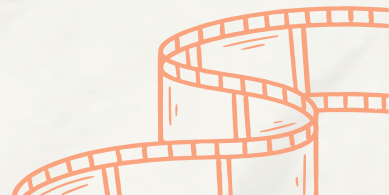


Business Understanding

The company that this analysis was conducted for is interested in producing original video content. They are seeking recommendations with regards to what films perform best.

While there are many ways to evaluate a movie's performance (critical acclaim, public opinion, etc.), the company's primary concern will be earning a profit.

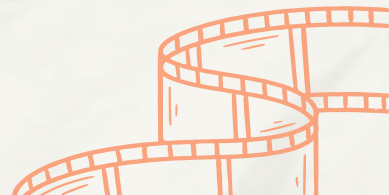
Therefore, this analysis will consider the most successful movies to be those earning the highest percent returns.



Data Understanding

Two datasets were used for this analysis:

- The Numbers:
 - Nearly 6,000 movies
 - Title, date, budget, and revenue
- IMDB:
 - Over 146,000 movies
 - Title, release year, runtime, genre

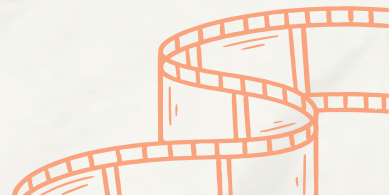


Data Analysis Methods

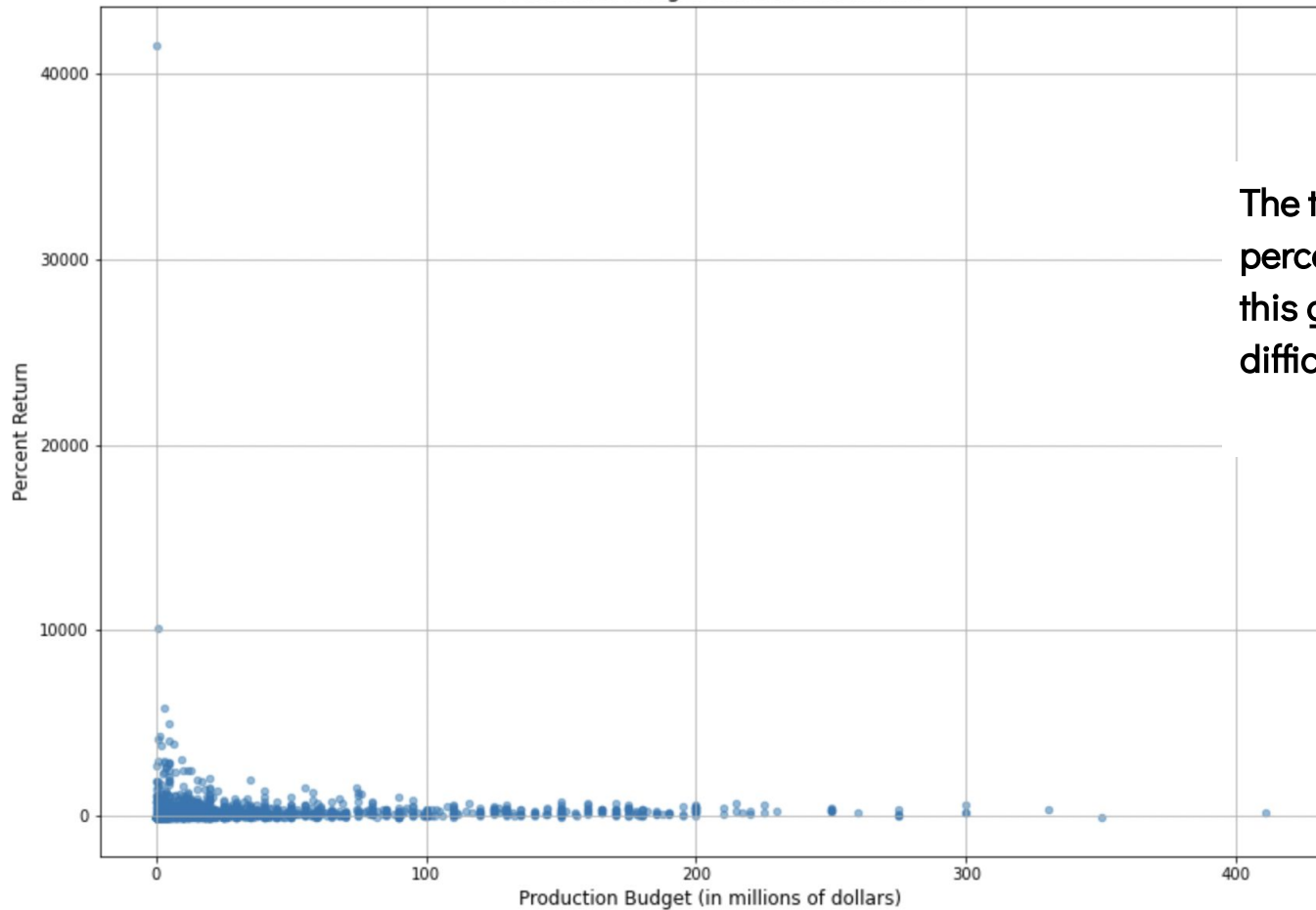
- Calculated percent return for all movies in the dataset

$$\text{Percent Return} = \frac{\text{total gross revenue} - \text{production budget}}{\text{production budget}} * 100$$

- Created a subset of the 30 movies with the highest percent returns
- Compared the subset to the entire dataset across three features: production budget, genre, and runtime (including visual analysis and statistical analysis)

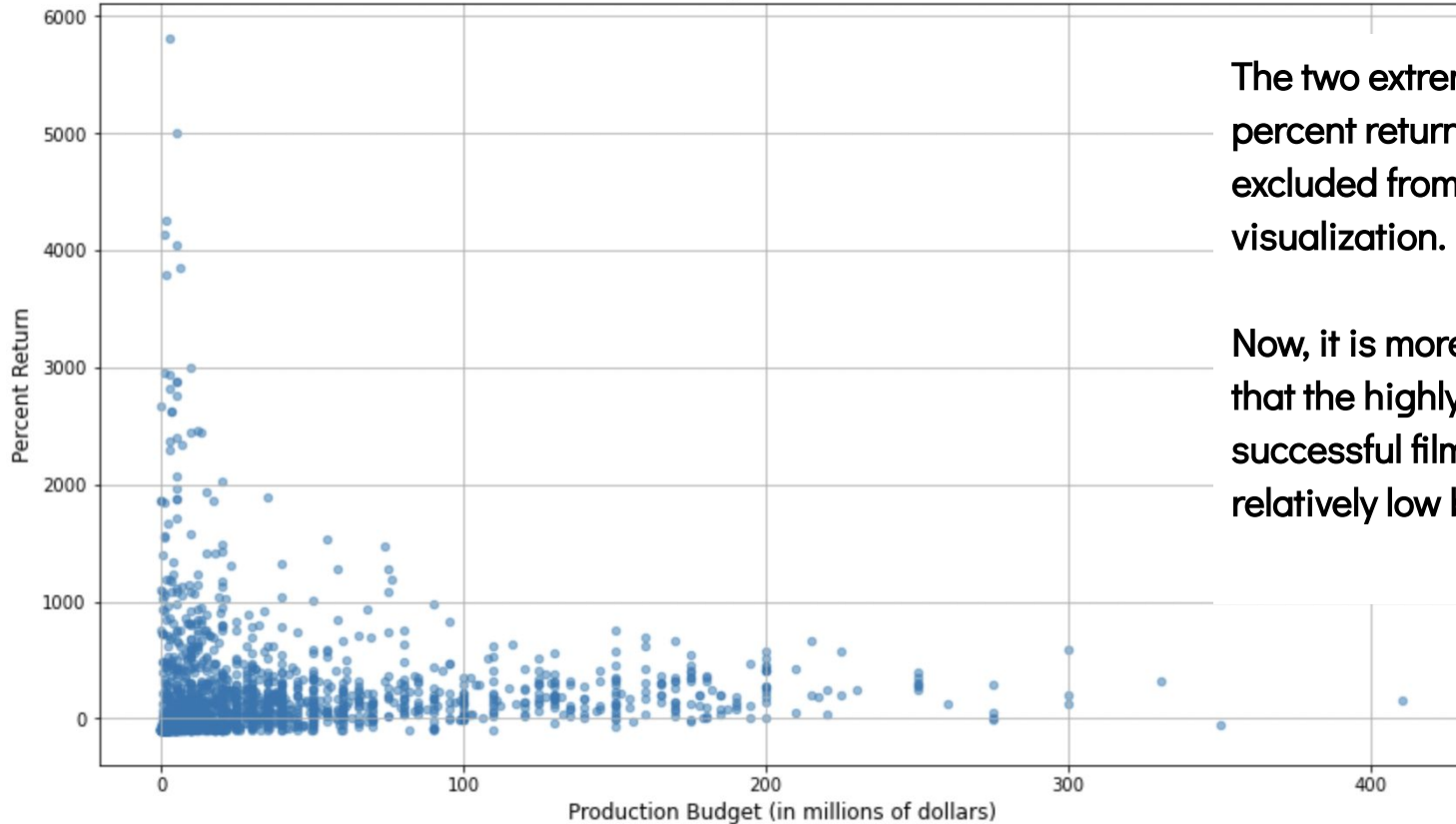


Production Budget and Percent Return



The two extreme percent returns make this graph someone difficult to interpret.

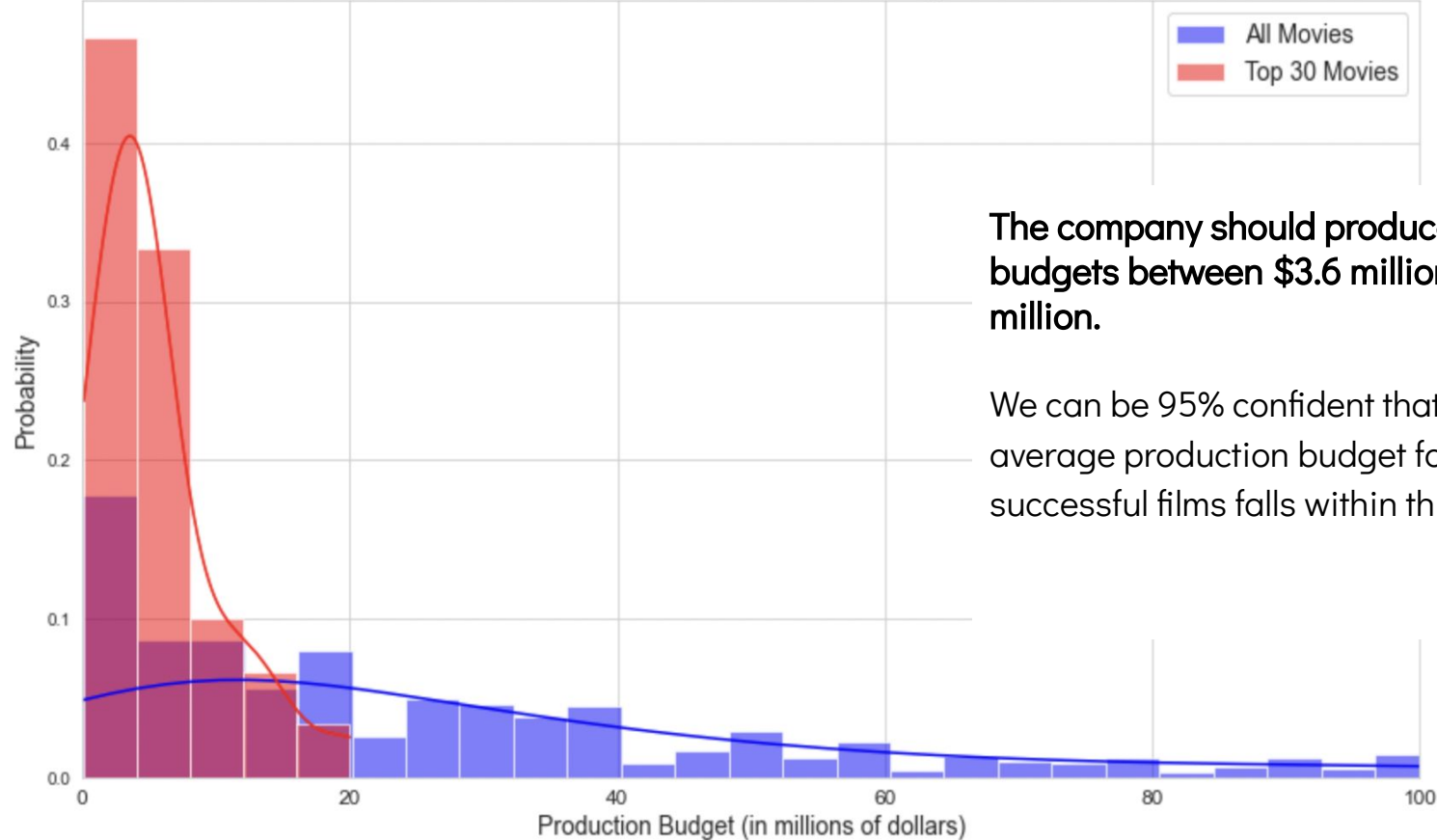
Production Budget and Percent Return



The two extreme percent returns are excluded from this visualization.

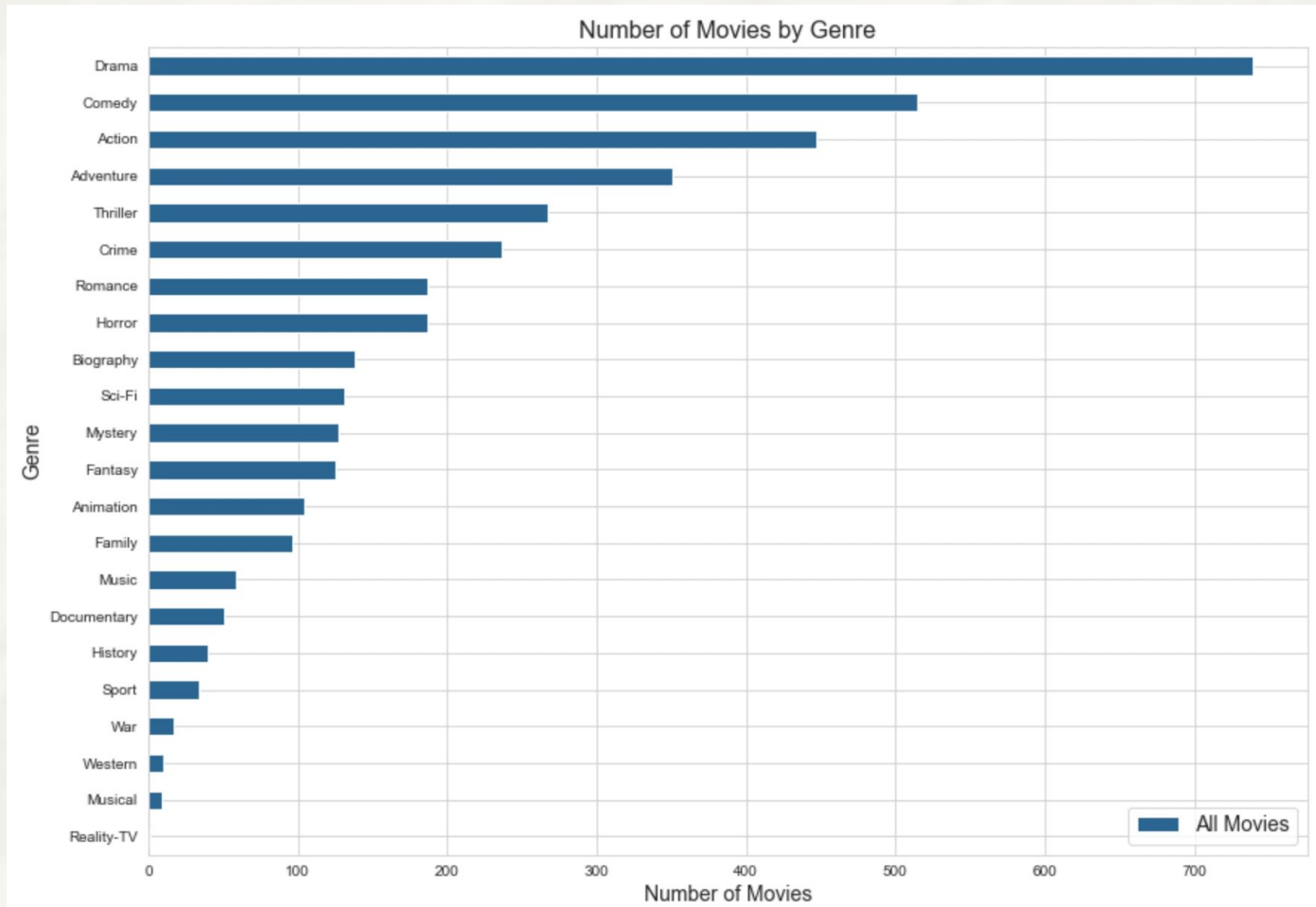
Now, it is more apparent that the highly successful films have relatively low budgets.

Distribution of Production Budgets

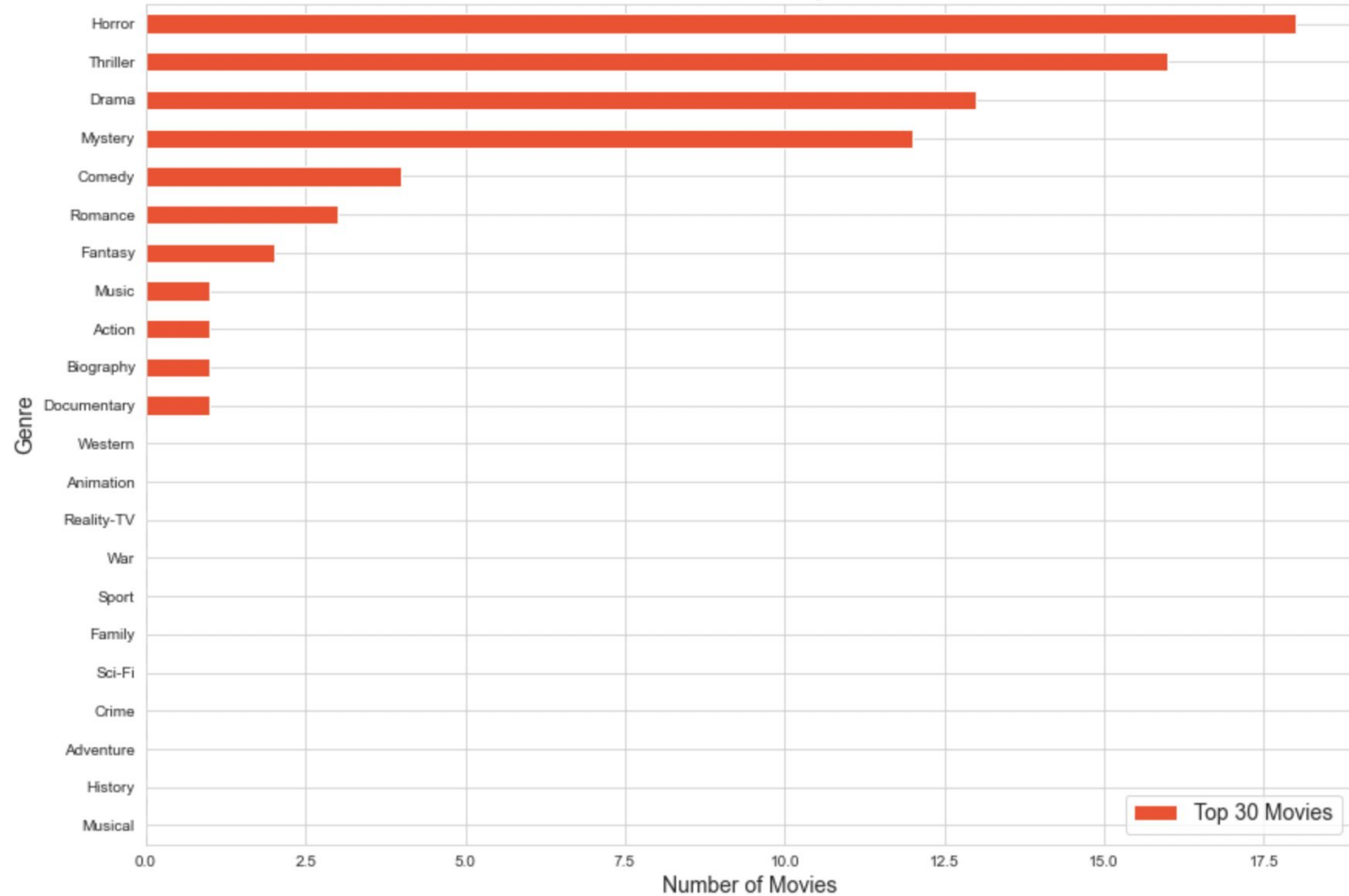


The company should produce films with budgets between \$3.6 million and \$7.1 million.

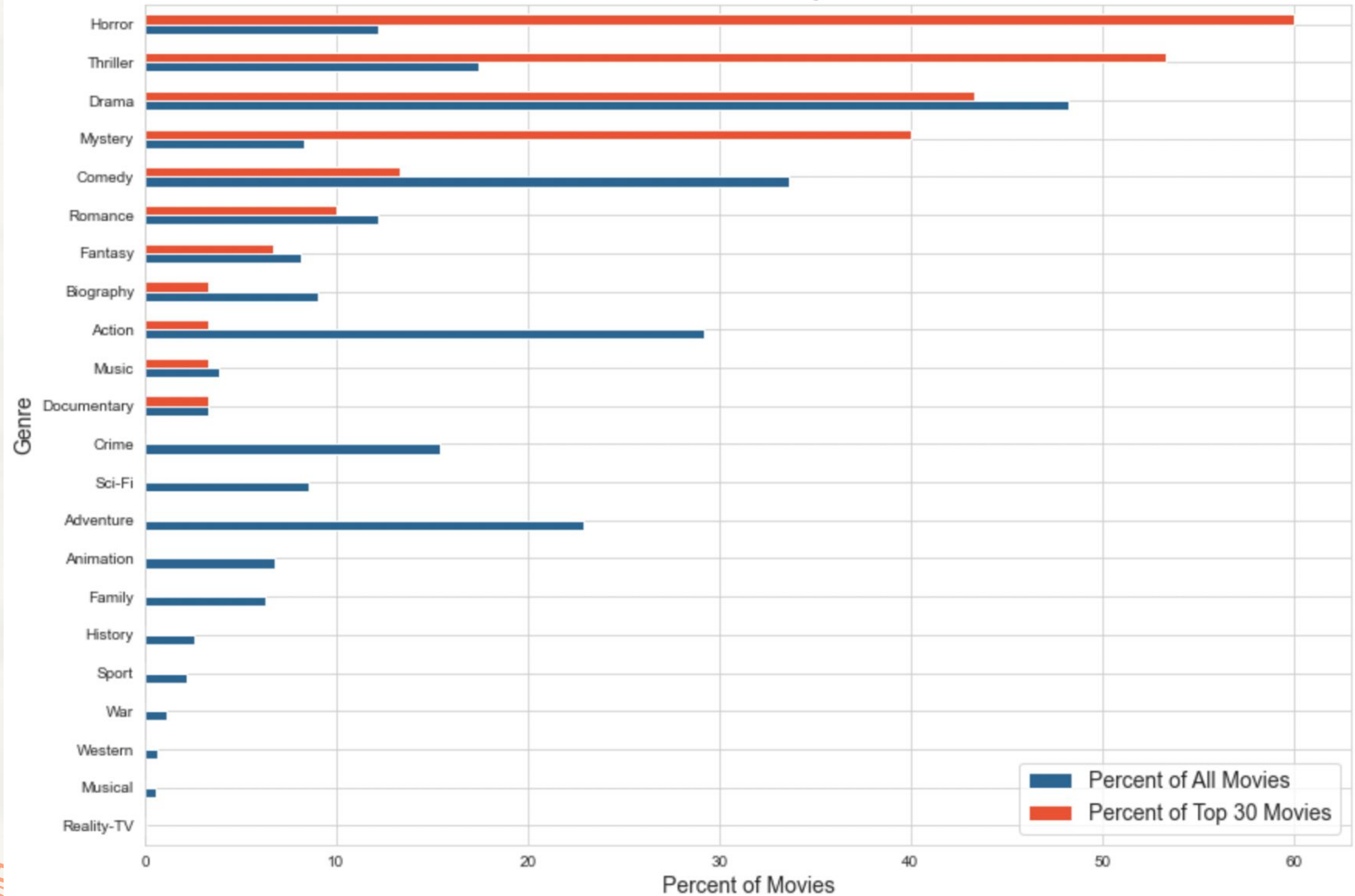
We can be 95% confident that the true average production budget for highly successful films falls within this range.

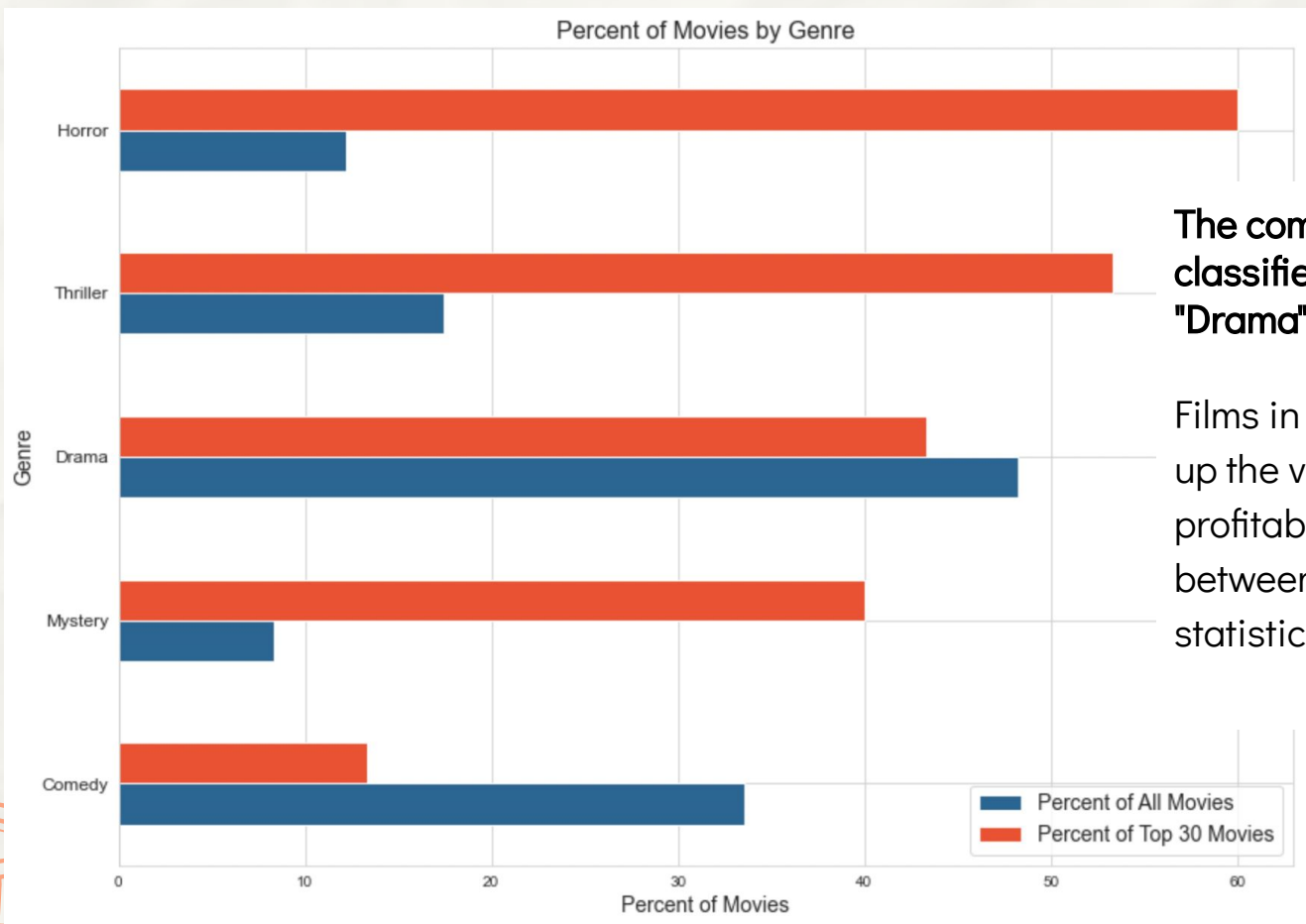


Number of Movies by Genre



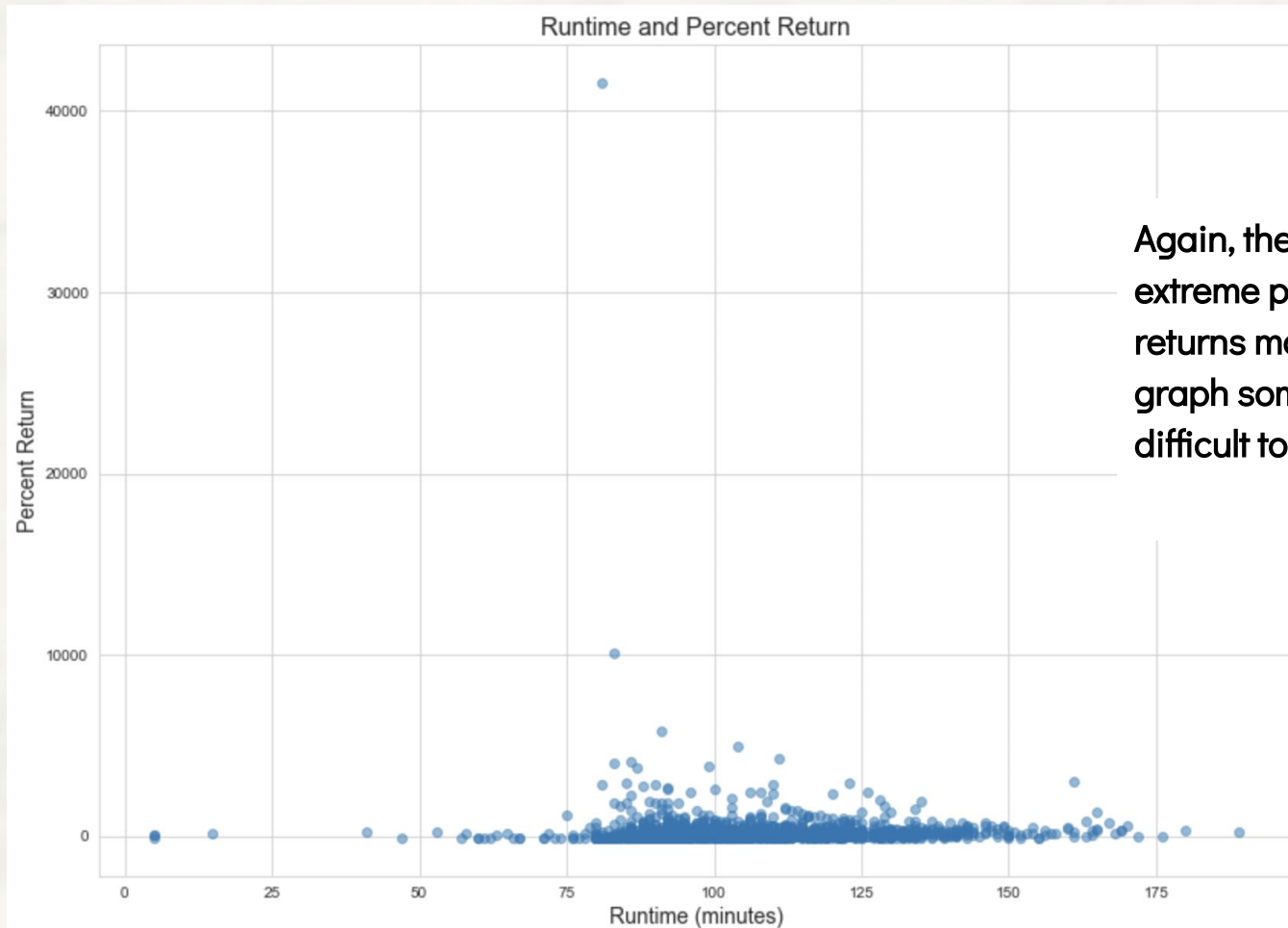
Percent of Movies by Genre





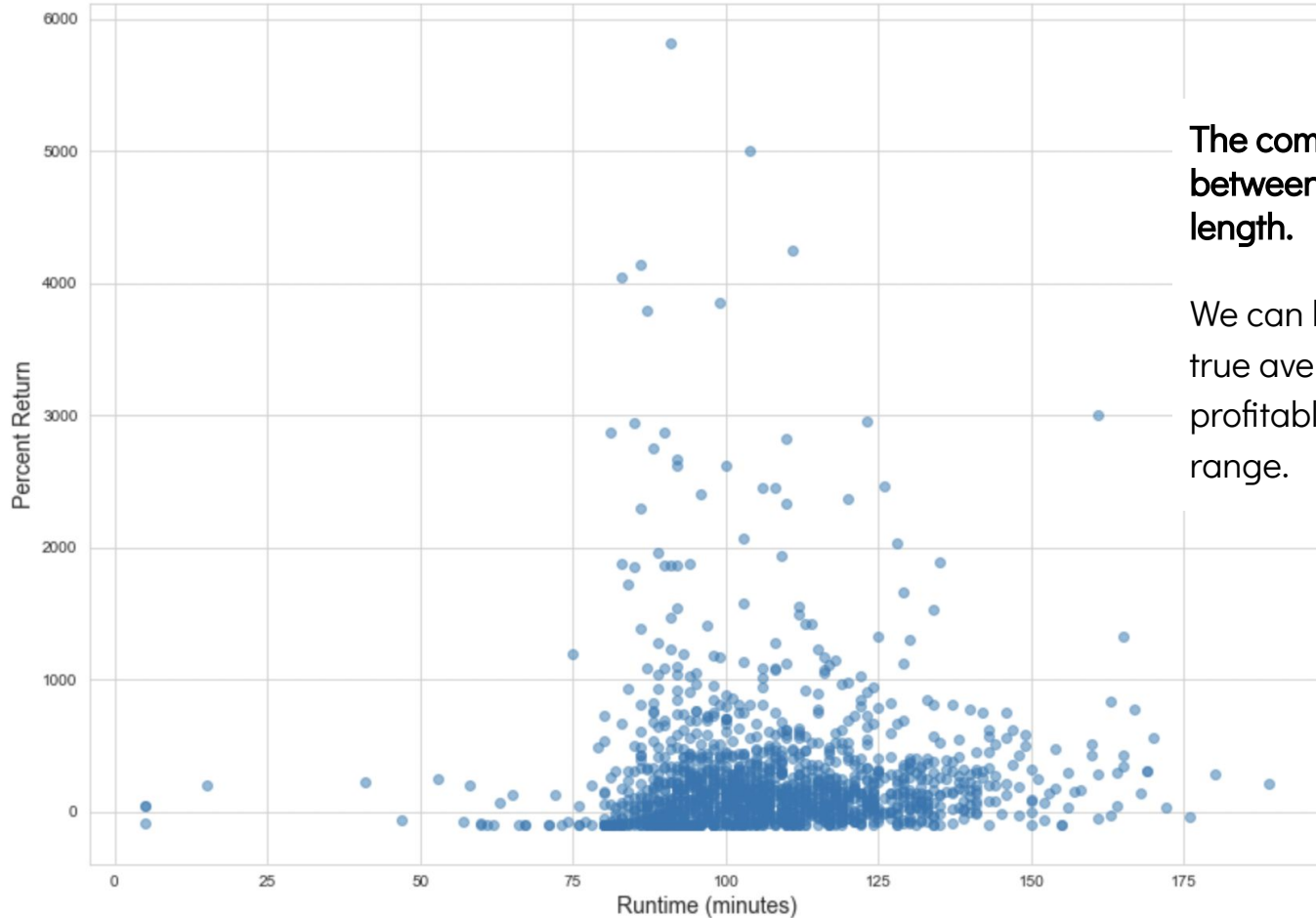
The company should produce films classified as "Horror", "Thriller", "Drama", and/or "Mystery".

Films in these genre categories make up the vast majority of highly profitable films, and the differences between these distributions are statistically significant.



Again, the two extreme percent returns make this graph someone difficult to interpret.

Runtime and Percent Return



The company should produce films between 92 and 110 minutes in length.

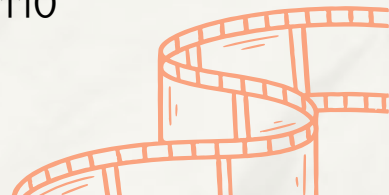
We can be 99% confident that the true average length for highly profitable films falls within this range.

Findings and Recommendations

On average, highly successful movies have lower production budgets than all movies. I recommend that the company produce films with budget between \$3.6 million and \$7.1 million.

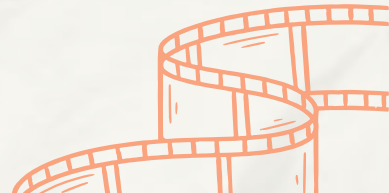
The majority of highly successful movies are classified as Horror, Thriller, Drama, and/or Mystery movies. Therefore, I recommend that the company focus their production efforts on movies in these categories.

On average, highly successful movies are slightly shorter than all movies. Therefore, I recommend that the company produce films with runtimes between 92 and 110 minutes in length.



Next Steps

- Analyze profitability for streaming vs. screening
- Consider more recent data (2020 - present)
- Consider the impact that specific directors, writers, and/or actors/actresses have on profitability



Thank you!

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