

What makes a movie successful?

- Geo Lee, Sally Chen, Mengqi Wang, Seo Hyun (Lina) Lim -

Introduction

Not every movie is able to get a good box office number or a high rating. We wanted to investigate whether certain factors of a movie make it more “successful” than others.

Data

We merged the IMDB and TMDB datasets by unique IMDB movie IDs and removed incomplete data points. We also used the World Bank GDP datasets. In total, we have 513 points.

Hypothesis

Budget and GDP of the country a movie was produced in are positively correlated with revenue, but not correlated with rating.

Challenges

There were many null values in the datasets. Also, most of the remaining movies were American movies.

Methodology

1. Single regression on:

- Budget vs revenue
- Budget vs rating
- GDP vs revenue
- GDP vs rating

2. Multiple regression on:

- Budget & GDP vs revenue
- Budget & GDP vs rating

3. Regression by years:

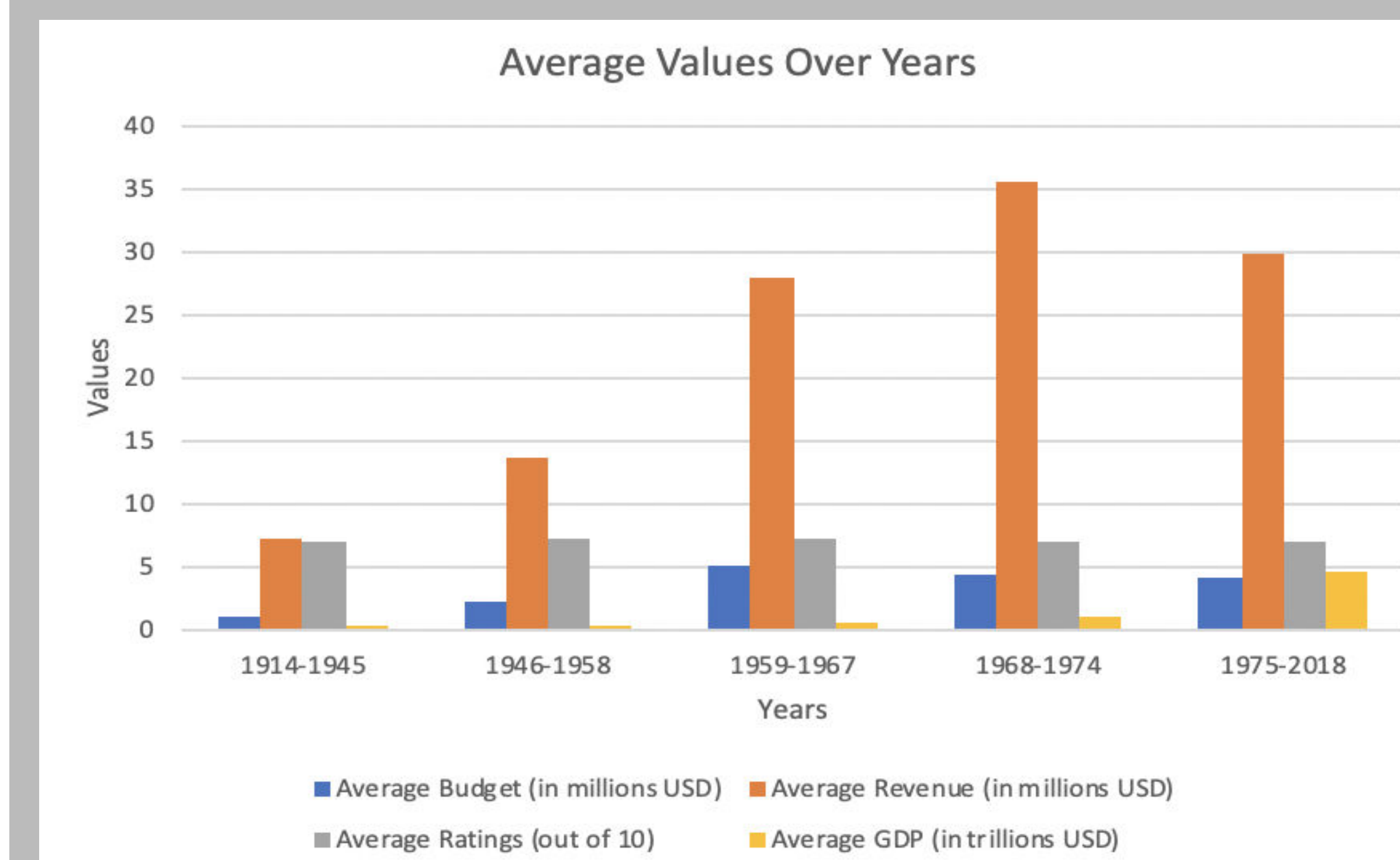
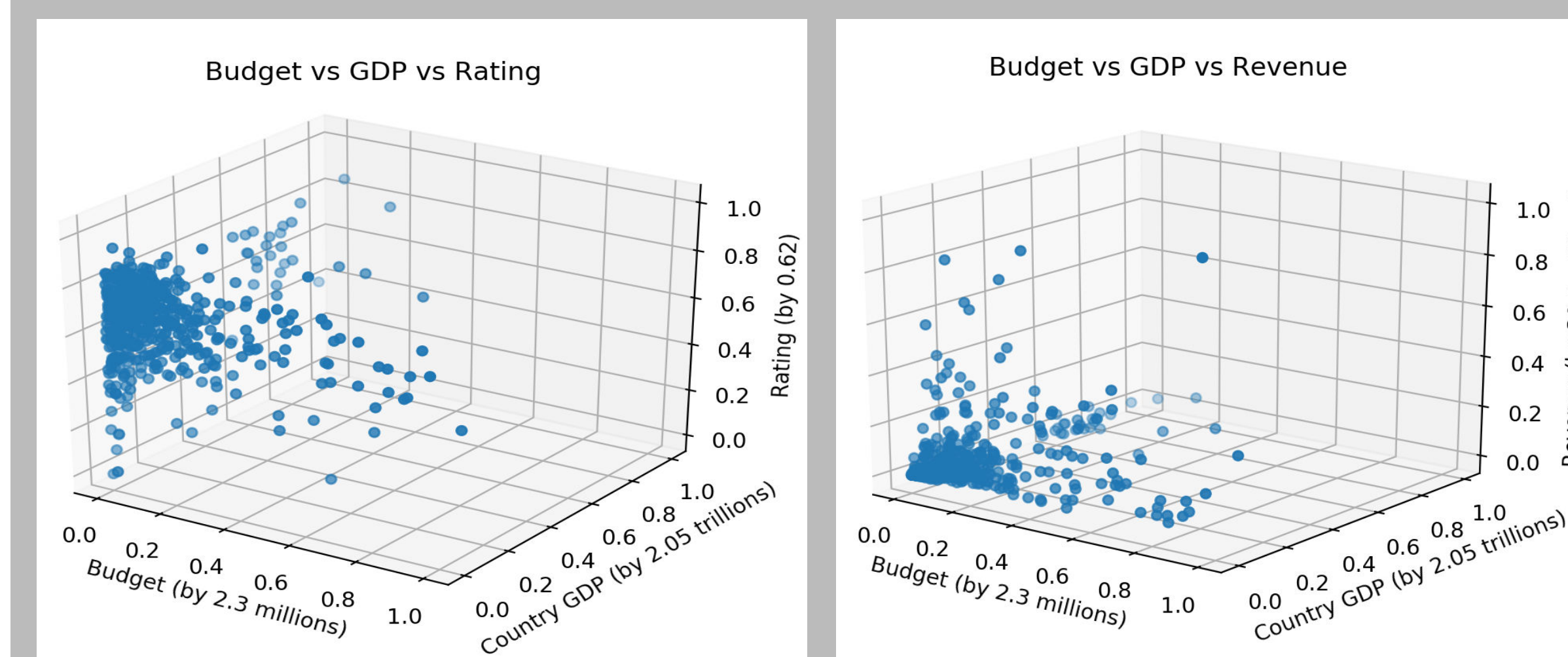
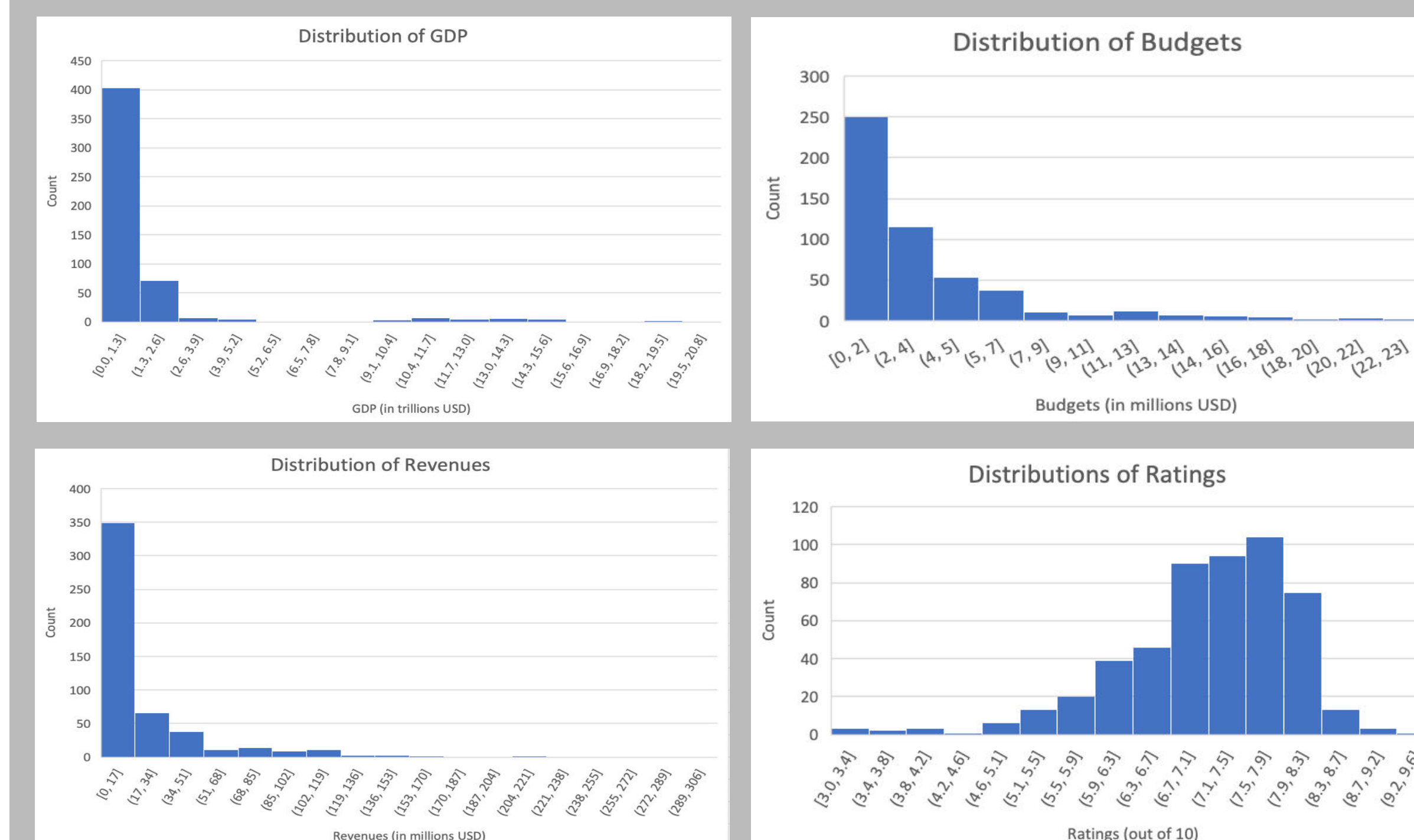
- 1914-1945
- 1946-1958
- 1959-1967
- 1968-1974
- 1975-2018

Potential Significance

Our analysis may help movie producers determine which movie factors they should place significance on.

In current day, it seems like budget has the most impact on a movie’s success.

Results



1. Single regression :
the only significant relation was between budget and revenue.

2. Multiple regression:
the budget’s coefficient and p-value were significant for revenue, but not for rating. GDP was insignificant for both dependent variables.

3. Regression by years:
With revenue, budget remained significant for most eras. GDP was insignificant for all time periods.

With ratings, budget was significant for two periods. GDP was significant for one.

	Revenue (USD)	Rating (1-10)
R-squared	0.13023	0.00563
Budget coeff	3.4447	8.211e-09
Budget p-value	0.000	0.419
GDP coeff	-1.715e-07	2.136e-14
GDP p-value	0.756	0.134

Multiple regression (#2) results

Conclusion

Budget is positively correlated with revenue and not rating, while GDP is not correlated with either.