

Steam sales analysis

Top 1000 most reviewed video games on the platform

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Goal of the analysis

- Look for trends among the **top 1000 most popular** video games on the Steam storefront dedicated to personal computer (PC) gaming
- Steam is one of the biggest digital stores for video games, with over **120 million monthly active users**
- In 2024, Steam is a host to over **50 000 video games**
- One of the key platforms for generating revenue and growing intellectual properties in the video game market
- Is there a *recipe* for a successful Steam release?

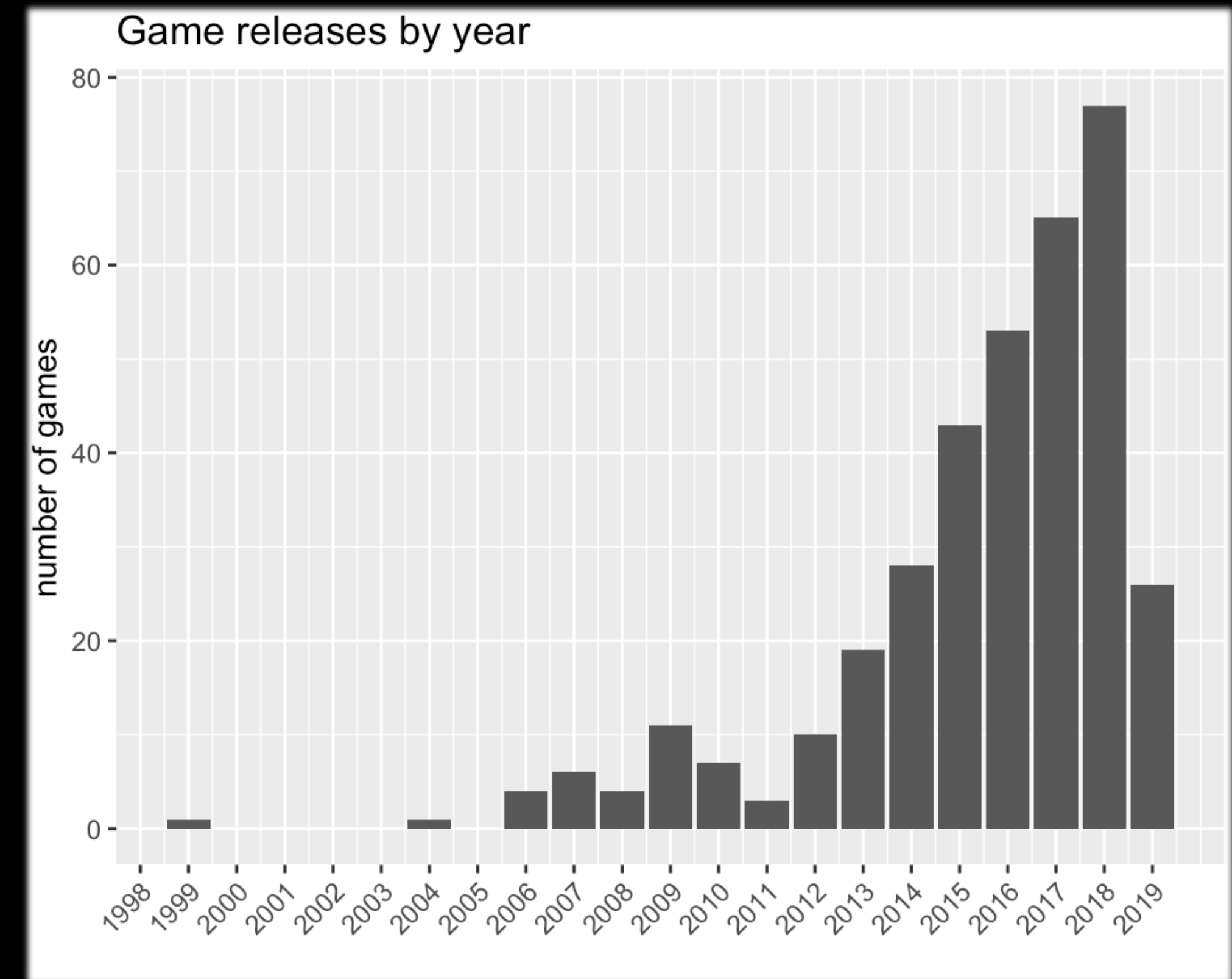
About the dataset

- Contains data about all **50 000+** games released on Steam
- Dataset was sorted by number of user reviews, and the top **1000 games** were selected by this criteria
- Two entries were deleted (one was repeated data and one had unclear game name), so the final number is **998 games**
- Out of those 998, only **358 games** contain details about developer, publisher, release date, and primary game mode (singleplayer or multiplayer)
- Therefore the analysis that includes one of aforementioned variables was conducted on just the sample of the top 1000 most-reviewed games' dataset

Analysis

Game releases by year

- There is a clear trend since 2011: **each year more and more games** break into the most popular categories on Steam (2019 being lower than previous year can be an anomaly due to missing data in the dataset)
- Although the dataset contains games released after 2019, the actual release date data is **missing** for those titles
- With Steam breaking concurrent and monthly user records regularly for the past few years, we can assume new games that break into mainstream can quickly gain big influx of players
- Recent example: Helldivers II, a game which broke the record of concurrent players for it's publisher, Playstation Studios — over **386 000 users** playing on the 16th of February 2024



Reviews

- Steam classifies reviews based on the percentage of positive reviews out of all available reviews for a particular game
- The reviews fall into one of the **three** major categories (**positive**, **mixed**, **negative**) and **six** more detailed categories (the negative category for games with less than 20% of positive reviews is missing from the table on the right, because none of the games classified into it)
- Majority of the most popular Steam games fall into **positive category** (932 out of 998)

Detailed review	Number of games	Percent of positive reviews
Overwhelmingly Positive	225	95 - 99
Very Positive	596	80 - 94
Mostly Positive	111	70 - 79
Mixed	62	40 - 69
Mostly Negative	4	20 - 39

Reviews continued

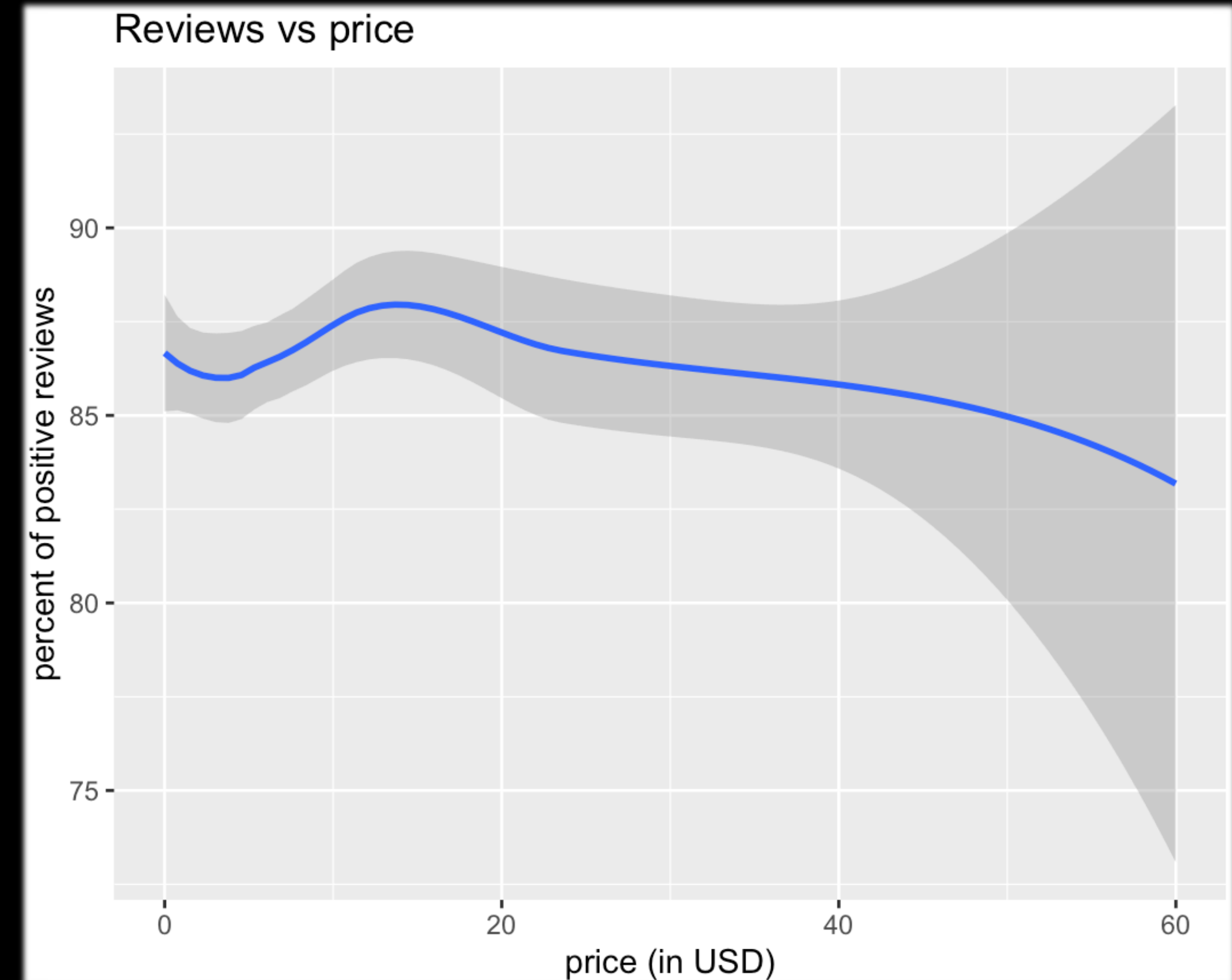
- The most popular game on Steam (Counter-Strike: Global Offensive) with more than **6.7 million** reviews, falls into Very Positive category
- The price difference for review categories are marginal as seen on the lower table to the right; only mostly negative category stands out, with average price per game being **less than 2\$**
- But does not mean that the cheapest games are also the worst ones...

Detailed review	Mean number of reviews	Standard Diviation	Minimum	Maximum
Overwhelmingly Positive	72666	113880	10726	834745
Very Positive	68349	306801	10688	6774812
Mostly Positive	45069	67173	10659	496648
Mixed	71840	267532	10823	2109992
Mostly Negative	70060	50848	12242	120982

Detailed review	Mean price (USD)	Standard Diviation	Maximum price (USD)
Overwhelmingly Positive	10.52	11.06	47.98
Very Positive	9.73	10.33	57.58
Mostly Positive	10.87	10.31	47.98
Mixed	10.76	12.76	59.98
Mostly Negative	1.74	1.9	4.42

Reviews cont.

- It seems graph on the right would suggest a different story: the bigger the price the bigger the chance of getting worse reviews
- More expensive game = more demanding customer?
- But the correlation between **game price and percent of positive reviews** was checked — **slight positive correlation** between those two variables
- To summarize: more expensive game mean expectations of higher production values and at the same time risk of getting harsher reviews if those expectations are not met



Genres

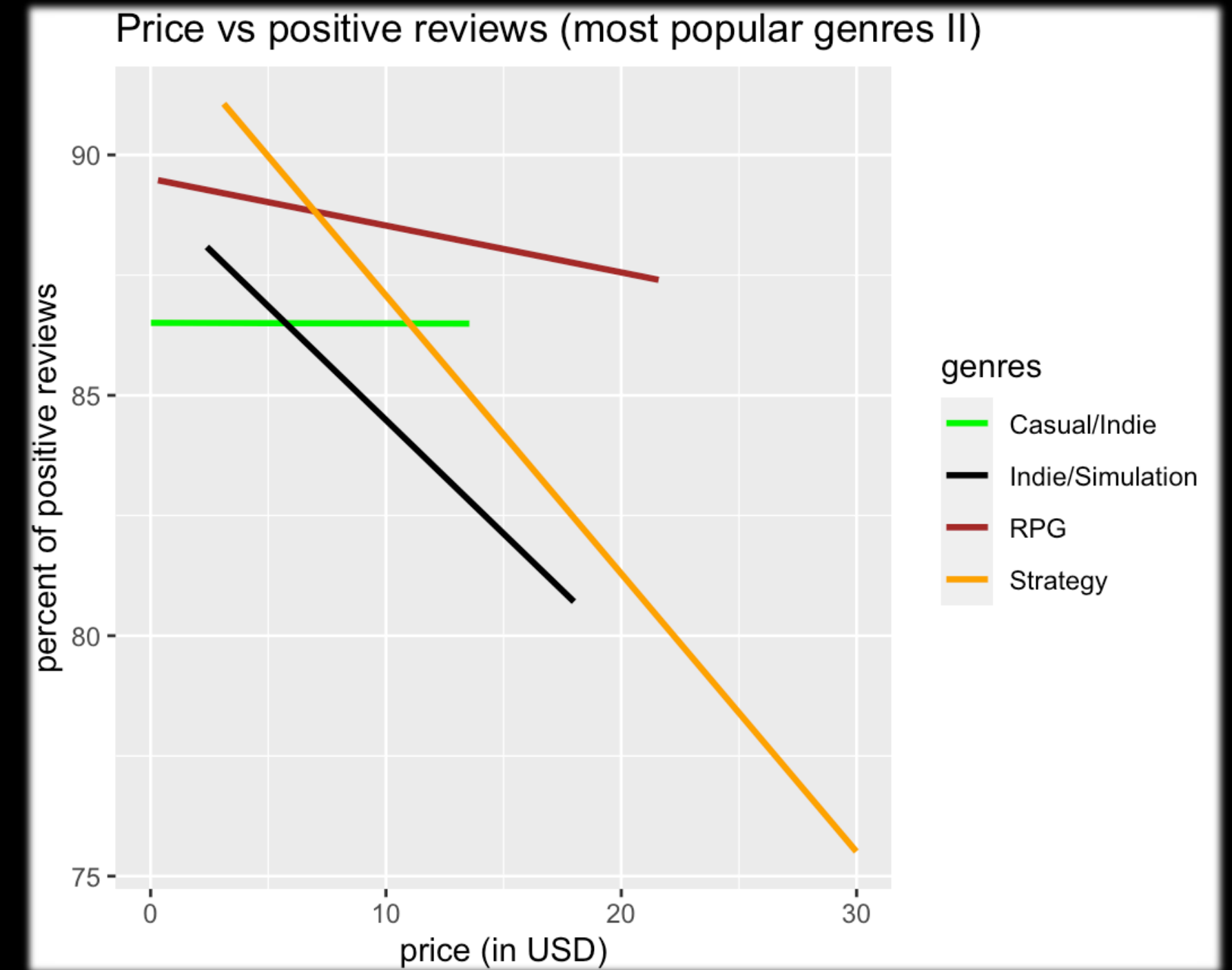
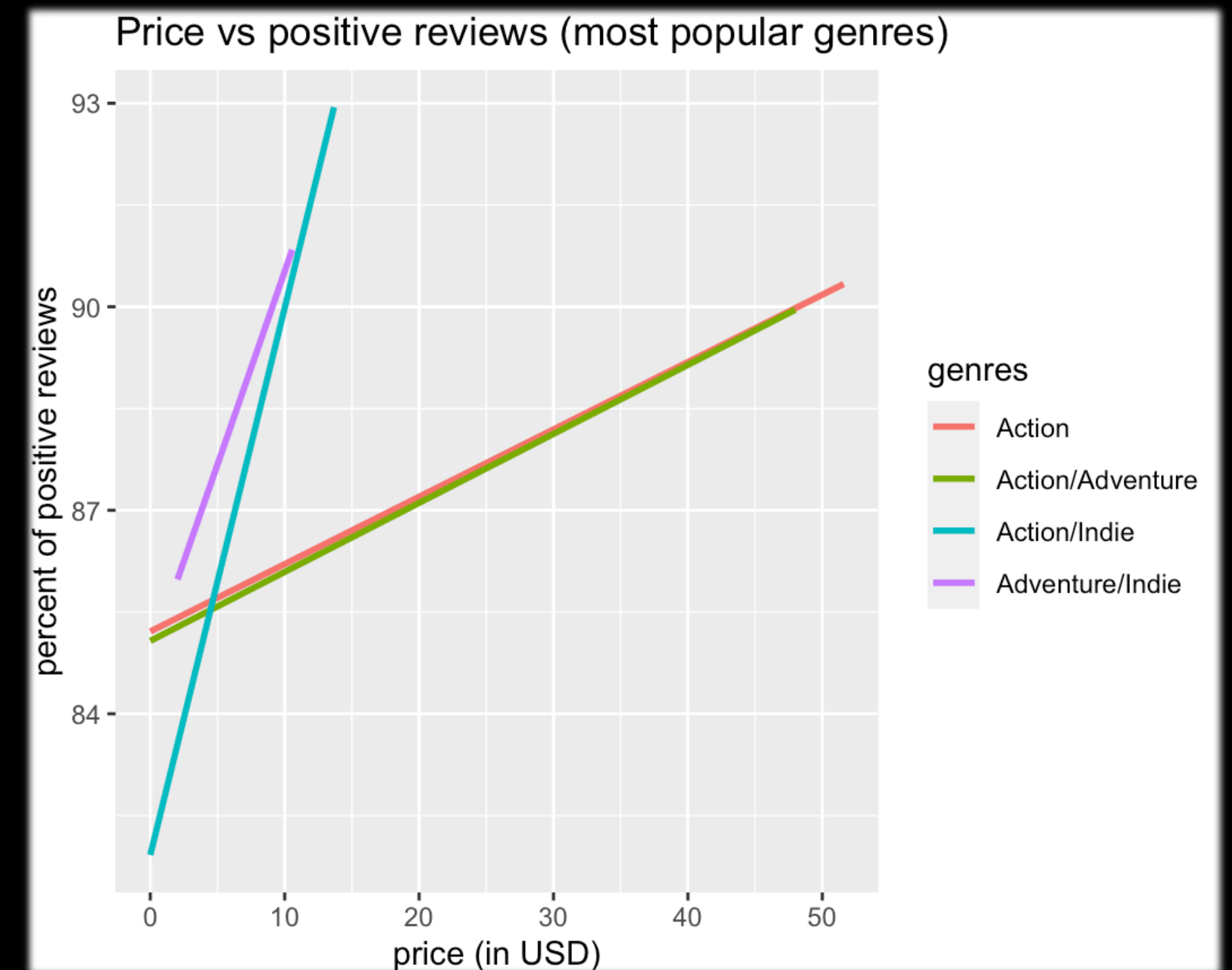
- Among the most popular genres are the ones with **action elements**
- Steam is known for it’s support of games by independent developers (so called indie games). Looking at the data, those games are popular among the Steam userbase
- Games classified as action titles are the most expensive ones on average (around **13.5 USD per game**)

Genre	Number of games
Action	36
Action/Adventure	73
Action/Casual	11
Action/Free to Play	18
Action/Indie	27
Adventure/Indie	25
Casual/Indie	12
Indie/Simulation	20
RPG	14
Strategy	13

Genre	Mean price (USD)	Standard Diviation	Maximum price (USD)
Action	13.46	14.69	51.6
Action/Adventure	11.52	11.07	48
Action/Casual	5.07	2.36	9.6
Action/Free to Play	0.31	1.3	5.5
Action/Indie	6.21	3.42	13.7
Adventure/Indie	6.48	2.34	10.6
Casual/Indie	5.92	3.14	13.5
Indie/Simulation	7.96	3.5	18
RPG	9.58	5.37	21.6
Strategy	10.4	7.83	30

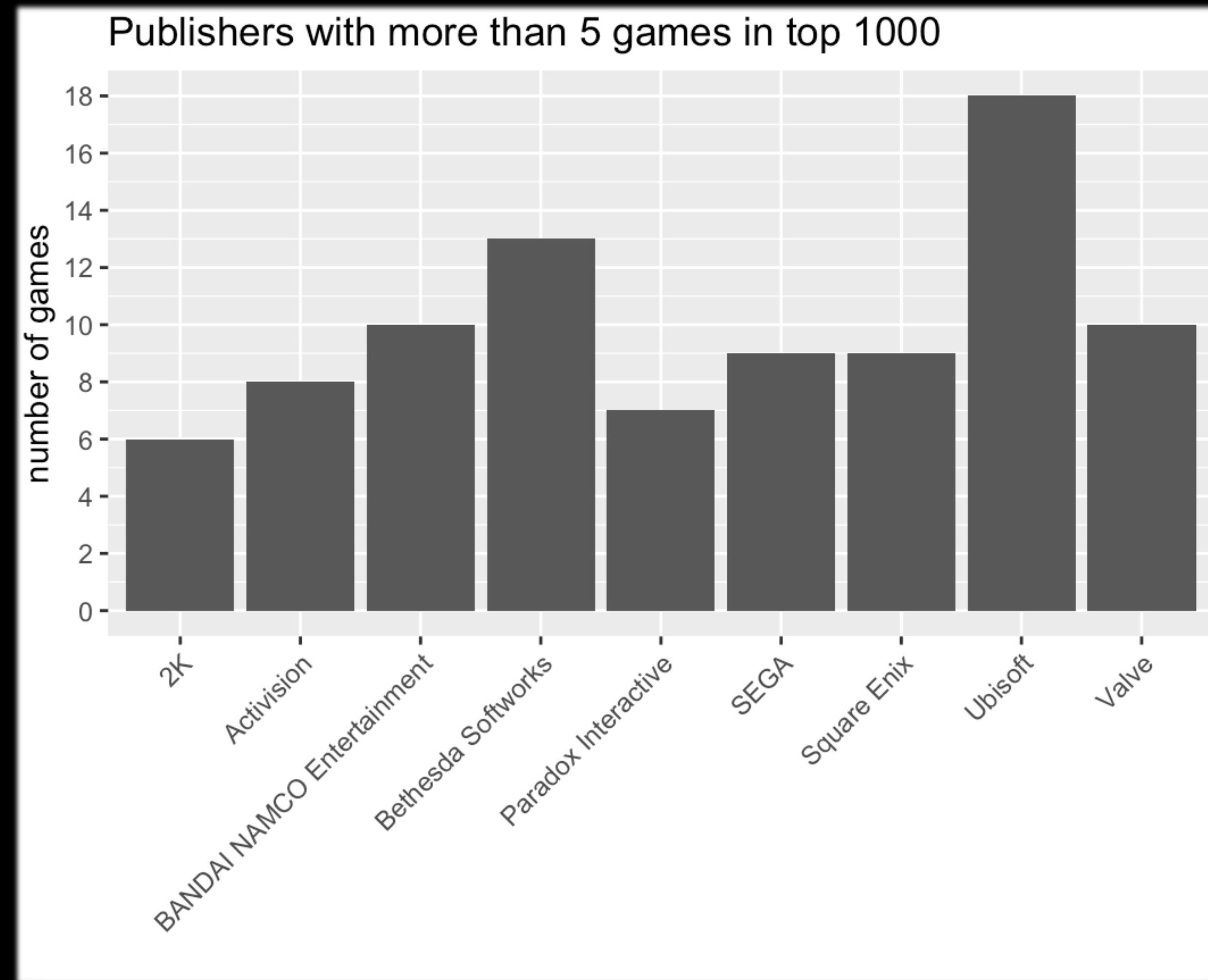
Genres cont.

- The interesting thing is, looking at the top four most popular genres, there's a trend of more expensive games also getting better reviews
- But that trend then inverts with the next four genres
- Game quality or genre expectations?



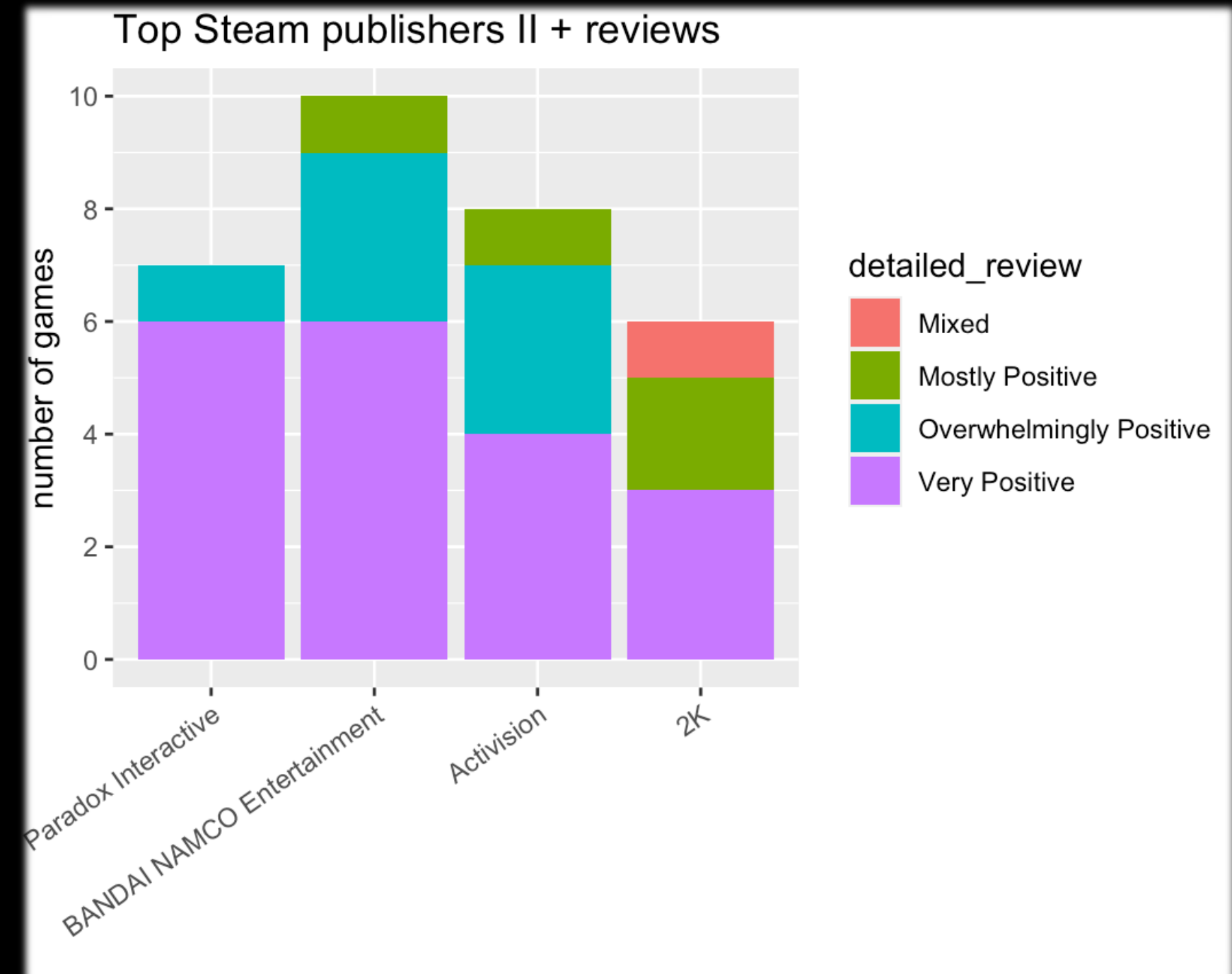
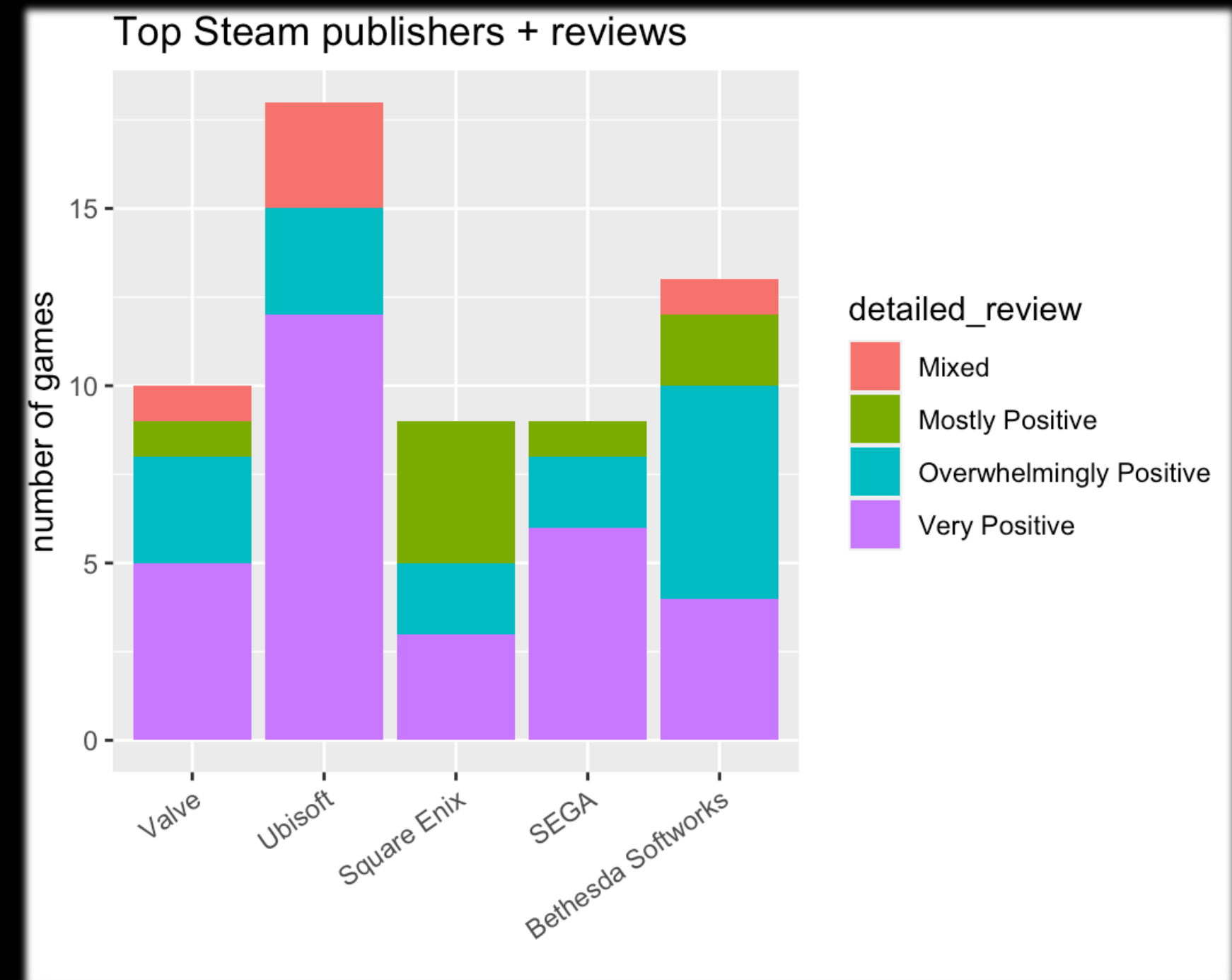
Publishers

- Out of available data, there were **234** game publishers in total
- **Nine** of those publishers released more than five games that classify in top 1000 most popular Steam games
- The leading one is French publisher **Ubisoft (18 games in top 1000)**, which as of February 2024 owns more than 45 game development studios and employs over 20 000 people
- Among the publishers listed, **Valve** is actually **the owner** of Steam Platform, as well as the developer behind most popular title on Steam: **Counter-Strike: Global Offensive**



Publishers cont.

- The lowest rating for a game published the most popular publishers is **mixed**
- For **five** of the publishers all the ratings for their games fall into major **positive** category
- **Bethesda Softworks** released six games that classify into overwhelmingly positive category, the most out of the publishers compared in the analysis



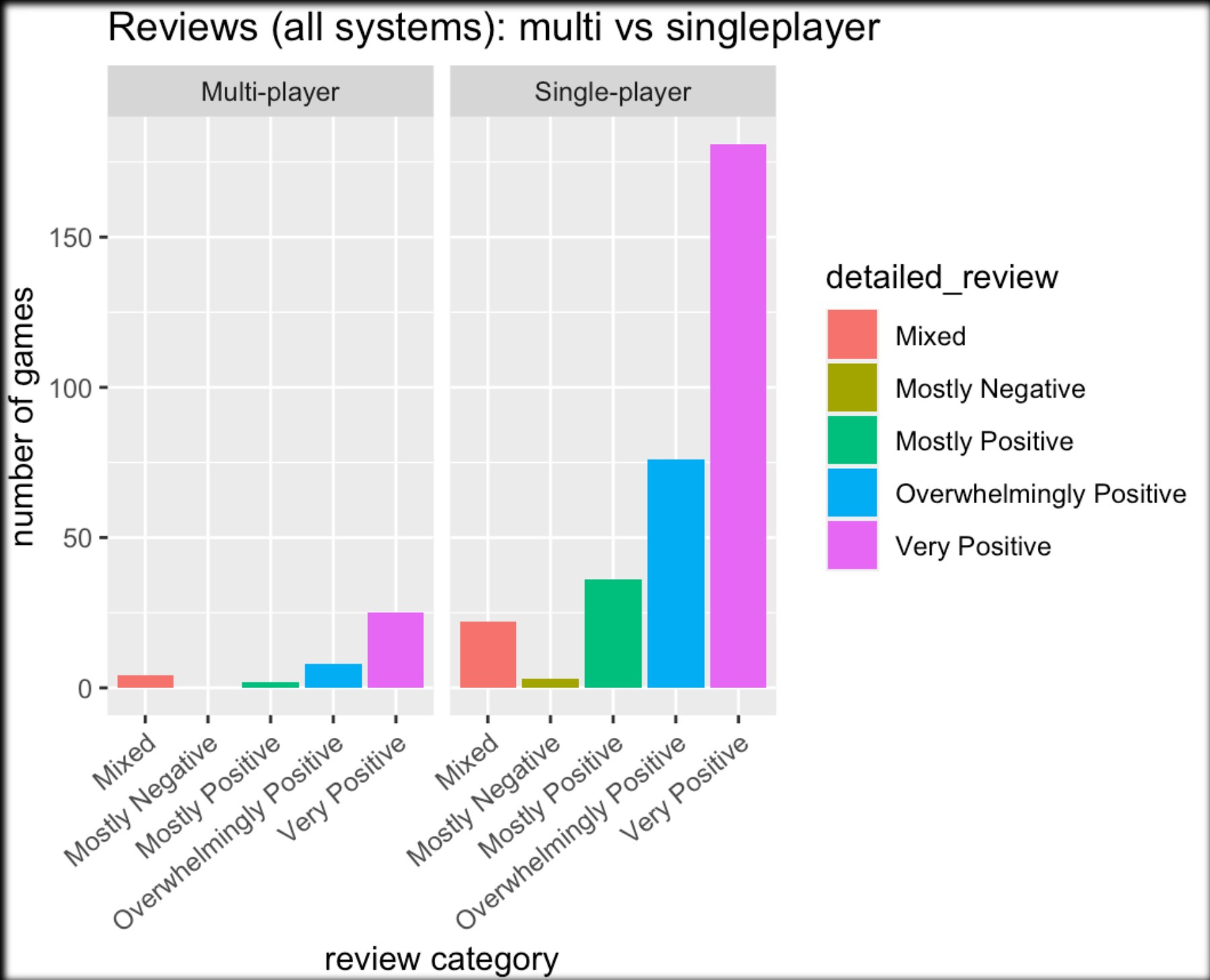
Publishers cont.

- **Valve** offers the cheapest games on average, while **Activision** has the most expensive games
- **Valve** games are the most reviewed on average (although the number is inflated due to being the publisher of the most popular Steam game)
- The next two publishers with highest average number of reviews are **Paradox Interactive** and **Bethesda Softworks**

Publisher	Mean number of reviews	Mean price
2K	63152	19.99
Activision	36510	24.46
BANDAI NAMCO Entertainment	44922	18.99
Bethesda Softworks	134912	11.39
Paradox Interactive	224007	10.56
SEGA	46265	13.86
Square Enix	21893	9.89
Ubisoft	53459	22.15
Valve	904832	3.38

OS support and multiplayer vs singleplayer

- Singleplayer games are more expensive on average than multiplayer ones
- Both single and multiplayer games offer Free to Play titles
- While the data is incomplete and the multiplayer games' sample data is small, there is a noticeable similar review category distribution for both single and multiplayer games

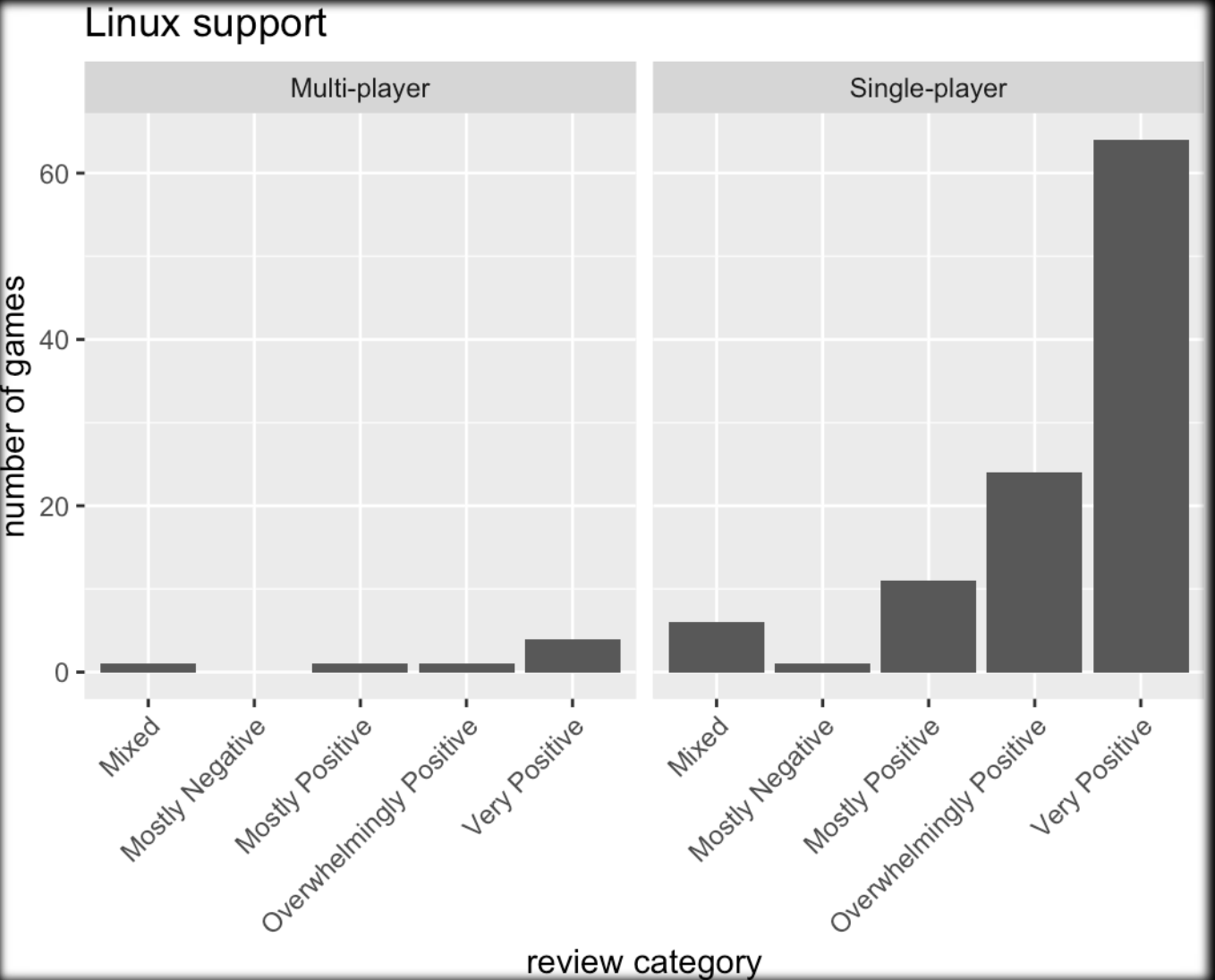
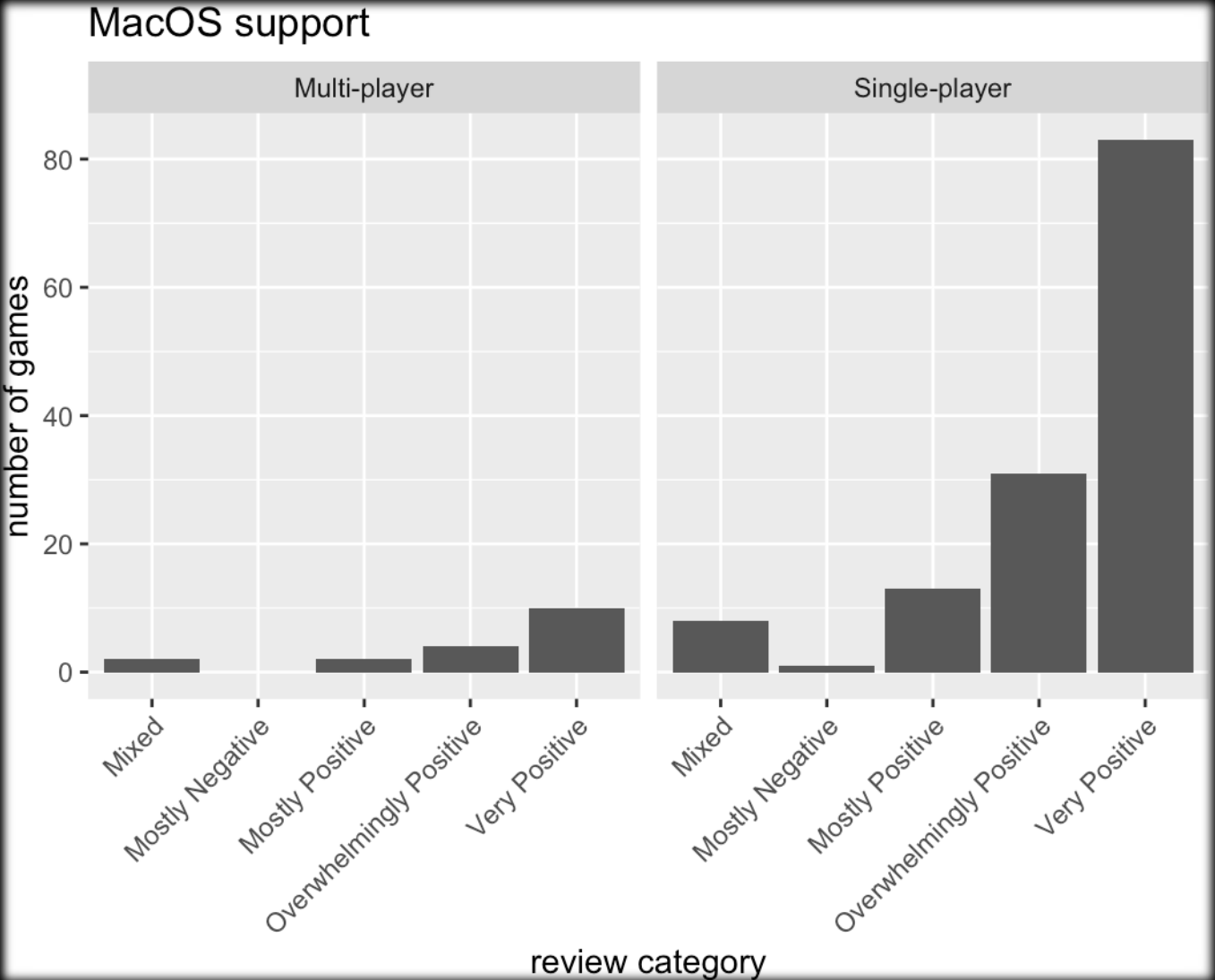
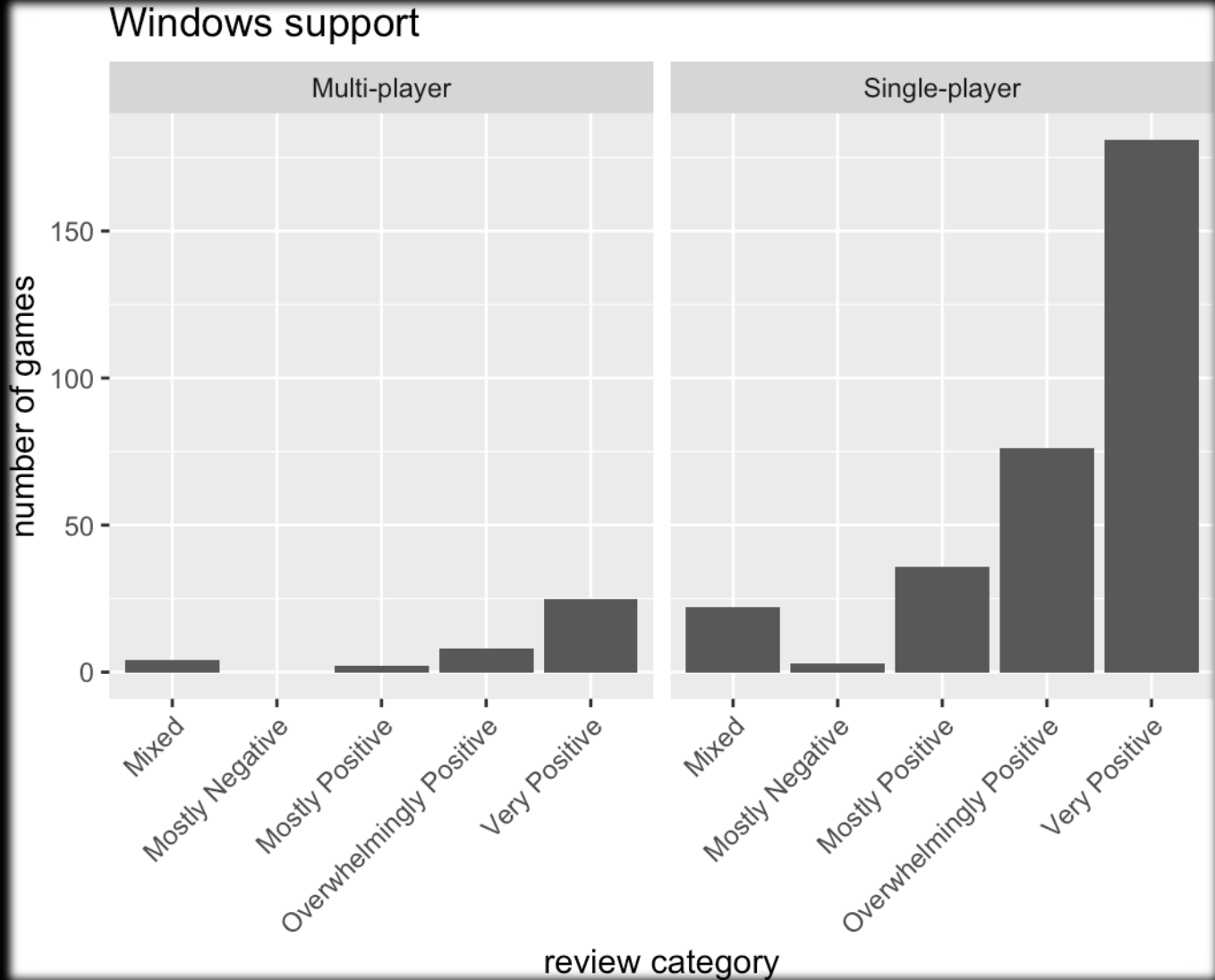


Multiplayer or singleplayer	Mean price (USD)	Standard Divation	Minimum price (USD)	Maximum price (USD)
Multiplayer	4.24	7.36	0	33.58
Singleplayer	9.53	9.43	0	51.58

OS support and multiplayer vs singleplayer cont.

- All of the most popular Steam games support **Windows** operating system (OS)
- **28.9%** of the games also support MacOS, and only **18.6%** of them support Linux
- No noticeable difference between review distribution for games that support only one OS, and ones supporting more than one OS

Operating system	Number of games
Windows	998
MacOS	289
Linux	186



Conclusion

- Is there an ultimate recipe for a successful Steam release? No, but the more characteristics a game meets from those on the list below the bigger the chance for it to be a breakout hit:
 1. Price: free to play or 15 - 20 USD range (seems to be the *sweet spot* for digital video game price)
 2. Publisher: published by Ubisoft, Bethesda Softworks or Valve
 3. Operating system: mandatory Windows OS support, MacOS and Linux optional
 4. Genre: Action (sub)genre
 5. Release date: the newer the game the better, since Steam userbase constantly grows
 6. Number of players: both singleplayer and multiplayer games can achieve success
- In the future the analysis would be worth replicating with a more complete dataset in terms of variables like genre, developer, release date etc.
- Also since Steam is growing dynamically, every year can bring a major shift in the results

Thank You!