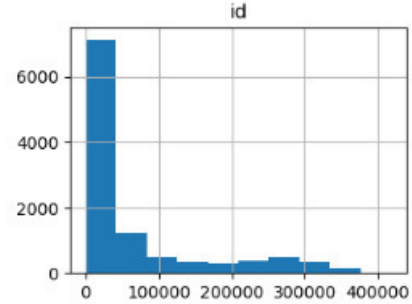
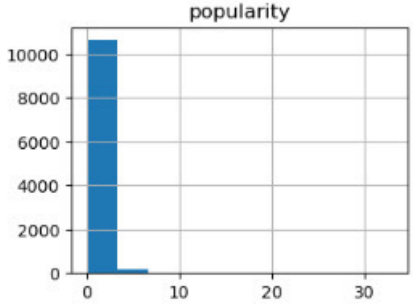
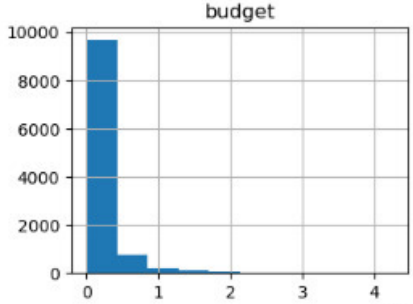
	id	imdb_id	popularity	budget	revenue	original_title	cast	homepage	director	tagline	...
0	135397	tt0369610	32.985763	150000000	1513528810	Jurassic World	Chris Pratt|Bryce Dallas Howard|Irrfan Khan|Vi...	http://www.jurassicworld.com/	Colin Trevorrow	The park is open.	...
1	76341	tt1392190	28.419936	150000000	378436354	Mad Max: Fury Road	Tom Hardy|Charlize Theron|Hugh Keays-Byrne|Nic...	http://www.madmaxmovie.com/	George Miller	What a Lovely Day.	...
2	262500	tt2908446	13.112507	110000000	295238201	Insurgent	Shailene Woodley|Theo James|Kate Winslet|Ansel...	http://www.thedivergentseries.movie/#insurgent	Robert Schwentke	One Choice Can Destroy You	...
3	140607	tt2488496	11.173104	200000000	2068178225	Star Wars: The Force Awakens	Harrison Ford|Mark Hamill|Carrie Fisher|Adam D...	http://www.starwars.com/films/star-wars-episod...	J.J. Abrams	Every generation has a story.	...
4	168259	tt2820852	9.335014	190000000	1506249360	Furious 7	Vin Diesel|Paul Walker|Jason Statham|Michelle ...	http://www.furious7.com/	James Wan	Vengeance Hits Home	...

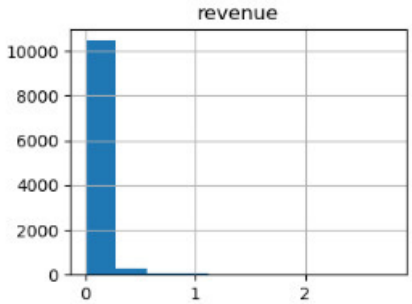
5 rows × 21 columns

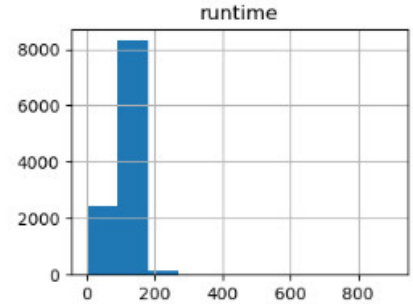
	id	popularity	budget	revenue	runtime	vote_count	vote_average	release_year	budget_adj	revenue_adj
count	10865.000000	10865.000000	1.086500e+04	1.086500e+04	10865.000000	10865.000000	10865.000000	10865.000000	1.086500e+04	1.086500e+04
mean	66066.374413	0.646446	1.462429e+07	3.982690e+07	102.071790	217.399632	5.975012	2001.321859	1.754989e+07	5.136900e+07
std	92134.091971	1.000231	3.091428e+07	1.170083e+08	31.382701	575.644627	0.935138	12.813260	3.430753e+07	1.446383e+08
min	5.000000	0.000065	0.000000e+00	0.000000e+00	0.000000	10.000000	1.500000	1960.000000	0.000000e+00	0.000000e+00
25%	10596.000000	0.207575	0.000000e+00	0.000000e+00	90.000000	17.000000	5.400000	1995.000000	0.000000e+00	0.000000e+00
50%	20662.000000	0.383831	0.000000e+00	0.000000e+00	99.000000	38.000000	6.000000	2006.000000	0.000000e+00	0.000000e+00
75%	75612.000000	0.713857	1.500000e+07	2.400000e+07	111.000000	146.000000	6.600000	2011.000000	2.085325e+07	3.370173e+07
max	417859.000000	32.985763	4.250000e+08	2.781506e+09	900.000000	9767.000000	9.200000	2015.000000	4.250000e+08	2.827124e+09

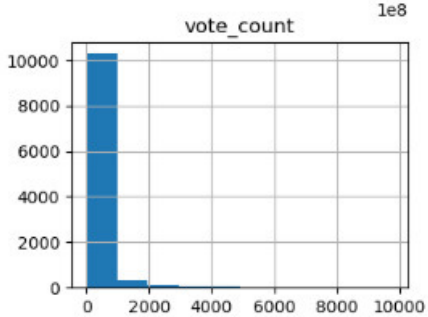

id
6000
4000
2000
0
0
100000
200000
300000
400000

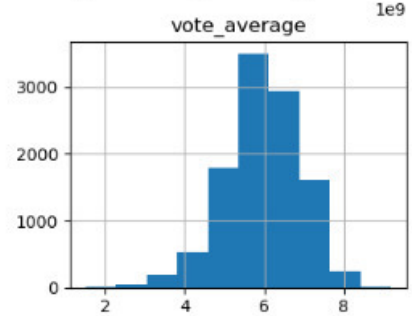

popularity
10000
8000
6000
4000
2000
0
0
10
20
30

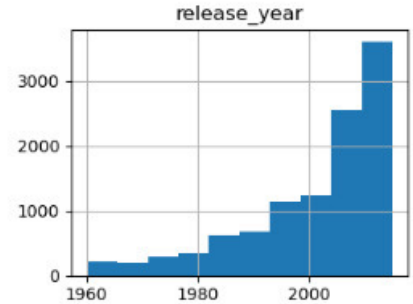

budget
10000
8000
6000
4000
2000
0
0
1
2
3
4
1e8

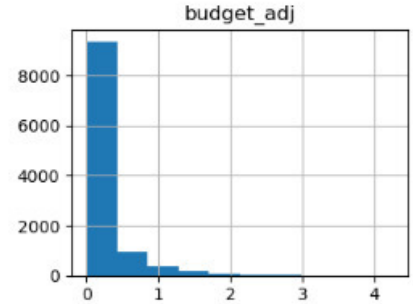

revenue
10000
8000
6000
4000
2000
0
0
1
2
1e9


runtime
8000
6000
4000
2000
0
0
200
400
600
800

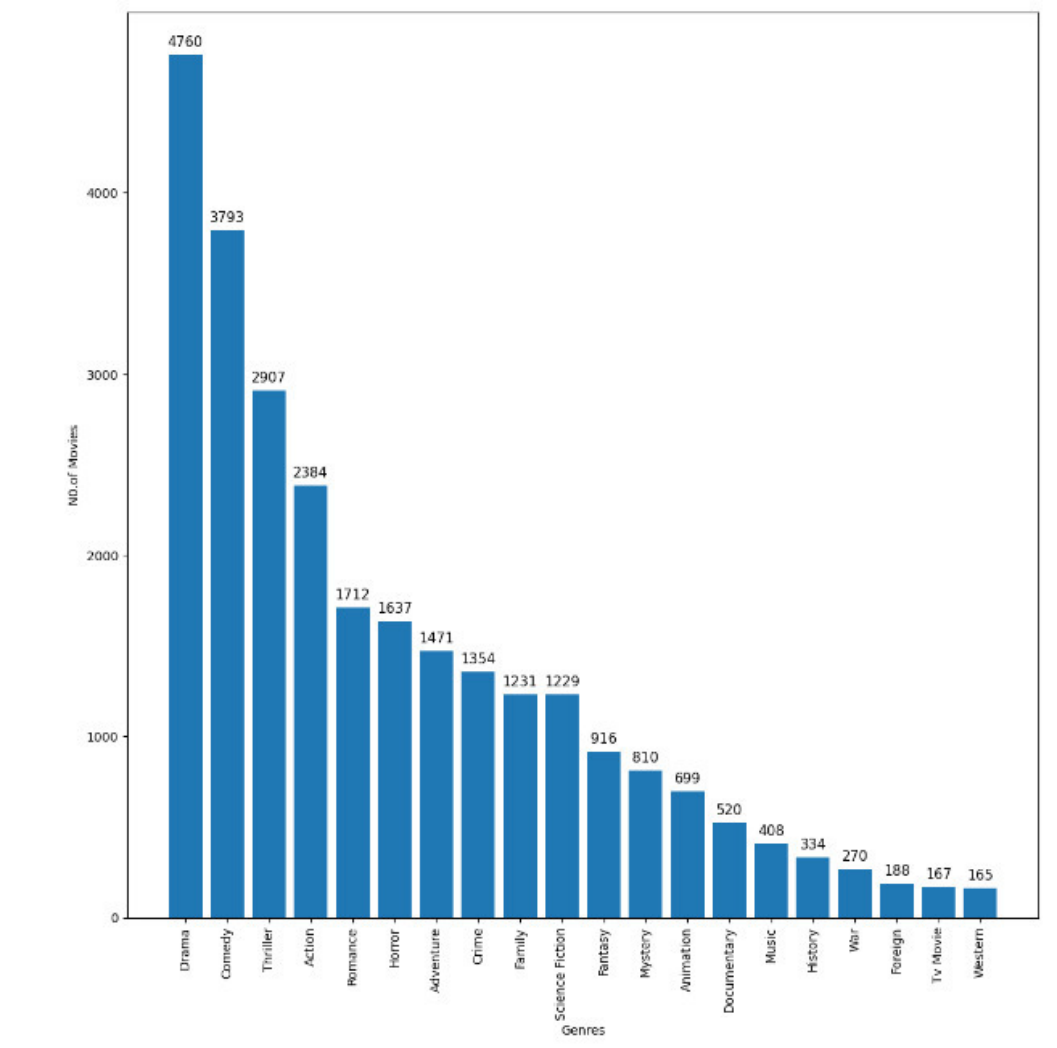

vote_count
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000

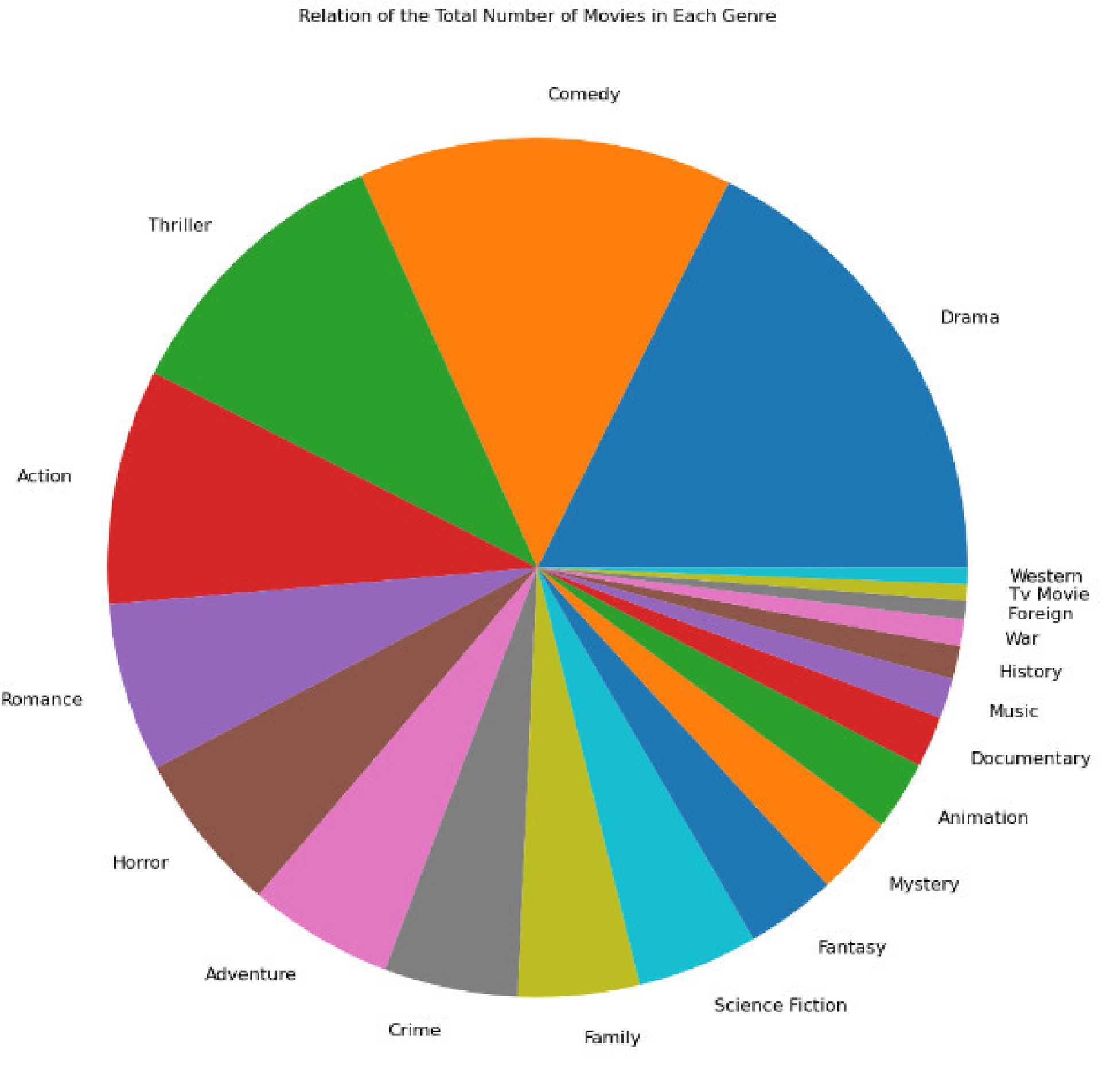

vote_average
3000
2000
1000
0
2
4
6
8

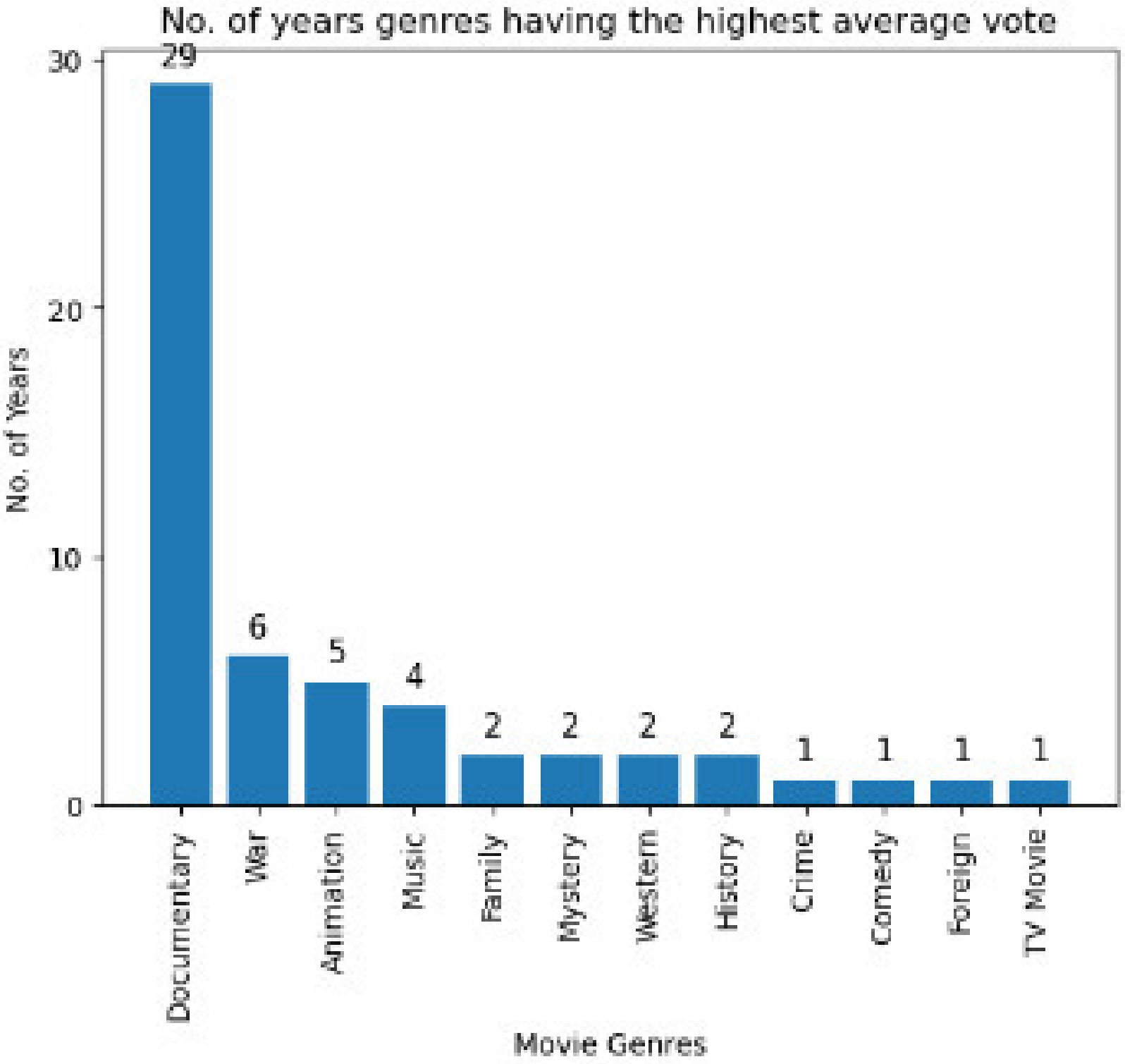

release_year
3000
2000
1000
0
1960
1980
2000

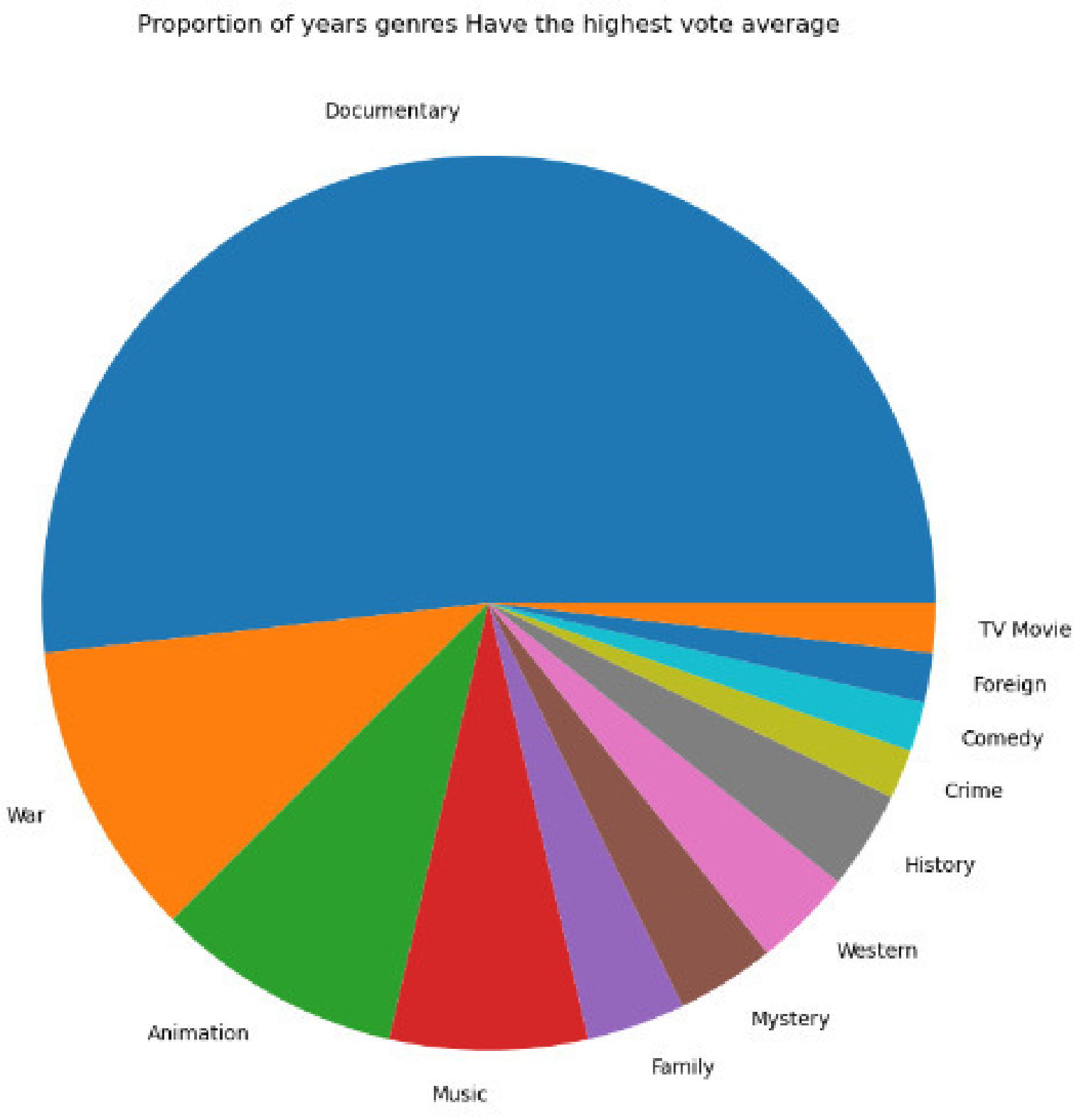

budget_adj
8000
6000
4000
2000
0
0
1
2
3
4
1e8

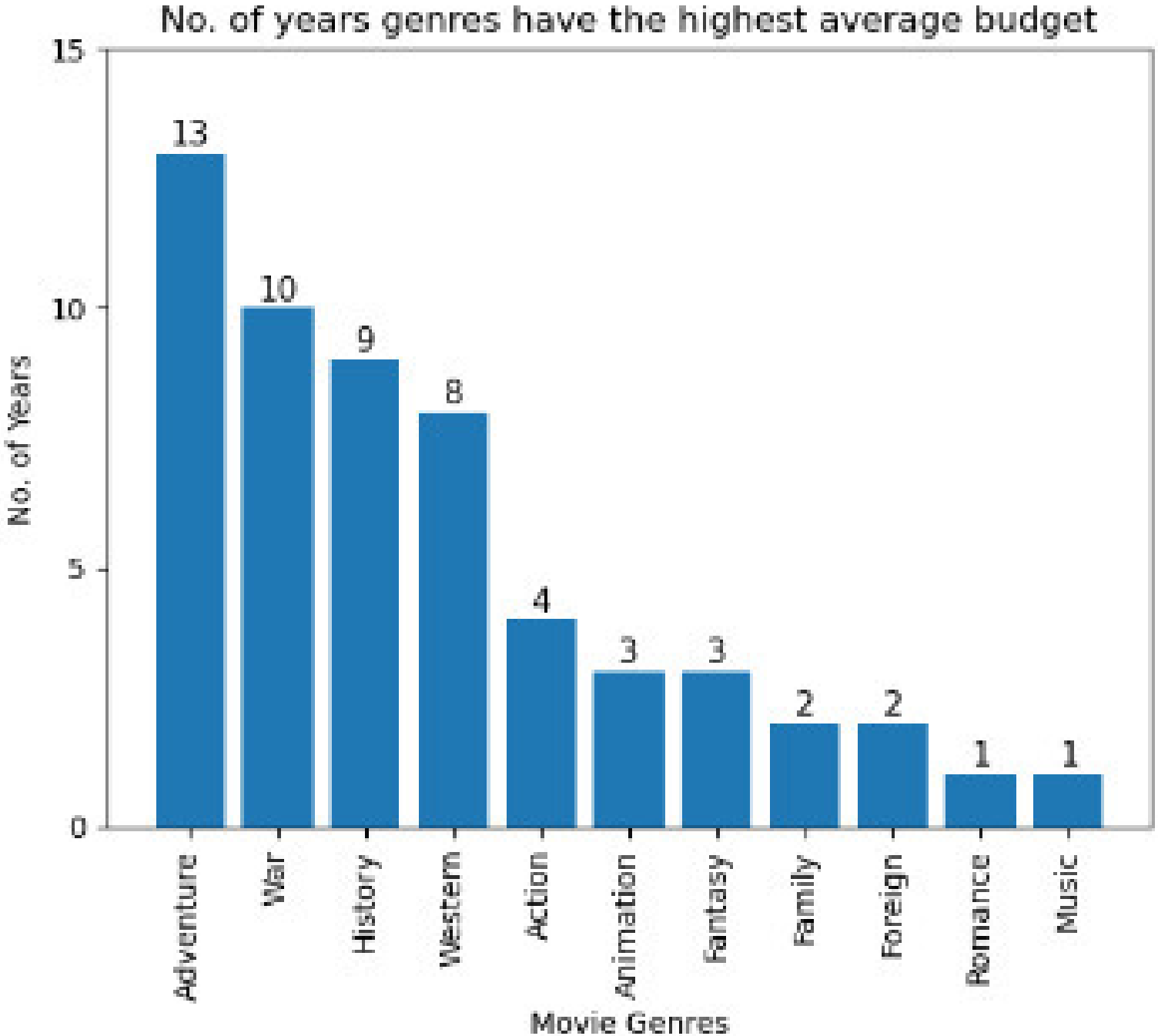
revenue_adj
10000
8000
6000
4000
2000
0
0
1
2
1e9

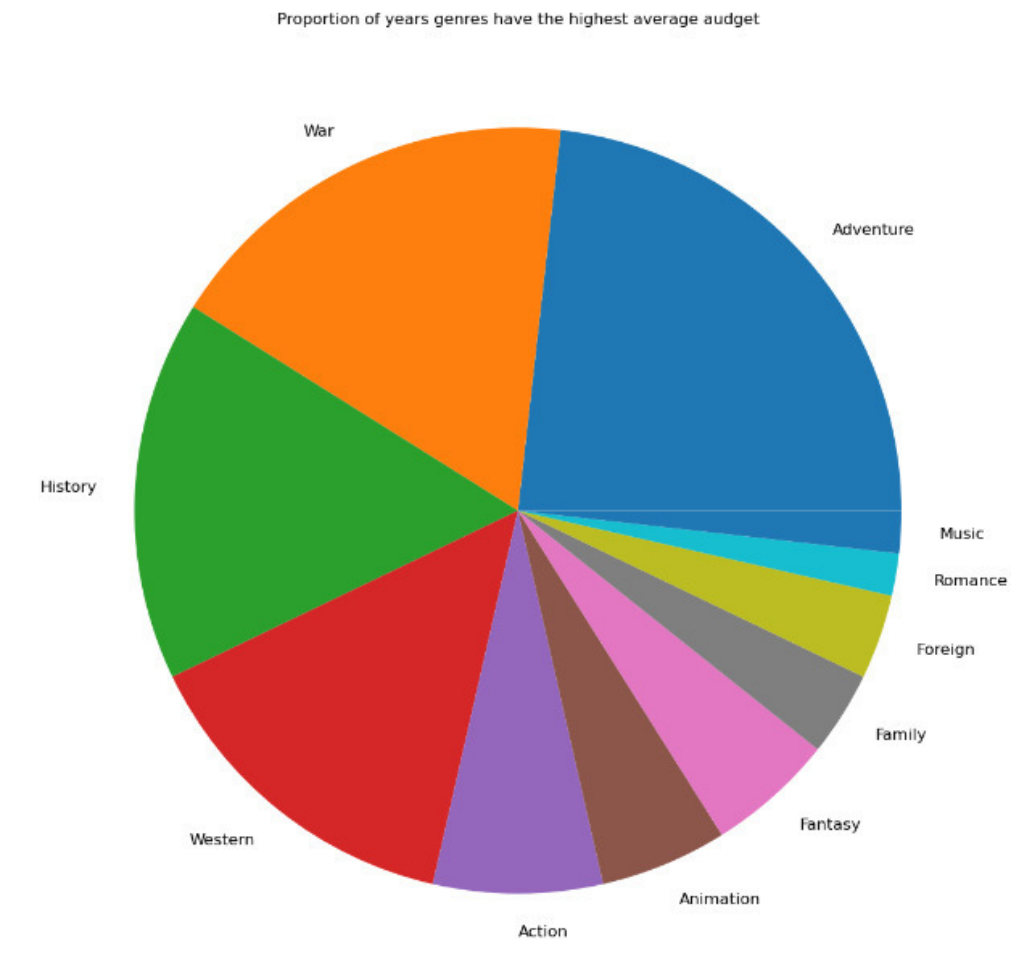

4760
3793
2907
2384
1712
1637
1471
1354
1231
1229
916
810
699
520
408
334
270
188
167
165
4000
3000
2000
1000
0
NO.of Movies
Drama
Comedy
Thriller
Action
Romance
Horror
Adventure
Crime
Family
Science Fiction
Fantasy
Mystery
Animation
Documentary
Music
History
War
Foreign
Tv Movie
Western
Genres

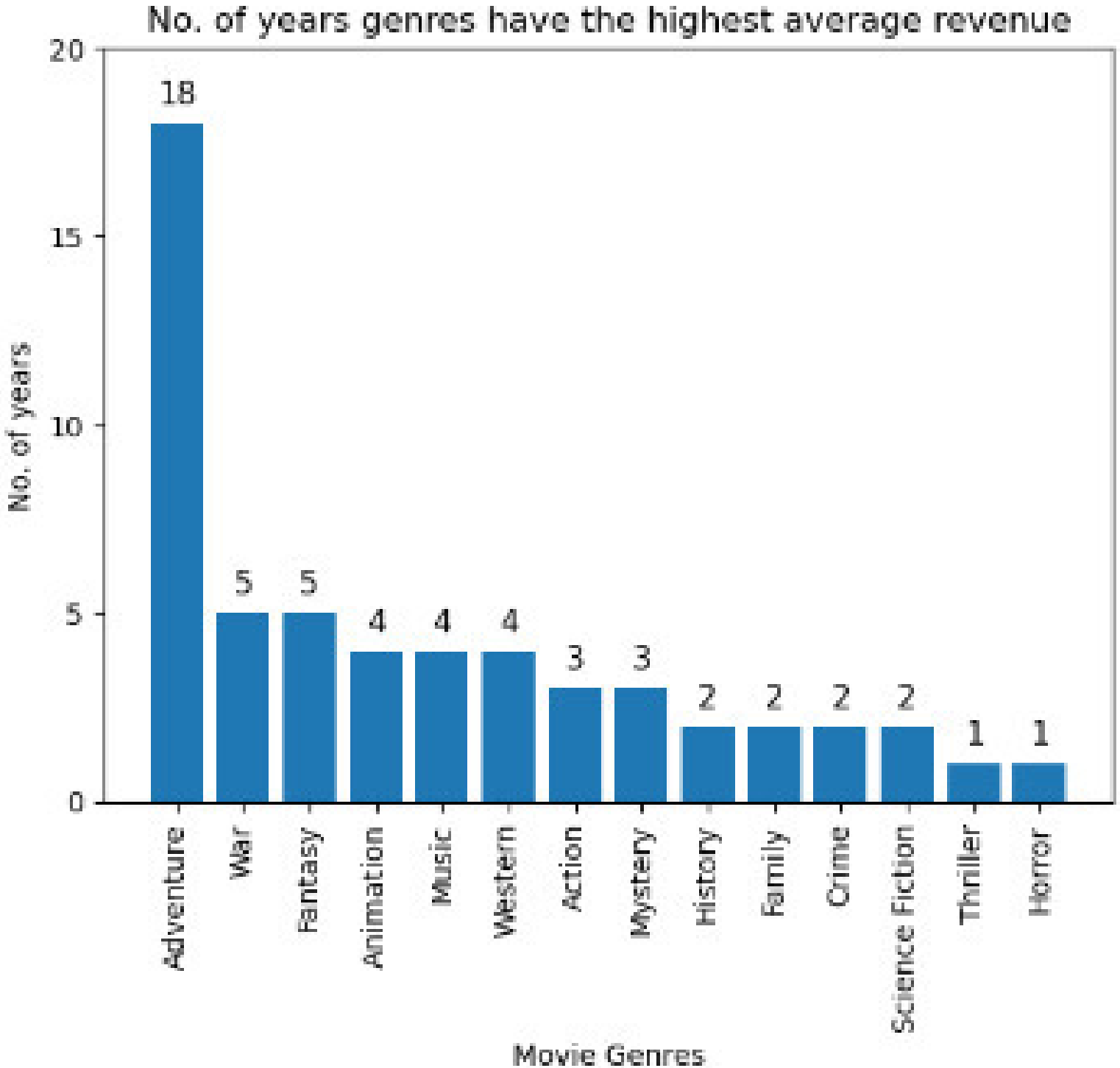

Relation of the Total Number of Movies in Each Genre
Comedy
Thriller
Drama
Action
Western
Tv Movie
Foreign
War
History
Music
Documentary
Animation
Mystery
Fantasy
Science Fiction
Family
Crime
Adventure
Horror
Romance

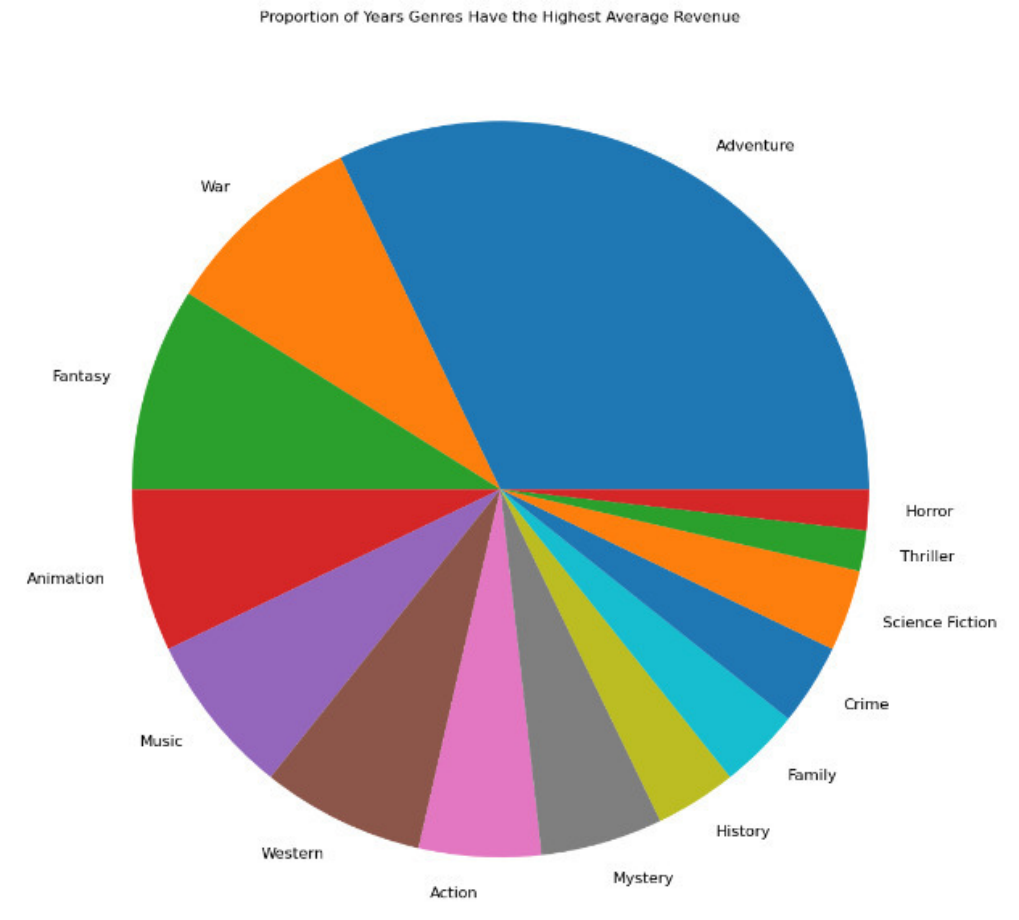

No. of years genres having the highest average vote
No. of Years
Movie Genres
0
10
20
30
29
6
5
4
2
2
2
2
1
1
1
1
Documentary
War
Animation
Music
Family
Mystery
Western
History
Crime
Comedy
Foreign
TV Movie

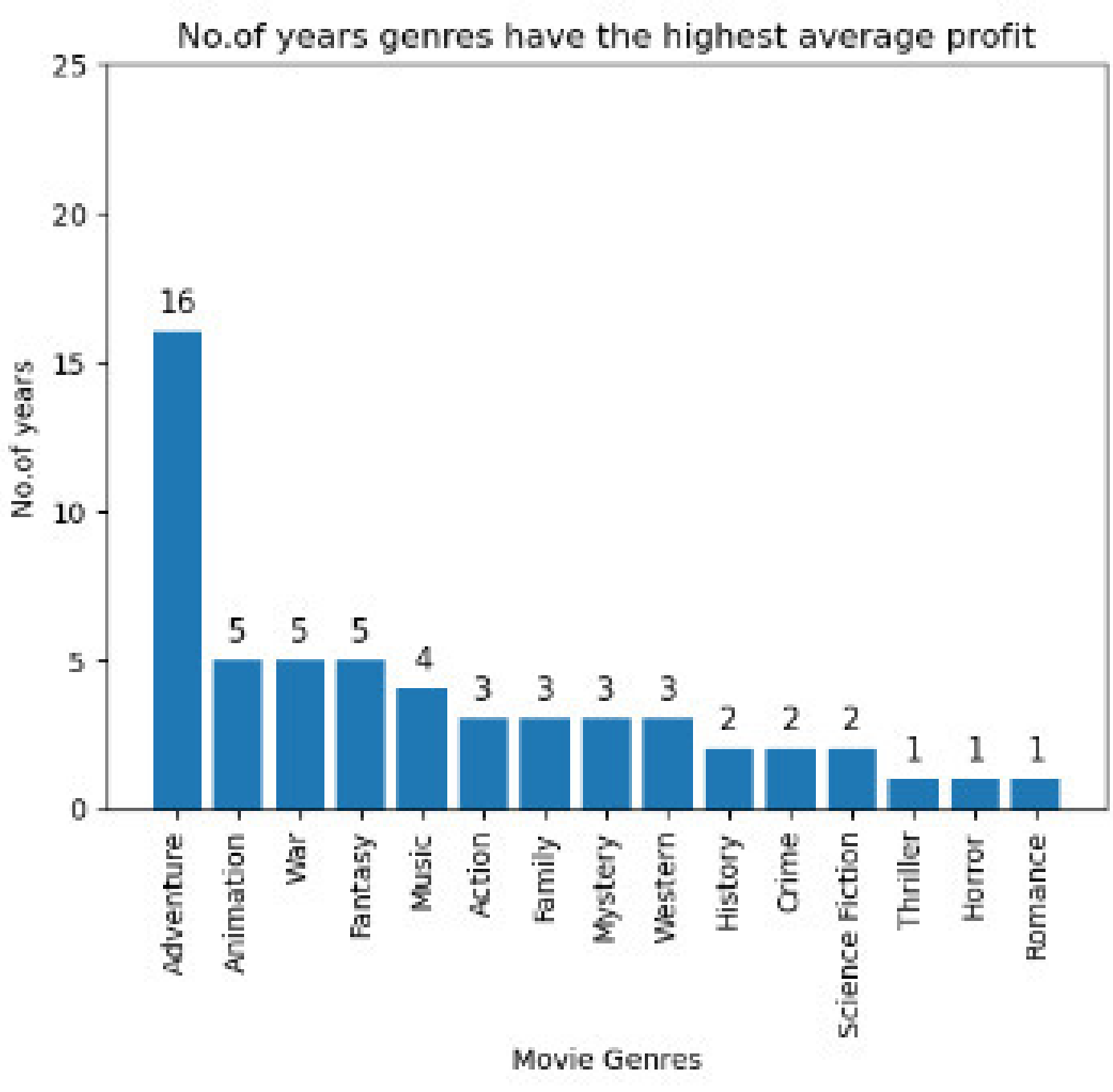

Proportion of years genres Have the highest vote average
Documentary
TV Movie
Foreign
Comedy
Crime
History
Western
Mystery
Family
Music
Animation
War


No. of years genres have the highest average budget
No. of Years
Movie Genres
0
5
10
15
13
10
9
8
4
3
3
2
2
1
1
Adventure
War
History
Western
Action
Animation
Fantasy
Family
Foreign
Romance
Music

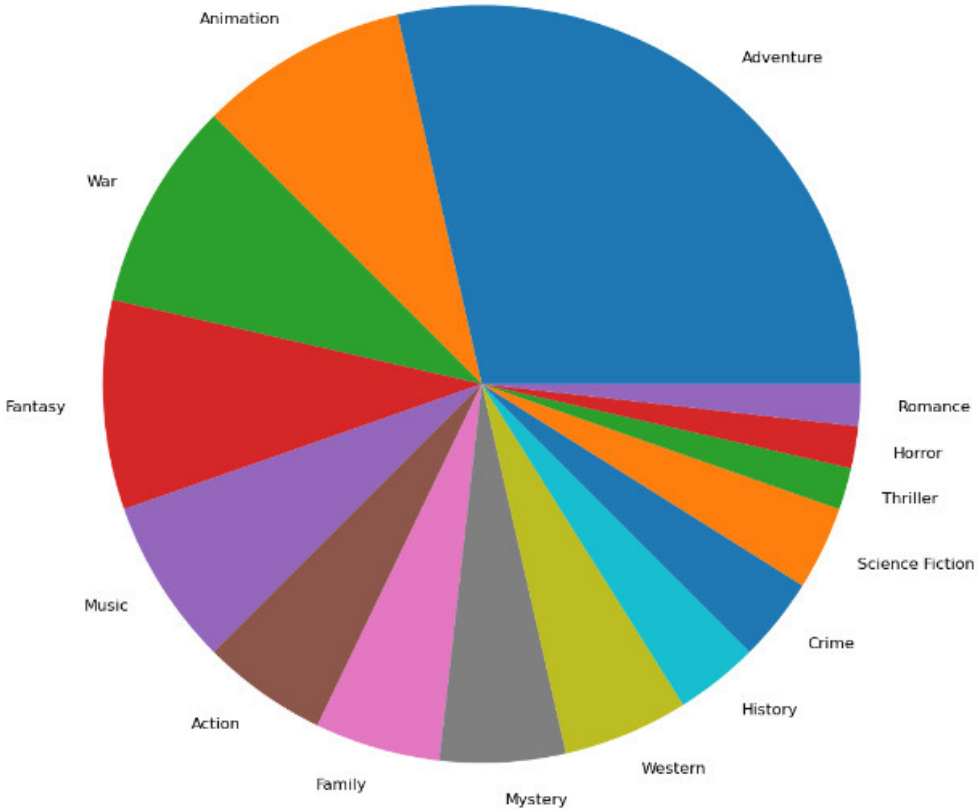

Proportion of years genres have the highest average audget
War
Adventure
History
Music
Romance
Foreign
Family
Fantasy
Western
Animation
Action

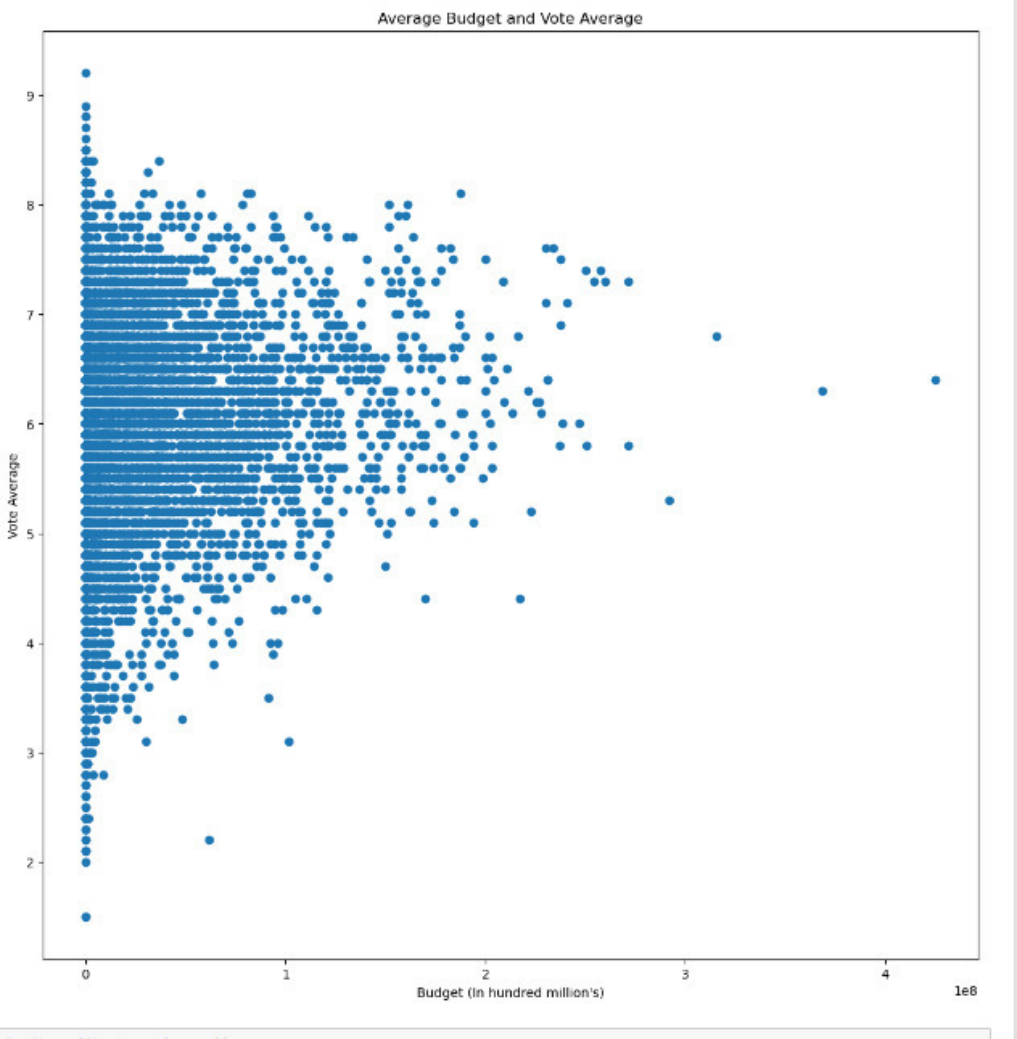

No. of years genres have the highest average revenue
No. of years
Movie Genres
0
5
10
15
20
18
5
5
4
4
4
3
3
2
2
2
2
1
1
Adventure
War
Fantasy
Animation
Music
Western
Action
Mystery
History
Family
Crime
Science Fiction
Thriller
Horror

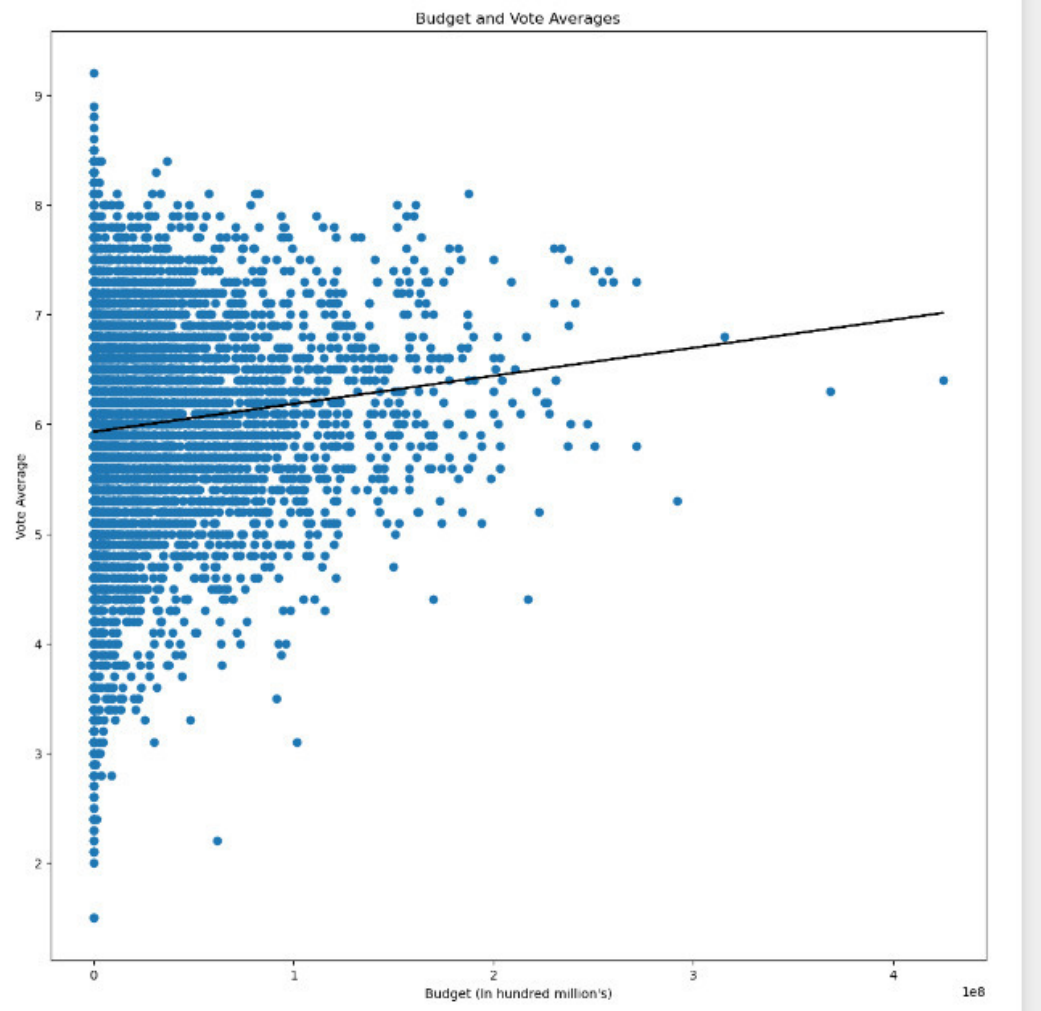

Proportion of Years Genres Have the Highest Average Revenue
Adventure
War
Fantasy
Horror
Thriller
Science Fiction
Crime
Family
History
Mystery
Action
Western
Music
Animation


No.of years genres have the highest average profit
No.of years
Movie Genres
0
5
10
15
20
25
16
5
5
5
4
3
3
3
3
2
2
2
1
1
1
Adventure
Animation
War
Fantasy
Music
Action
Family
Mystery
Western
History
Crime
Science Fiction
Thriller
Horror
Romance

Proportion of Years Genres Have the Highest Average Profit




Average Budget and Vote Average
Vote Average
Budget (In hundred million's)
1e8
0
1
2
3
4
2
3
4
5
6
7
8
9


Budget and Vote Averages
Vote Average
9
8
7
6
5
4
3
2
0
1
2
3
4
Budget (In hundred million's)
1e8

Q1. How have the success of genres changed over time (Revenue/Rating)?

We found that Drama, comedy and action were the 3 top most frequent type of movies. The popularity of movie releases has generally grown over time, from 1960 til around 2010 where the numbers contract slightlty. From out area chart we could confirm that Drama, Thriller, Comedy and Action movies seem to be the predominant genres.

By plotting into heatmaps, looks like those trends are confirmed. This confirmed that revenues and budgets have generally grown over time.

Q2. How succesful are different genres (Revenue/Rating)?

When looking at the success of genres, we analysed a list of genres by their average budget and revenue where it looked like like animation is a huge earner, followed by Adventure while foreign movies, documentaries and TV Movies are at the bottom in terms of revenue. If we calculated a return on investment by dividing revenue by budget, TV Movies moved to the top of the RoI analysis results, meaning it earned the most per the amount of budget spent.

Q3. Which Directors are the most successful (Revenue/Rating)?

We found that by looking at the total revenue generated by directors, Stevn Spielberg is our most succesfull director, followed by Peter Jackson. However, with that result it favoured directors who had a long career, creating many movies. To mitigate that, we looked at a smoother feature using the average revenue per movie which resulted in David Yates being our more succesfull director.

Again, this could be skewed to those directors who may have submitted very few but highly lucrative movies. In future, we could incorporate avarage rating, Return on Investment to see how profitable they were, limiting the directors to those who submitted a minimum number of movies

Q4. Which Attributes indicate a movie's chances of success (Revenue/Rating)?

We skimmed the surface of what attributes helped define a movies chance of success. We tentatively would say there Looks like there is a positive correlation between budget and revenue, and a very slight positive correlation with release year and budget. This would suggest that with a better budget the movie has a better chance of success in revenue. Increase in budget and revenue correlated to release year suggests that as time passes, revenues and budgets grow. We could account for inflation to confirm this.

Limitations and Assumptions

- Assumimng 0 revenue and 0 budget are actually missing values and not actually 0 revenue and 0 budget.
- Only used the original budget and revenue figures, ignoring figures adjusted for inflation.
- Vote average can be skewed by the number of votes - vote nubmers were never taken into account.
- Correlations to the success of a movie are limited to only numerical values, not nearly indepth enough to use as an indication of a movies success. When looking at revenue and budget over release year, we should account for inflation here to smooth out the figures, as more recent films will have larger revenunes and budgets due to the impact of inflation.