

# **Microsoft Studio**

# **Box Office Analysis**

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October 1, 2021

# Summary

Descriptive analysis of the last 15 years of box office profits to produce recommendations for Microsoft Studio on which type of movies it should produce, when it should release them and the features the movies should include:

- Wait until the major markets have fully reopened after the pandemic lockdowns before releasing movies
- Early blockbuster movies should be in the Action/Adventure/Sci-Fi genre, with lower budget movies in the Horror/Mystery/Thriller genre
- The studio should try and recruit Mark Ruffalo and Joss Whedon or JJ Abrams for the Adventure/Action/Sci-Fi movies and Rose Byrne and Jordan Peele for the Horror/Mystery/Thriller movies

# Outline

- Business Problem
- Data & Methods
- Results
- Conclusions

# Business problem

- Produce profitable movies for stakeholders
- Make efficient use of budgets for the studio's debut movies
- Recruit crew with a track record of producing profitable and acclaimed movies
- Include features most associated with successful movies

# Data & Methods

## Data

Data drawn from three sources:

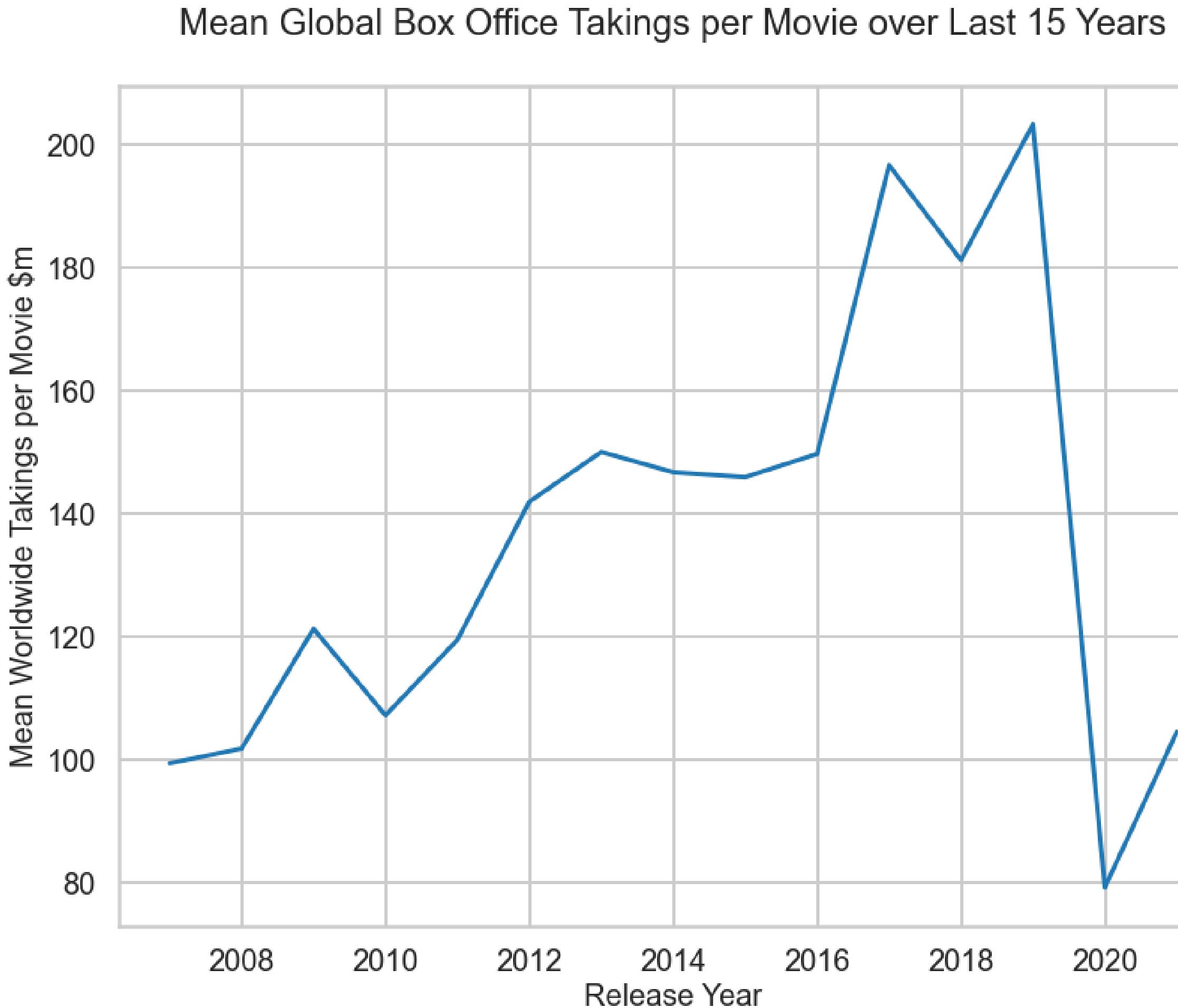
- Box office performance of more than 6,000 movies from The Numbers website
- Genre, crew, and release date of each movie from Open Movie Database (OMDB). This also contains average user ratings from Rotten Tomatoes, IMDb and Metacritic
- Keywords attached to each movie from The Movie DB (TMDB)

# Methods

- The worldwide box office takings for the last 15 years were analysed to give a general trend
- Each movie released in the last 15 years with a budget of over \$1m was analysed to find the most profitable genres, both in terms of gross profit and return on investment
- Within those genres, the movies were analysed to find which actors, directors and writers were most successful, the runtime most associated with hits and the budget likely to be needed

# Results

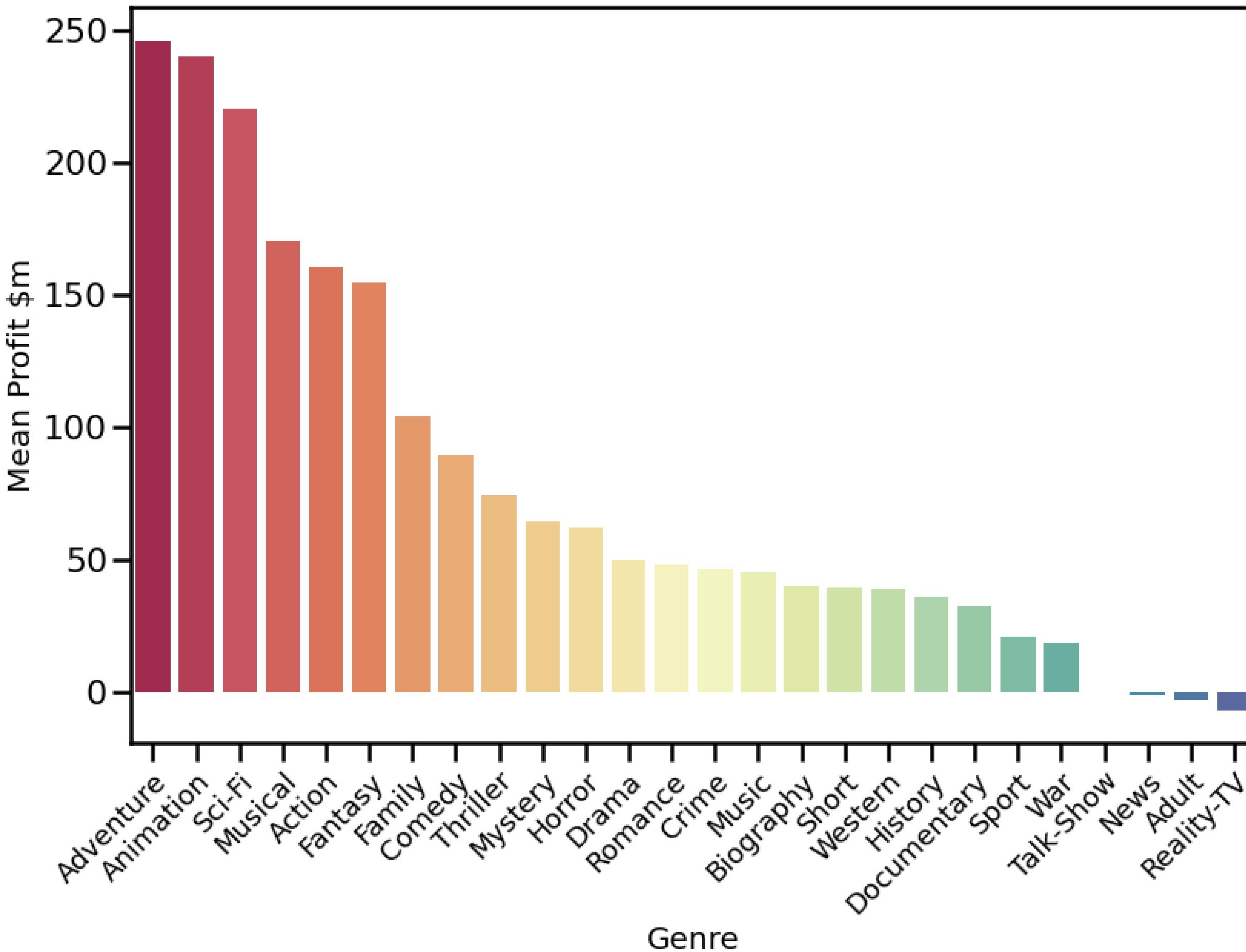
- Box office takings are still down sharply on pre-pandemic levels, with only small signs of recovery so far in 2021



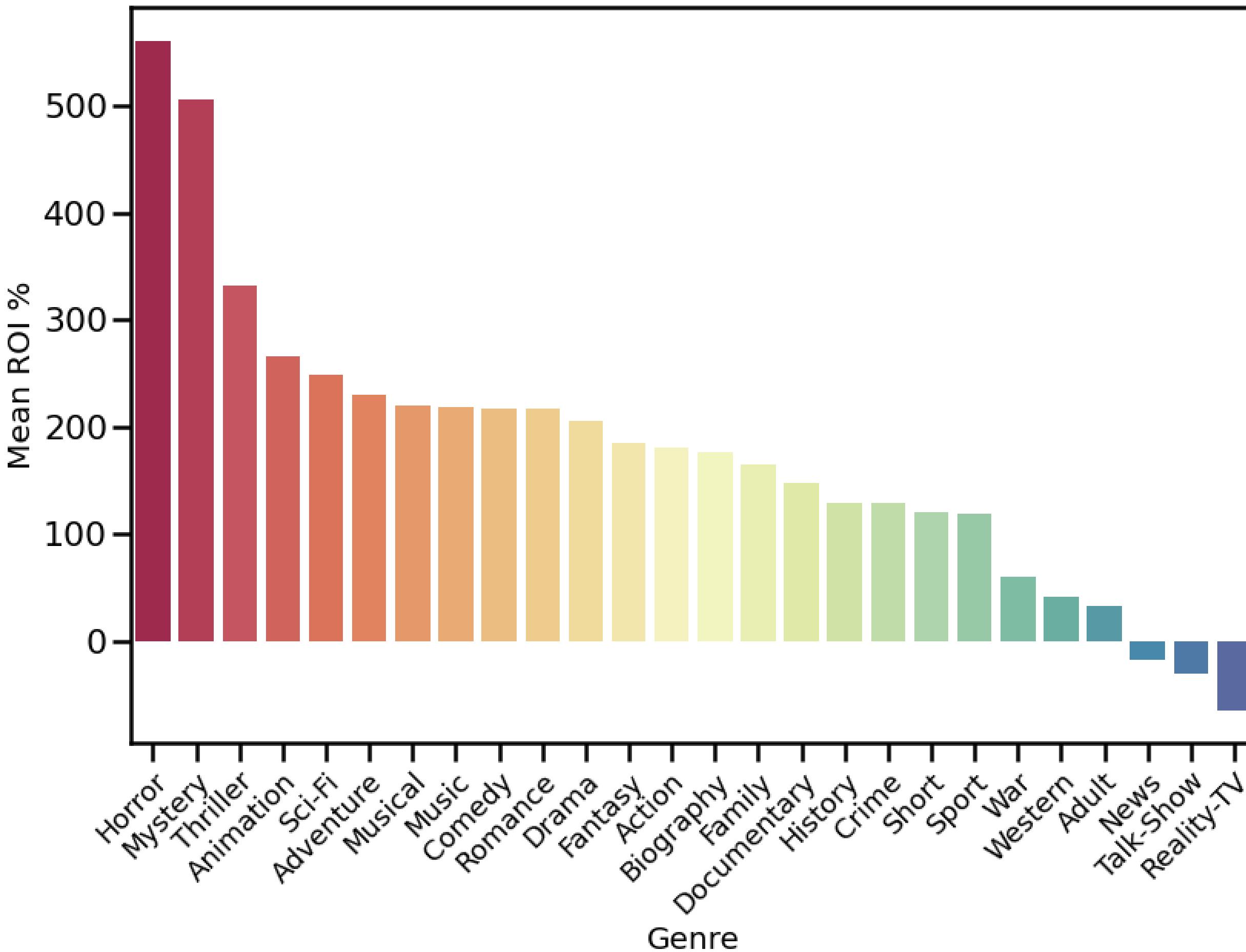
# Results

- The Adventure genre generated the highest mean profits, and had the highest budgets
- The Horror genre generated the highest return on investment, on low budgets
- Adventure and Horror were the two genres most likely to produce profitable movies

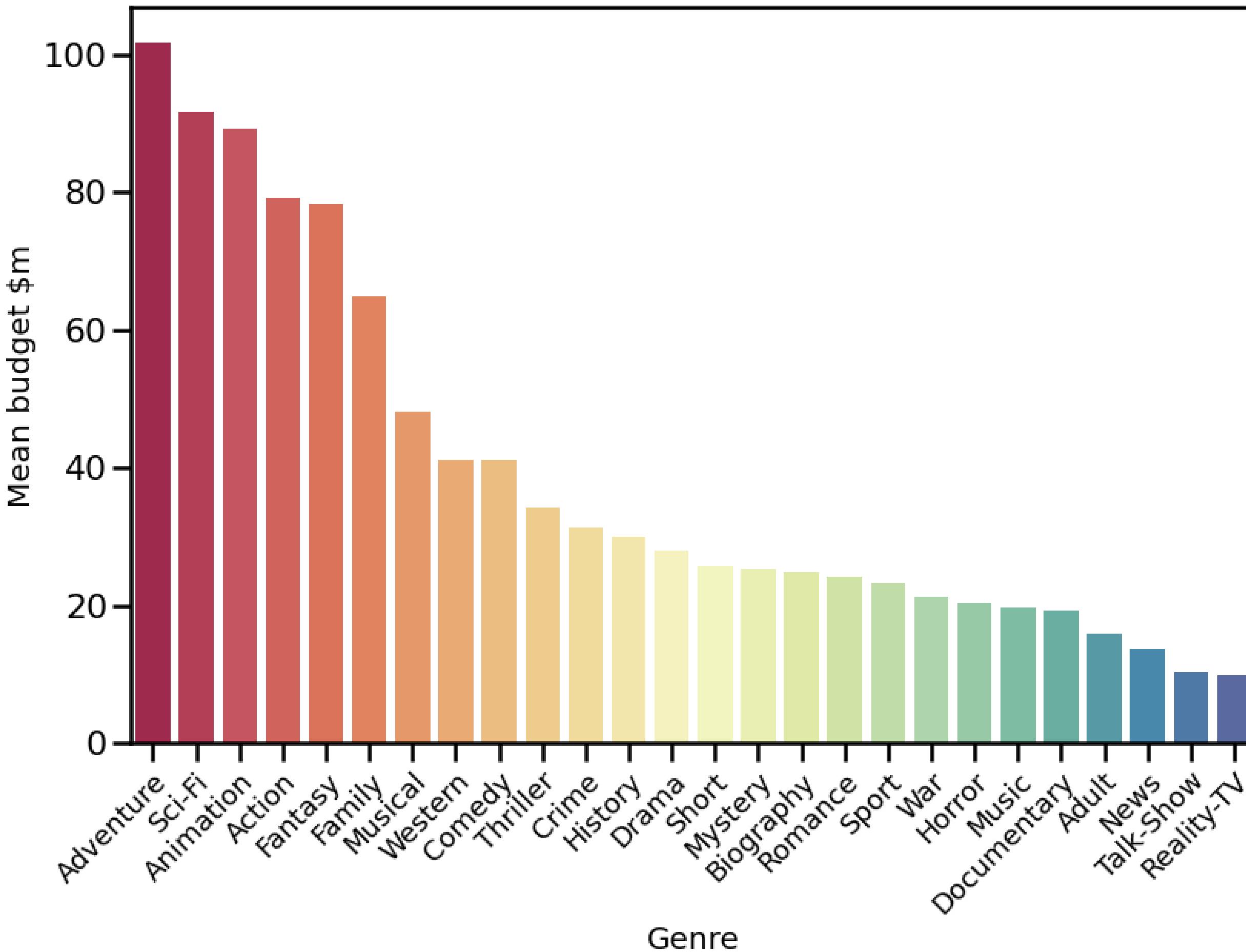
## Mean Profit per Movie by Genre



## Mean ROI per Movie by Genre

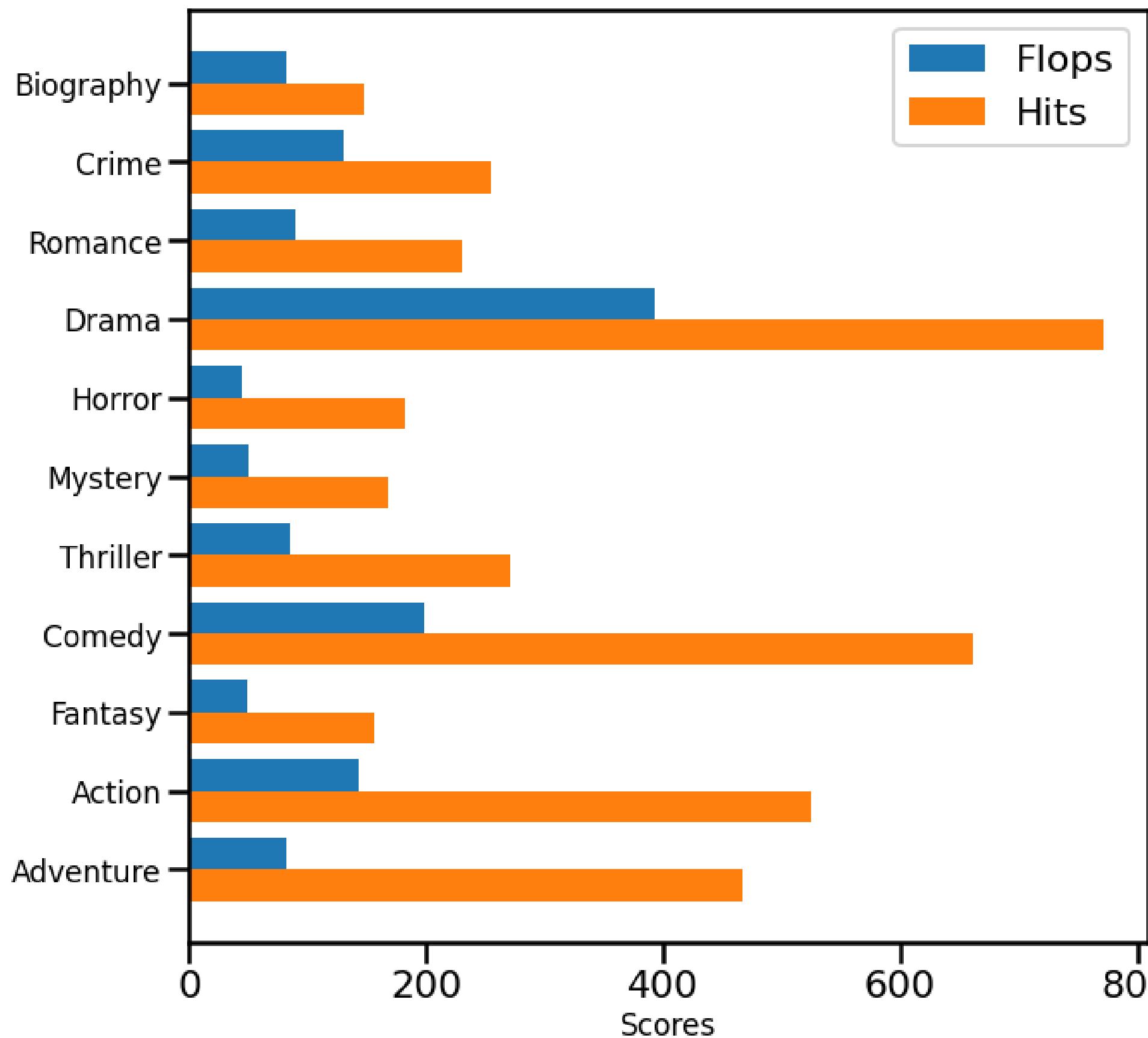


# Mean Budget per Movie by Genre

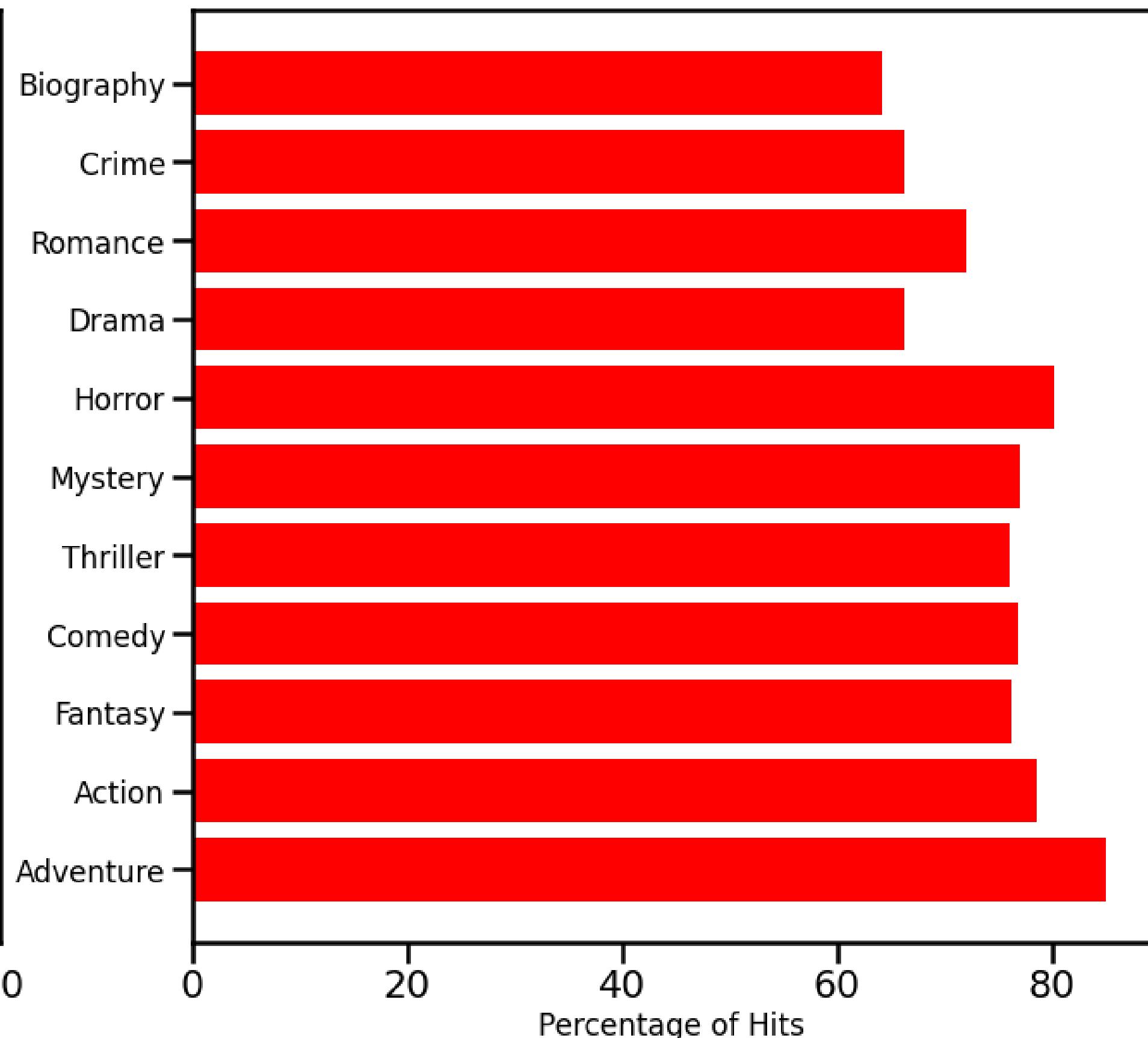


# Bar Charts of Flops and Hits by Genre

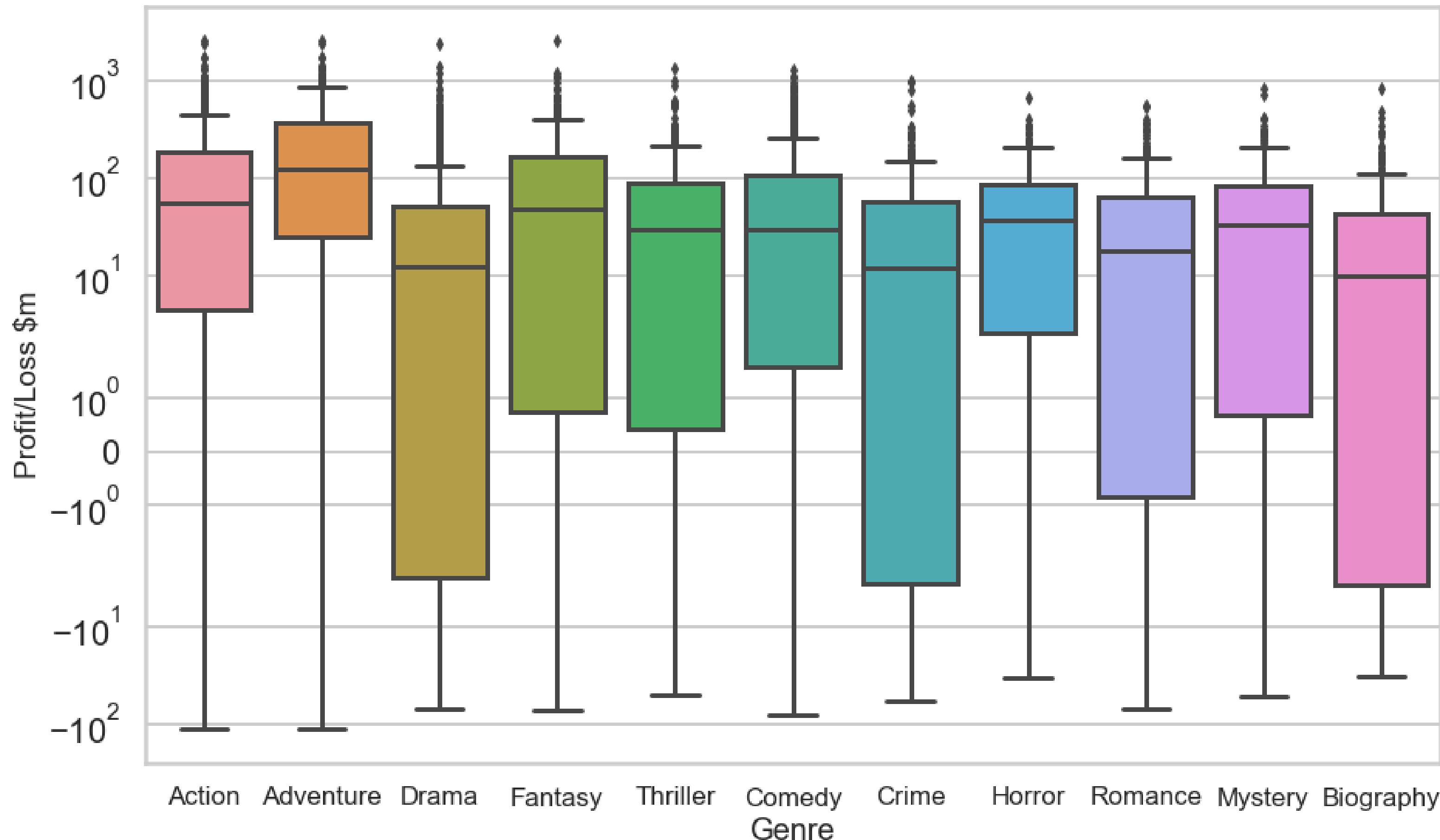
## Number of Hits and Flops by Genre



## Percentage of Hits by Genre



### Profit/Loss Spread of Every Film in each Genre



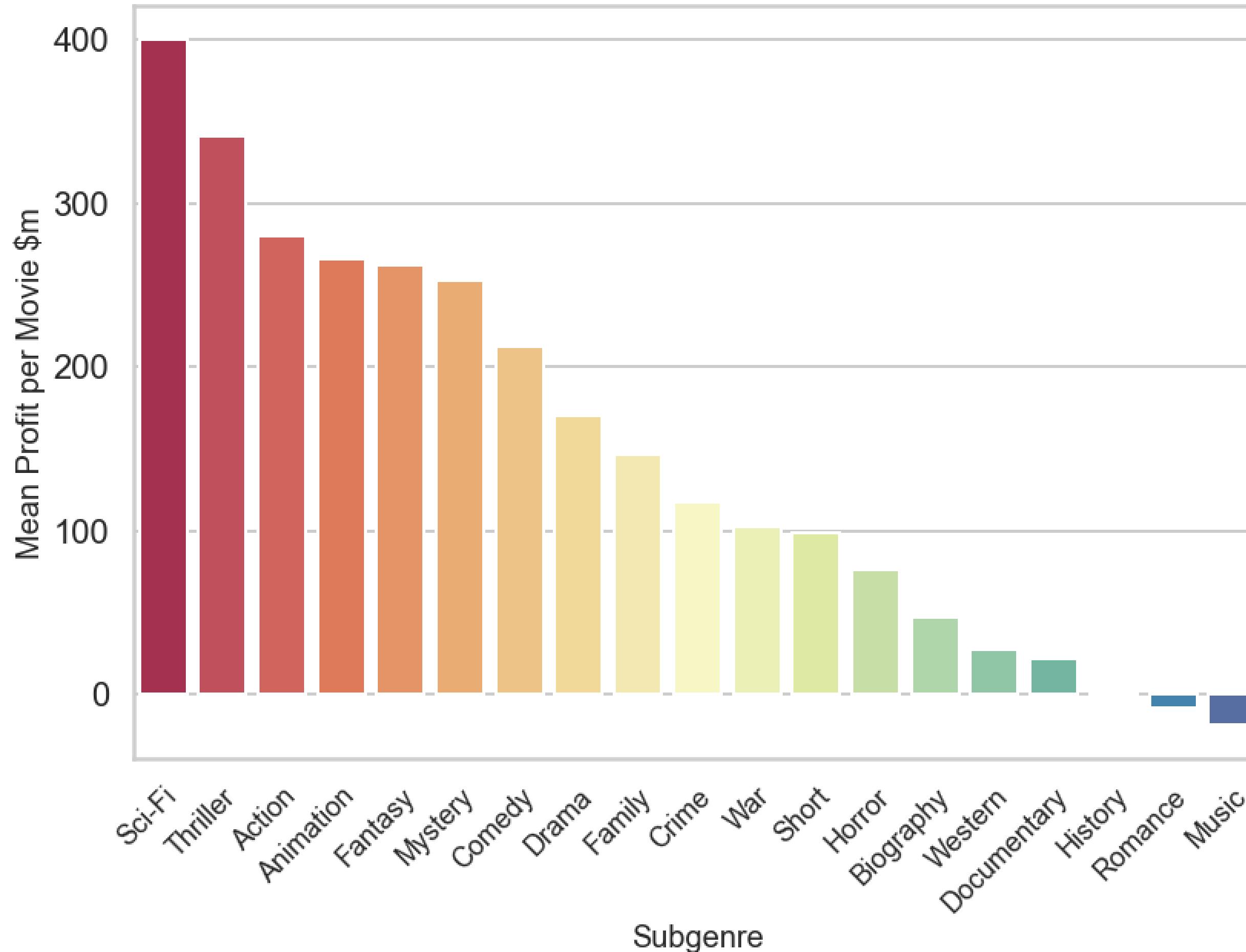
# Adventure



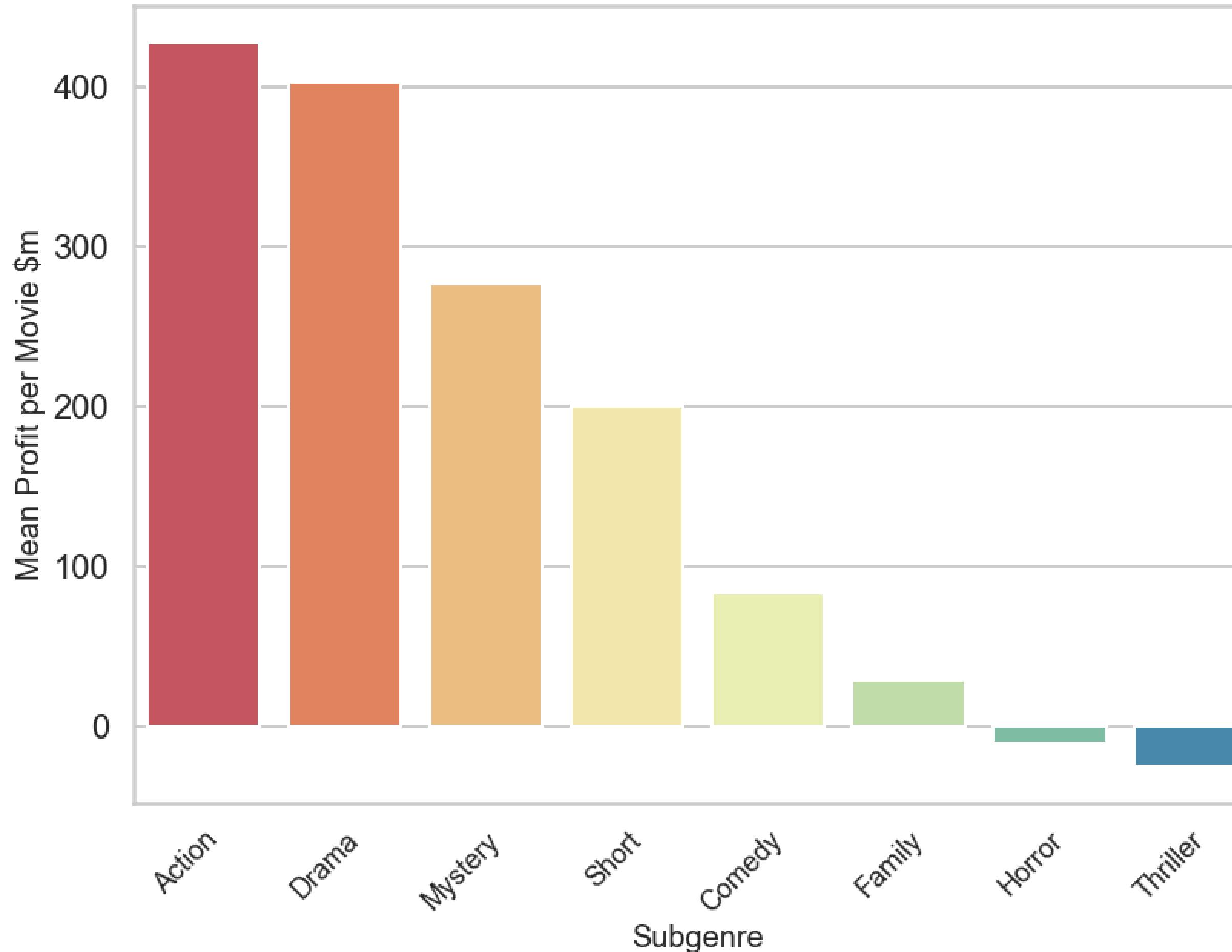
# Results

- Within the Adventure genre, the Sci-Fi/Action subgenre has generated the best profits per movie, on average
- Mark Ruffalo has been the most profitable actor, with Joss Whedon the most profitable and acclaimed writer/director
- Movies with a budget of between \$150 and \$250 million generated the highest profits in the genre
- Movies over 137 minutes long and released in April, December, November or June generated the highest profits

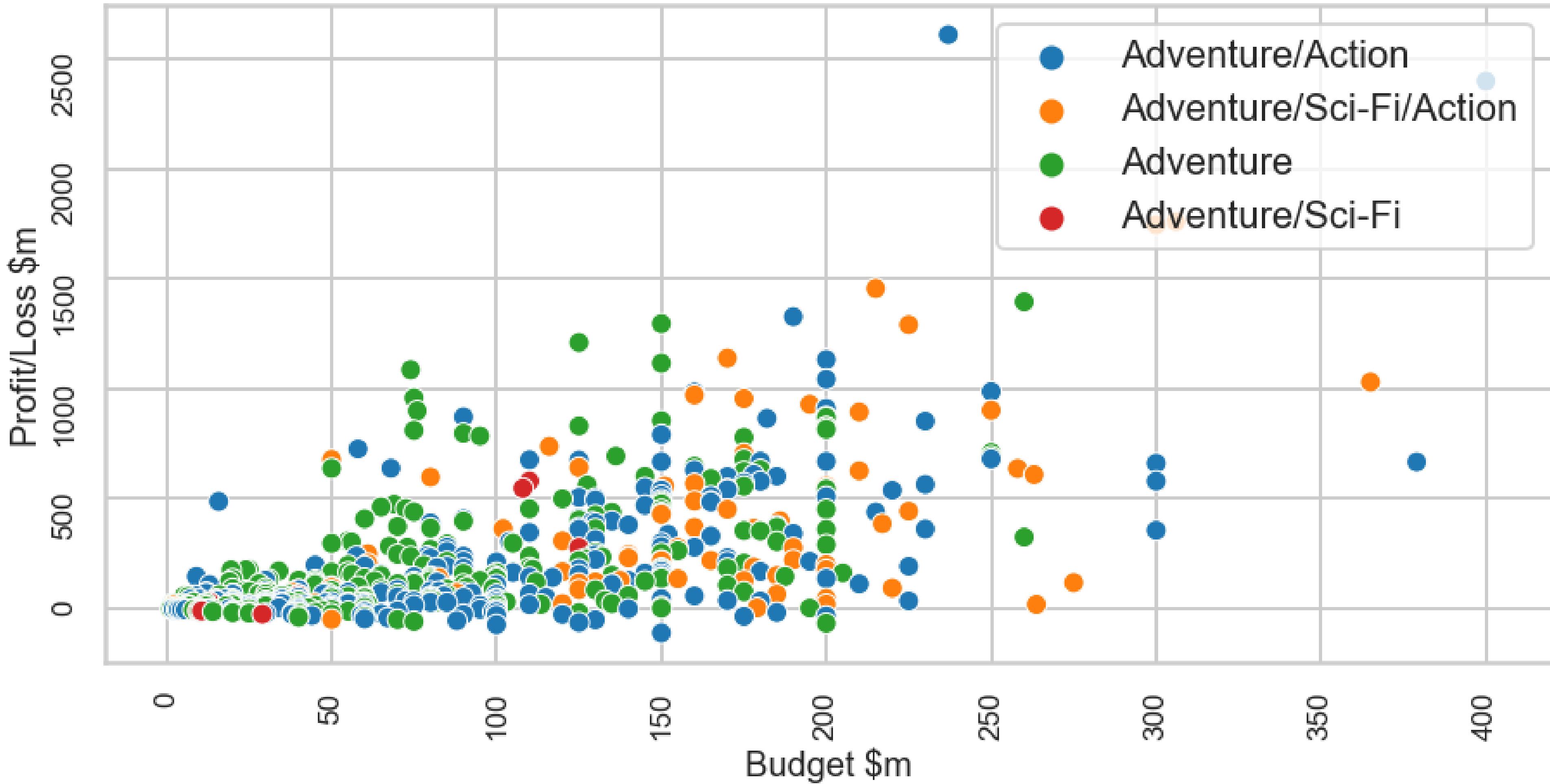
## Mean Profit per Movie by Subgenre in Adventure Genre



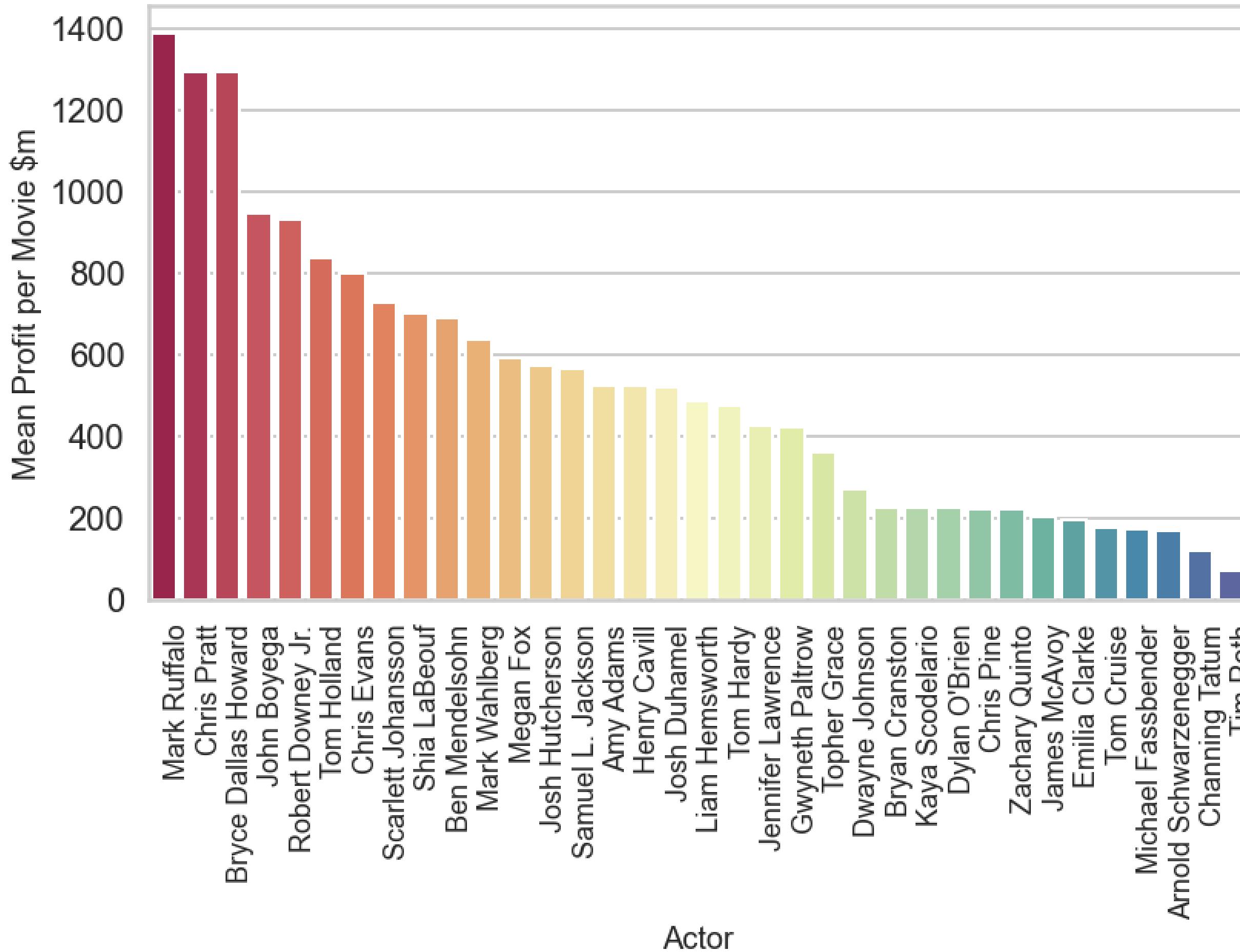
## Mean Profit per Movie by Subgenre in Adventure/SciFi Genre



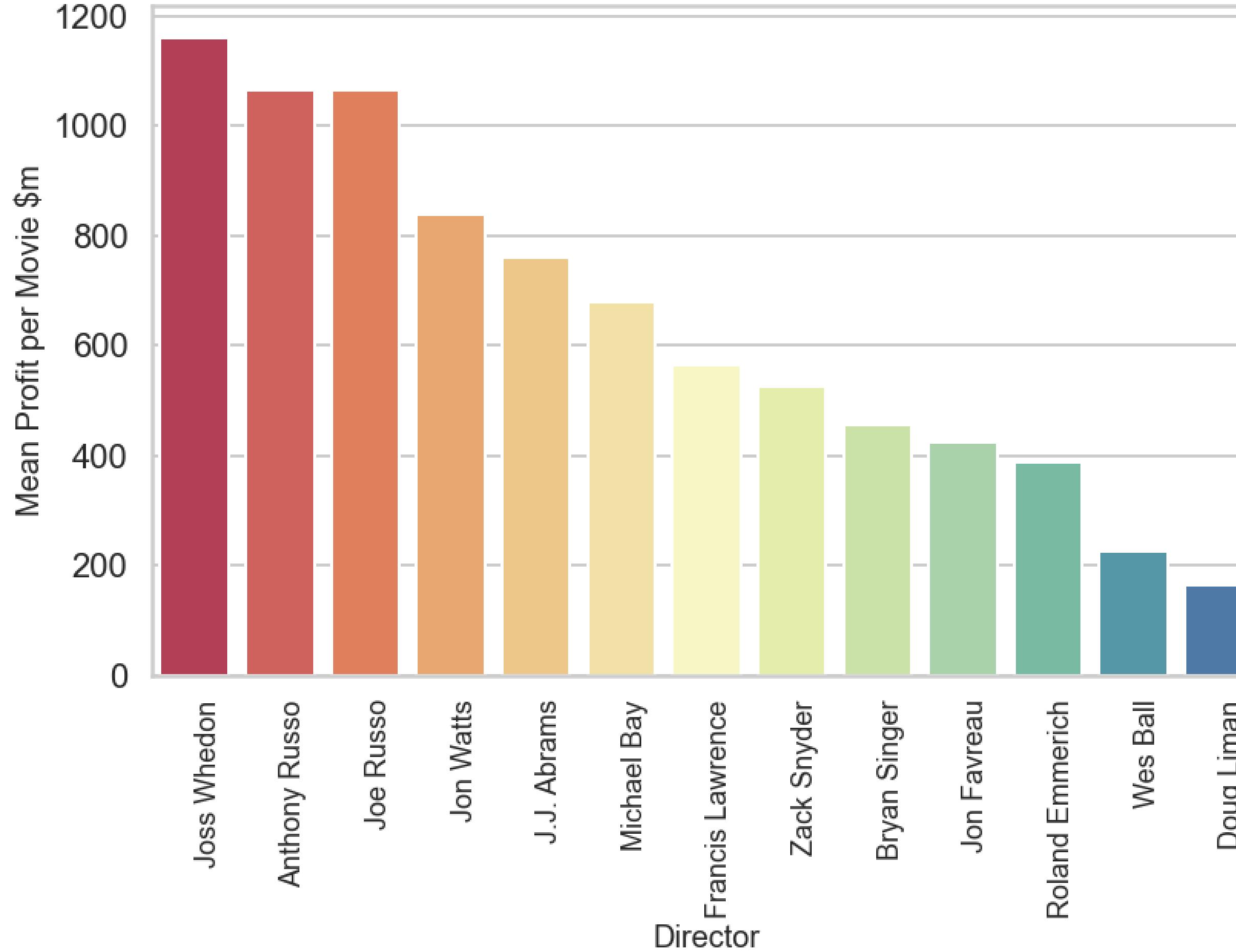
# Budget vs Profit/Loss



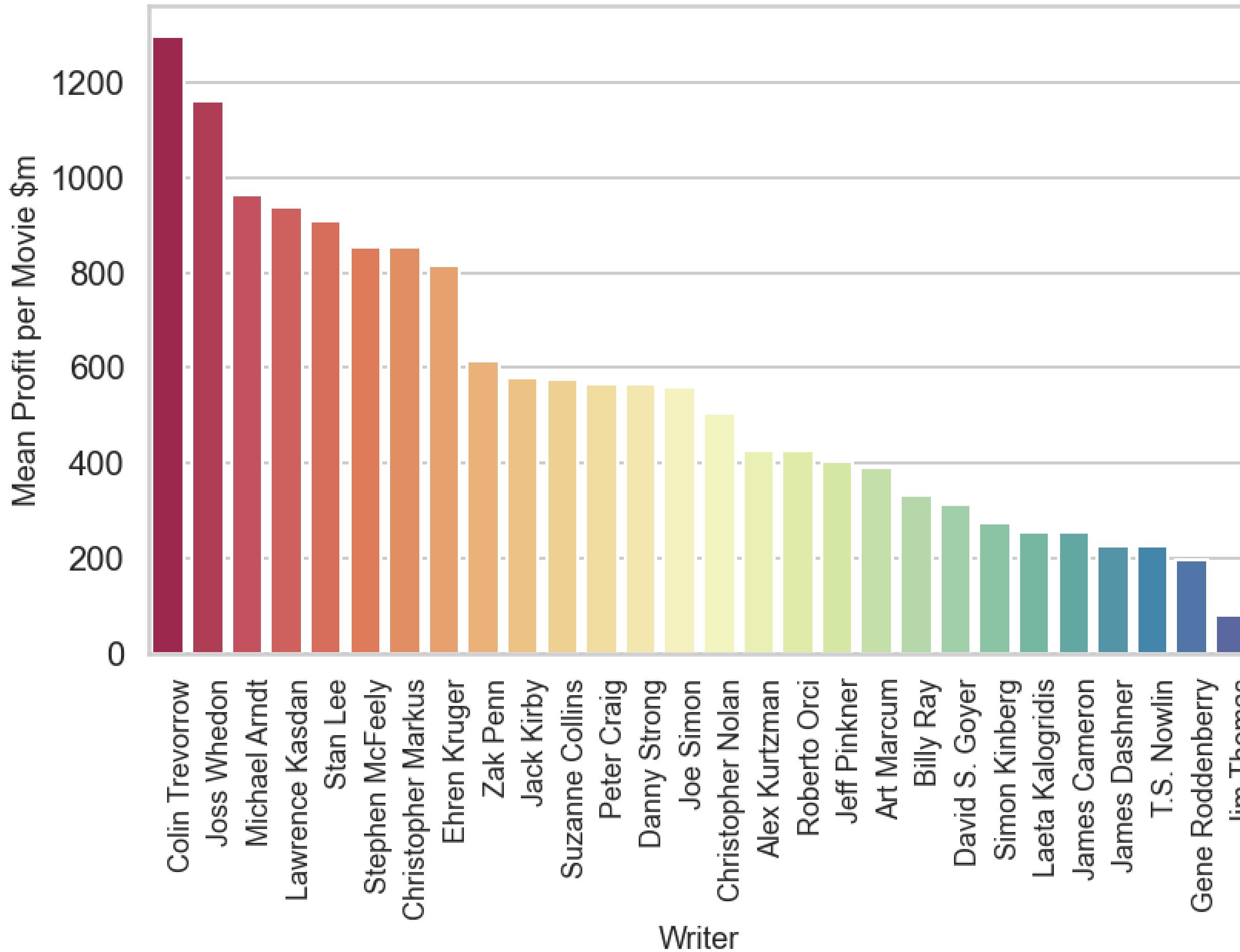
## Mean Profit per Movie by Actor in Adventure/SciFi/Action Genre



## Mean Profit per Movie by Director in Adventure/SciFi/Action Genre

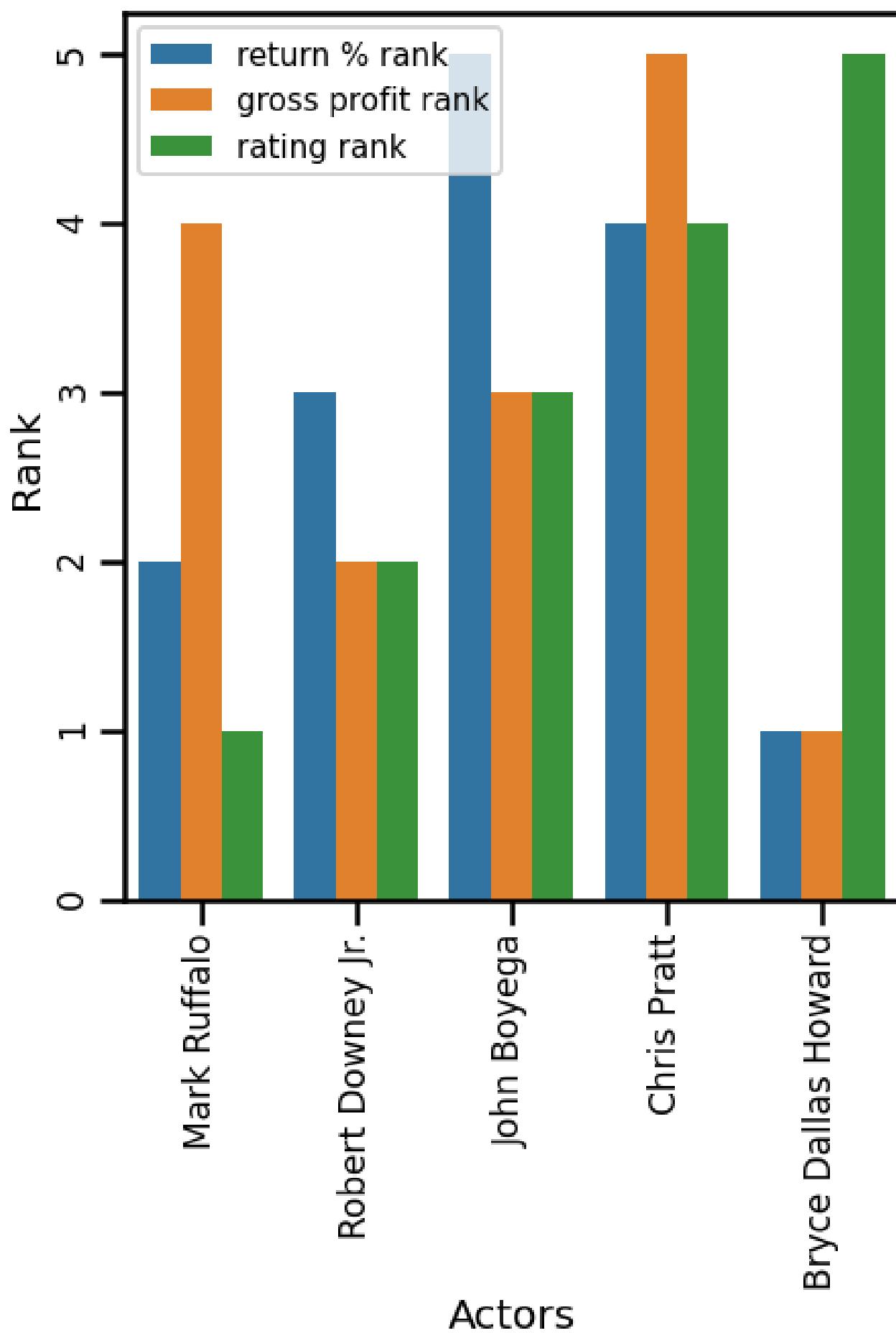


## Mean Profit per Movie by Writer in Adventure/SciFi/Action Genre

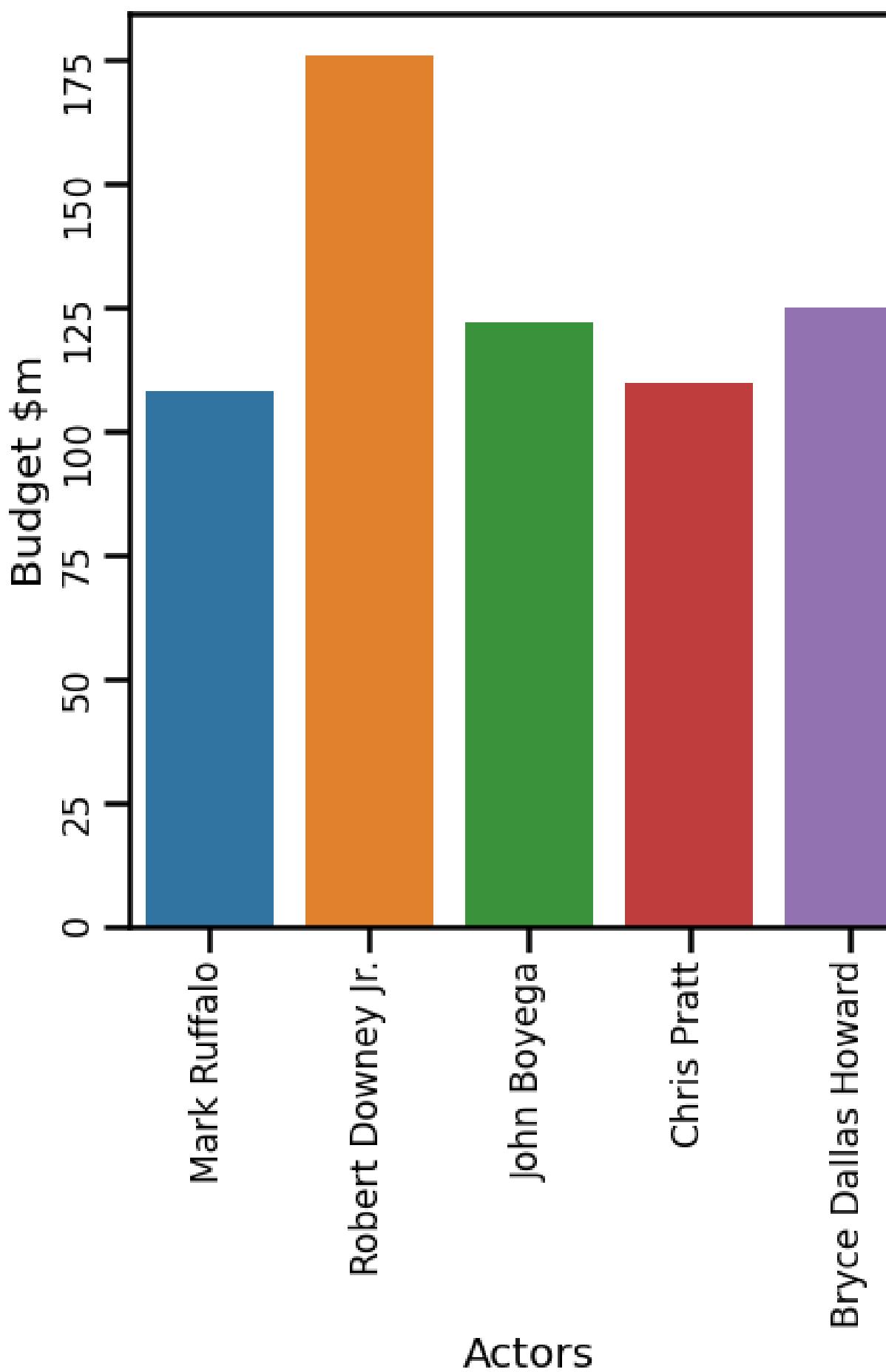


# Bar Charts of Actors Overall Performance Rankings and Budgets

## Rank of Top Actors

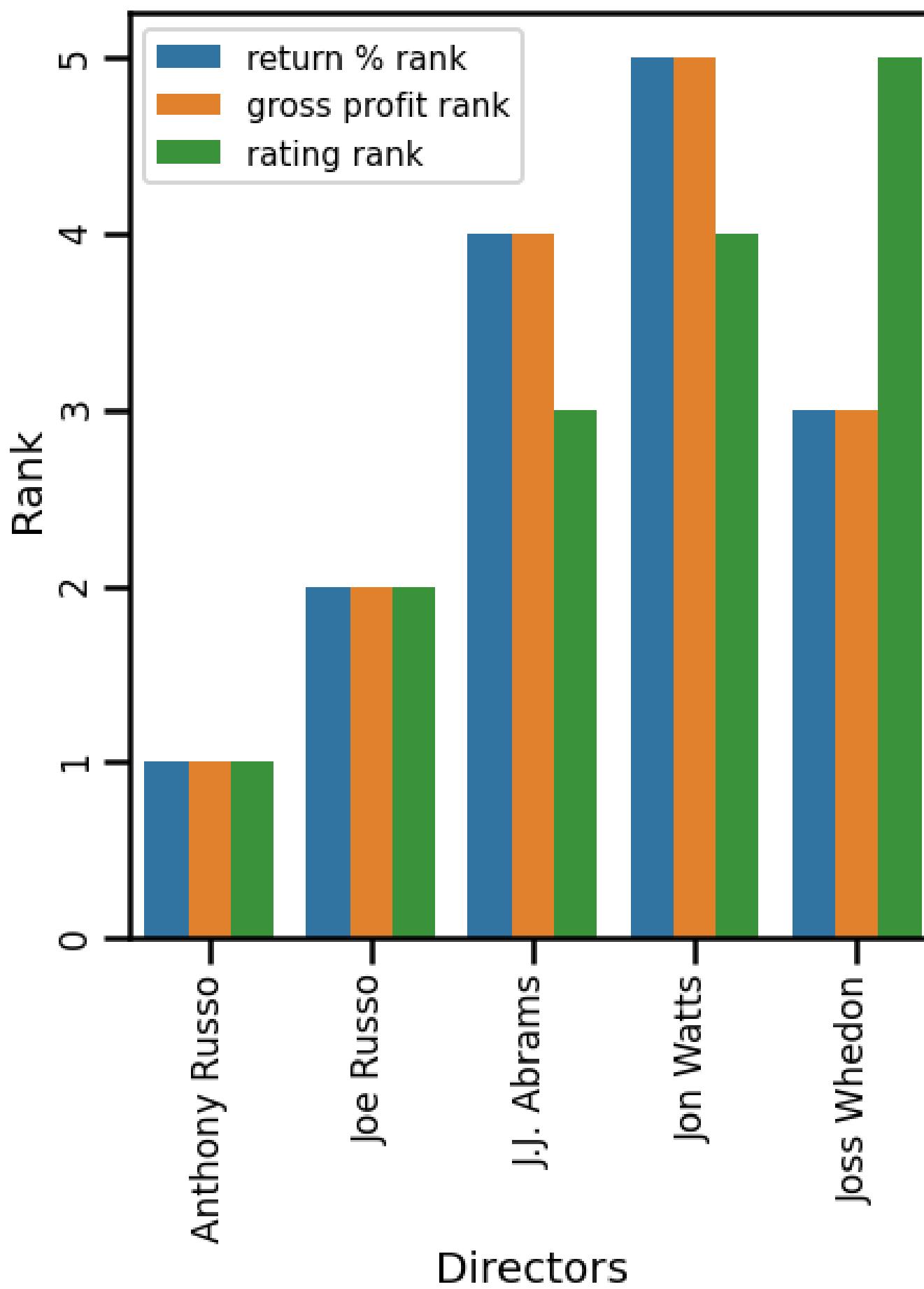


## Average Film Budget: Actors

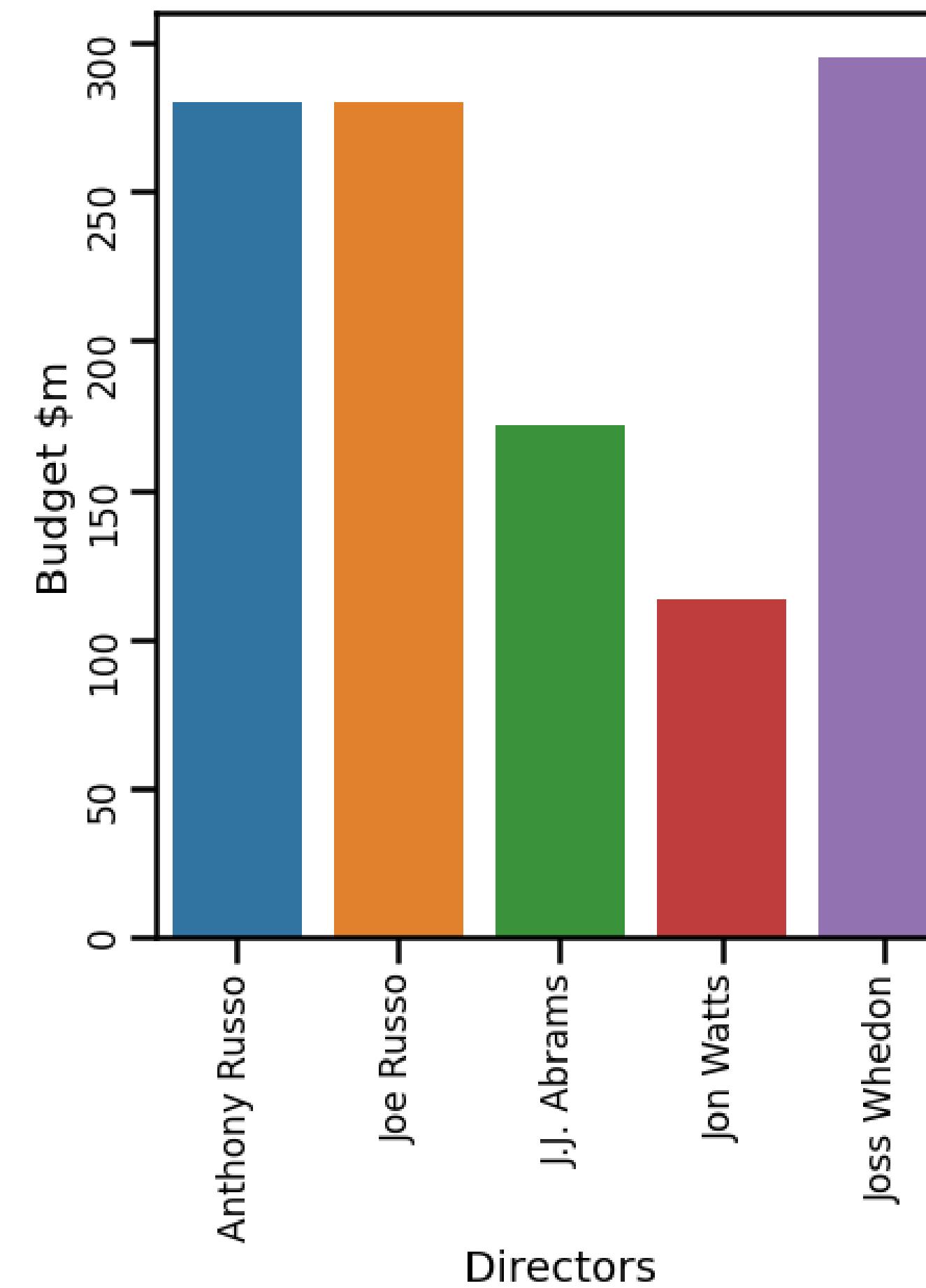


# Bar Charts of Directors Overall Performance Rankings and Budgets

## Rank of Top Directors

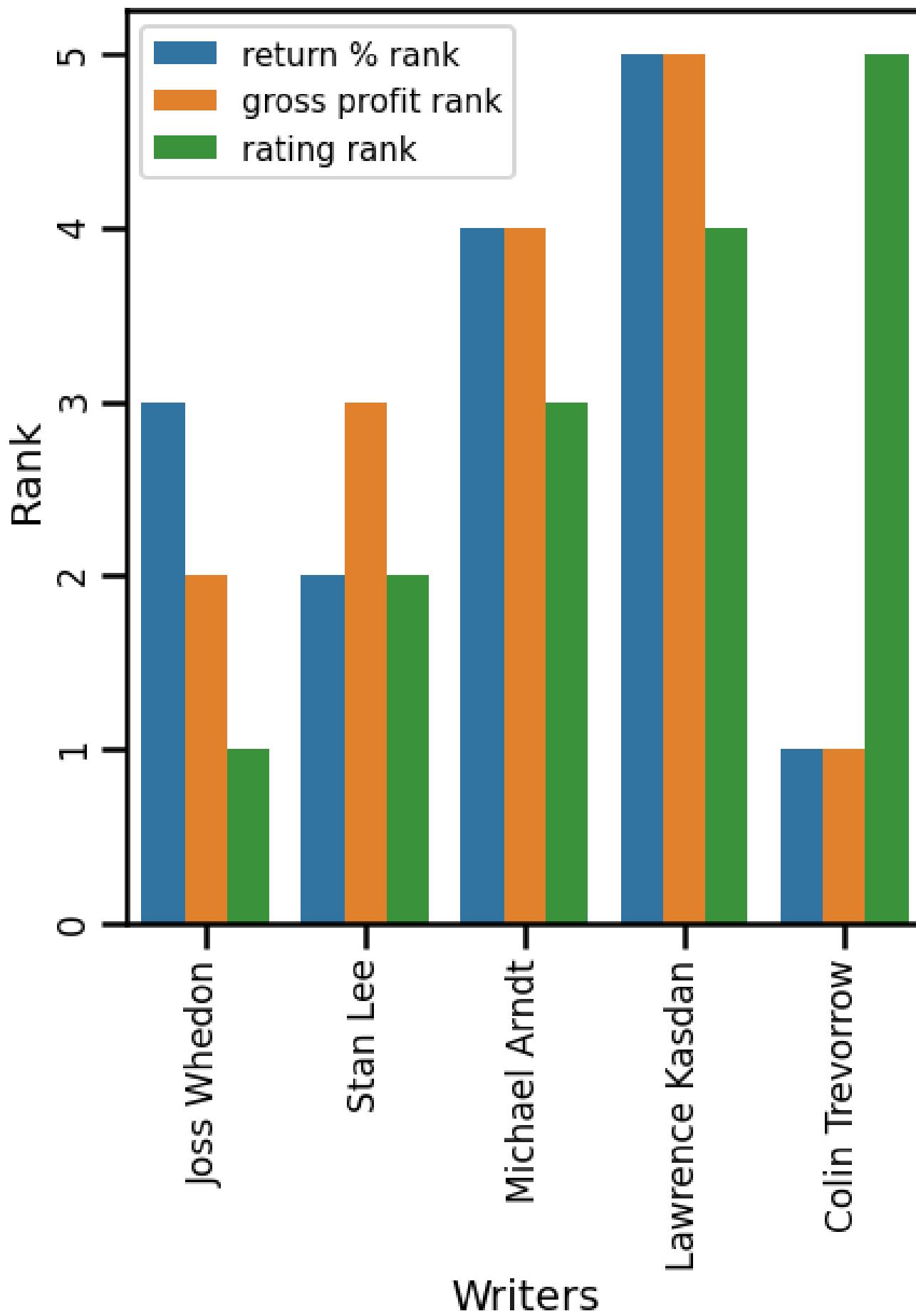


## Average Film Budget: Directors

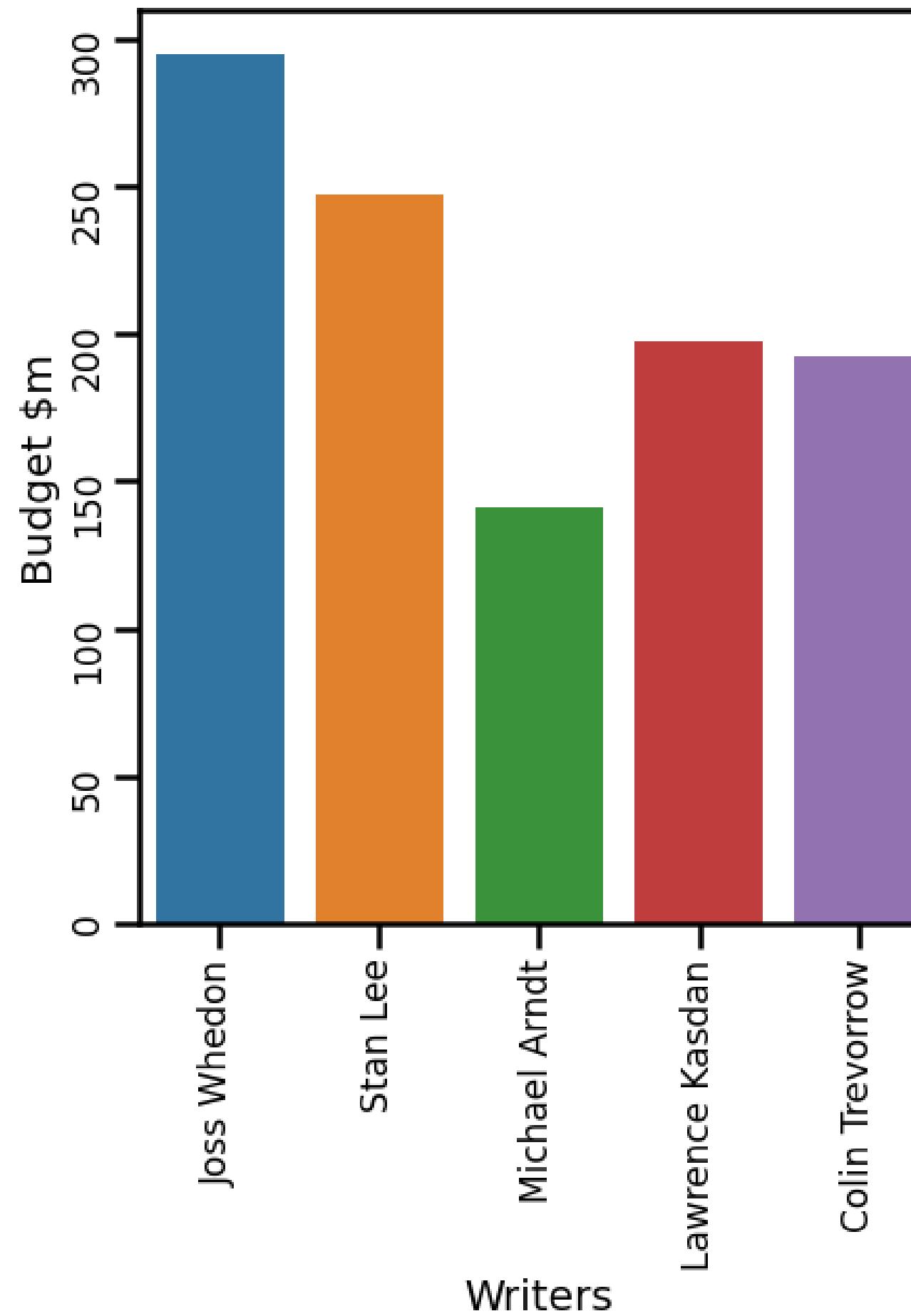


# Bar Charts of Writers Overall Performance Rankings and Budgets

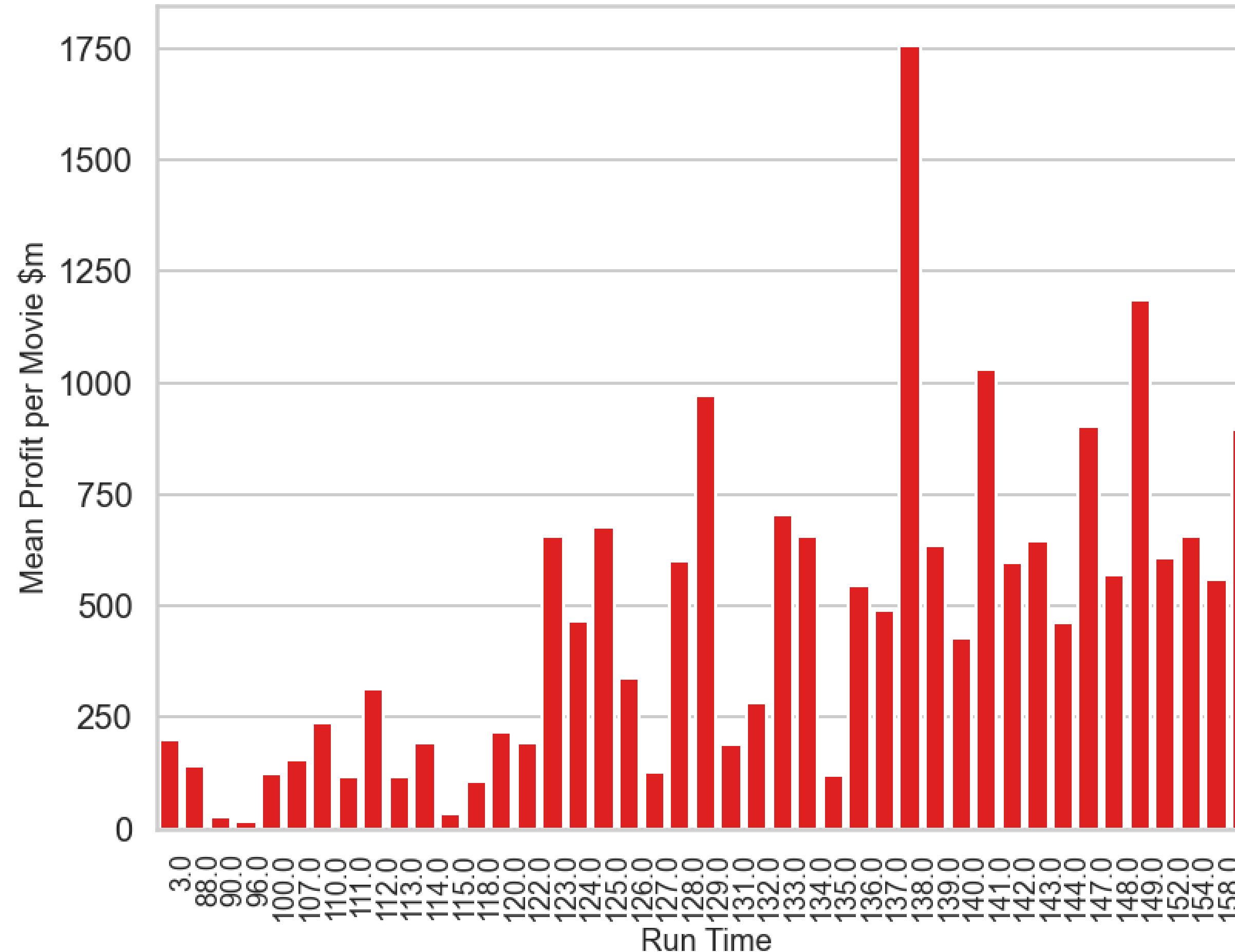
## Rank of Top Writers



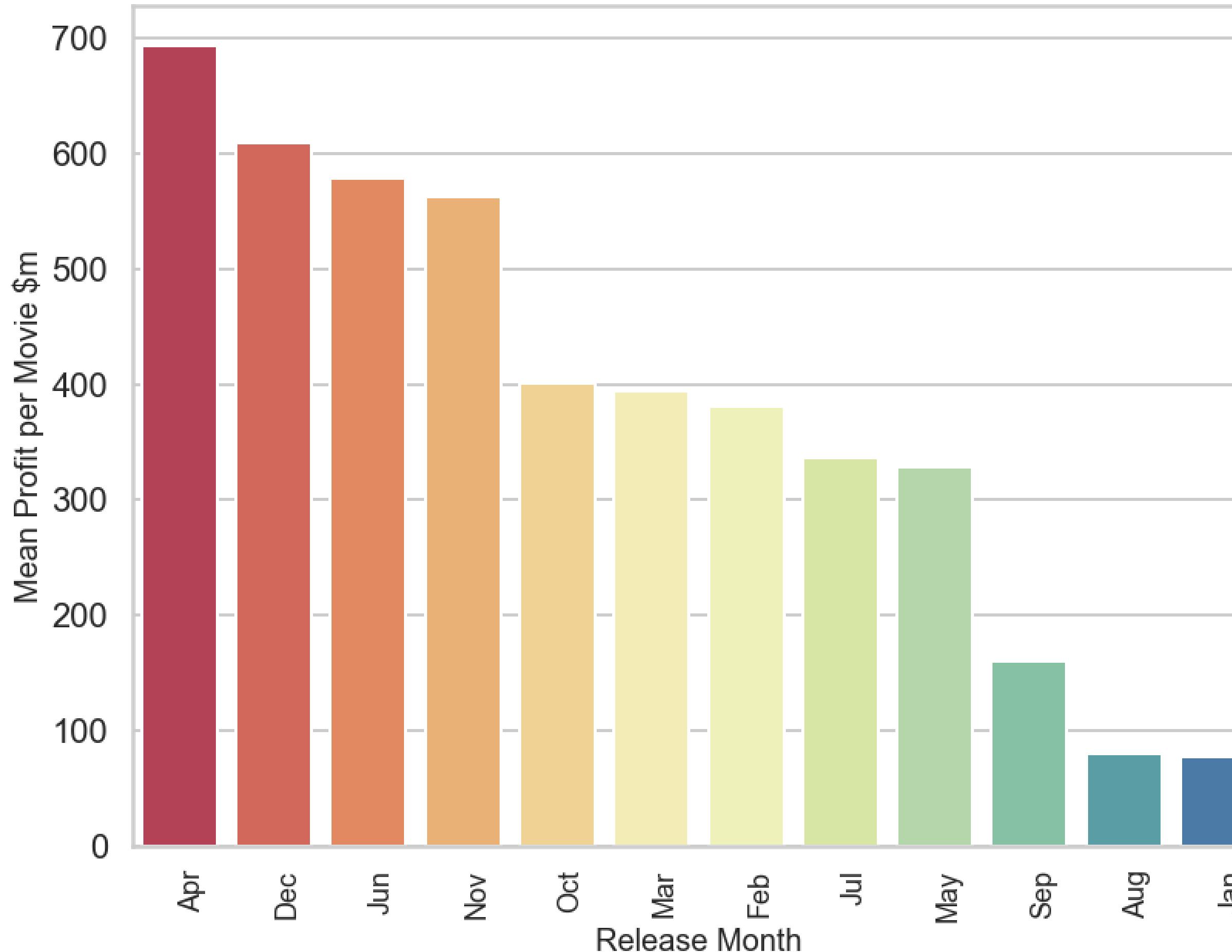
## Average Film Budget: Writers



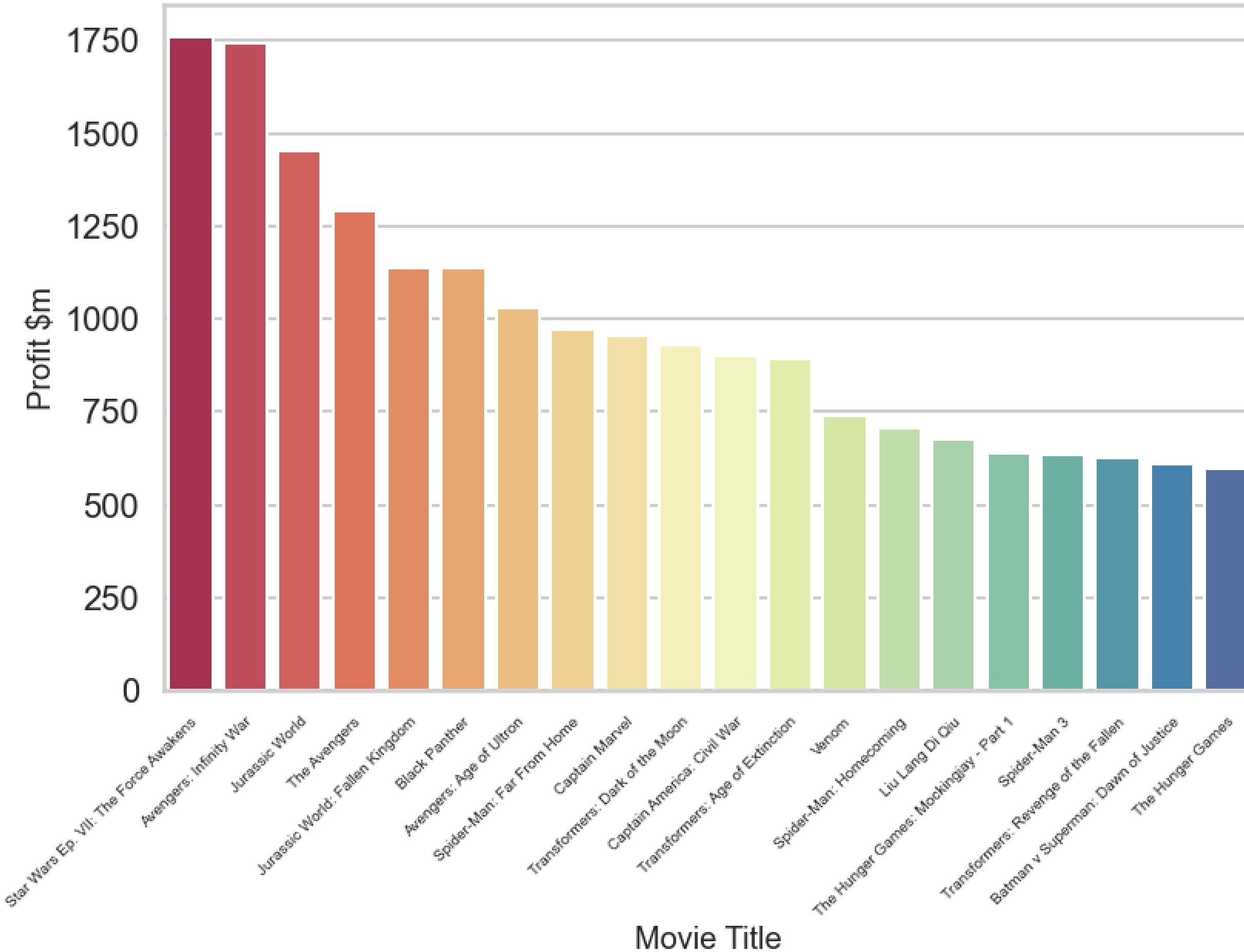
## Mean Profit per Movie by Runtime in Adventure/SciFi/Action Genre



# Mean Profit per Movie by Release Month in Adventure/SciFi/Action Genre

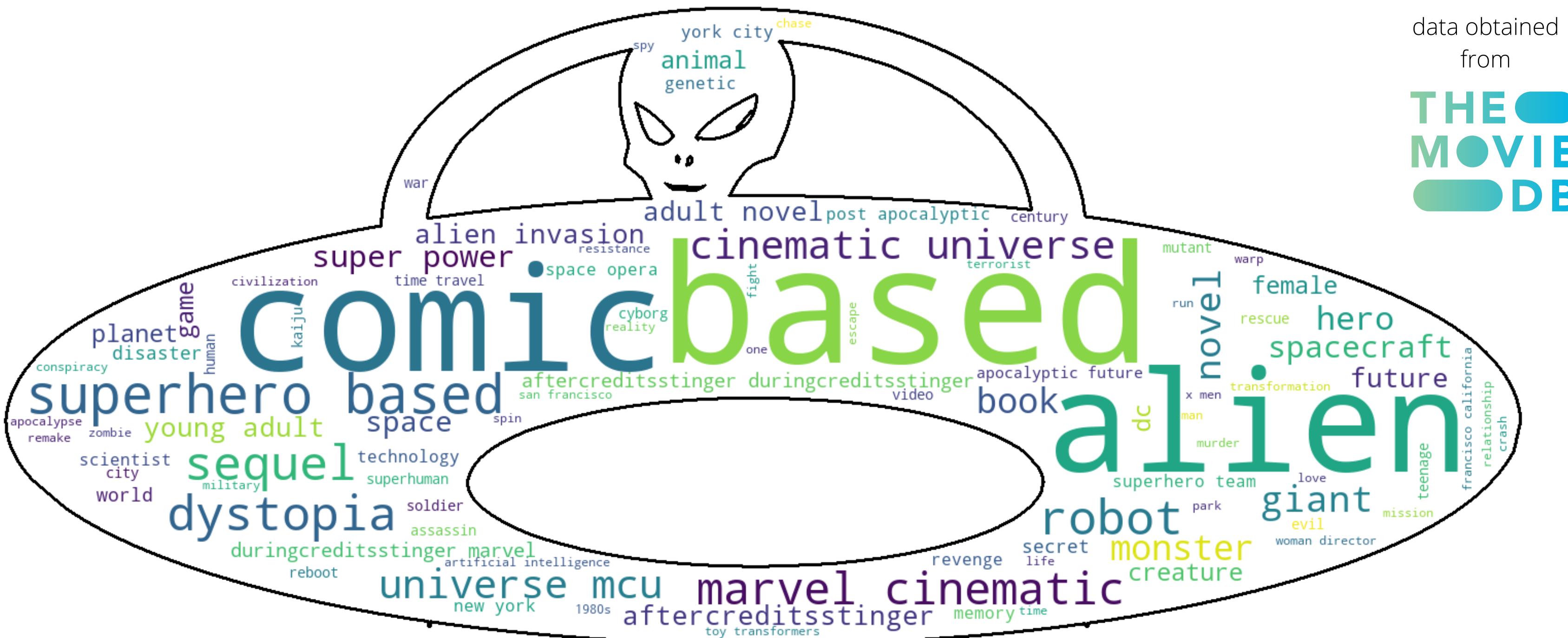


# Profit of Top 20 Movies in Adventure/SciFi/Action Genre



# MOST COMMON KEYWORDS ASSOCIATED WITH THE BEST-PERFORMING ADVENTURE/ACTION/THRILLER MOVIES

data obtained  
from



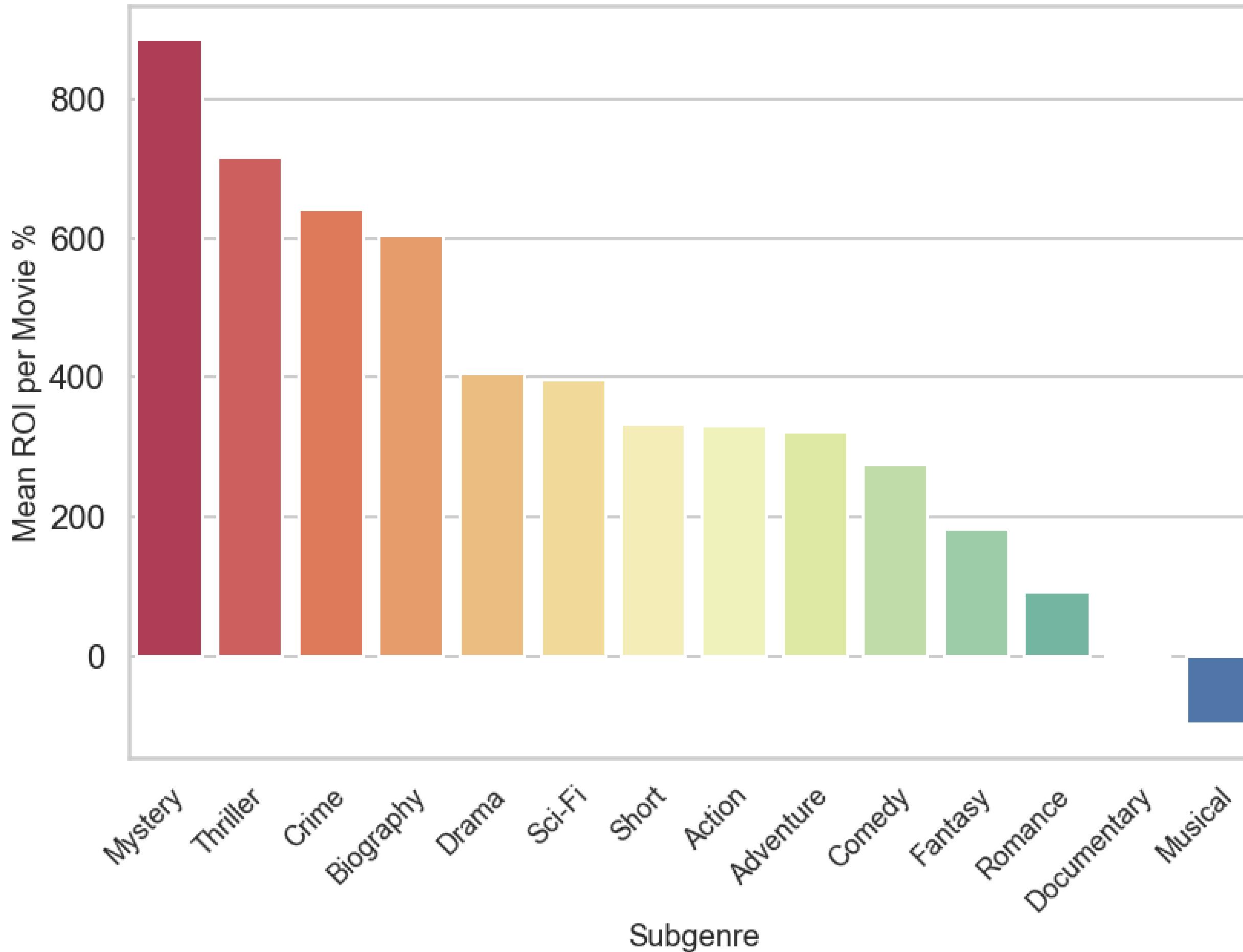
# Horror



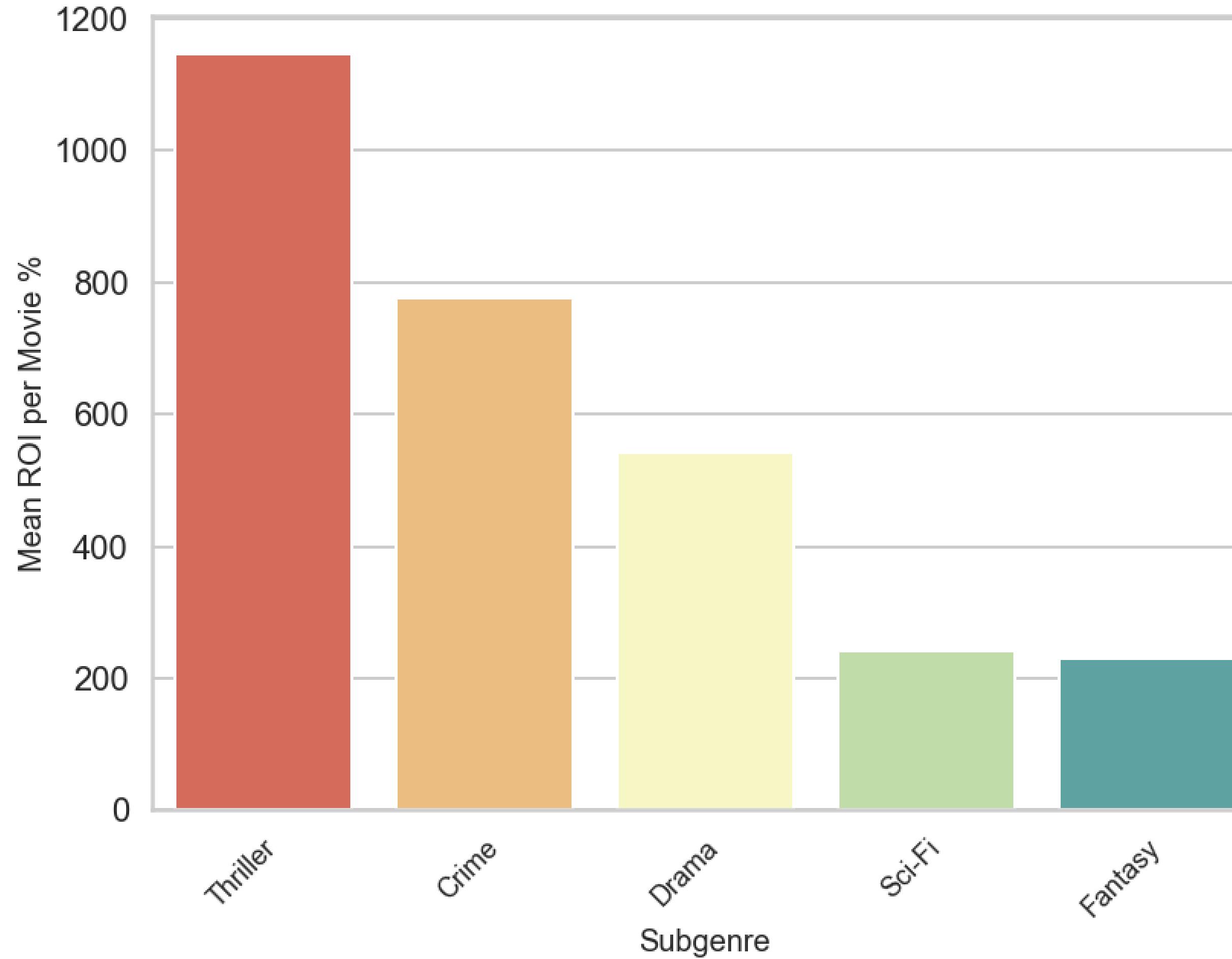
# Results

- Within the Horror genre, the Mystery/Thriller subgenre has generated the best profits per movie, on average
- Patrick Wilson has been the most profitable actor, with Jordan Peele the most profitable and acclaimed writer/director
- Movies with a budget of between \$20 and \$25 million generated the highest profits in the genre
- Movies of between 96 and 116 minutes long and released in July, March or February generated the highest profits

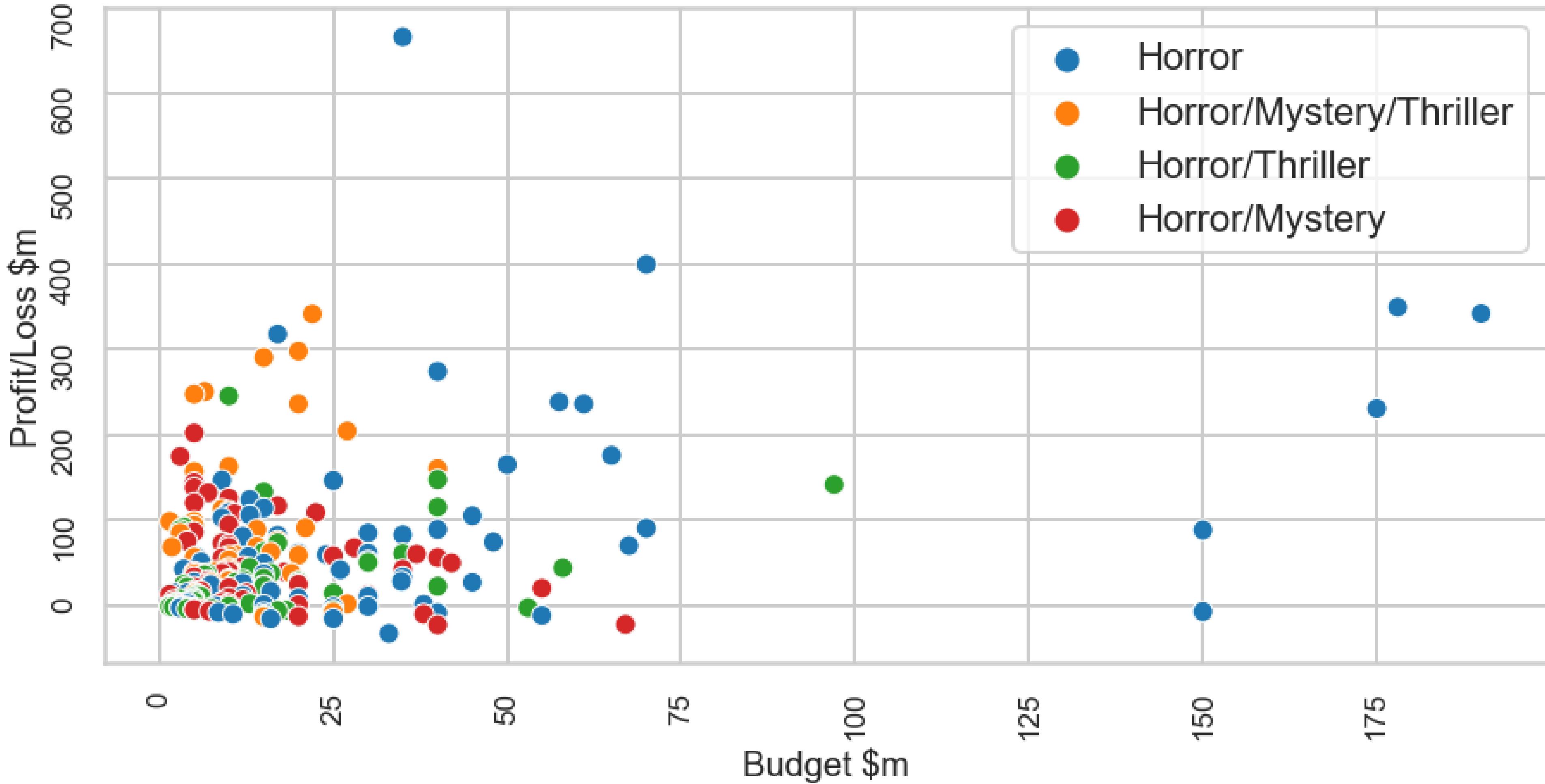
## Mean ROI per Movie by Subgenre in Horror Genre



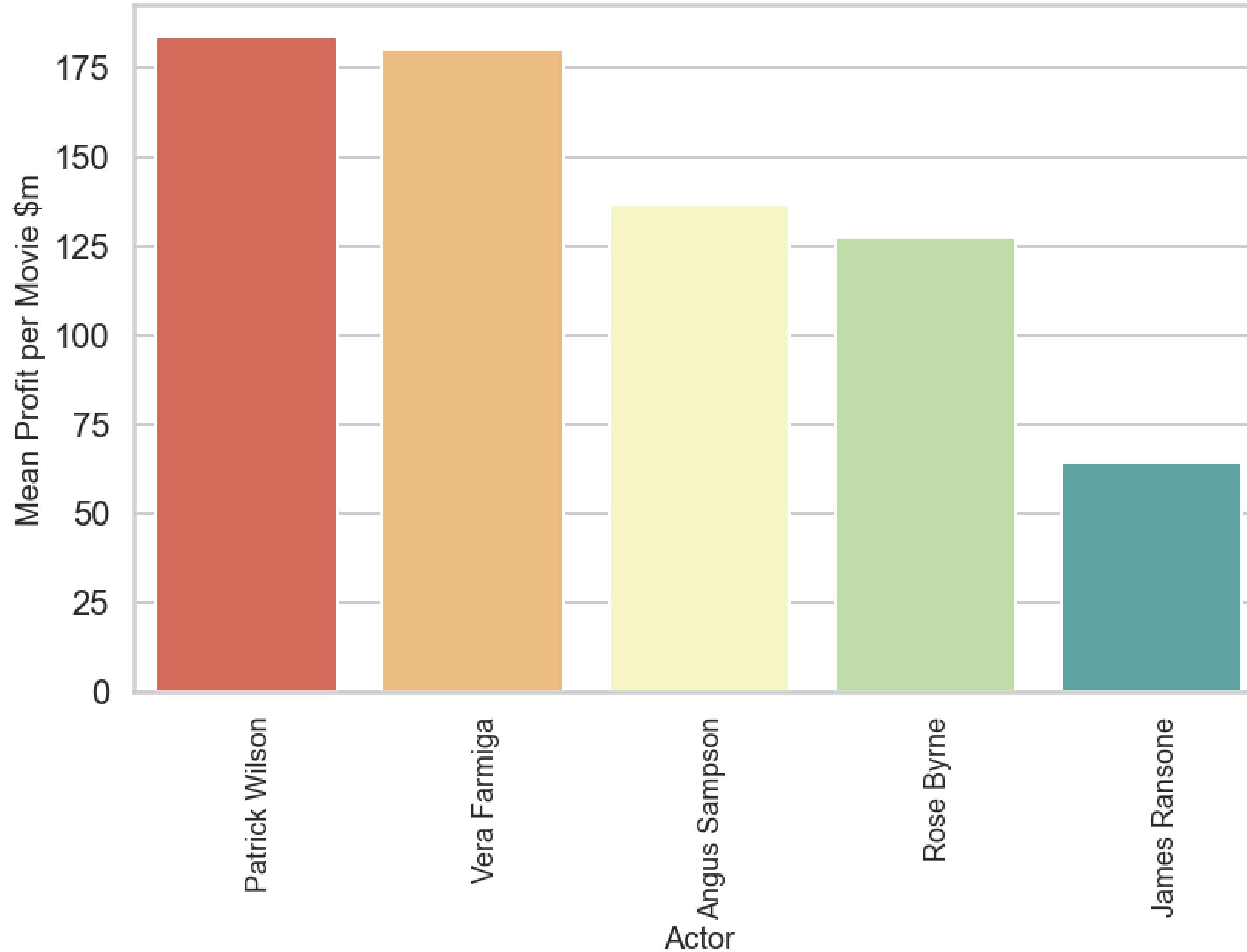
### Mean ROI per Movie by Subgenre in Horror/Mystery Genre



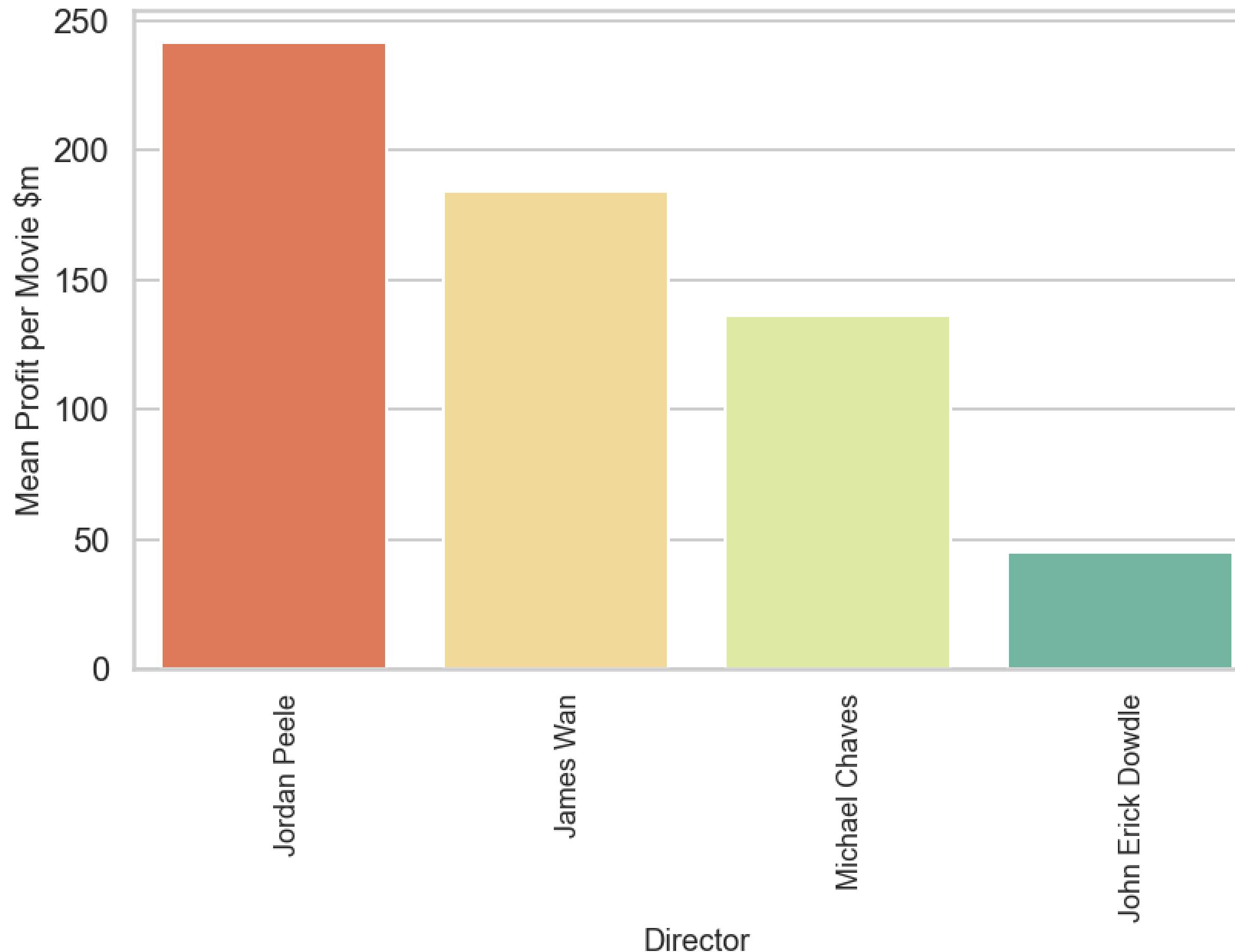
# Budget vs Profit/Loss



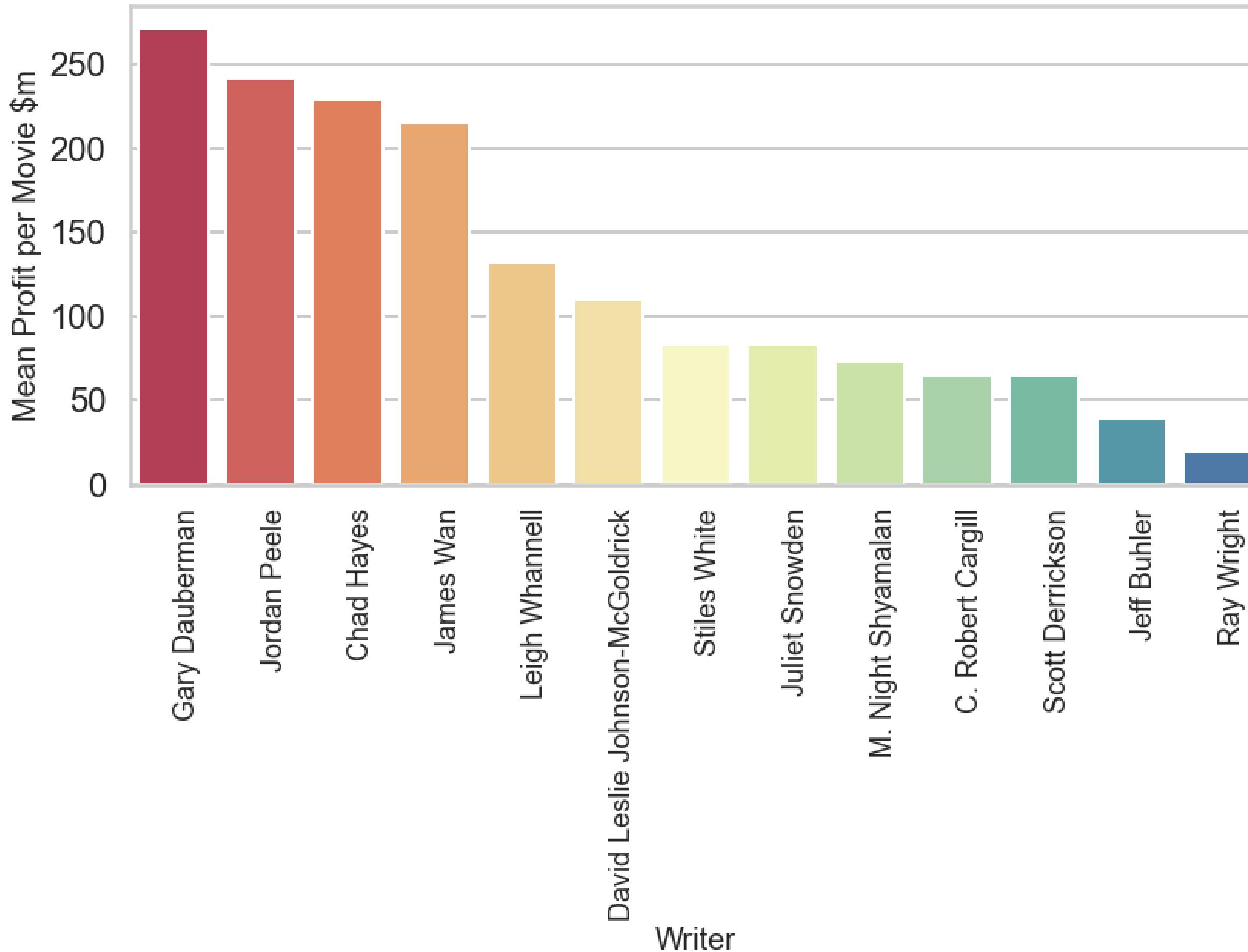
## Mean Profit per Movie by Actor in Horror/Mystery/Thriller Genre



## Mean Profit per Movie by Director in Horror/Mystery/Thriller Genre

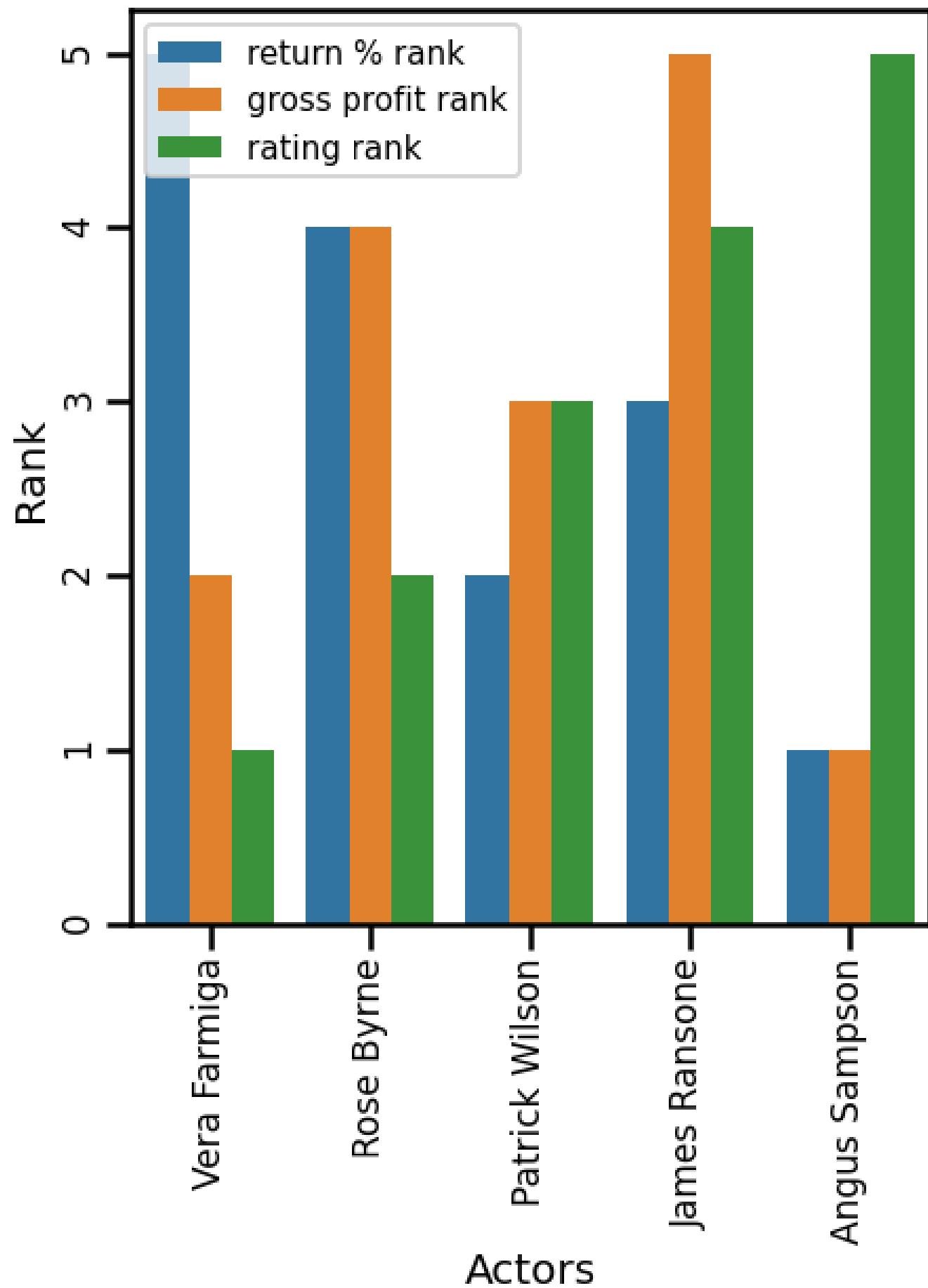


## Mean Profit per Movie by Writer in Horror/Mystery/Thriller Genre

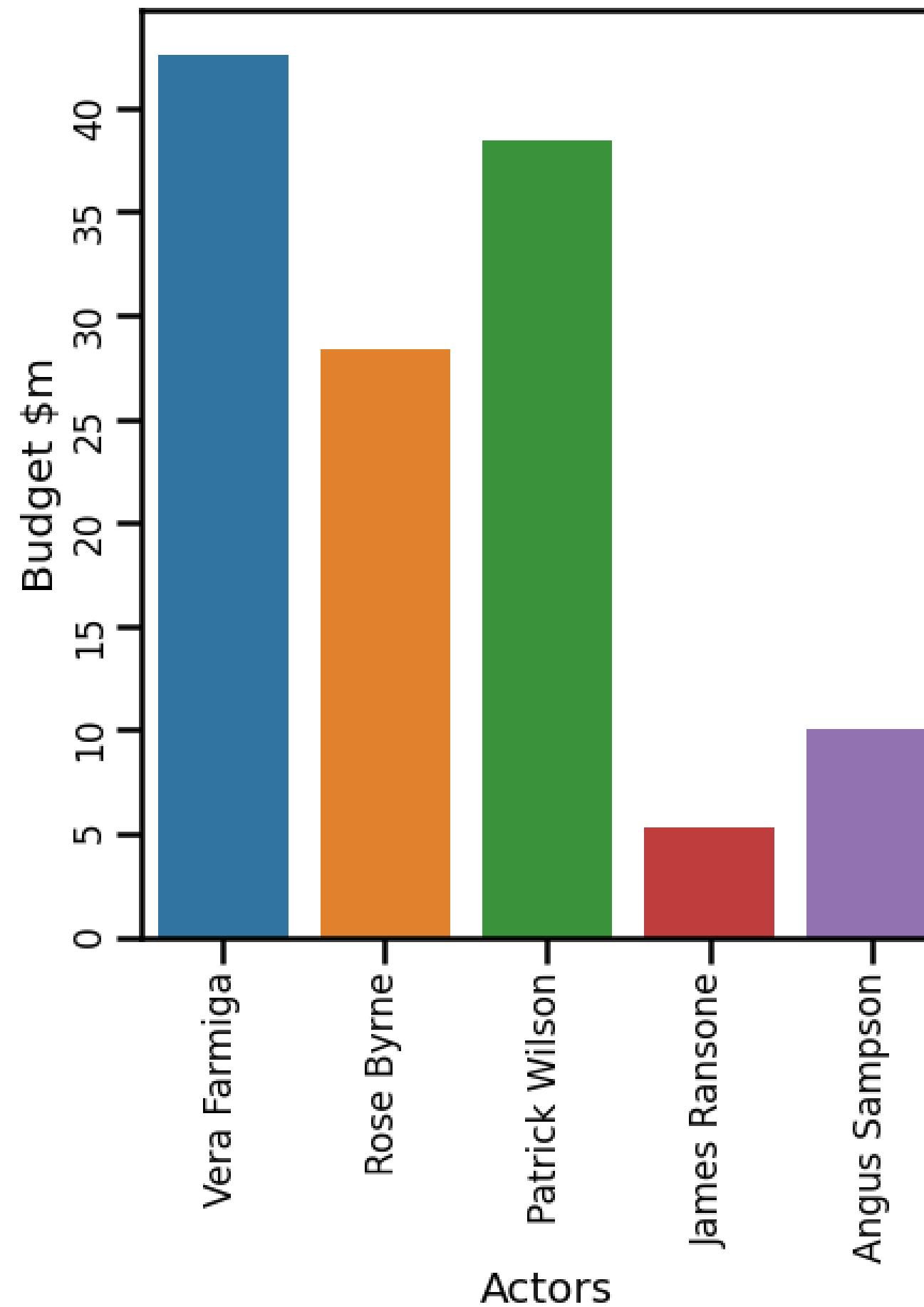


# Bar Charts of Actors Overall Performance Rankings and Budgets

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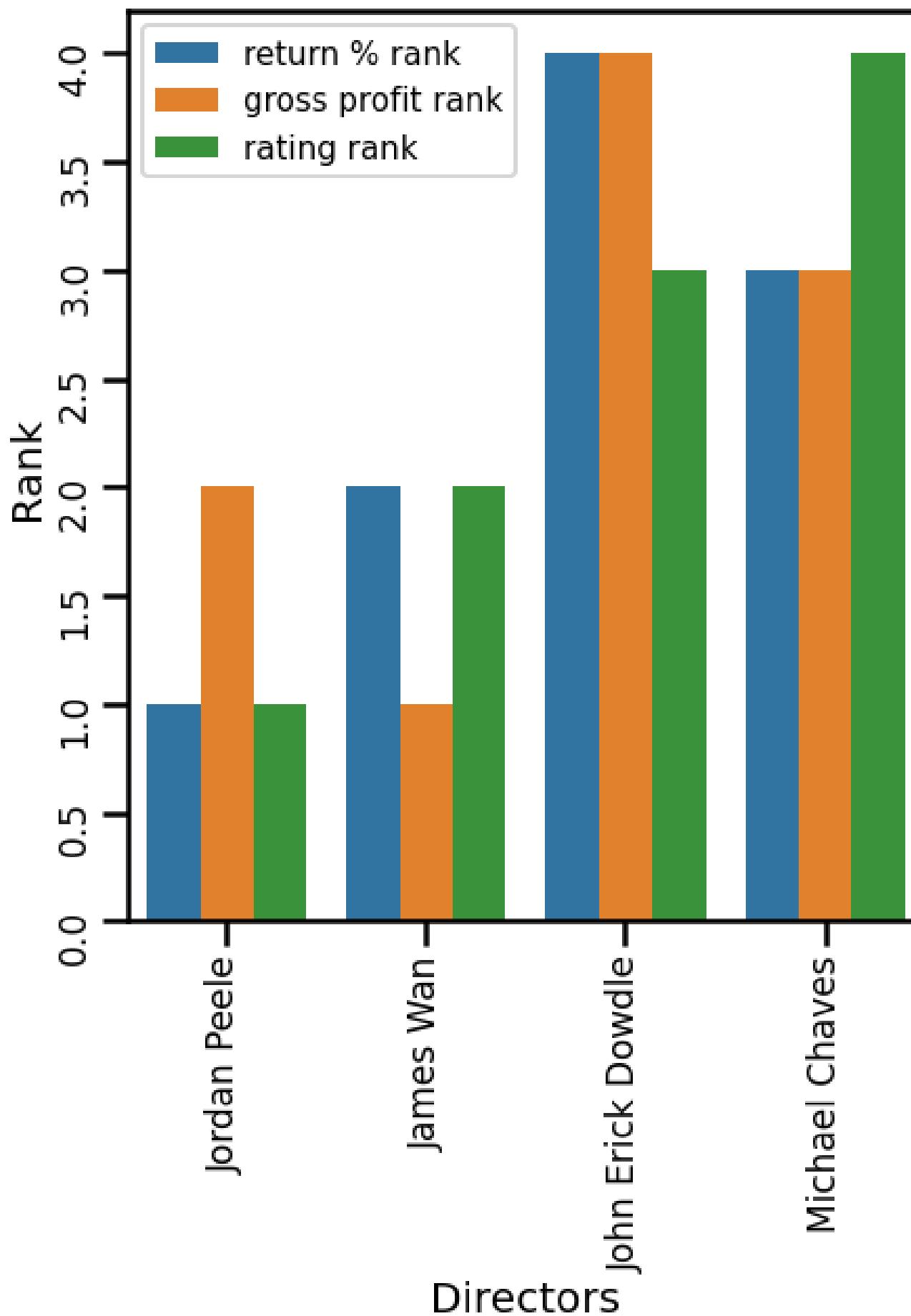


## Average Film Budget: Actors

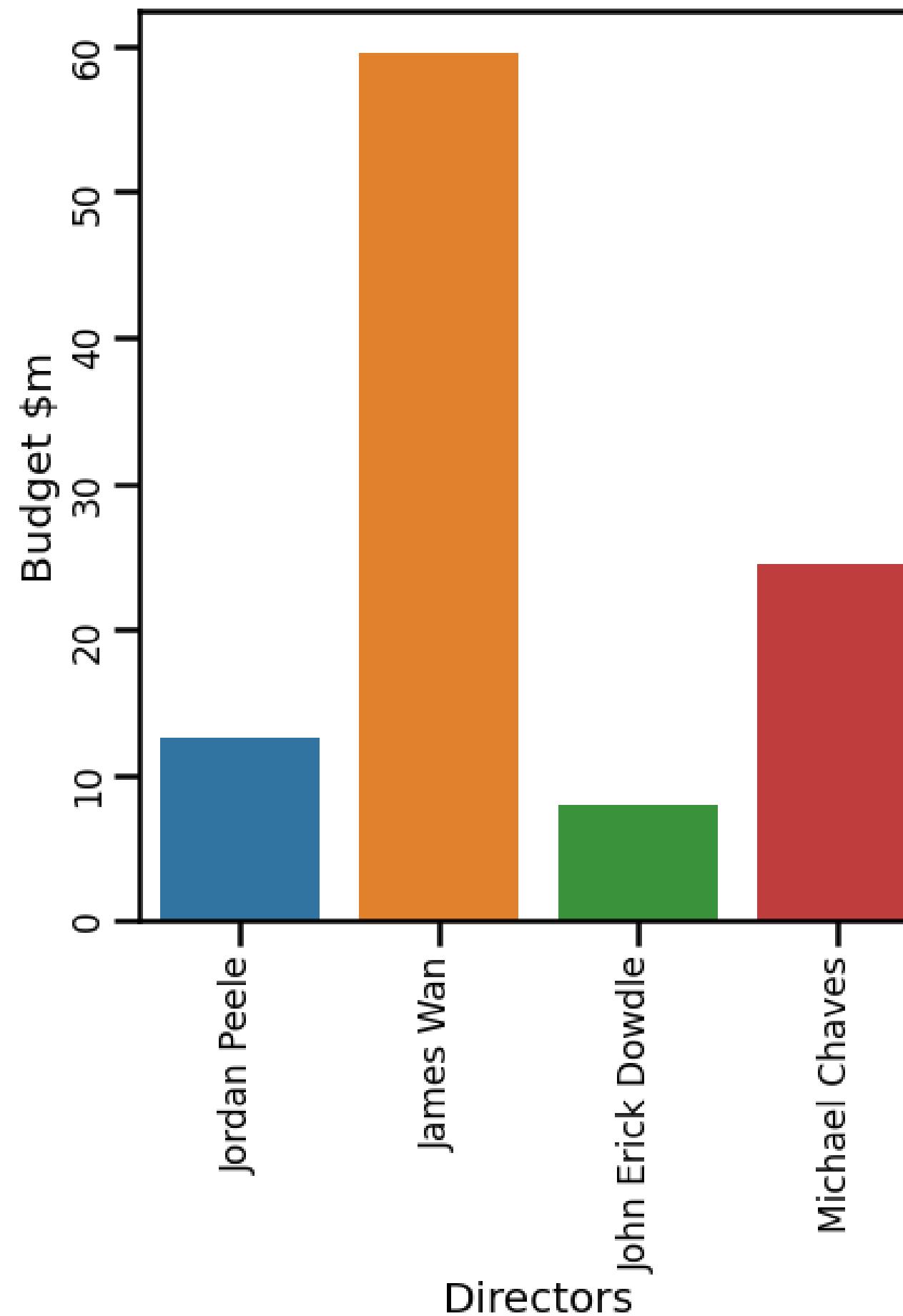


# Bar Charts of Directors Overall Performance Rankings and Budgets

## Rank of Top Directors

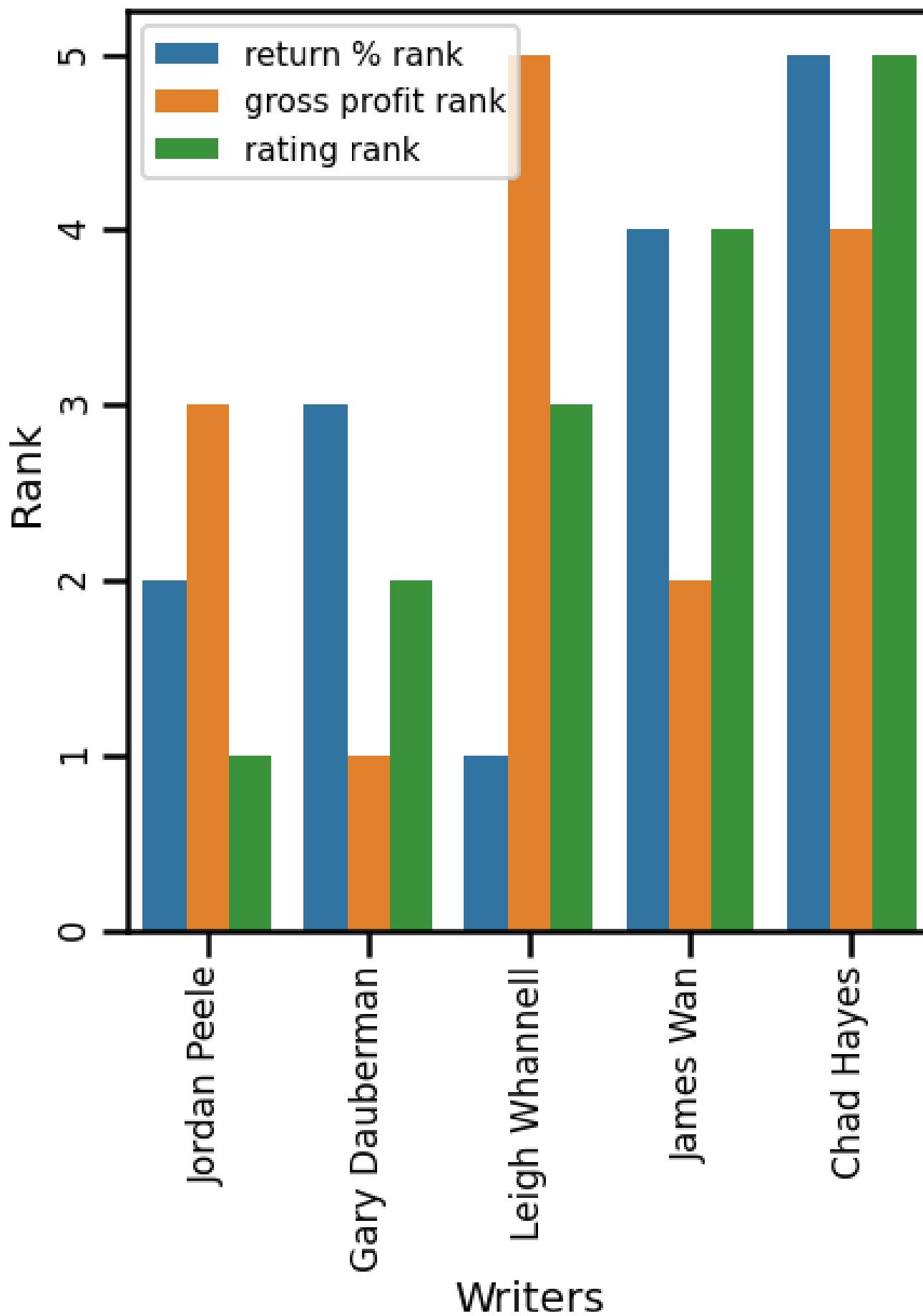


## Average Film Budget: Directors

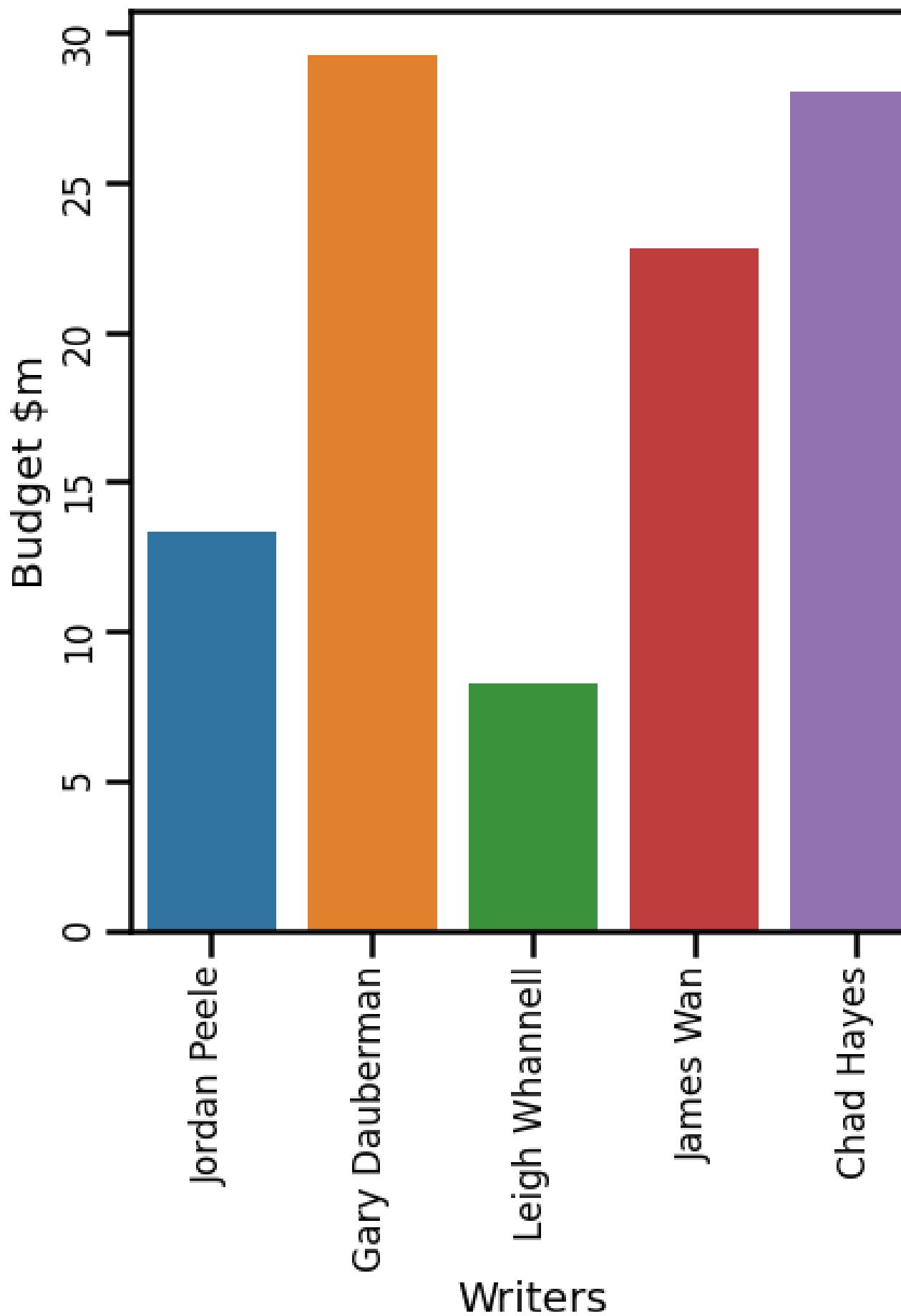


# Bar Charts of Writers Overall Performance Rankings and Budgets

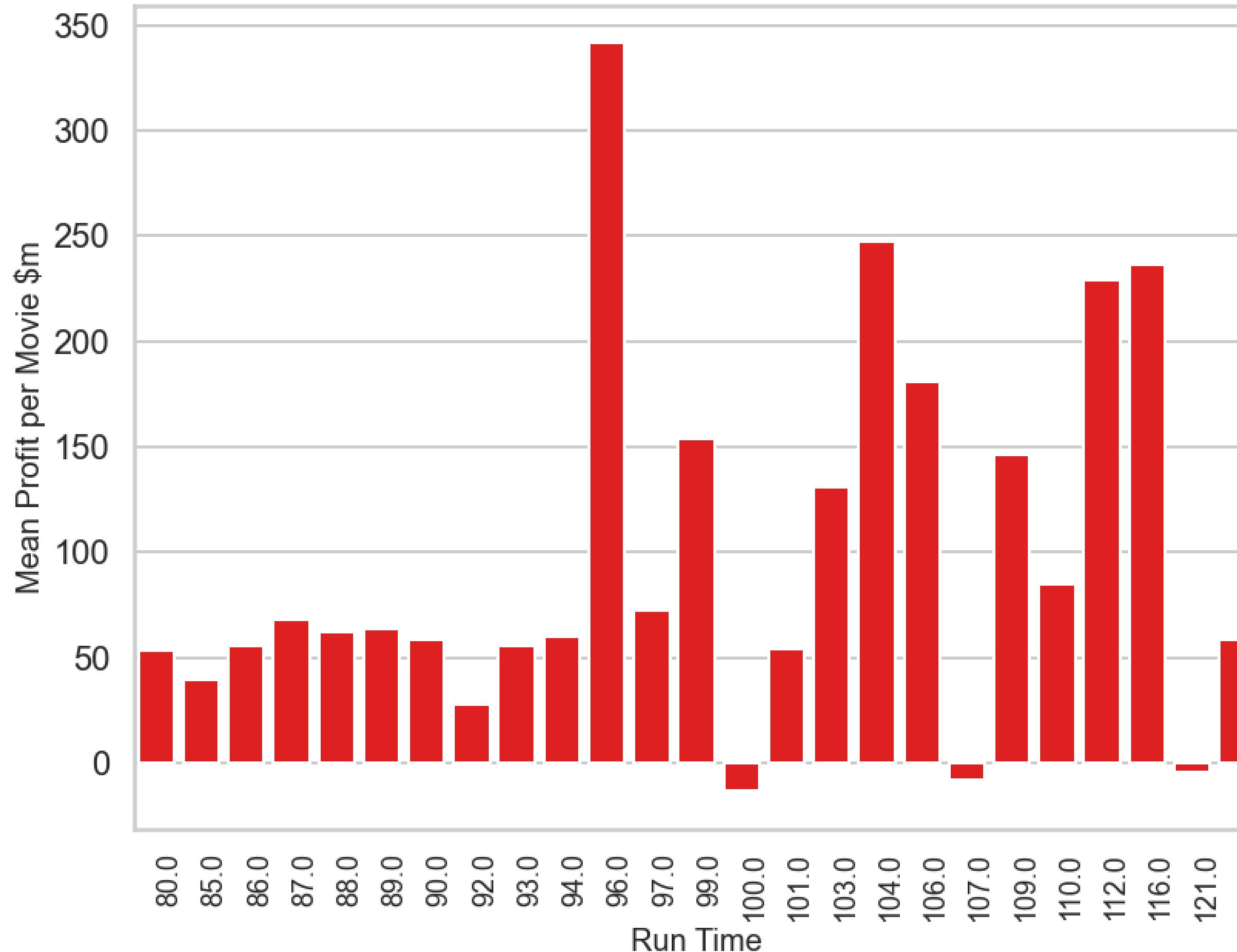
## Rank of Top Writers



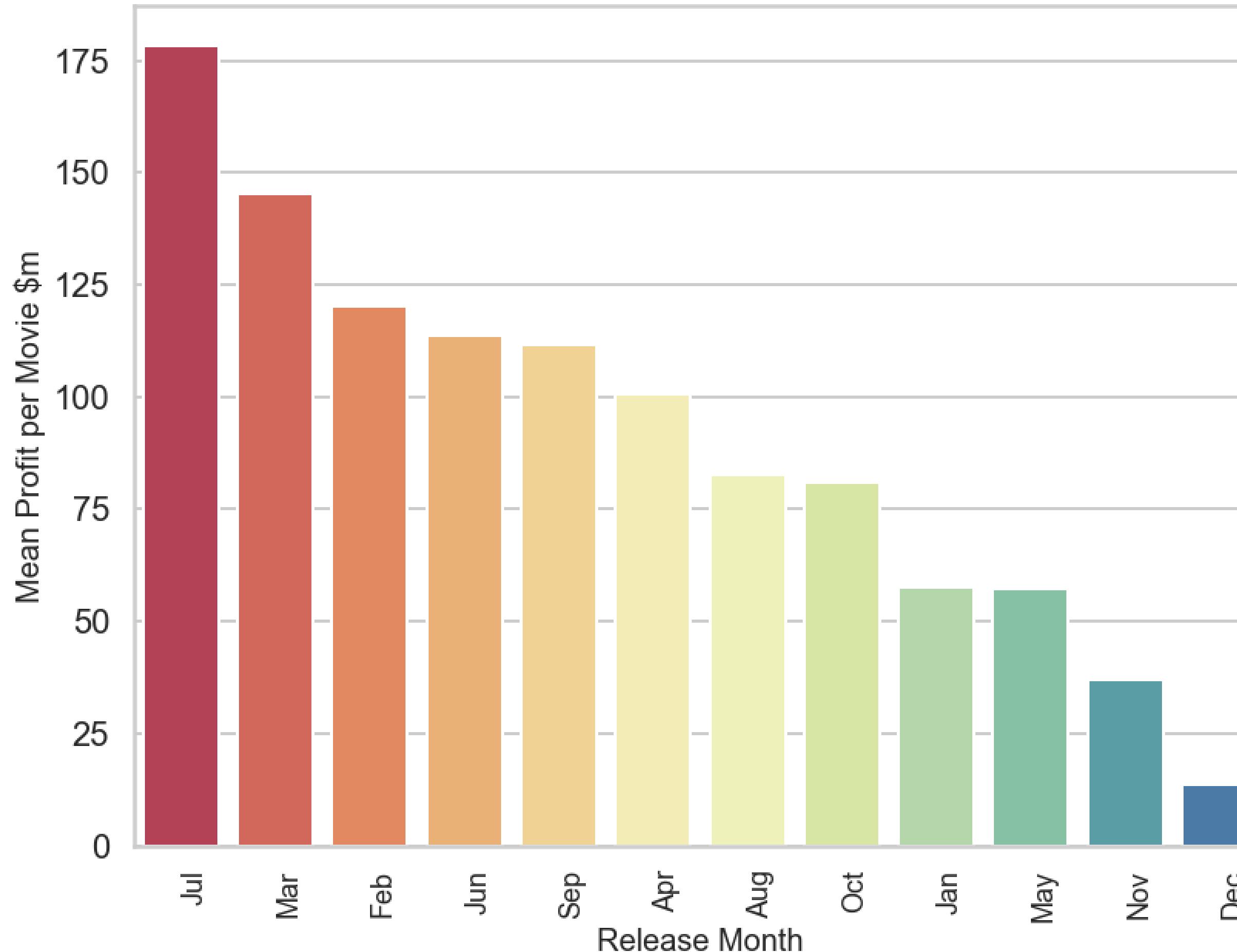
## Average Film Budget: Writers



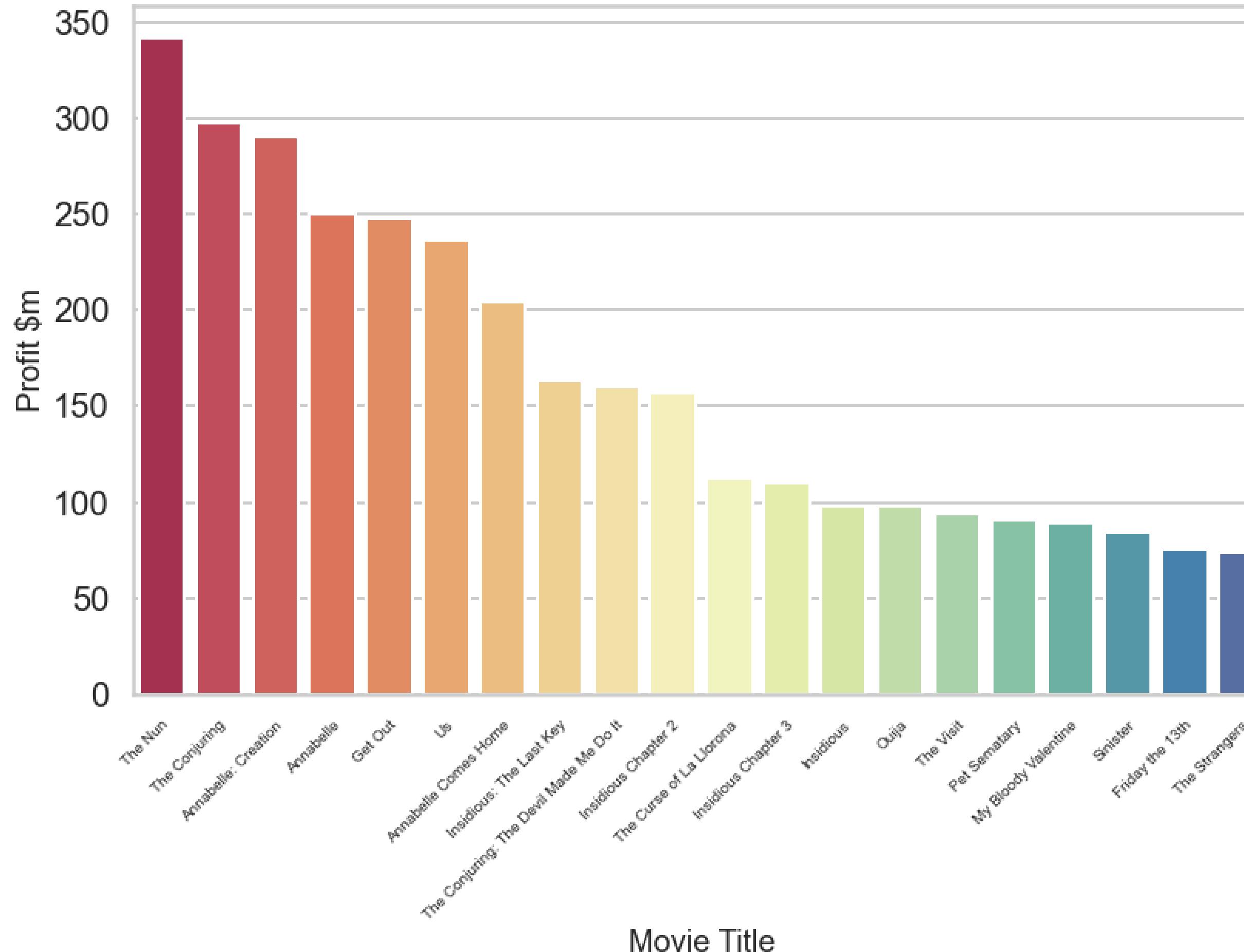
## Mean Profit per Movie by Runtime in Horror/Mystery/Thriller Genre



## Mean Profit per Movie by Release Month in Horror/Mystery/Thriller Genre



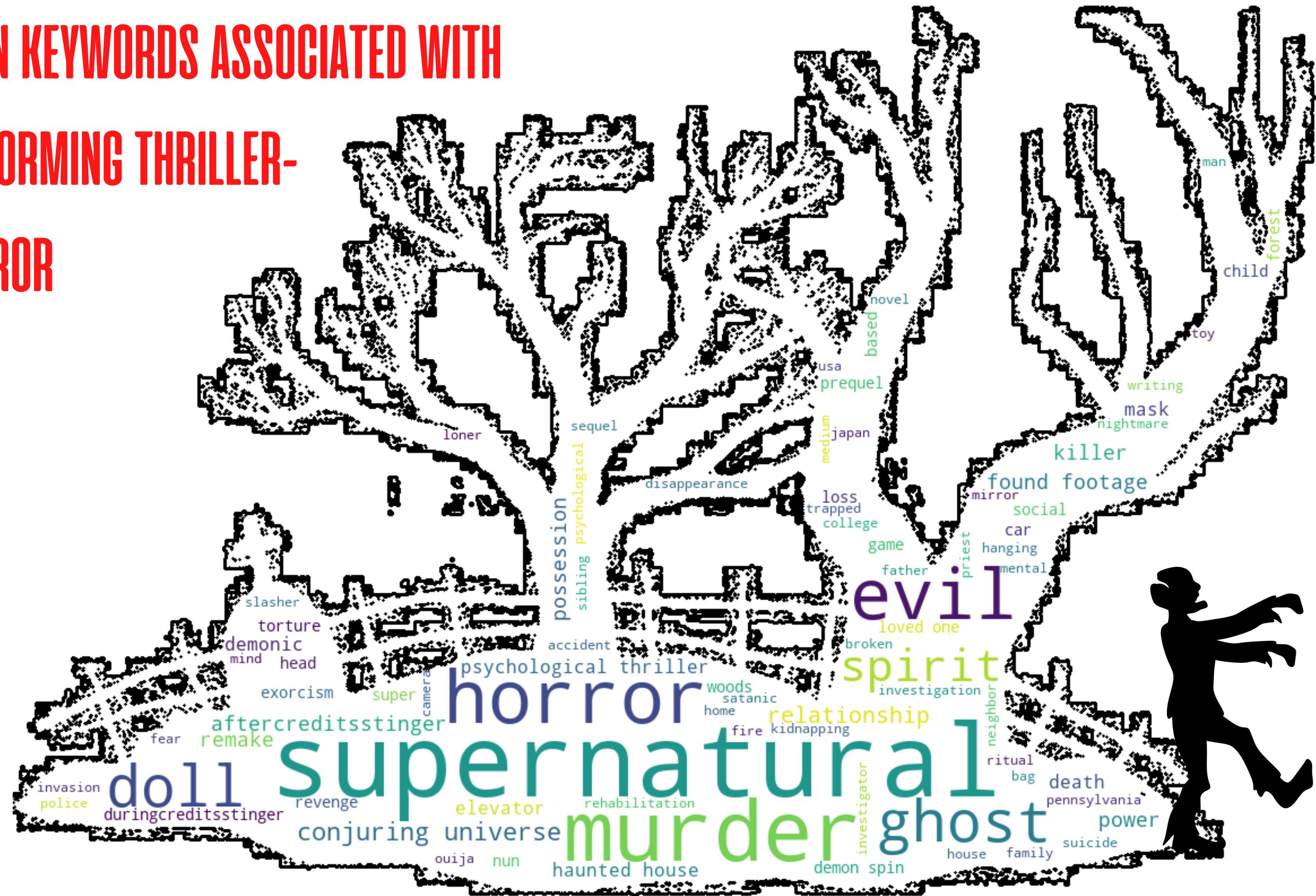
## Profit of Top 20 Movies in Horror/Mystery/Thriller Genre



# MOST COMMON KEYWORDS ASSOCIATED WITH THE BEST PERFORMING THRILLER- MYSTERY-HORROR MOVIES



data obtained  
from



# Conclusion

## General Timing

- The first movies should not be released until the world's top 10 markets have fully reopened from lockdown - subject to the pandemic

## High Budget

- The studio's high budget movies should be in the Adventure/Sci-Fi/Action genre
- They should have a budget of between 150 and 250 million dollars
- The studio should target Mark Ruffalo and/or Bryce Dallas Howard as lead actors
- It should target Joss Whedon as director and writer, or JJ Abrams as director
- The movies should be over 137 minutes long and be released in April, December, November or June

# Conclusion

## Low Budget

- The studio's low budget movies should be in the Horror/Mystery/Thriller genre
- They should have a budget of between 20 and 25 million dollars
- The studio should target Rose Byrne and/or Patrick Wilson as lead actors
- It should target Jordan Peele as director and writer
- The movies should be between 96 and 116 minutes long and be released in July, March and February

# Next Steps

- Collect as much information as possible from the top 10 global markets to see if they are recovering from the pandemic
- Conduct surveys to find the types of films that people want to see post-pandemic
- Collect data on the view count of movies on streaming services compared with the cinema



**THE END**