IS1520: Information Visualization

Final Report

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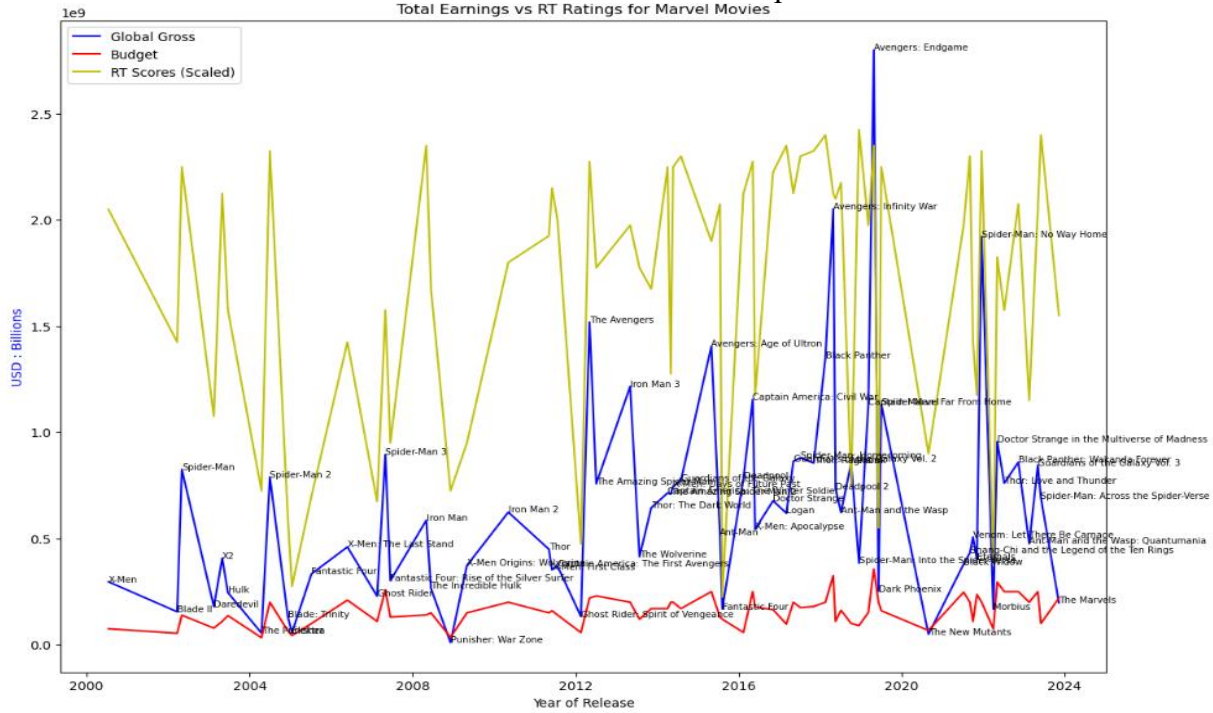
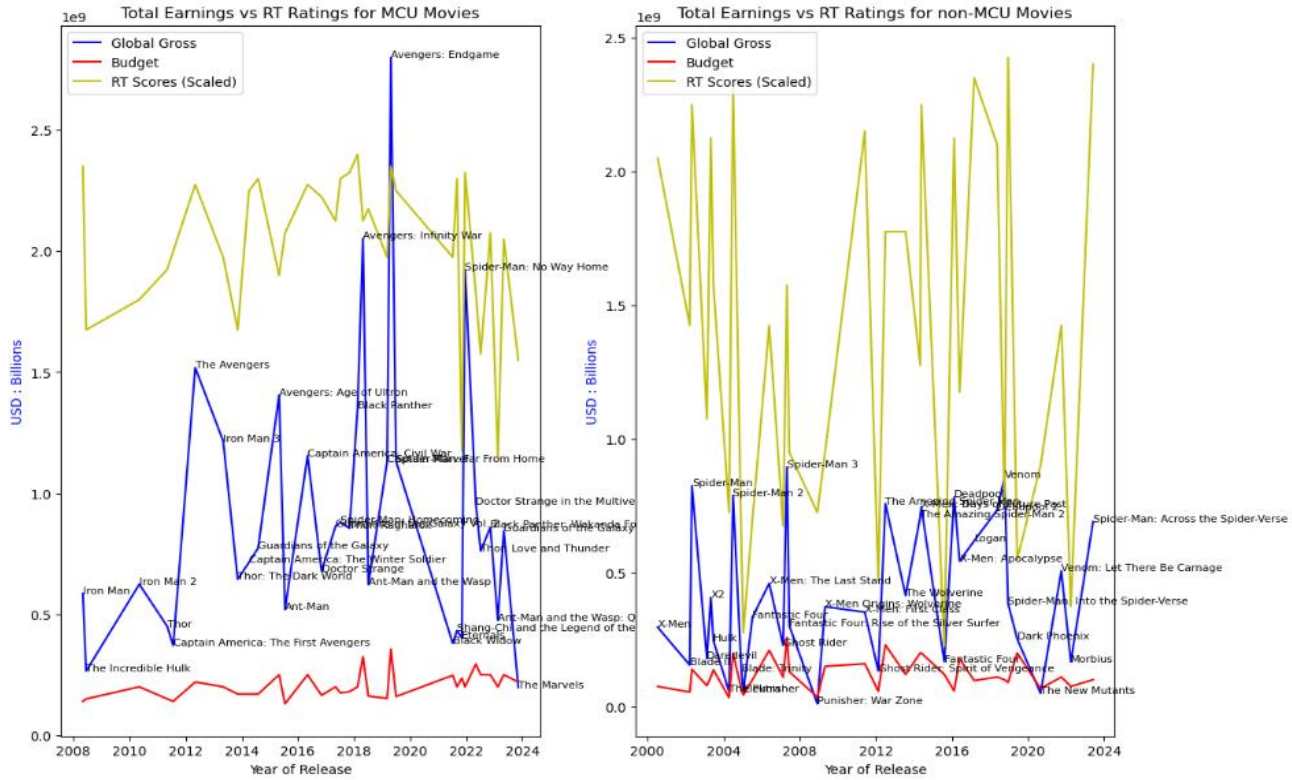
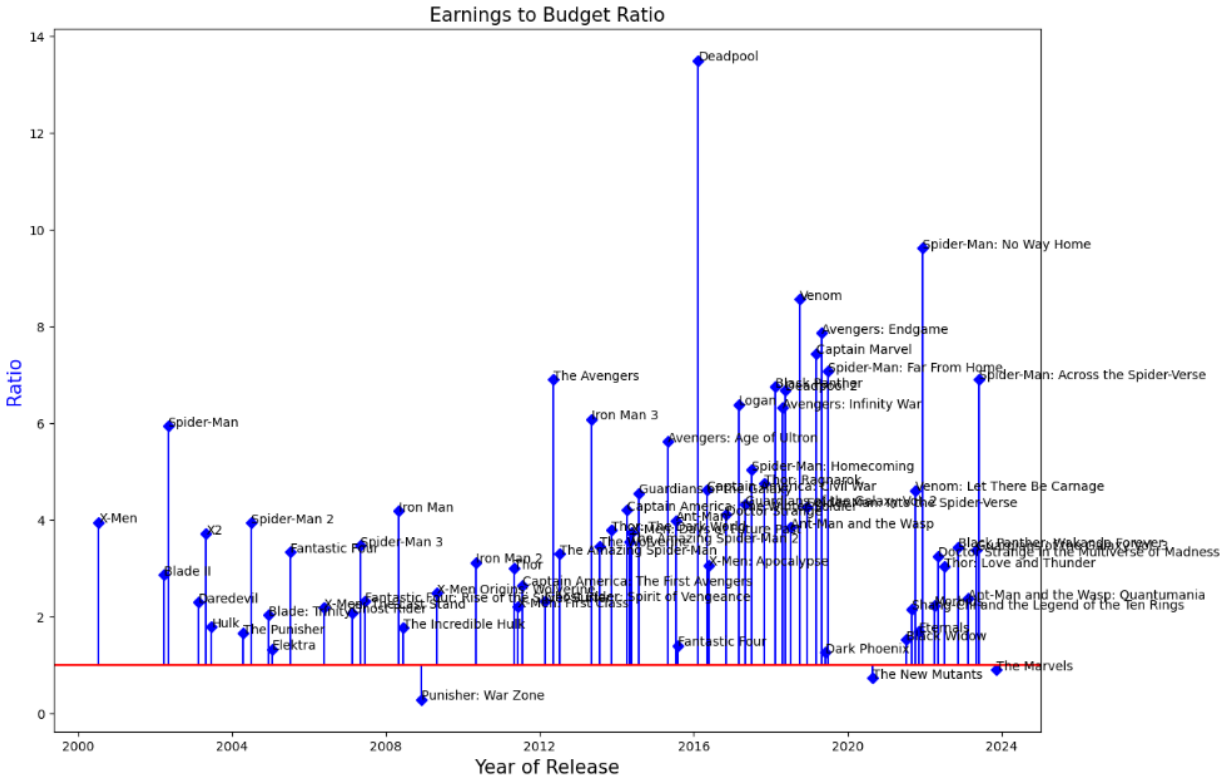
The Rise and Recent Decline of Marvel Superhero Movies







(These visualizations will look far better on the slides)

Legend:

Each graph has a color-coded legend but in general: x-axis is the year of release, y-axis is primarily the earning/budget of a film in billions of USD, but also a scaled version of the Rotten Tomatoes Critic Scores (scaled using 2.5billion/score of out 100).

Findings:

My reason for choosing this dataset was that I wanted to analyze whether recent Marvel movies have been performing worse than those from the last two decades. I wanted to see if there was a definitive decline in ratings/earnings rather than just believing the average person on the internet.

<u>Highlights:</u>

- While the critic ratings for these movies have remained largely around average, the average global earnings for Marvel movies within the last 5 years are noticeably down from those produced between 2010-2020.
- This mainly applies to MCU movies, as the patterns for non-MCU Marvel movies has remained mostly the same. Their ratings remain all over the place, while their earnings have remained mostly around average for the last 24 years.
- While the non-MCU movies have had a few instances where the movie could not make a profit (earnings<budget), the MCU only just had their first instance of this with *The Marvels*
- Despite their critical acclaim, the *Spiderverse* movies remain in line with the other non-MCU Marvel movies (such as the original Spider-Man movies)

- The Sony Spider-Man movies are the only consistently successful non-MCU movies relative to the rest of the MCU projects.

Data and Method:

This data is imported from a preloaded csv file but needed heavy modifications due to data type inconsistencies across the columns. The first three movies on the list are dropped due to graph size constraints and the projects of the time being more experimental in nature. They were made at a time when Marvel was only ever known for their comics and were also critical failures.

The original dataframe is then spliced into two additional dataframes for use in the subplots, splitting it into MCU and non-MCU projects. Adjustments are made to the "release date" column to properly register it as a "datetime" entity.

List values are created for all necessary x and y values using the "tolist()" method. This includes all earnings, budget, and ratings values. These were divided into three main categories, a full list, an MCU list, and a non-MCU list. These were used to create 3 different line graphs, and 2 stemmed scatter plots. Subplots were used to stack some figures on top of one another to compare MCU and non-MCU projects. I tried to get as many features as possible to work, but some elements were not working.

Significance:

This is very much a "for-fun" look at the history of Marvel movies. From their origins in the form of the original *Spider-Man* and X-Men, to the MCU of today, Marvel has had an incredibly up-and-down history when it comes to the success of their movies. Many people online have been trying to explain the recent dip in success of Marvel movies, and there's a few things that these graphs offer insight into. There are several MCU projects that are missing from this list: the Disney+ TV shows. Not only do those projects not generate any direct revenue (all their earnings are from subscriptions used to watch them in the first place), but many recent films have tried to tie them in. While the MCU has taken a bit of a step back, there has been a struggle to fill the void. The *Spiderverse* movies were great, but the first one didn't make much money due to its experimental nature as the first feature-length animated Spider-Man movie (starring a character that *wasn't* the usual *Spider-Man*). The only notable feature missing from the source data is the Rotten Tomatoes Fan ratings. Critic scores are not the only rating you should ever go by, many of the films on this list might be loved by critics, but loathed by fans (*Captain Marvel*), or vice versa (*Black Panther 2*). These graphs only serve as proof that Marvel's skid is really happening, but from here we can extrapolate as to why this might be.

GitHub Link to Code and Source File:
https://github.com/leonpavo/IS1520_Final_Report_MCU.git