
Module 1 - Final Project

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Welcome!

As a data scientist working for Microsoft's new film production division,
I'm here to answer the question:

“What kinds of films are currently doing the best at the box office?”

This will help me make recommendations as to what kinds of films
Microsoft should prioritize in their new venture.

Project Goals

How do **Budget** and **Genre** influence the **profitability** of a **film production**?

I'll also explore:

- **Return on Investment** vs. **Net Revenue**
- **Worldwide** vs. **Domestic** contexts
- Trends over **Recent Years** (i.e. 2000-2020)

Question 1

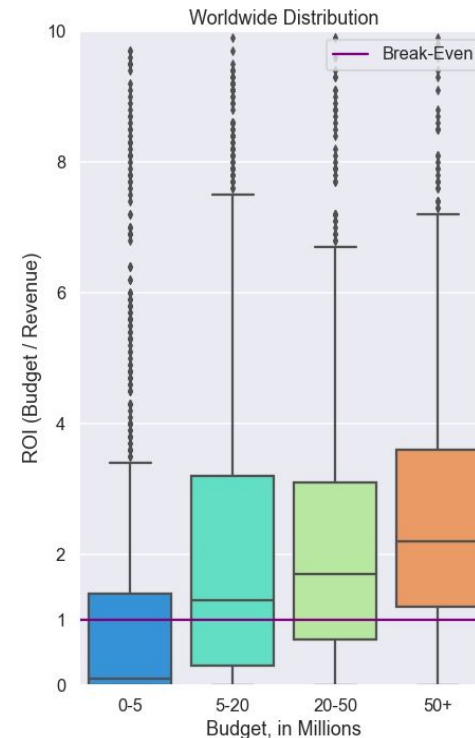
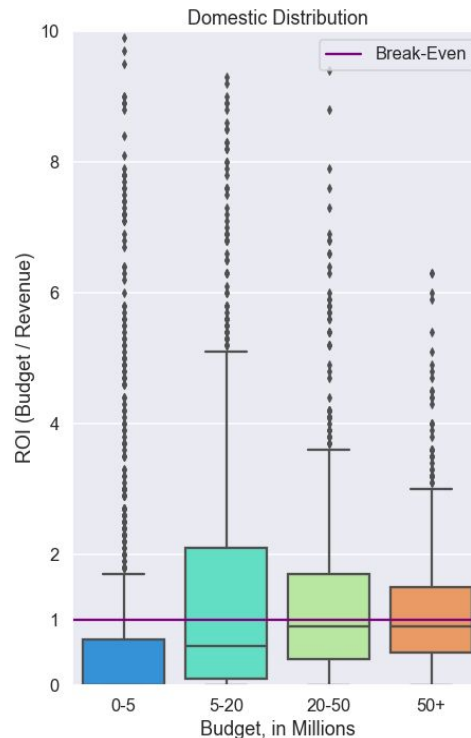
Films' budgets (from the-numbers.com) can be evenly split into categories of:

- \$0-5 Million
- \$5-20 Million
- \$20-50 Million
- \$50 Million+

What are the distributions of their ROI (revenue / budget), for domestic and worldwide contexts?

- Domestic:
 - Most films are not profitable
- Worldwide:
 - \$5+ Million are mostly profitable
 - The more spent, the more made

Distribution of Films' ROI, 2000 - 2020



Data source: *the-numbers.com*

Question 2

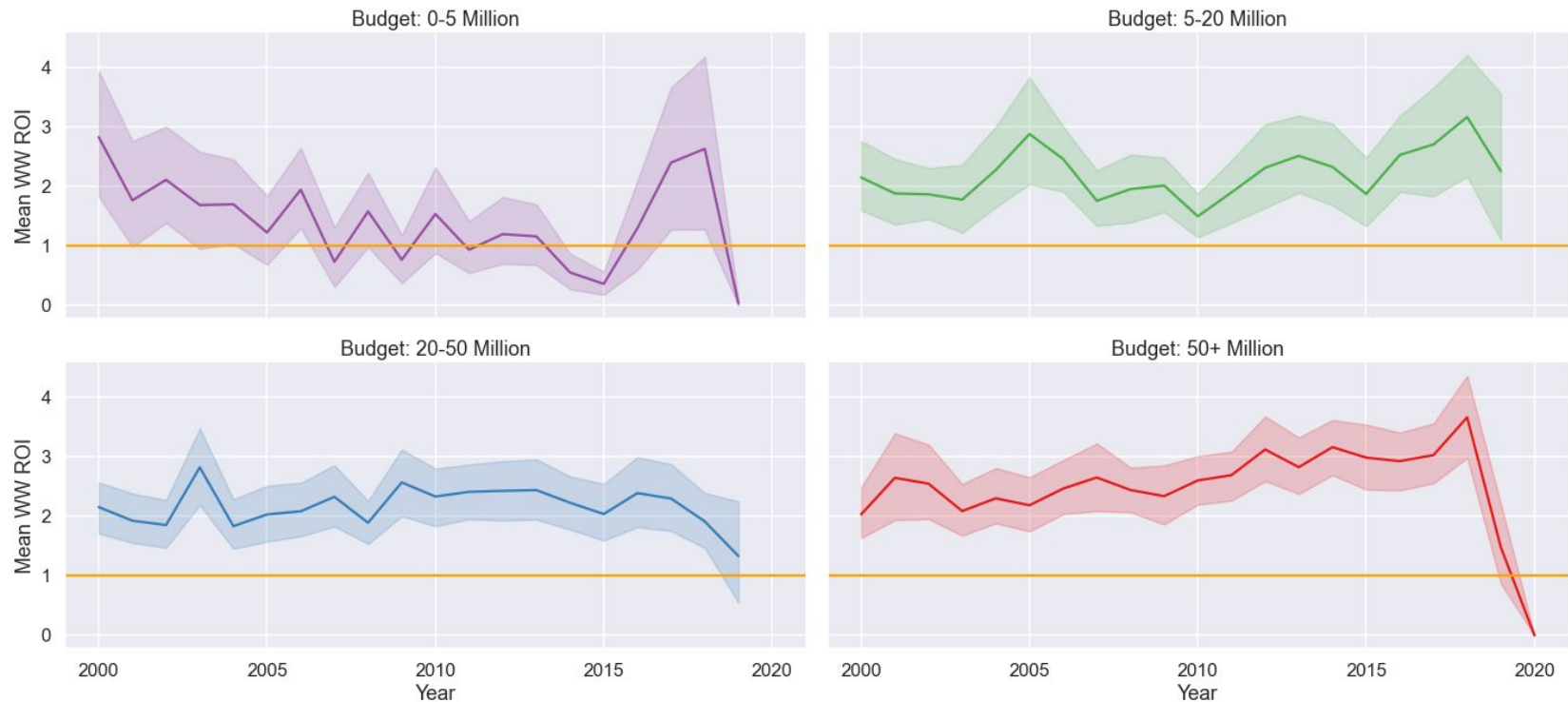
Are there any trends or clear winners in:

- Worldwide ROI
- Net Revenue

in the period from 2000-2020?

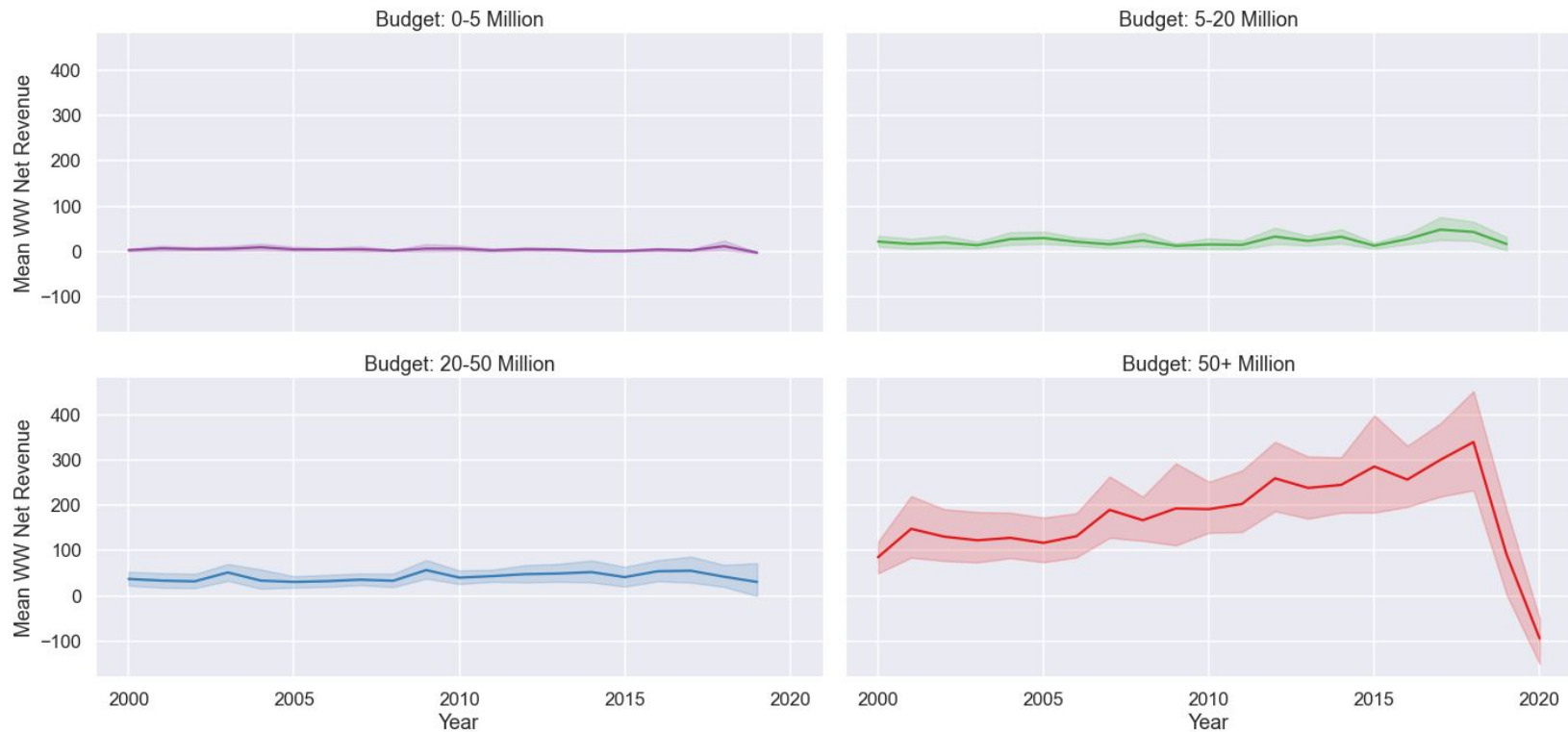
- Again, 5+ million seems to be most profitable.
- There is a big drop just before 2020, most likely because of the pandemic
- The top 3 categories are all roughly equivalent in ROI: what about Net Revenue?

Mean Worldwide ROI for Films 2000-2020, by Budget Category
Orange line = Break-Even



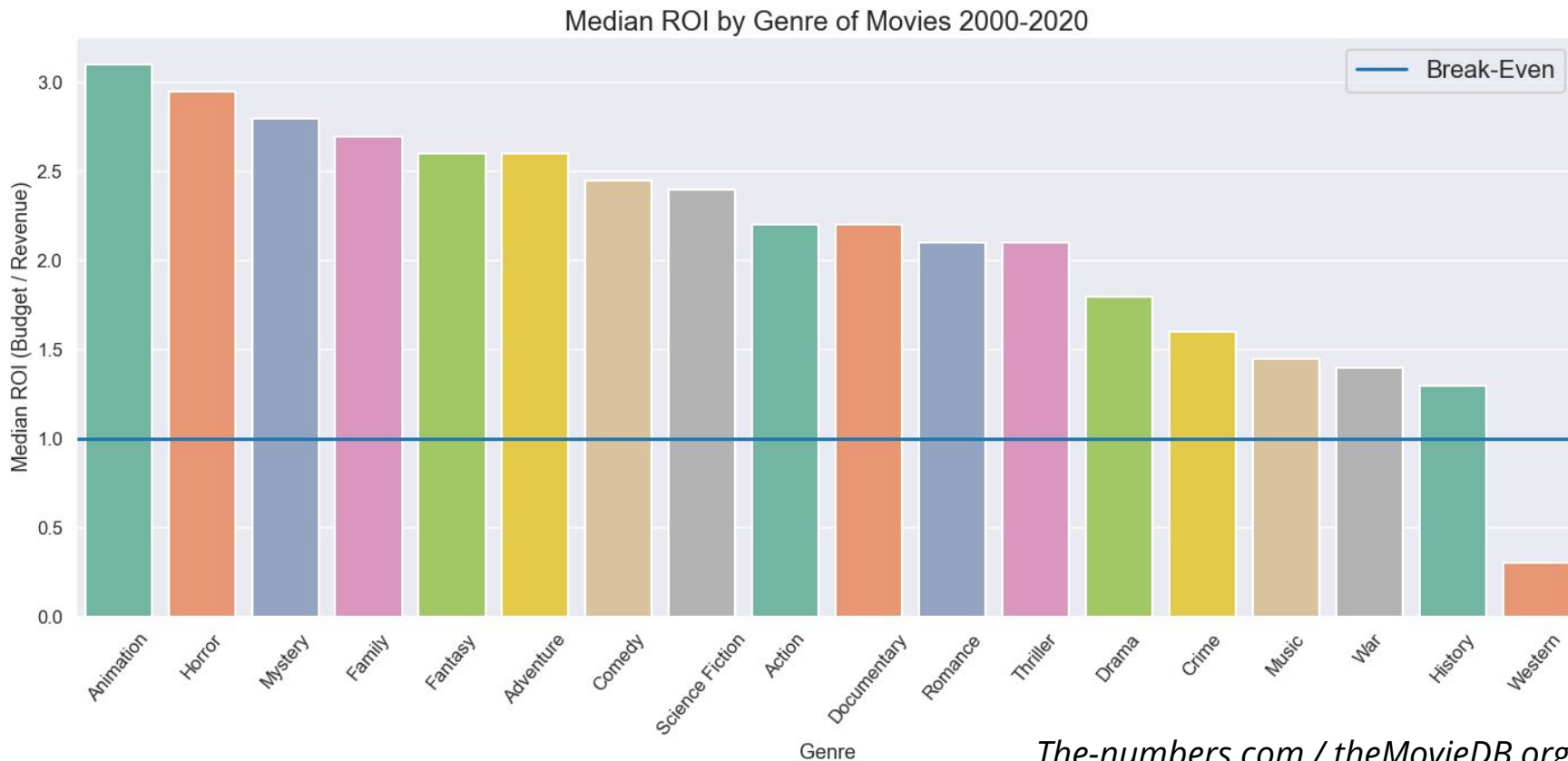
- In Net Revenue, the bottom 3 categories have low raw profitability
- The top category is vastly higher - again, excepting the large drop just before 2020

Mean Worldwide Net Revenue for Films 2000-2020, by Budget Category



Question 3

What film genres have the highest median Worldwide ROI?



The-numbers.com / theMovieDB.org

Question 4

We saw that:

- Animation, Horror, Mystery, Family, Fantasy, and Adventure are the top genres.

Are there any trends in these genres over time?

Median ROI by Film Genre, 2010-2018



Some are consistent and others are more volatile, but almost all genres stay well north of 'break-even' over this period.

Horror and Mystery are most volatile - they have high peaks, but low valleys.

Conclusions

Recommendations based on findings:

- **Worldwide** profitability should be prioritized; most **domestic** ROI's are **below 1.0** (break-even)
- **\$5 million** is the point at which **median worldwide ROI** is above the break-even point
- The **more money invested, the more of a return** is generated
- **\$50 million plus** is a **clear winner** in terms of **net revenue** during 2000-2020, and it is the only category with a clear **upward trend**
- **\$0-5 Million** is the **clear loser** in both ROI and net revenue
- **Most genres** have at least **some profitability potential**
- **Westerns** are the **clear losers** here, and **History, War, and Music** films aren't much better
- **Animation, Horror, Mystery**, etc. are **most profitable**, but some (Horror, Mystery) can be more **volatile** over time

Future Work

- Because of profitability of **Worldwide** revenue, investigate ways to **maximize returns** on the global stage
- Investigate intersection of **budget** and **genre**
- Investigate/acquire data on **streaming platforms**, because they exist outside of traditional 'box office' profit framework
- Incorporate data from 2020/2021 and impact of **Covid** on industry
- Investigate data on impact of films' **principals** - Directors, Actors, Producers

Thank you!

I hope this presentation has been informative and enjoyable.

Thank you for your attention and consideration!