

A close-up photograph of a film reel and a movie camera. The film reel is positioned in the foreground, showing its metal frame and blue plastic film. Behind it, a portion of a movie camera is visible, featuring a lens and a viewfinder. The background is a solid dark blue.

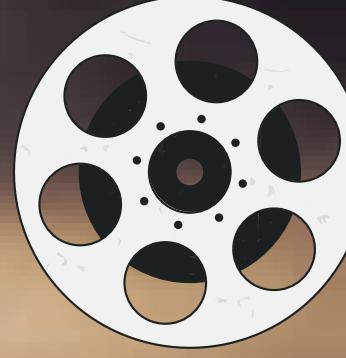
# The Art of Film-making: Film Market Analysis for Microsoft Studios

By : HARRIET JOSEPH

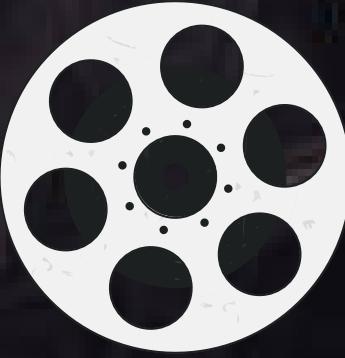
# Agenda



Problem overview



Key Findings



solution process



Recommendations

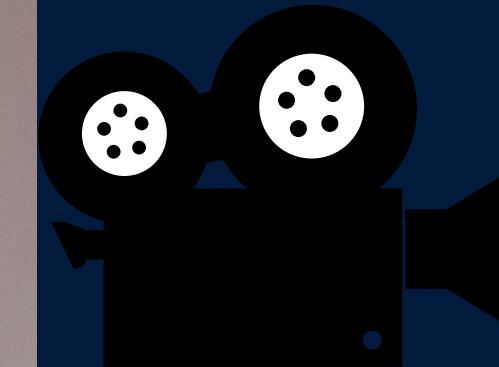


Models comparison

1.

# PROBLEM OVERVIEW

# Problem Overview



**Microsoft wants to enter the film industry and create original content. However, they have limited knowledge about the film industry and what types of films are currently performing well at the box office.**

**potential financial loss will be experienced if they choose to start without doing a market analysis**

# Main Objective



To explore the types of films currently performing well at the box office and translate the findings into actionable insights that can be used by the head of Microsoft's new movie studio to help the movie studio make informed decisions on what types of films to create in order to be competitive in the market and potentially generate successful revenue.

LEVEL  
UP

# OBJECTIVES

1.

analyze and understand the current film industry and the types of films that are doing well at the box office.

2.

To identify the key factors that contribute to the success of different types of films.

3.

provide actionable insights to the head of Microsoft's new movie studio on what types of films they should create based on the analysis of the film industry and box office performance.

4.

provide actionable insights to the head of Microsoft's new movie studio on what types of films they should create based on the analysis of the film industry and box office performance.



SOLUTION PROCESS

# Dataset used.

01

In the folder zippedData are  
movie datasets from:

- Box Office Mojo
- IMDB
- Rotten Tomatoes
- TheMovieDB
- The Numbers

- bom.movie\_gross

02

- imdb.title.ratings

03

- imdb.title.basics



# the column names in data

- **original\_title:** the original title of the film
- **start\_year:** the year the film was released
- **runtime\_minutes:** the duration of the film in minutes
- **genres:** the genre(s) of the film
- **averagerating:** the average rating of the film based on reviews
- **numvotes:** the number of votes the film received
- **studio:** the studio that produced the film
- **domestic\_gross:** the gross revenue generated by the film in the domestic market
- **foreign\_gross:** the gross revenue generated by the film in the foreign market
- **release\_date:** the release date of the film
- **movie:** the film being referred to
- **production\_budget:** the budget allocated for the production of the film
- **worldwide\_gross:** the gross revenue generated by the film worldwide.

## After merging all datasets

```
#merge the boxoffice dataframe with movie_budget dataframe on common column 'domestic_gross'  
df = pd.merge(boxoffice_df, movie_bdgt_df, on = 'domestic_gross')  
df.head()
```

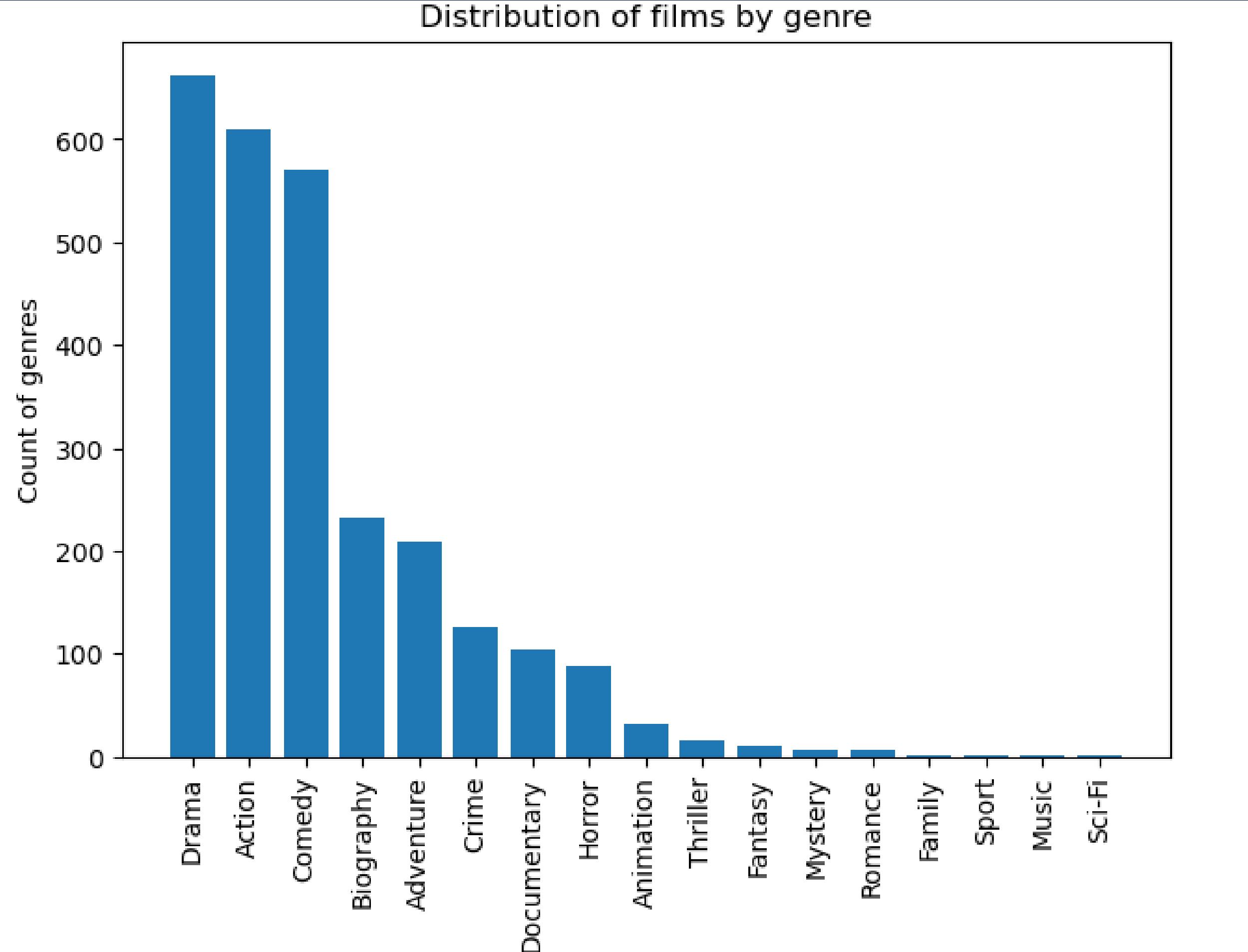
| primary_title                  | start_year | runtime_minutes | genres            | averagerating | numvotes | studio | domestic_gross | foreign_gross | genre       | re |
|--------------------------------|------------|-----------------|-------------------|---------------|----------|--------|----------------|---------------|-------------|----|
| Dinner for Schmucks            | 2010       | 114.0           | Comedy            | 5.9           | 91546    | P/DW   | 73000000.0     | 13800000.0    | Comedy      | N  |
| Justin Bieber: Never Say Never | 2011       | 105.0           | Documentary,Music | 1.6           | 74978    | Par.   | 73000000.0     | 26000000.0    | Documentary | N  |
| The Crazies                    | 2010       | 101.0           | Horror,Thriller   | 6.5           | 104465   | Over.  | 39100000.0     | 15700000.0    | Horror      | N  |
| Piranha 3D                     | 2010       | 88.0            | Comedy,Horror     | 5.4           | 81327    | W/Dim. | 25000000.0     | 58200000.0    | Comedy      | M  |
| Piranha 3D                     | 2010       | 88.0            | Comedy,Horror     | 5.4           | 81327    | W/Dim. | 25000000.0     | 58200000.0    | Comedy      | M  |

# CHECK FOR MISSING VALUES

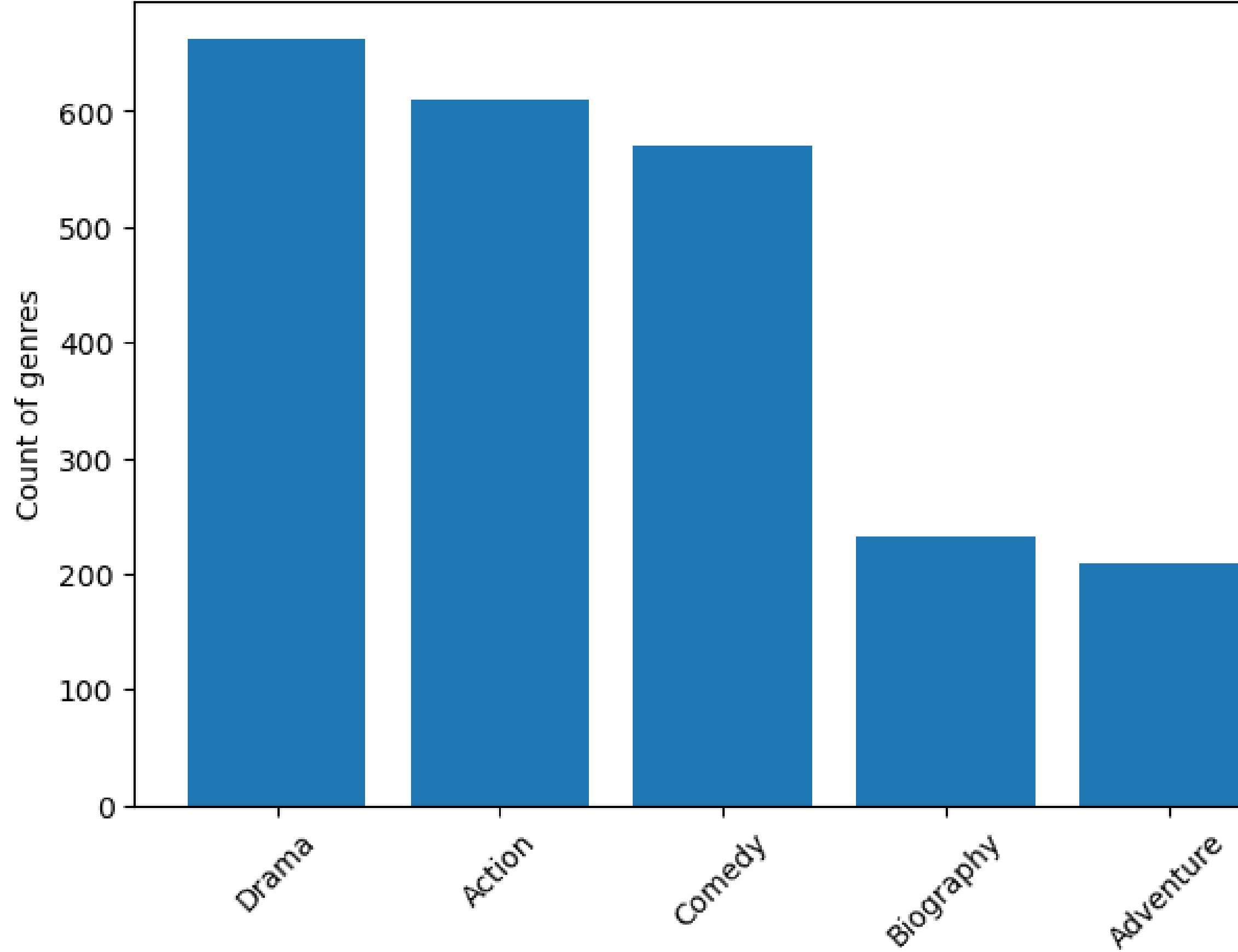
```
[87]: df.isna().sum()
```

```
[87]: primary_title          0  
       start_year            0  
       runtime_minutes        0  
       genres                 0  
       averagerating          0  
       numvotes               0  
       studio                 0  
       domestic_gross          0  
       foreign_gross           0  
       genre                  0  
       release_date            0  
       movie                  0  
       production_budget       0  
       worldwide_gross         0  
       dtype: int64
```

### Distribution of films by genre

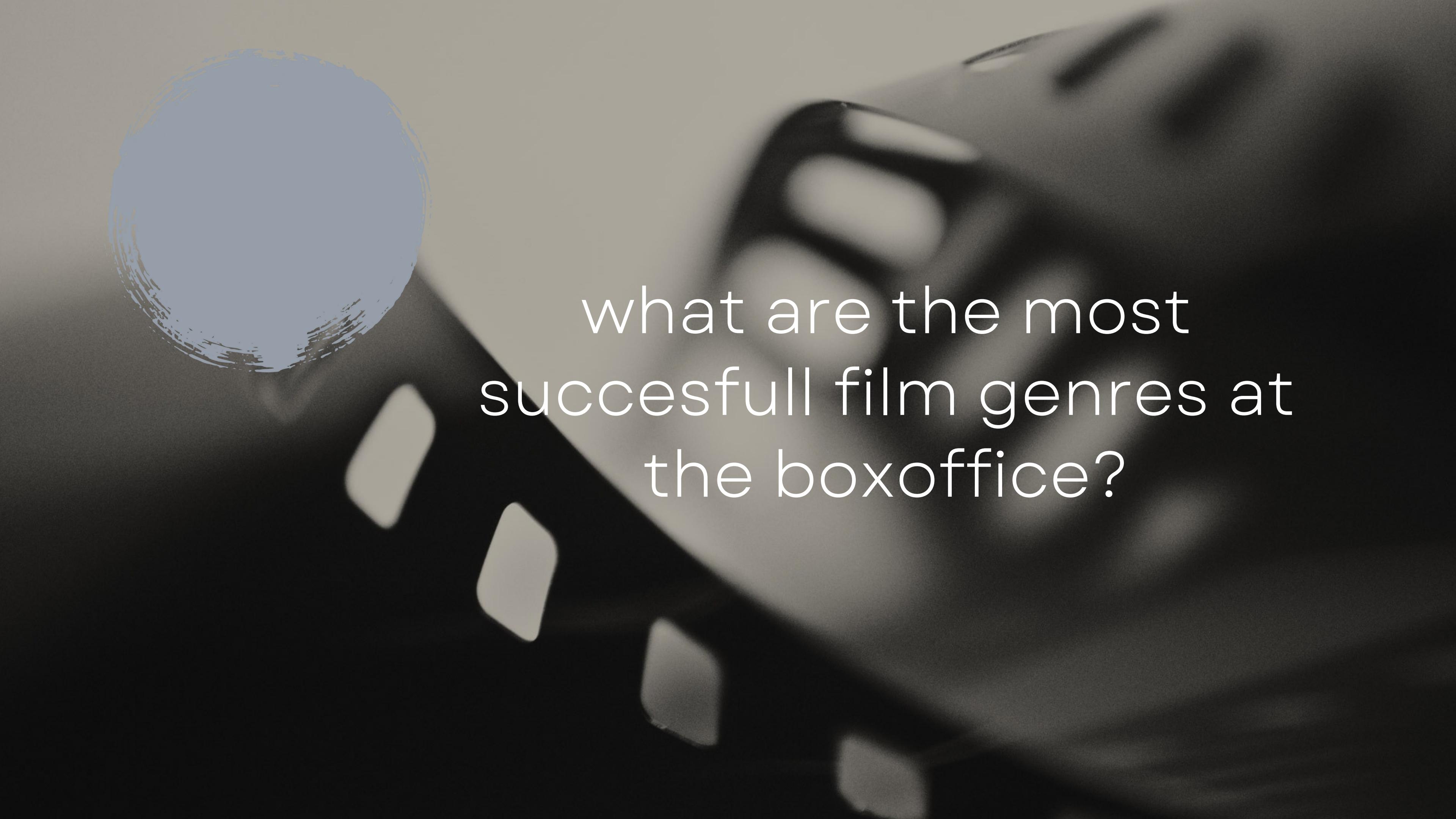


## Top 5 most produced genres

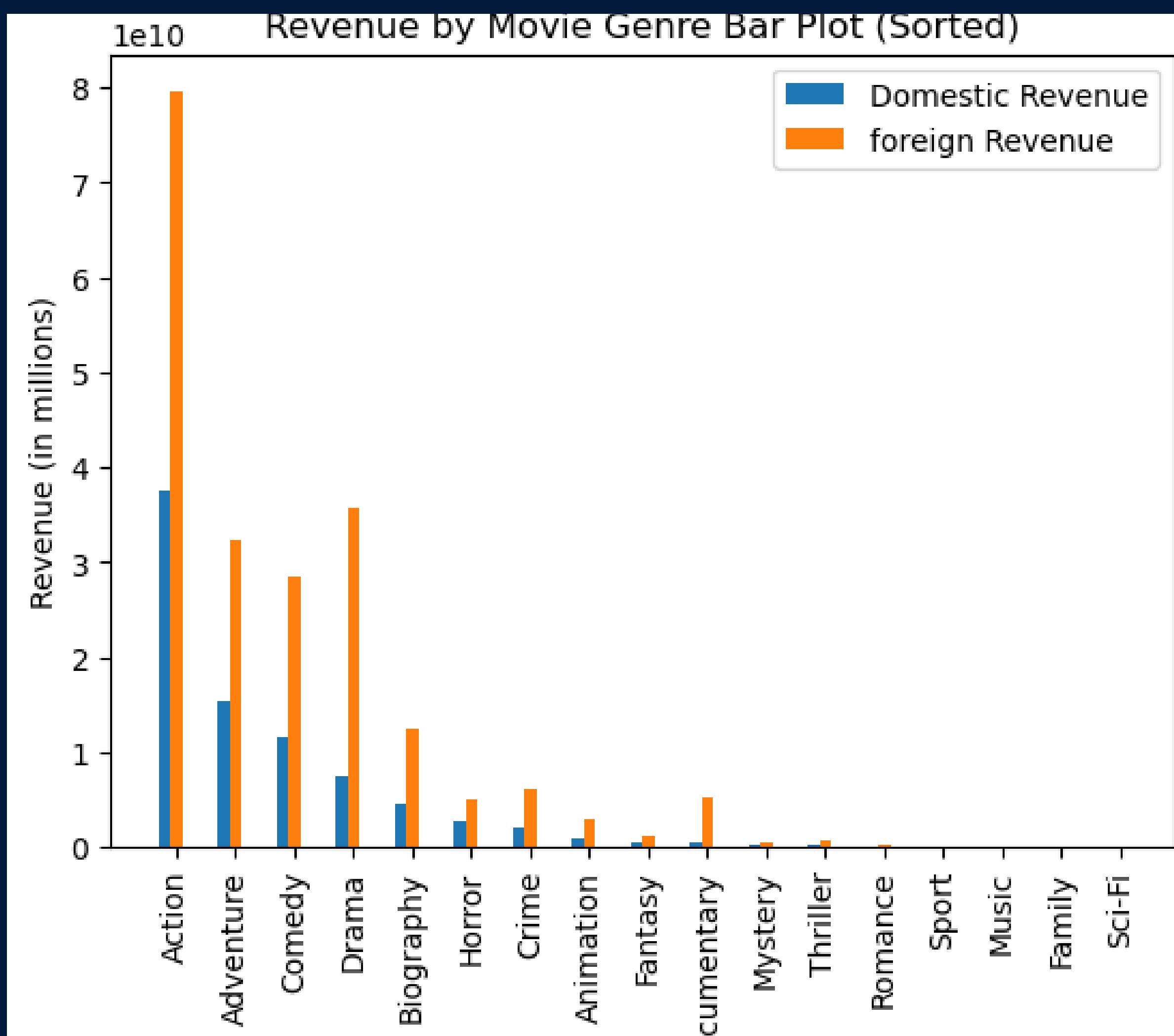


top most produced  
genres

- drama
- action
- comedy
- action
- adventure

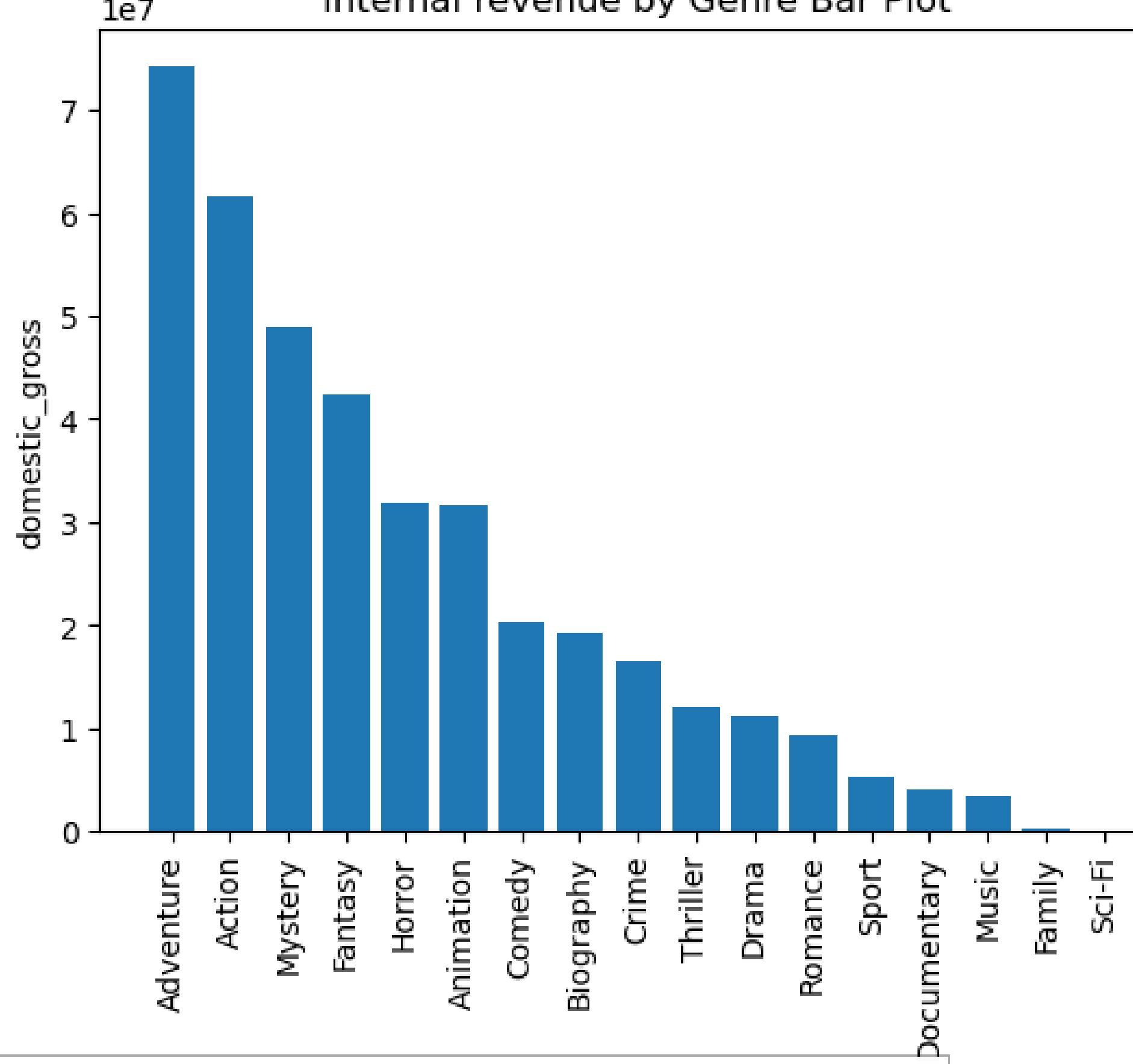


what are the most  
succesfull film genres at  
the boxoffice?

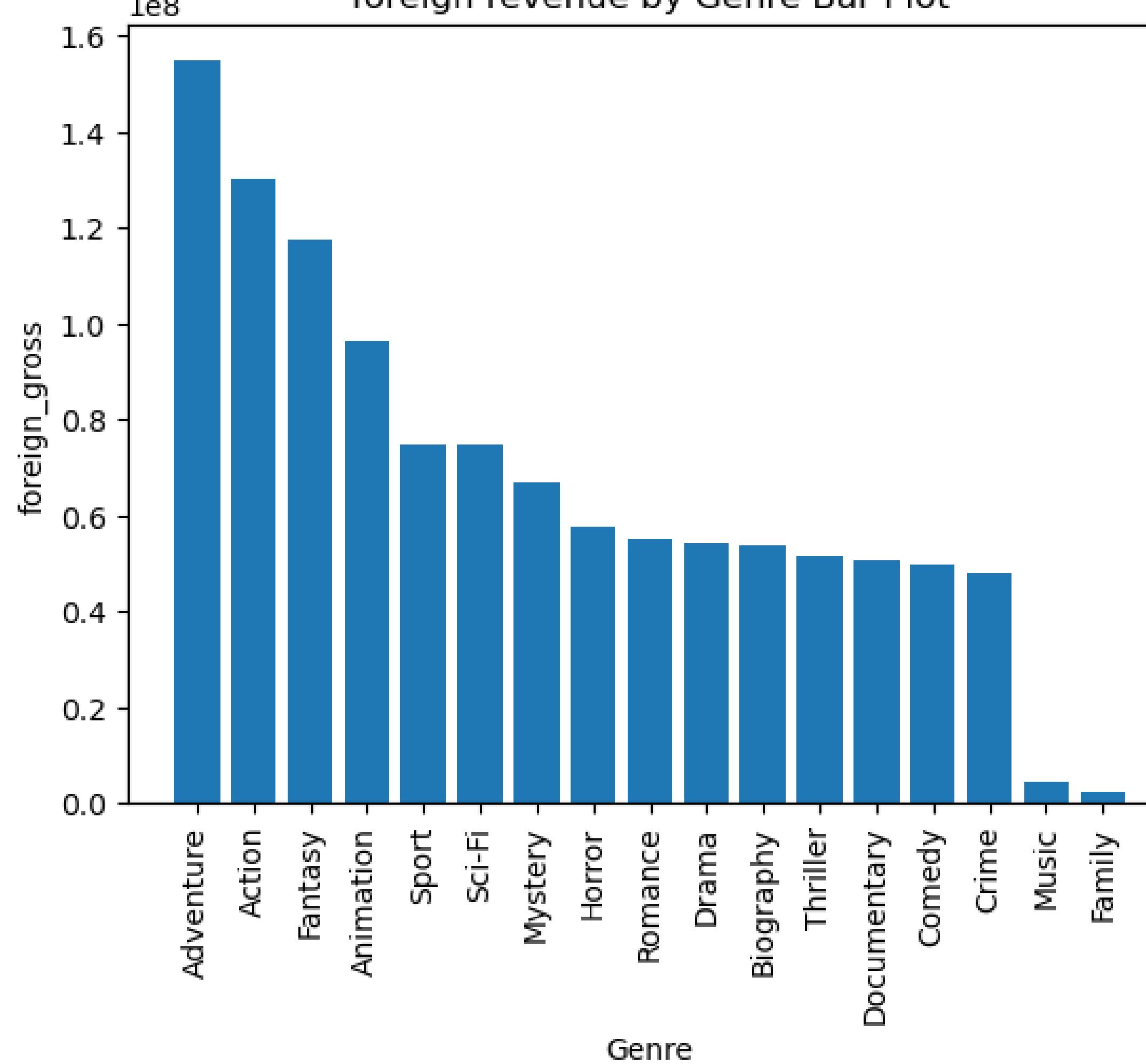


```
plt.show()
```

internal revenue by Genre Bar Plot



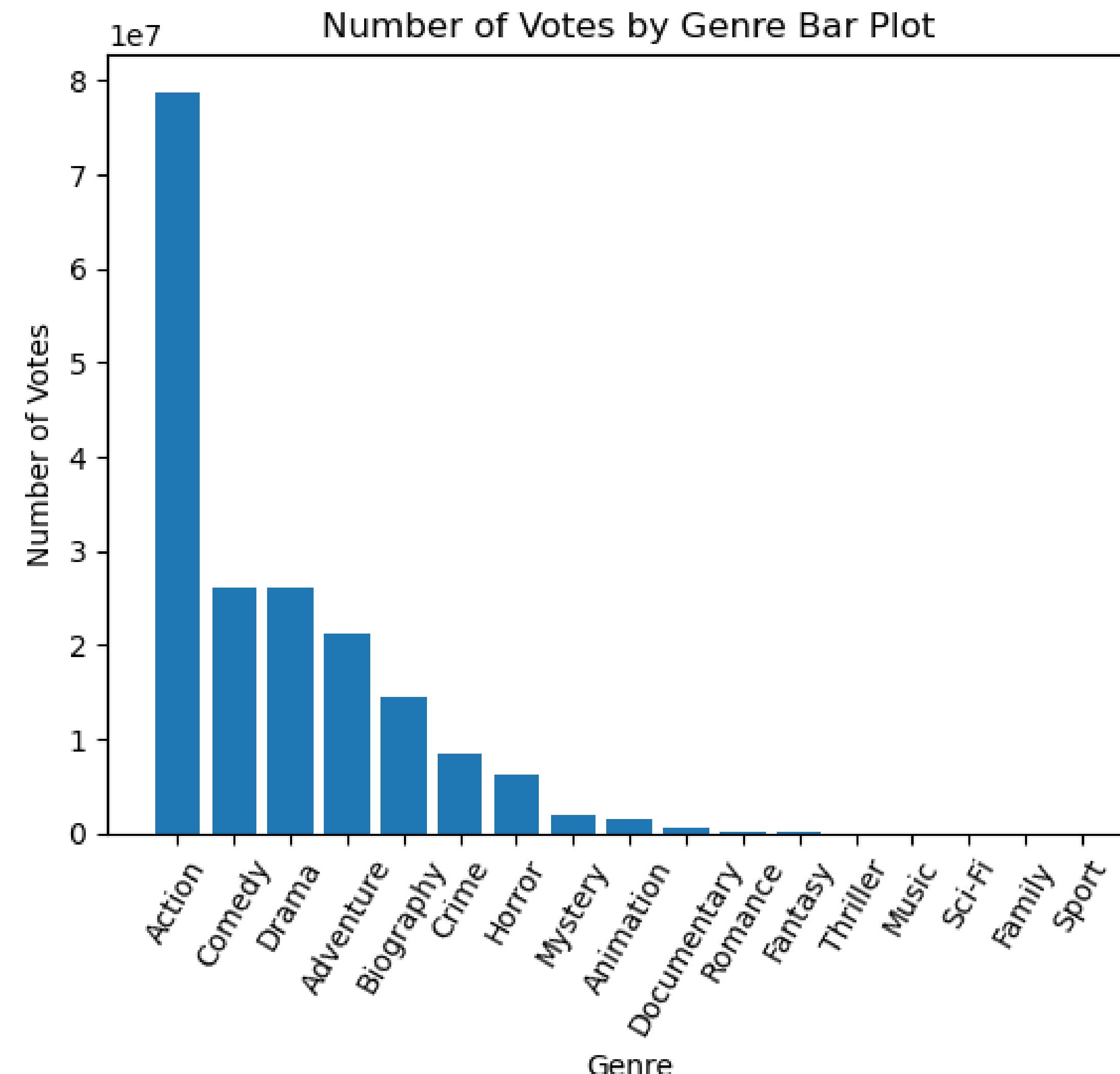
foreign revenue by Genre Bar Plot



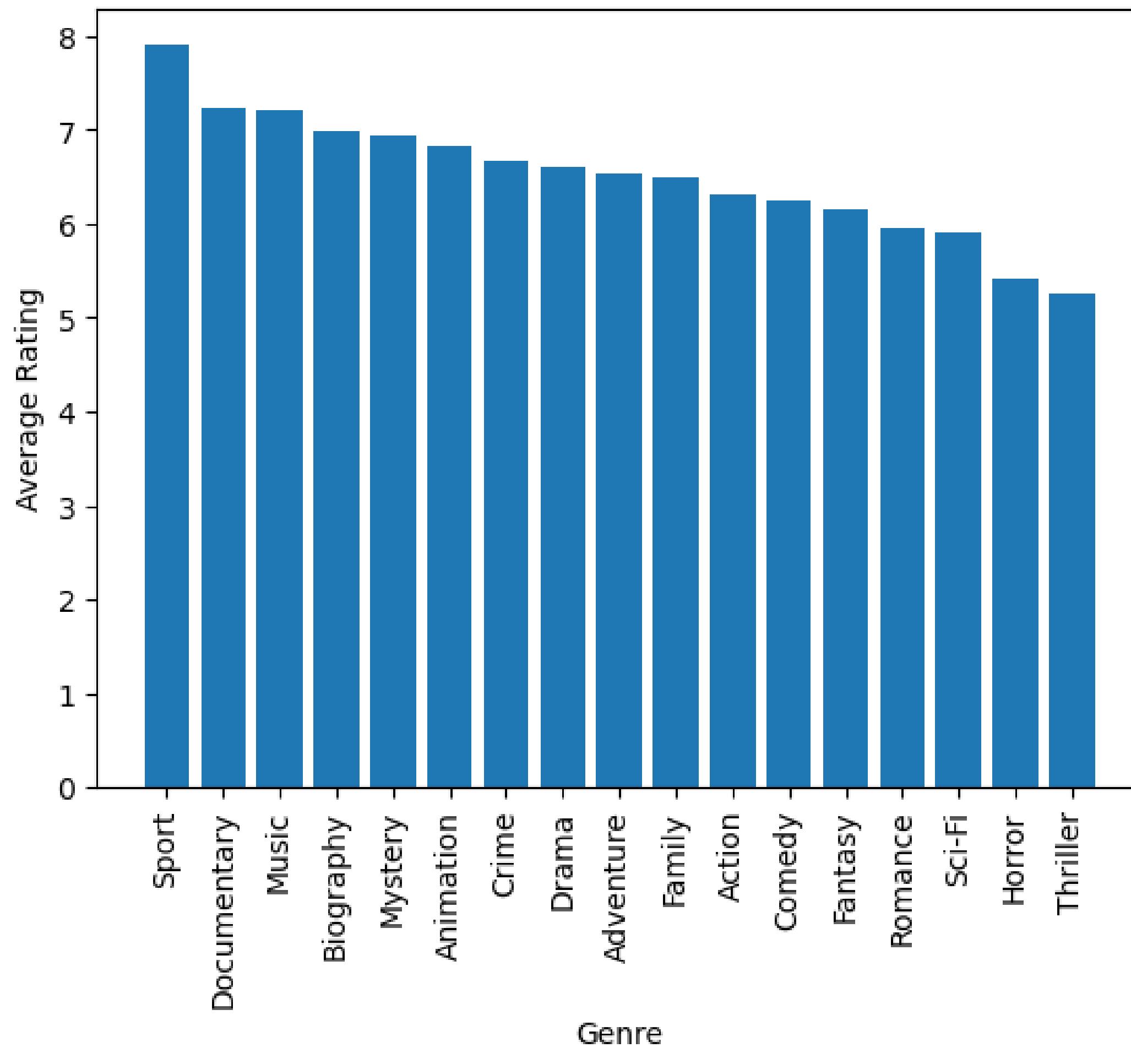
# the most profitable film genres

- action
- adventure
- comedy
- drama
- biography

Revenue can greatly affect the production of specific movie genres. If a particular genre is consistently generating high revenue, then studios are more likely to invest in producing more movies within that genre.

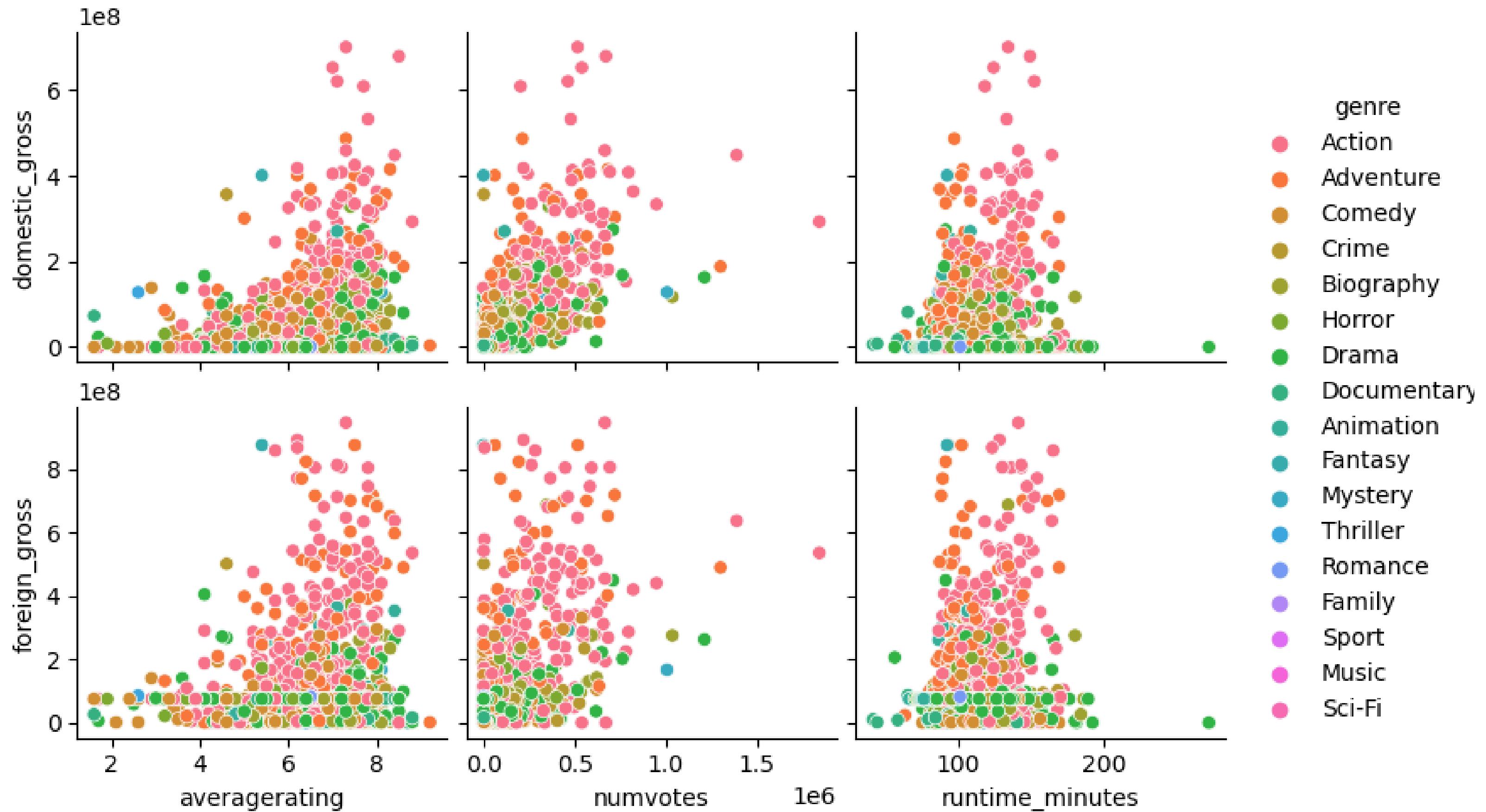


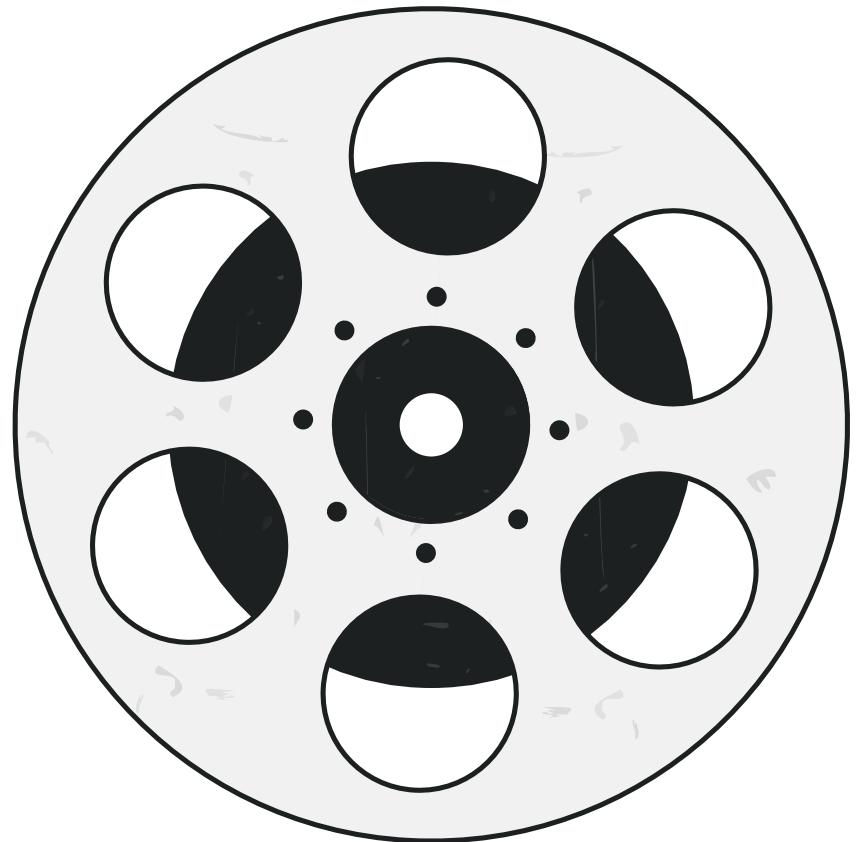
### Average Rating by Genre Bar Plot



The average rating of a film can influence the type of films produced in a particular genre in several ways:

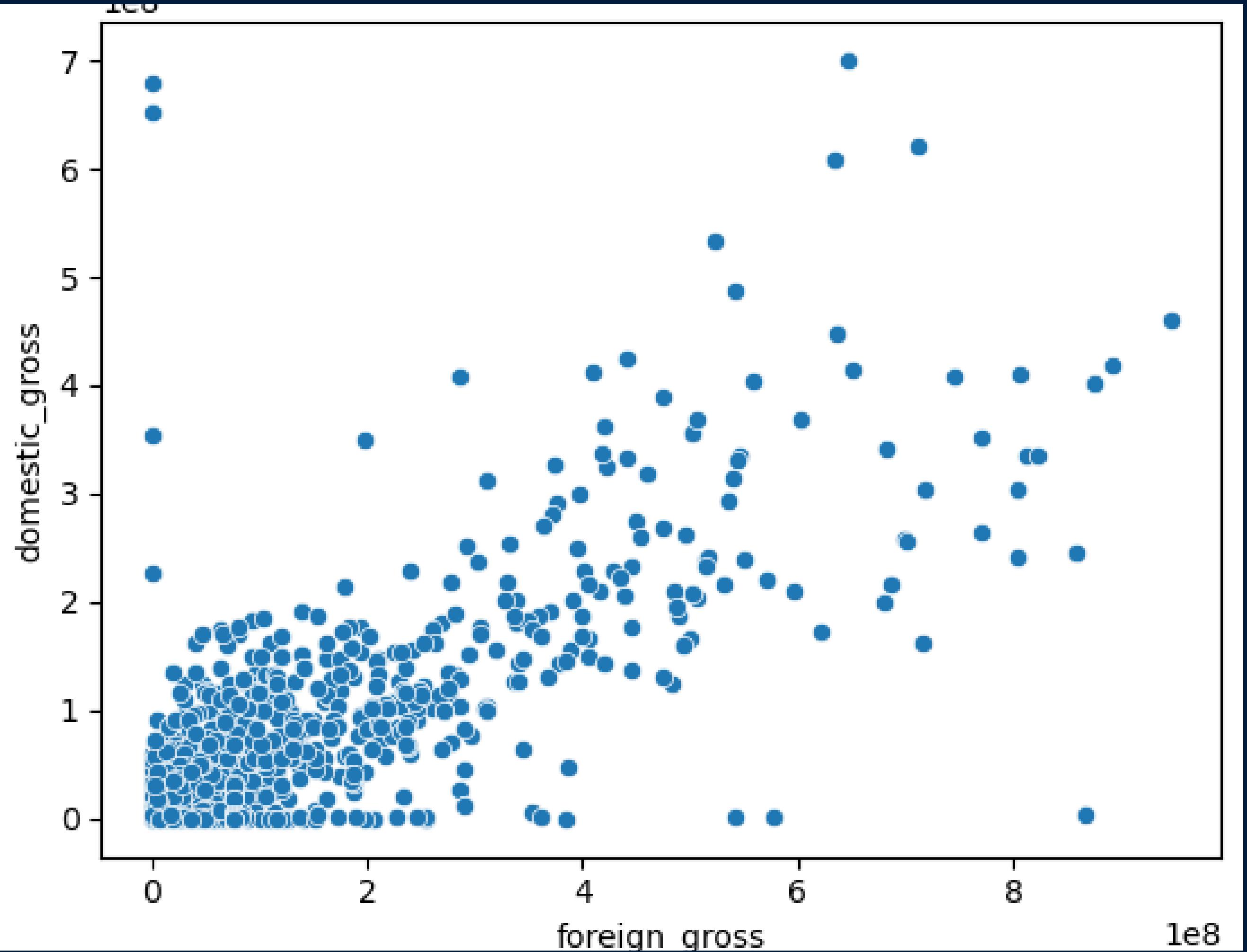
1. Studio decisions: High-rated films often result in increased revenue, which can encourage studios to invest in similar films.
2. Genre popularity: If a particular genre has a high average rating, it can lead to an increased demand for films in that genre, leading to more films being produced.
3. Creative direction: High-rated films can set a standard for the genre and influence future films to follow a similar style or tone.
4. Market trends: The film industry is constantly evolving, and the average rating can indicate current market trends, which can influence the types of films that are produced.

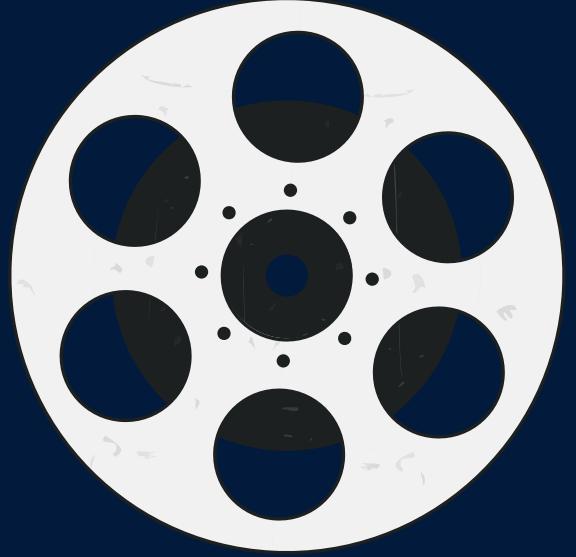




numvotes is seen to positively correlate with foreign\_gross,  
domestic\_gross

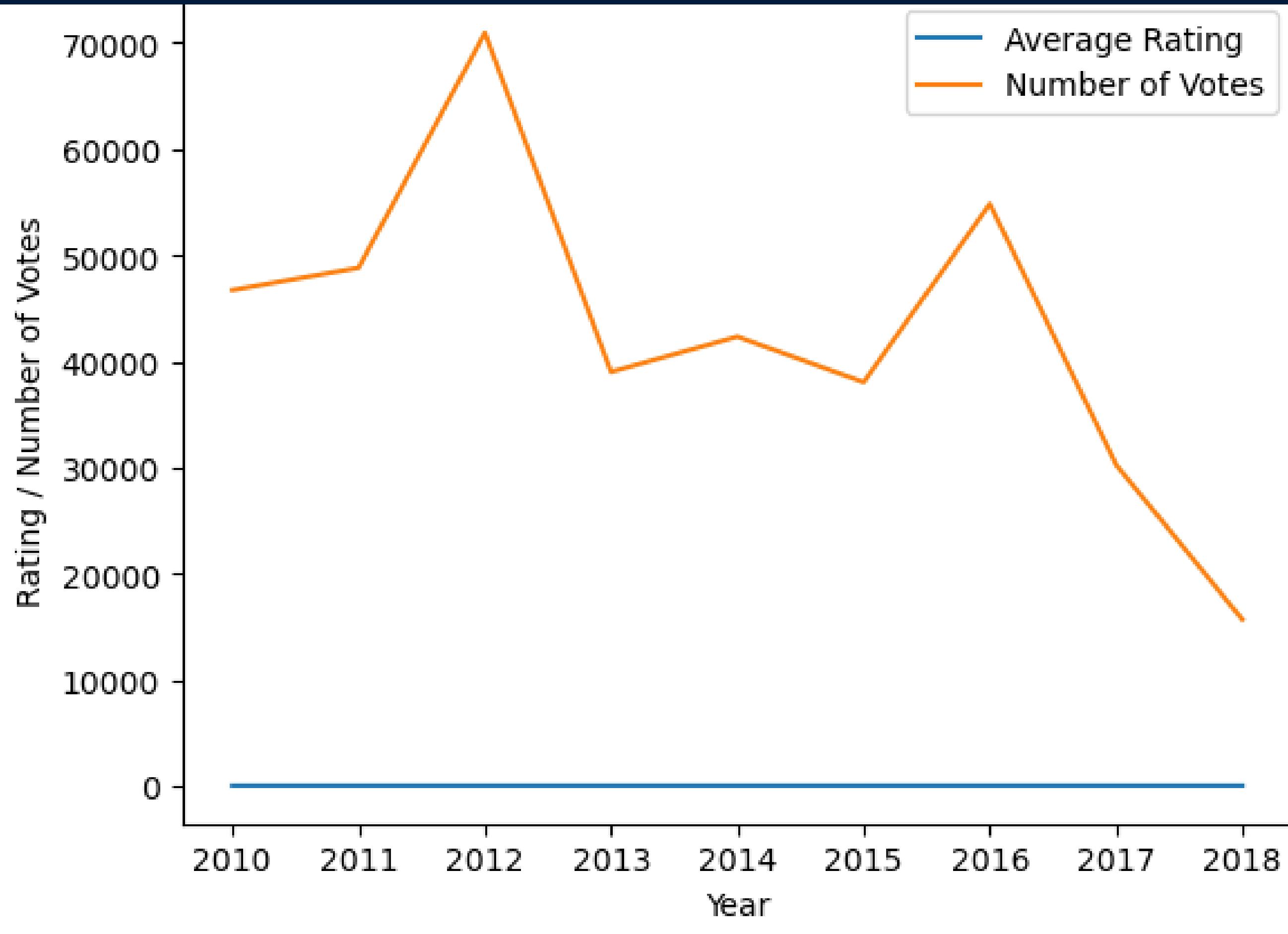
However, it is important to keep in mind that correlation does not imply causation and there could be other factors that contribute to this relationship.





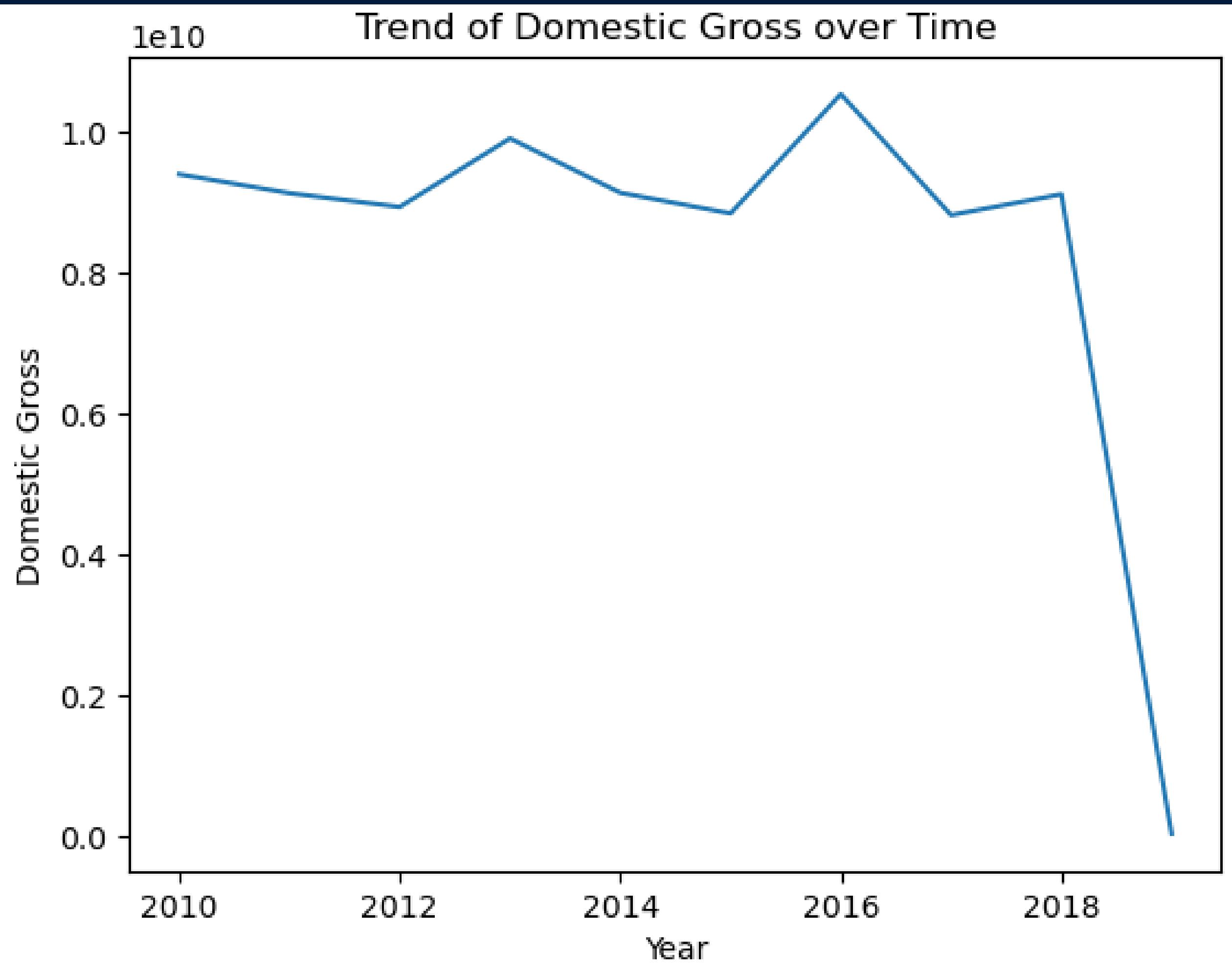
the foreign\_gross and domestic gross are positively correlated.

this shows that a high performing movie in its domestic market (domestic\_gross) is likely to also be successful in foreign markets (foreign\_gross), or vice versa.



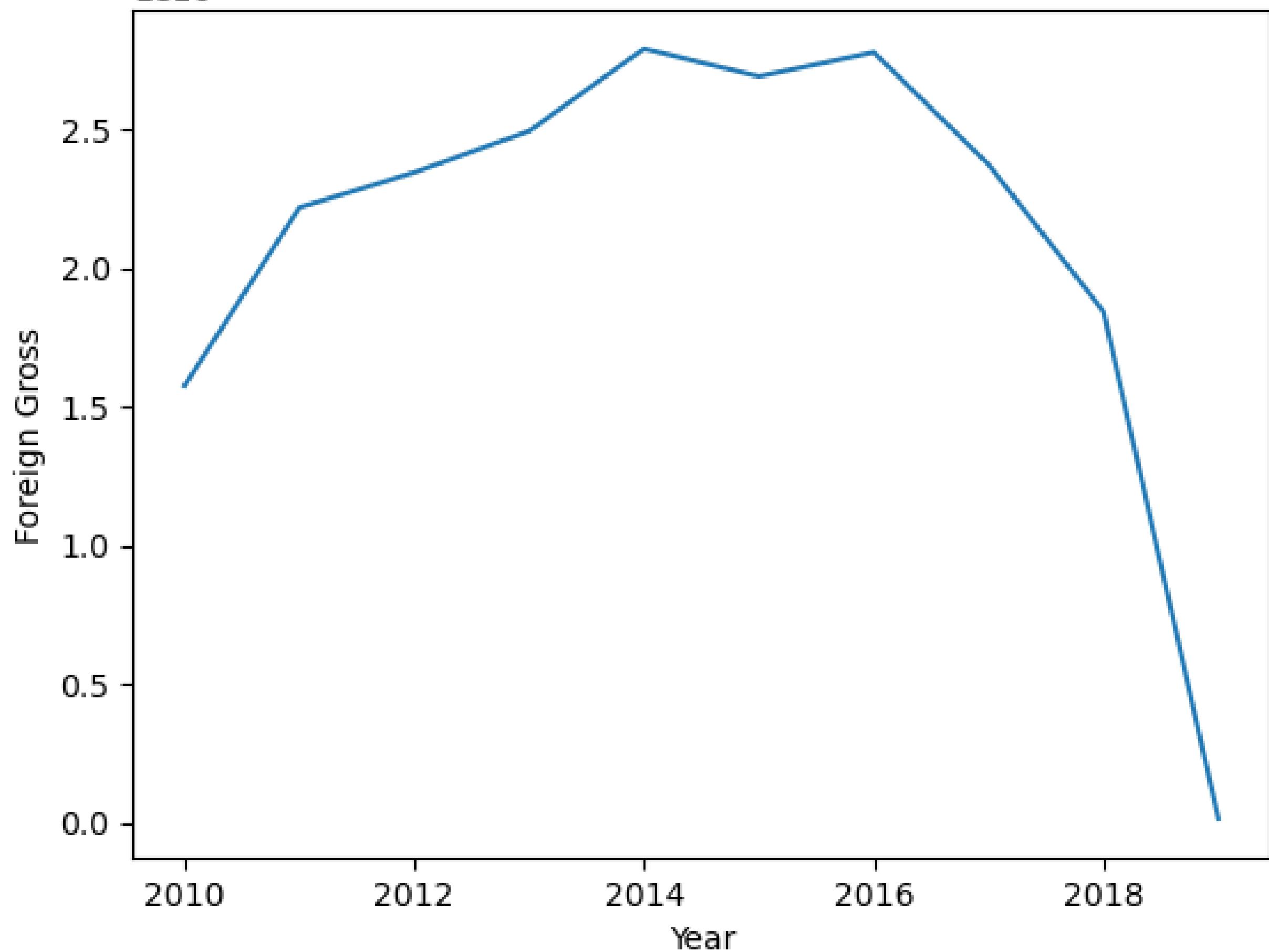
1e10

## Trend of Domestic Gross over Time



1e10

### Trend of Foreign Gross over Time



# **there is an overall downtrend over time**

The reason for a downtrend in the start year from 2016 to 2018 for columns such as numvotes, averagerating, foreign\_gross, and domestic\_gross could be due to several factors. Some possible reasons include:

- changing audience preference
- increased competition from other streaming services and more entertainment options
- changes in film industry
- economic factors



4.

## KEY FINDINGS



The Action and Adventure movies tend to be most profitable as of late.



there is a downtrend of average rating ,numvotes,foregn gross and domestic gross from 2016 to 2018.



**Runtime does not affect movie revenue that much, even though it correlates positively.**



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5

# RECOMMENDATIONS



**Microsoft's new movie studio should focus on creating films in the popular genres of action, adventure, comedy, drama, and biopic.**



considering the downtrend in foreign and domestic grosses, as well as declining number of votes and average ratings from 2016 to 2018, the studio may want to focus on producing films that have a strong appeal to both domestic and international audiences.



**it will be beneficial to invest in improving the production quality and overall marketability of the films to increase their chances of success.**



**regularly analyze box office trends and make adjustments to the studio's strategy as needed to stay competitive.**