

# Pricing the Sale of Video Games

Korun, Zeynep\*

## Abstract

In this research, I argue that question “How pricing affects video games sales?”. In the articles I quote, I focus on the effect of the price drop on the purchase of games, and I do my studies on this. I support my research with tables, hypothesis testing, and graph to support these question. As a result...

## 1 Introduction

In my midterm project I found my data set in readme.md file which is <https://github.com/rfordatascience/tidytuesday>, and I searched the files year by year. Then in 2019 data set file 31st data is data set which I picked. My data set has 2,669 observations and 10 columns. The variables of these columns are game, release date, prices, owners, developers, publisher, average playtime, median playtime and metascore. I only focus on the prices of the video games. I deleted the NA values from data set in order to tidy it.

My question is “Is pricing of games effecting the sales of games on average”. I found four articles about this question. These articles helped me with the research process.

### 1.1 Literature Review

Relevant to my question, from the article (Nair, 2004), it is stated that the game prices gradually decline over time to increase production with quote: “Declining prices, and declining sales are consistent with our model of dynamic price skimming in a durable good market. The motivation to inter-temporally price discriminate explains why prices are cut over time. Market saturation, arising from the exit of one-time purchasers from the potential market for each game, explains the declining sales paths.”. Also article of (Liu, 2010) mentioned that this situation can also be connected to the console market where older consoles also exhibit declining prices to increase sales of both the games of that console and the console itself from quote: “Displays the prices of the two consoles over time. Similar to many other high-technology products, game consoles exhibit declining prices over time. Prima facie, this appears to be price skimming. The rationale is that firms target game enthusiasts first

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\*20080393

and then move to the mass market through price cuts.”. However, there is an idea that the biggest producers of video games are considered as monopolies and no matter what the price of the game is, people will most of the time buy the game that these companies produce. Examples of these game series can be Call of Duty or Fifa since almost every year another game is produced from one of these series and the sales almost never fail as can be seen from the (Koskela, 2021) with “Harrison and Kline (2001) show that the ability of firms to extract consumer surplus with an access fee decreases as the number of firms in competition increases, which also shows that two-part prices are not exclusive to monopolies. In addition to this, it is also reasonable to assume that video game firms have monopoly power to some extent, as the products differ a lot from each other. (Meagher & Teo, 2005).”.

The other price relevance can be said about the “freemium” games where the game itself is free. This does not provide any revenue to the company itself but can provide more people playing the game than the so called “premium” games. Another benefit of these types of games can be the in game sales which can cover the cost of the development of the game itself as can be seen from (Rietveld, 2018) where “I argue that greater variety (vs. less variety) in a product’s menu of paid items allows heterogeneous consumers to self-select into a combination of options that matches their WTP, increasing a product bundle’s overall revenue generation. The implications of these conjectures are that products brought to market through the freemium business model will be used less and generate less revenues than premium products (keeping all else constant). Firms can partially offset this revenue loss by embedding greater variety in freemium products’ menus of paid items. Support for these arguments is found in a randomized controlled trial of 246 subjects and in a real market sample of 343 digital PC games released in 2014 on the online Steam platform.”.

## 2 Data

Table 1: Summary Statistics

	Mean	Std.Dev	Min	Median	Max
average_playtime	39.55	222.23	0.00	0.00	4461.00
median_playtime	23.87	143.84	0.00	0.00	3293.00
metascore	71.90	10.98	20.00	73.00	98.00
number	157.22	371.60	1.00	117.00	8251.00
price	15.94	10.58	0.49	14.99	59.99

Table 2: Pricing

	Mean	Std.Dev	Min	Median	Max
price	16.56	8.90	7.99	9.99	39.99

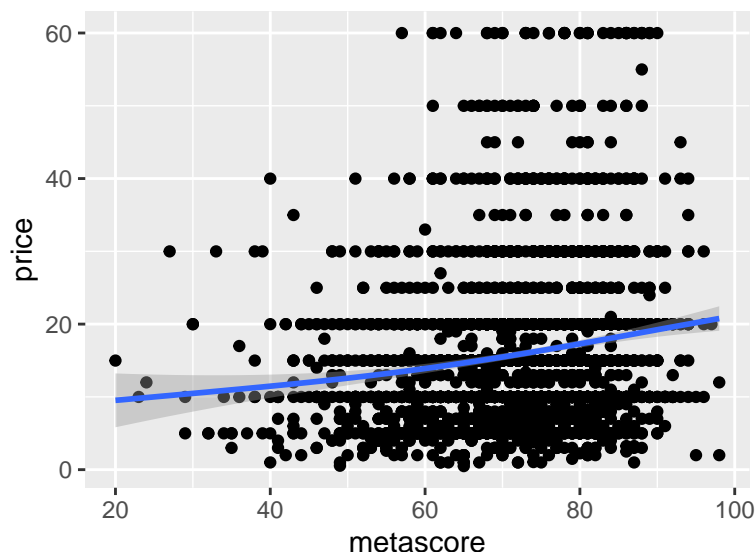
### 3 Methods and Data Analysis

In this section describe the methods that you use to achieve the purpose of the study. You should use the appropriate analysis methods (such as hypothesis tests and correlation analysis) that we covered in the class. If you want, you can also use other methods that we haven't covered. If you think some method is more suitable for the purpose of the analysis and the data set, you can use that method .

For example, if you are performing regression analysis, discuss your predicted equation in this section. Write your equations and mathematical expressions using *LaTeX*.

$$Y_t = \beta_0 + \beta_N N_t + \beta_P P_t + \beta_I I_t + \varepsilon_t$$

This section should also include different tables and plots. You can add histograms, scatter plots (such as Figure ??), box plots, etc. Make the necessary references to your figures as shown in the previous sentence.



### 4 Conclusion

Summarize the results of your analysis in this section. Discuss to what extent your results responded to the research question you identified at the beginning and how this work could be improved in the future.

References section is created automatically by Rmarkdown. There is no need to change the references section in the draft file.

*You shouldn't delete the last 3 lines. Those lines are required for References section.*

## 5 References

- Koskela, S. (2021). *PRICING ECONOMICS OF VIDEO GAMES: A PANEL DATA STUDY ON THE EFFECTS OF VERSIONING ON REVENUE*.
- Liu, H. (2010). Dynamics of pricing in the video game console market: Skimming or penetration? *American Marketing Association*, 47(3), 428–443.
- Nair, H. S. (2004). *Dynamics of pricing in durable good markets: Application to 32-bit console video-games*. [https://www.researchgate.net/profile/Harikesh-Nair/publication/228382130\\_Dynamics\\_of\\_Pricing\\_in\\_Durable\\_Good\\_Markets\\_Application\\_to\\_32-bit\\_Console\\_Video-Games/links/00b7d519e77ae1c7ad000000/Dynamics-of-Pricing-in-Durable-Good-Markets-Application-to-32-bit-Console-Video-Games.pdf](https://www.researchgate.net/profile/Harikesh-Nair/publication/228382130_Dynamics_of_Pricing_in_Durable_Good_Markets_Application_to_32-bit_Console_Video-Games/links/00b7d519e77ae1c7ad000000/Dynamics-of-Pricing-in-Durable-Good-Markets-Application-to-32-bit-Console-Video-Games.pdf)
- Rietveld, J. (2018). Creating and capturing value from freemium business models: A demand-side perspective. *Strategic Entrepreneurship Journal*, 12, 171–193.