Steam Game Price and Genre Analysis

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1 What we're exploring

We're analyzing Steam game data to understand how price, genre, tags, and player engagement relate to each other. We have multiple datasets that we'll join together to get a complete picture of the Steam game market.

1.1 Load and Join Datasets

We have several datasets:

- **games.csv**: Basic game info with names, release dates, and prices
- **genres.csv**: Game genres (one game can have multiple genres)
- **tags.csv**: User-defined tags for games
- **categories.csv**: Game categories (multiplayer, single-player, etc.)
- **steamspy_insights.csv**: Player statistics and additional info

```
Games dataset: 140082 rows
```

```
Genres dataset: 353339 rows
```

```
Tags dataset: 1744632 rows
```

```
Steamspy dataset: 140077 rows
```

1.2 Clean and Join the Data

```
Number of actual games: 46530
```

```
Games with genre info: 41514
```
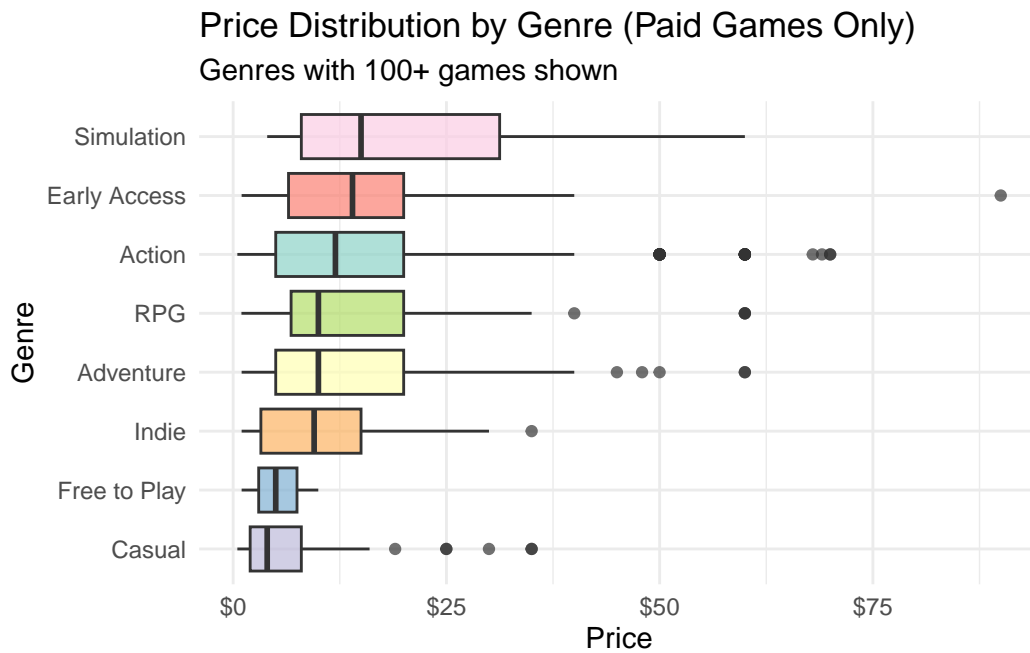
```
Final dataset with all info: 11256 games
```

1.3 Summary of Our Joined Data

Genre	Number of Games	Avg Price	Median Price
Action	5020	1.22	0.00
Adventure	2031	0.68	0.00
Casual	1632	0.43	0.00
Indie	727	0.73	0.00
Free to Play	646	0.02	0.00
Early Access	296	1.50	0.00
Simulation	203	2.97	0.00
RPG	111	4.32	0.00
Strategy	99	4.38	0.00

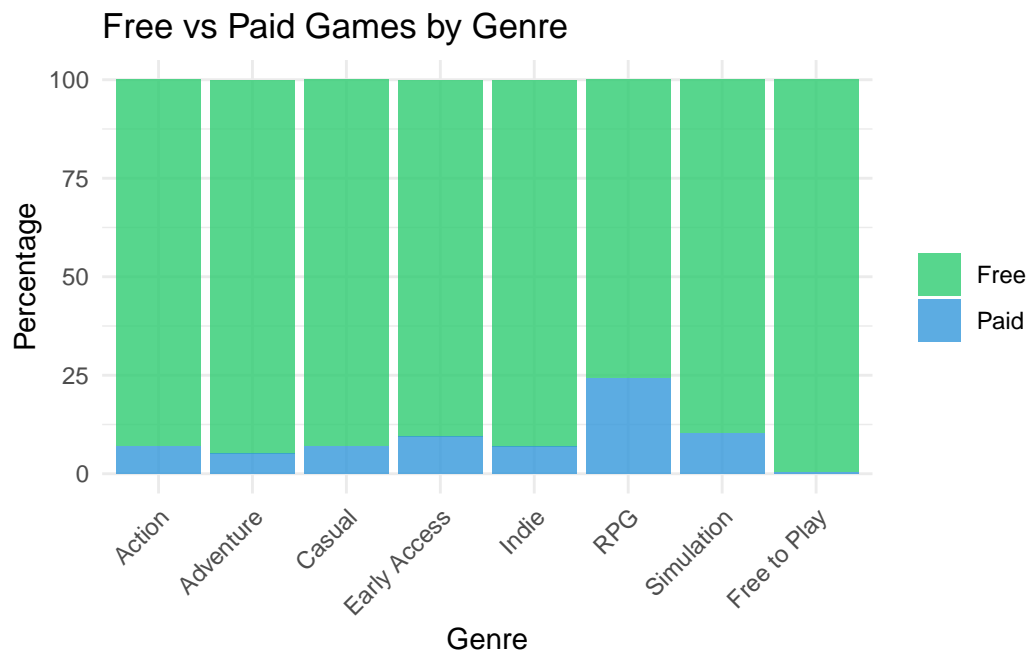| Genre	Number of Games	Avg Price	Median Price
Animation & Modeling	98	0.04	0.00
Utilities	80	0.00	0.00
Education	67	0.00	0.00
Audio Production	40	0.00	0.00
Racing	39	1.69	0.00
Design & Illustration	30	0.33	0.00
Sports	19	0.37	0.00
Video Production	17	0.00	0.00
Massively Multiplayer	16	0.06	0.00
Accounting	11	0.00	0.00
Game Development	9	0.00	0.00
Software Training	9	0.00	0.00
Acción	7	23.56	19.99
	6	30.49	23.99
Gore	5	0.00	0.00
	5	19.79	19.99
Photo Editing	4	0.00	0.00
	4	22.49	19.99
	4	9.57	7.29
	4	8.24	7.99
	2	12.99	12.99
	2	17.49	17.49
Abenteuer	1	0.00	0.00
Acceso anticipado	1	0.00	0.00
Akční	1	0.00	0.00
Free-to-play	1	0.00	0.00
Rol	1	11.99	11.99
Simuladores	1	24.99	24.99
Web Publishing	1	0.00	0.00
	1	19.99	19.99
	1	0.00	0.00
	1	0.00	0.00
	1	24.99	24.99
	1	14.99	14.99
	1	10.99	10.99

2 Visualizations and Analysis
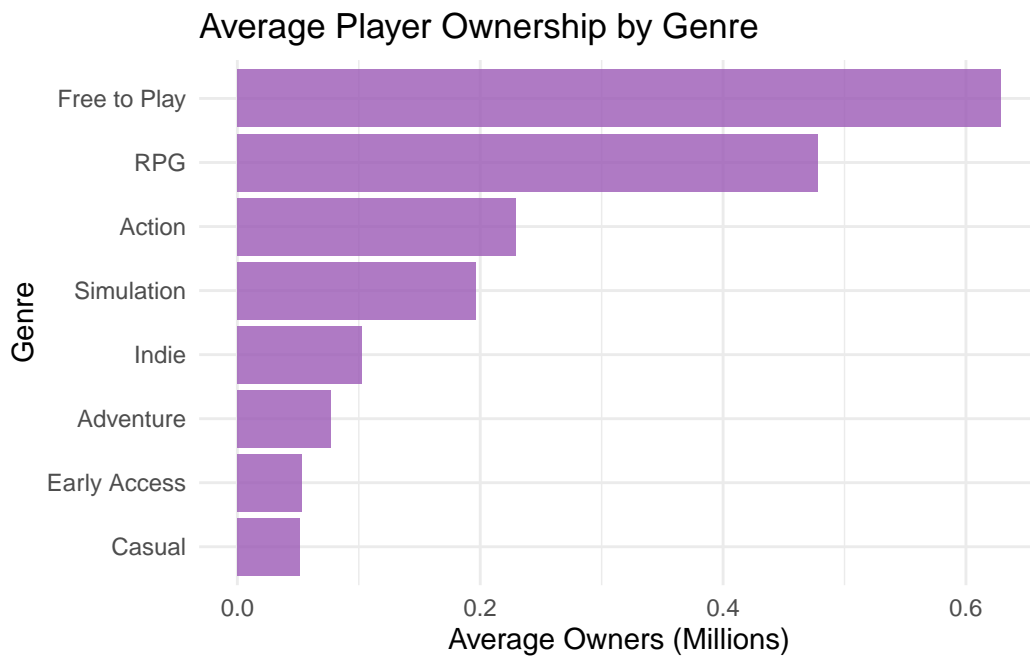
2.1 Price Distribution by Genre

RPG and Simulation games tend to be the most expensive, while Casual and Indie games are typically cheaper. This makes sense because bigger RPG games usually have more content and take longer to make.
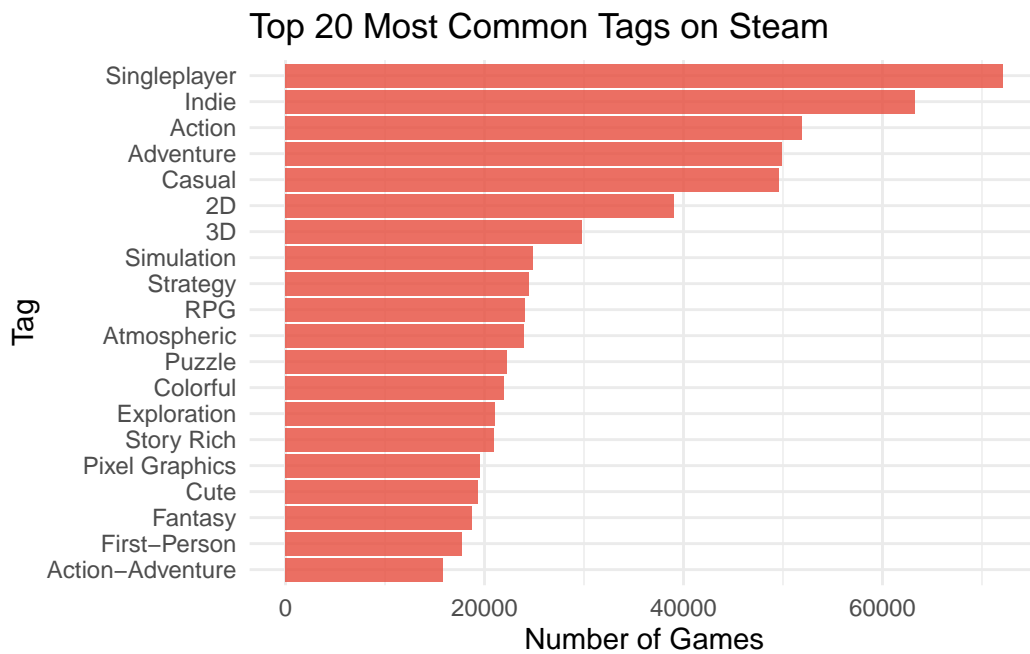
2.2 Free vs Paid Games by Genre

Action and Casual genres have the highest proportion of free games. Simulation and RPG games are almost always paid.

2.3 Player Ownership Analysis

Average Player Ownership by Genre

Action and Free to Play games have the highest average ownership. This makes sense since free games have no barrier to entry.

2.4 Popular Tags Analysis
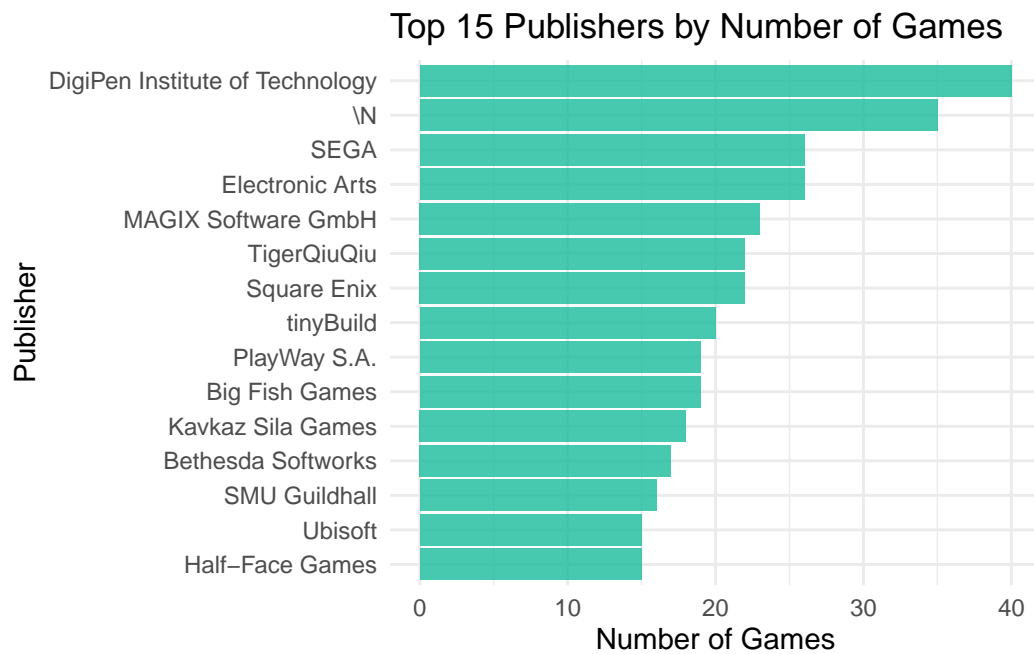
Top 20 Most Common Tags on Steam

Indie and Singleplayer are the most common tags. This shows that most Steam games are independent productions designed for solo play.

2.5 Price vs Player Count Relationship

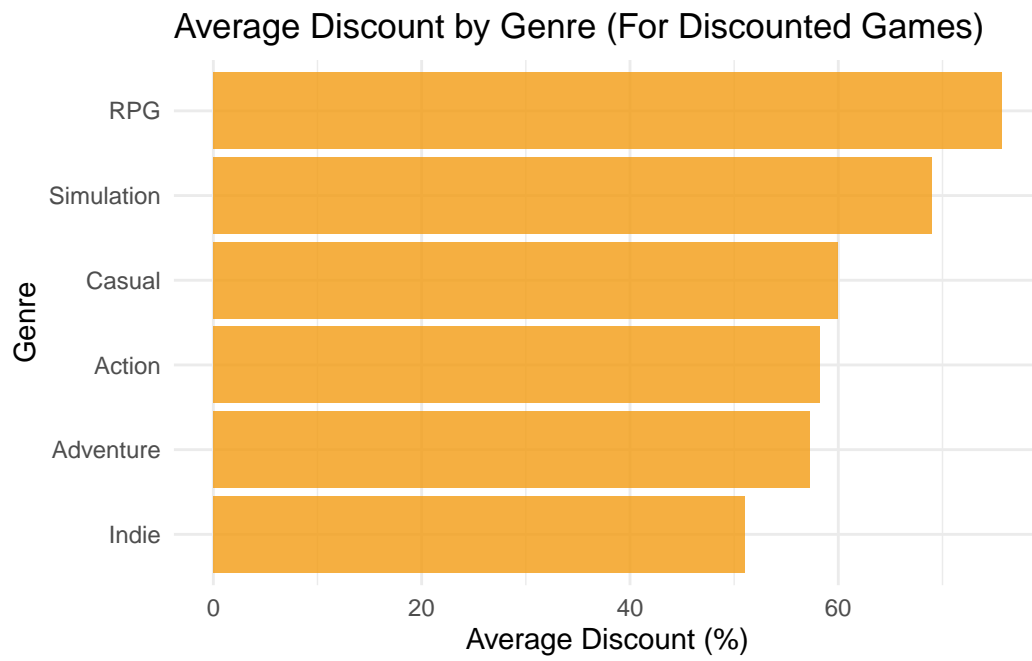### Price vs Player Ownership
Log scale for ownership

There's a slight negative relationship between price and ownership for most genres. Cheaper games tend to have more players, which makes sense.
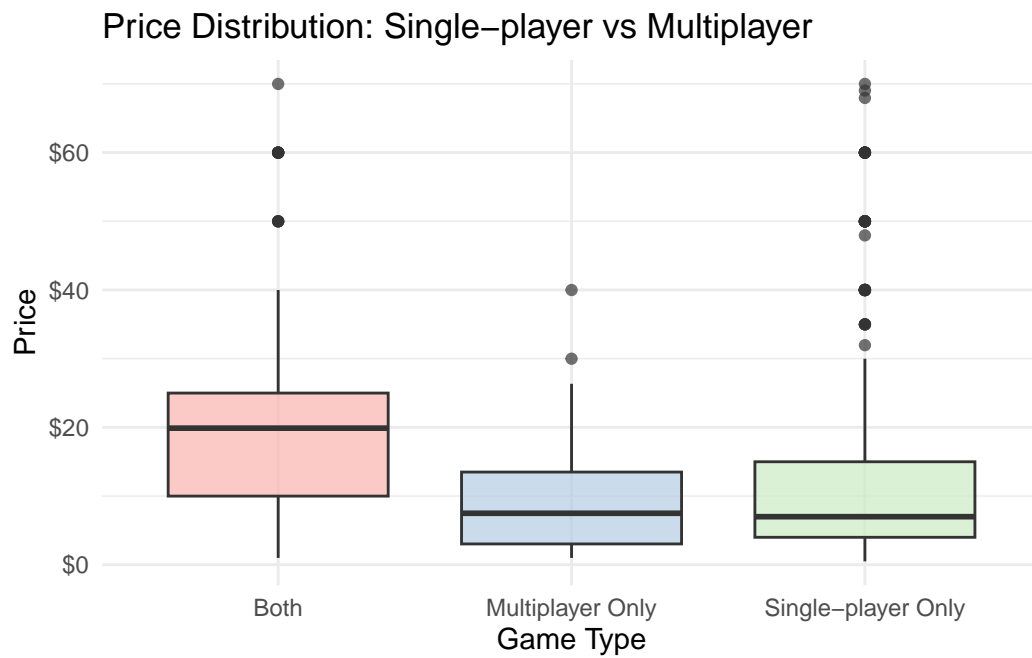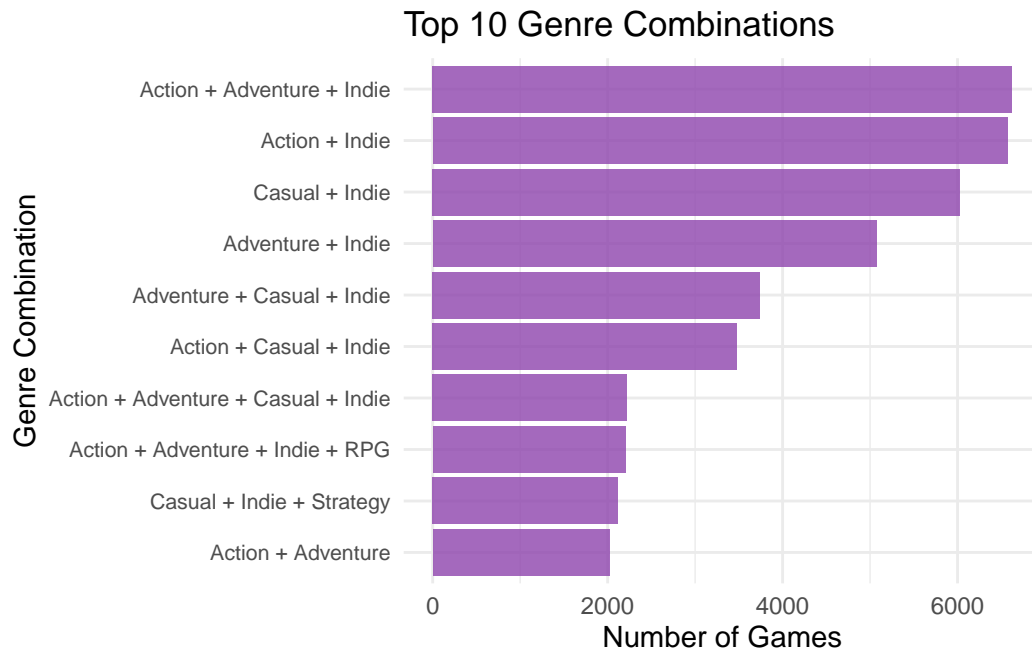
2.6 Top Publishers by Game Count

Top 15 Publishers by Number of Games

2.7 Discount Analysis

Average Discount by Genre (For Discounted Games)

2.8 Multiplayer vs Single-Player Price Comparison
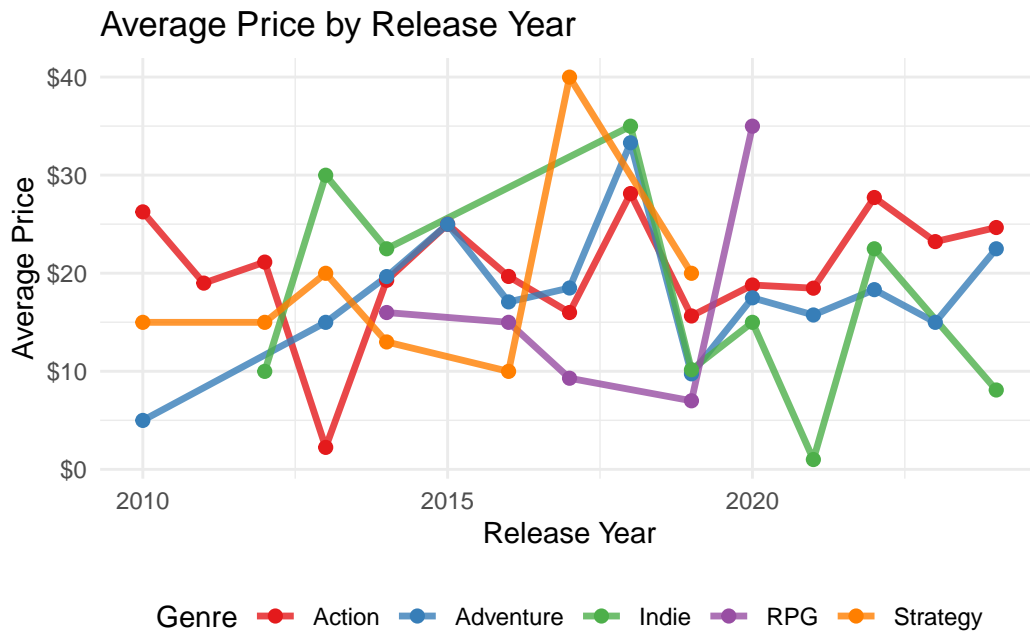
Price Distribution: Single–player vs Multiplayer

Games that offer both single-player and multiplayer tend to be priced higher, probably because they offer more content and features.

2.9 Genre Combinations

Top 10 Genre Combinations

Action + Adventure and Action + Indie are the most common genre combinations.

2.10 Price Trends by Release Year

Average Price by Release Year

Interesting trends: RPG games have gotten more expensive over time, while Indie games have remained consistently cheap. Action games show some price volatility.

3 Key Insights

Based on our analysis of real Steam data:

Price patterns:

- RPG and Simulation games are the most expensive genres, with median prices around $15-20
- Indie and Casual games are the cheapest, usually under $10
- Games that offer both single-player and multiplayer tend to cost more

Player ownership:

- Free to Play and Action games have the highest average ownership
- There's a negative relationship between price and ownership. cheaper games get more players
- This is especially true for Action and Indie genres

Market composition:

- Indie is the most common tag on Steam, showing the platform is dominated by independent developers
- Action + Adventure and Action + Indie are the most common genre combinations
- Big publishers like SEGA and Ubisoft have large catalogs, but the market is very fragmented

Trends over time:

- RPG games have gotten more expensive in recent years
- Indie game prices have stayed stable and low
- The Steam market has grown significantly, with more games releasing each year