How long does a movie last?

Solomon Klein

How do movie theaters pay for movies?

01 — A theater wants to show a movie.
- Theaters employ 'buyers' to negotiate with studios
- Getting a deal may involve showing a movie they don't want in order to get one they do want.

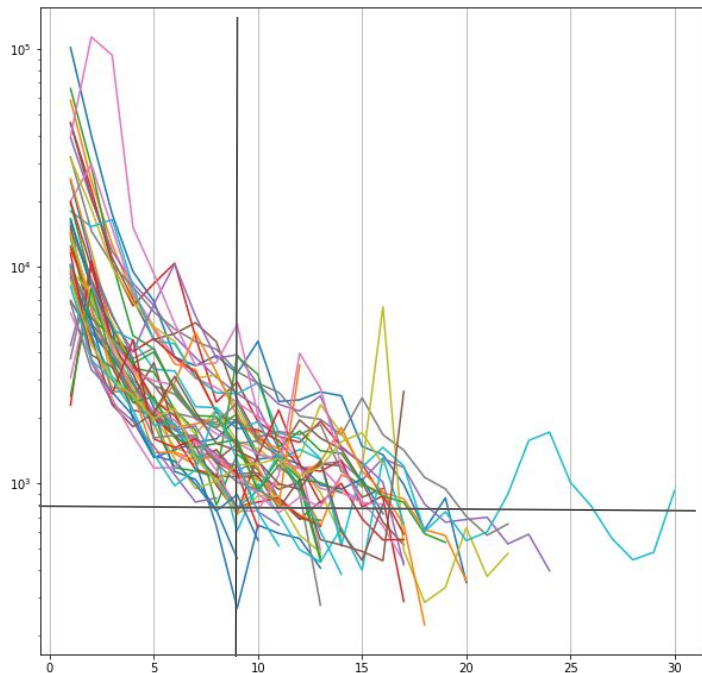**02** — The box office is split between the producers and the theater
- The longer a movie is shown, the more of the box office
- Movie theaters often take a loss on every ticket sold in the first weeks, because they make it back through concessions.

03 — The movie theater decides whether they want to keep showing the movie
- These deals usually last for blocks of four weeks.

Guaranteed Returns
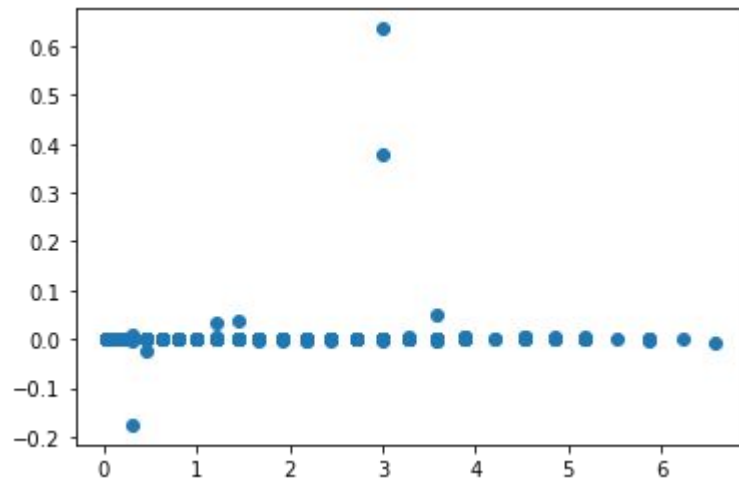

- Target variable: Number of weeks where profits are above a cutoff.
- Cutoff: 800$.
- Remove all movies shown for less than 4 weeks at all: Many art films, special showings, etc.
- A small number (4) of outliers were removed.
- This is not a continuous variable, but it is normally distributed (With some skew)

Features:

- Genre
- MPAA Rating
- Box-office from the first two weeks
- Number of theaters movie was shown in for the first two weeks
- Critic Review score
- There was significant variation with the month of release, but not in a linear way.
- Features were selected using Lasso regression.

Model Fit

- For nearly all points in the test data, the model fit the data almost exactly.
- For a small number of movies, it fit less well.
- Unlikely to be overfit on test data; may be movies with unusual properties.

Key Features

The initial box office was a strong predictor of longevity, as was budget.

Genres was functionally a flag on these variables.

Issues:

- Movie value decay did not follow a clean mathematical model
- Data files corrupted during commit, had to rescrape over Thursday night

Bibliography

- Tyson, Jeff. "How Movie Distribution Works." HowStuffWorks, HowStuffWorks, 18 Sept. 2000, entertainment.howstuffworks.com/movie-distribution.htm.
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