

More Movies, Lower Audience Ratings: What's Behind the Trend (1960 - 2015)?

By The Dinosaurs 🦖🦕
(Caroline Gallagher, Krish Patel, Luke Christmas, Myat Theingi)

Data Set Overview & Key Variables

Data Source: The Movie Database (TMDB) | 10,866 movies released between 1960 and 2015

Key Variables:

Release_year: release year of the movie (1960 - 2015)

Vote_average: the average user ratings of the movies

Vote_count: number of voters of the movies

Genres: genres of the movies

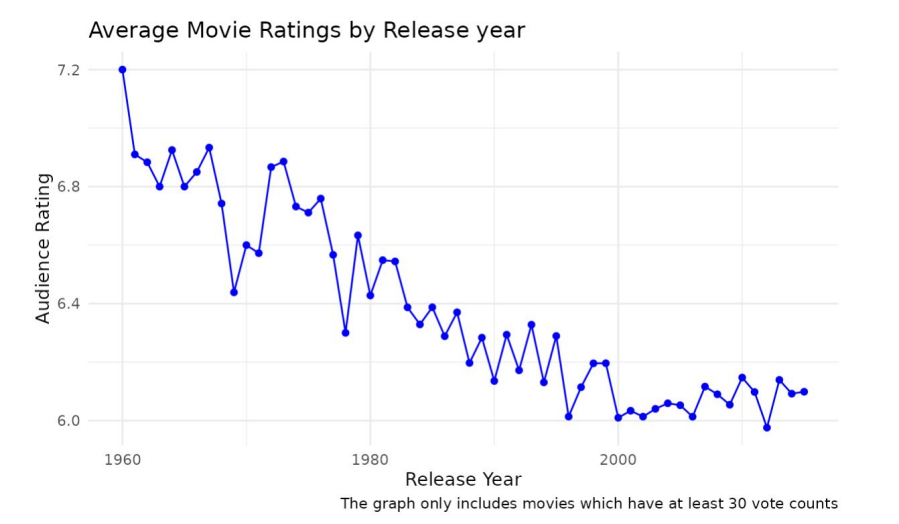
Budget_adj: the total budget of the movies in USD(adjusted for inflation)

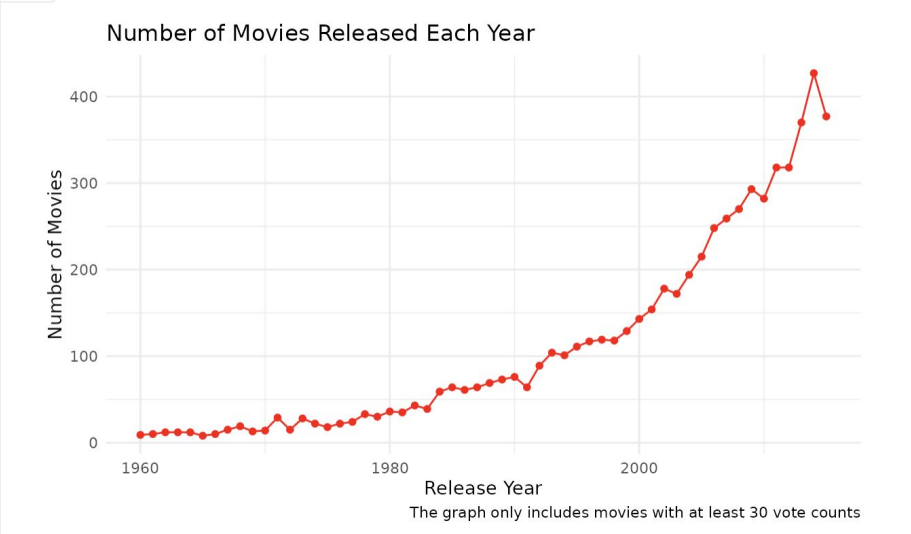
Revenue_adj: the total revenue of the movies in USD(adjusted for inflation)

Data Cleaning & Filtering

- **Main analysis**: Movies with at least 30 audience votes.
- **Genre analysis**: Movies may belong to multiple genres.
- **Financial analysis**: Excluded movies with missing or zero reported budgets/revenues.

Research Q: Why are average movie audience ratings declining despite an increasing number of movies?





Average Audience Ratings

- Declined from approximately 7.2 in 1960 to 6.1 in 2015.
- Fluctuated considerably in earlier decades before stabilizing around 6.0–6.1 after 2000.

Number of Movies

- Increased dramatically over time.
- From fewer than 10 movies annually in the early 1960s to over 400 at its peak.

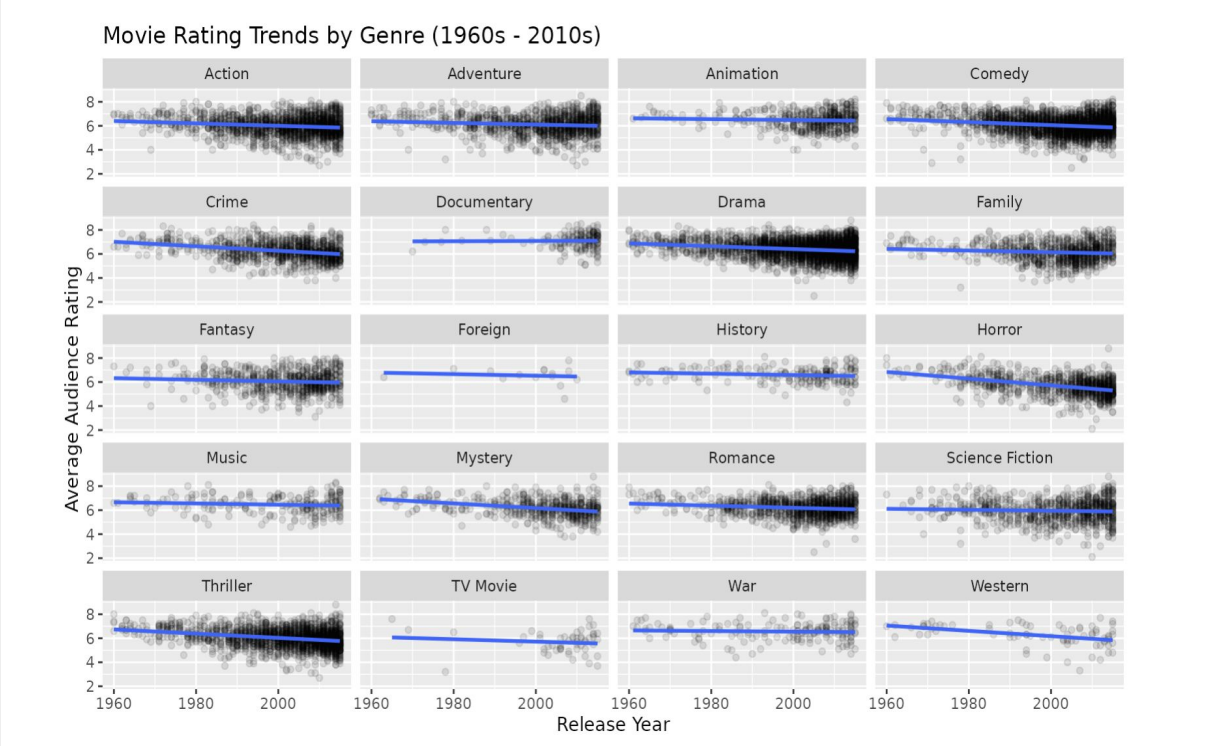
Are Declining Audience Ratings Concentrated in Certain Genres?

Widespread decline: Average audience ratings decreased across most of the 20 movie genres.

Steeper declines: Horror, Thriller, Crime exhibited some of the strongest downward trends.

Relatively stable genres: Animation, Documentary, and Science Fiction showed little change in average ratings.

Key Takeaway: Declining ratings are not confined to a few low-rated genres; they occur within almost all genres.



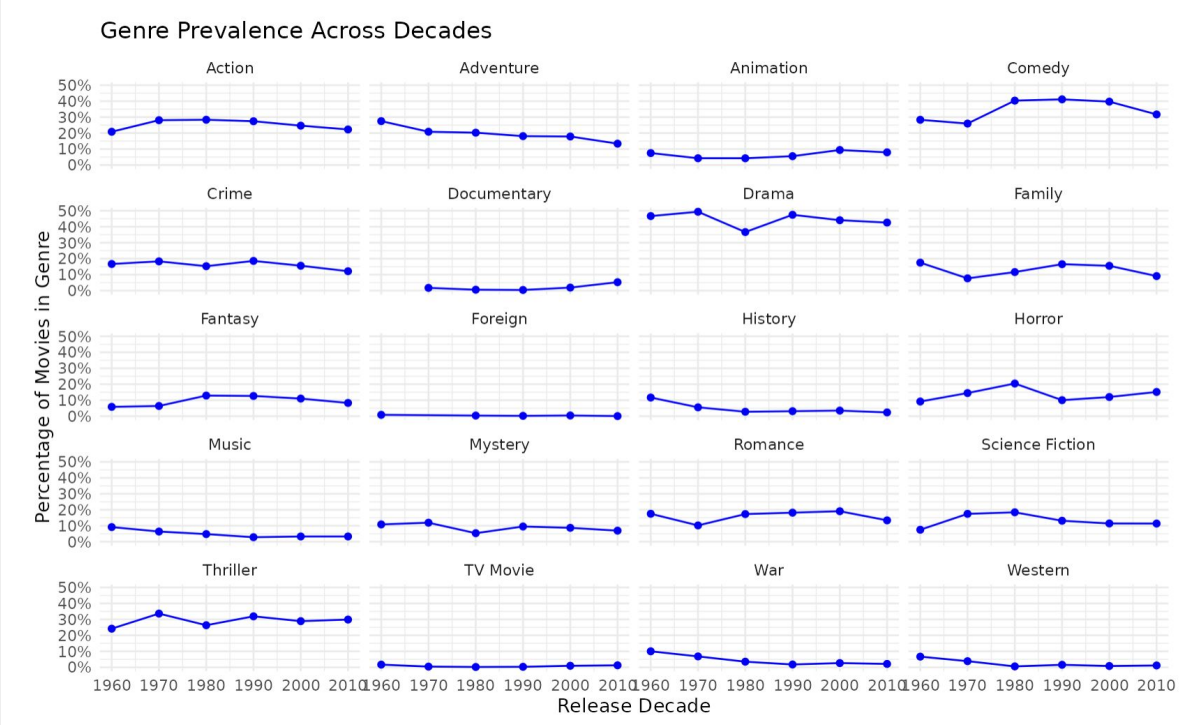
Does Changing Genre Composition Explain Declining Audience Ratings?

Stable representation: Major genres; e.g, Drama (40–50%) and Action (20–30%) maintained relatively consistent prevalence.

Increasing representation: Horror (~10% → 16%) and Thriller (~25% → 30%) became somewhat more prevalent.

Declining representation: Adventure (~27% → 14%), Western (~8% → 2%), and War (~10% → 3%) became less prevalent.

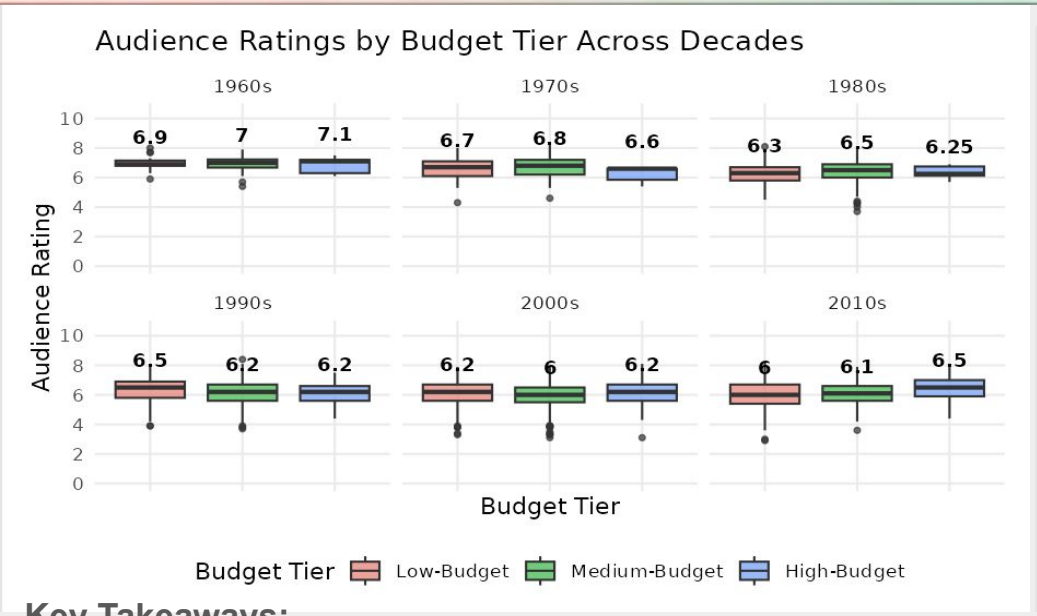
Key Takeaway: Changes in genre composition may contribute to declining average ratings, but they are unlikely to explain the entire trend.

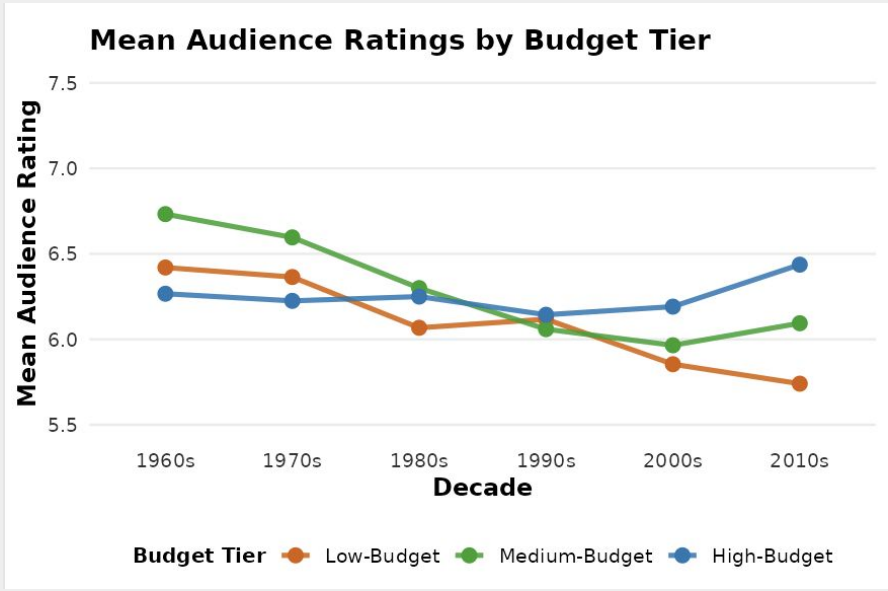


How do audience ratings trend across decades and budget tiers (1960–2015)?

BUDGET TIERS (Adjusted for Inflation):

LOW: < $15,000,000 USD MEDIUM: $15,000,000 - $100,000,000 USD HIGH: > $100,000,000 USD

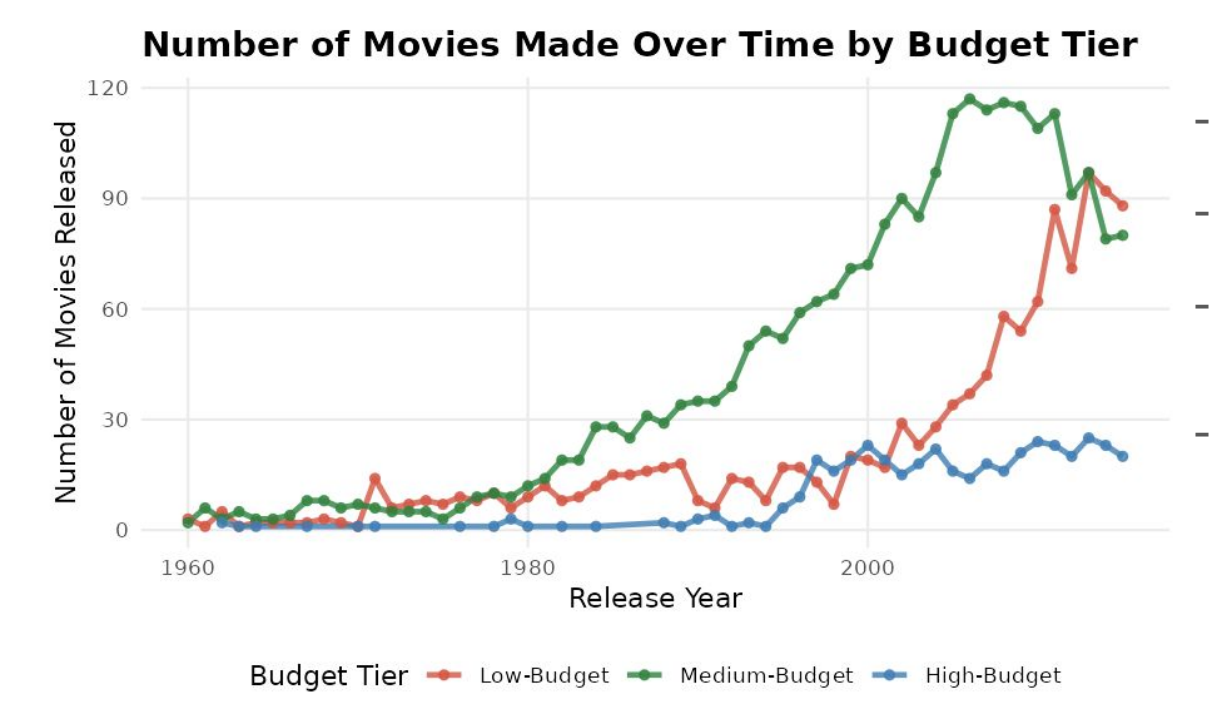




Key Takeaways:

- **Low and medium-budget**: somewhat continuous downward trend from 1960 to 2010s for both median/mean
- **High-budget**: median plateaus around the 1980s & rebounds upward by the 2010s, mean relatively constant
- Suggests potential shift in audience expectations over time:
  - for example, higher budget = better film tech = greater impact of movie quality on audience rating

How Does the Number of Movies Released Over Time Vary by Budget Tier?



1980s: Medium-budget releases increased significantly

2000s: Low-budget releases surged sharply

However, we just established high-budget films seems to get higher audience ratings

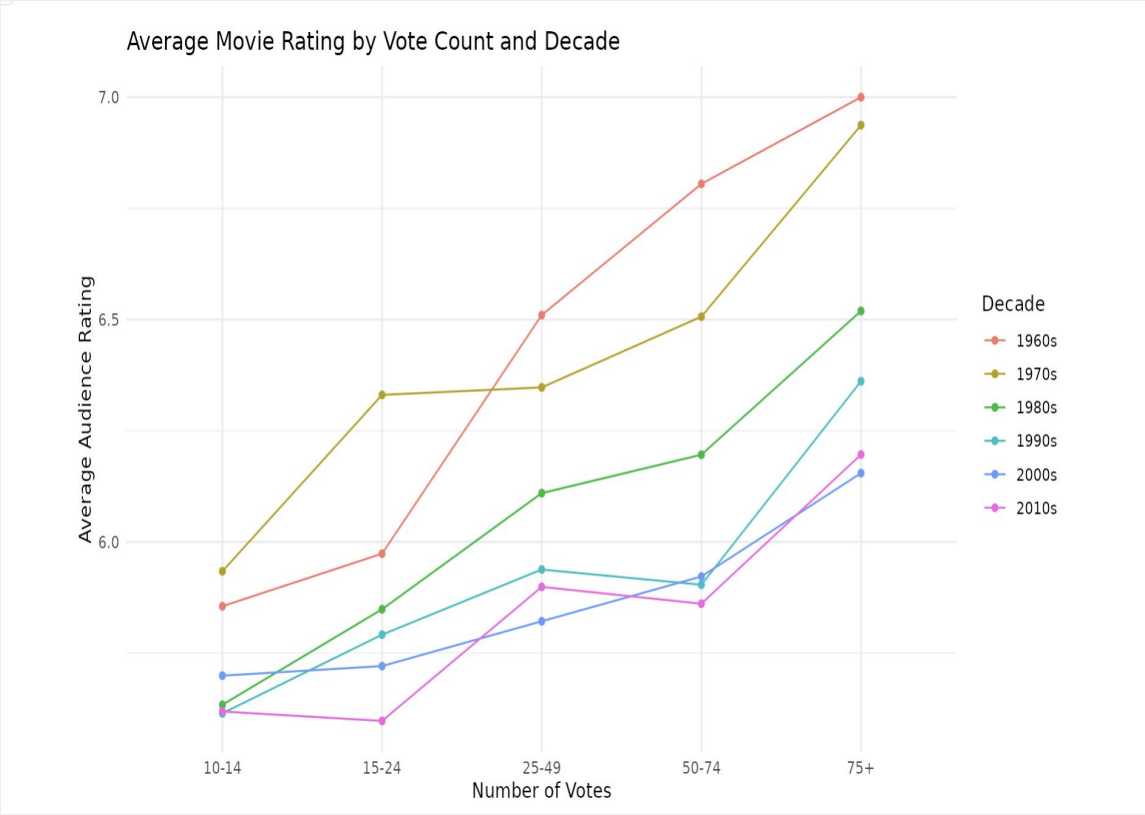
Overproduction of low/medium budget movie could be a factor as to why average audience ratings are falling

Are Older Movies Really Rated Higher or Are We Seeing Selection Bias?

Vote Count Matters: Movies with more audience votes generally receive higher average ratings across all decades.

Generational Gap: Even within the same vote-count category, older movies tend to have higher ratings than newer movies.

Selection Bias: Older movies that remain visible and attract votes may disproportionately be well-known or highly regarded films.



Limitations

- **Vote Count Cutoff**: Requiring at least 30 votes may disproportionately exclude older or less-known movies, potentially affecting rating trends.
- **Incomplete Budget Data**: 34.1% of movies have zero recorded budgets, limiting the representativeness of our budget analysis.
- **Dataset Representativeness**: TMDB may not capture movies equally across decades; increasing dataset counts do not necessarily reflect worldwide production.
- **Genre Overlap**: Movies can belong to multiple genres, making it difficult to isolate each genre's contribution to overall ratings.
- **Audience Differences:** Rating behavior and the types of users rating older versus newer movies may differ.
- **Correlation ≠ Causation**: Observed associations cannot establish that genre, budget, or release year caused changes in ratings.

Conclusion: Are movies getting really worse?

Overall Trend: Average audience ratings declined from the 1960s to the 2010s, while the number of movies represented in our dataset increased substantially.

Genre Analysis: Ratings declined across most genres, suggesting that the overall trend is not limited to a few genres. Major genres remained relatively stable in prevalence, suggesting that changes in genre composition alone are unlikely to explain the decline.

Budget Analysis: Ratings generally declined across budget tiers, and higher production budgets did not consistently correspond to higher ratings. Low- and medium-budget movies substantially outnumbered high-budget films, with both categories experiencing significant growth over time.

Potential Selection Bias: Older movies receiving votes today may be a more selective group of well-known or highly regarded films, potentially contributing to their higher observed ratings.

Overall Takeaway: The decline in audience ratings does not appear to have a single, simple explanation. Changes within genres and budget categories, along with possible selection bias, all deserve consideration.





Thank YOU

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