

Research on the Impact of COVID-19 on the Game Industry and the Economic Performance

-Take Bilibili, Nintendo and Blizzard as Sample

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Abstract: The COVID-19 pandemic is a giant Black Swan event on the world's economy, leading to a collapse in almost all parts of the economy. However, it also has boosted some kinds of industry. Among them, the game industry is expected to suffer the least from the pandemic. Gaming and eSports companies were given growing prominence throughout the first half of 2022. People are interested in that whether game companies are doing better because of the pandemic. Based on official data, this paper firstly takes an overall look at the financial performance of China's game industry after 2020. Then, 3 big game companies are analyzed to show their financial situation. The results show that the stimulation of COVID on game companies was huge in 2020, but largely disappeared in 2021. For different companies, the pandemic has different degrees of effects on them.

Keywords: game companies, COVID-19, financial statement analysis, case study, financial performance

1. Introduction

The pandemic hit the world's economy unprecedentedly, and made it nearly stop for half a year. Millions of people were locked at home, desperate for some entertainment to relax and unwind, especially in China where some places still experienced lockdown in 2022. People have different views about the influence of games on the lockdown. People have discovered that video games contributed to the consumers' mental well-being during the pandemic [1]. There are also studies showing that it has a risk of addiction and needs interfering [2]. Additionally, the products of game companies are completely virtual. Therefore, it will be restricted less by the pandemic. Thus, the game industry becomes one of the few industries that is expected to experience growth in the pandemic.

However, few studies have really looked at the game companies and valued their financial performances. So, when society desperately needs it during the pandemic, there is even less research on the specific performance of all the game companies. This research will first review the financial data of China's game industry from 2020 to now, as a representative of the world's game industry. In the next part, the research will analyze 3 game companies, Bilibili, Nintendo and Blizzard, by

calculating their key financial metrics and comparing other indicators. They represent game companies that is in different stages and produce different products.

This research gives a deeper understanding of the impact of the pandemic on game companies. It is instructive for those who work in the gaming industry to improve the performance of the company in the future.

2. China's Game Industry

From the data of the sales revenue and growth rate of China's game industry published by the government, it can be identified that China's game industry did increase dramatically in 2020 by a rate of 20.71%, much higher than the previous 2 years [3], as shown in Figure 1. It certainly has something to do with the pandemic. In a survey, over 1/3 of the users say they spend more time on games after the pandemic. On the other side, the prevalence of internet gaming disorder (IGD) rose by 5% [4]. Not only in China, but the financial position and performance of major companies in South Korea have also increased significantly since COVID-19, and there is generally a large upside change in growth potential in the financial ratio metrics [5].

However, after noticing that in 2017 the rate was even higher, we need to be careful about the factors. In terms of returns offered by the video game and eSports exchange traded fund (ESPO), the influence of social variables might be weaker than the influence of financial variables [6].

In 2021 the growth rate dropped to 6.4%, at a normal level. This suggests a reduction of the impact of the pandemic. In March and April when Shanghai, a major industrial location, was closed and controlled, the actual sales revenue of the game market was 22.572 billion yuan and 22.99 billion yuan respectively, down 9.05% and 3.40% year-on-year. As with the sales revenue, the game market user scale during the epidemic also showed a counterflow. According to Gamma data, the scale of Chinese game users in March fell 0.04% year-on-year, reaching 666.24 million people. In April, the number further fell to 665.94 million people, down 0.01% year-on-year [7]. At least it can be concluded that in the post-COVID era, the positive influence on the game market is not so effective as it was.

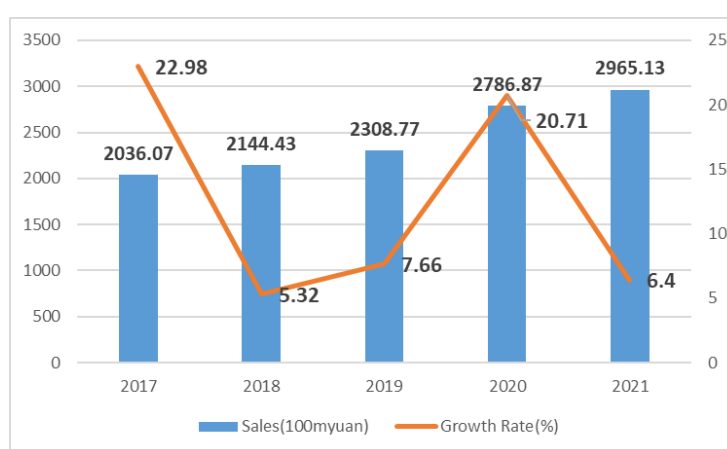


Figure 1: Sales revenue and growth rate of China's game industry [3].

3. Financial Performance of 3 Game Companies

3.1. Representative

This article selects Nintendo, Blizzard and Bilibili as representatives of game companies, and conducts financial analysis of them to reflect the impact of COVID on the game industry. These three game companies represent different types of game companies. Firstly, they represent companies in

different stages of growth. Nintendo and Blizzard are relatively mature companies, while Bilibili only started its game content in 2014. Secondly, they represent companies that sell different contents. Nintendo mainly sells game machines, while Blizzard sells video games. Bilibili is not a pure game company, yet we can take it as one, because mobile game business accounts for up to 83% of its total revenue in 2021.

3.2. Nintendo

3.2.1. Brief Introduction

Established in 1889, Nintendo started as a card manufacturer. It entered the video game industry in the late 1970s, and was soon a pioneer in the field. So far, Nintendo has sold 800 million game consoles around the world, making it one of the biggest game companies in the world. Nintendo is also financially healthy. It has maintained a profit margin of more than 20%, which is unparalleled among large Japanese companies.

3.2.2. Key Metrics

From the annual report of the company, it can calculate some key financial metrics of the company from 2019 to 2021 (Table 1) [8].

Table 1: Key financial metrics of Nintendo (million yen).

	2019	2020	2021
Net Income	352,370	640,634	592,760
Earnings per share	2,171.20	4,032.60	4,046.69
Return on equity	17.53	28.13	24.23
Return on assets	0.1821893	0.2618126	0.222643
Sales Growth	8.99%	34.42%	-3.61%

As Table 1 shows, if considering the number in 2019 is its normal performance, Nintendo had a dramatic increase in its profit in 2020. Its net income and earnings per share almost doubled last year, and its return on equity and assets also increased a lot. Its 34.42% growth in sales is even more eye-catching, which is nearly 4 times last year.

However, in the next year, most metrics had a drop. The sales growth even became negative. This is rare for the company with good sustainability. From the stock price of the company, we can also identify the trend of increase-and decrease (Figure 2).



Figure 2: The stock price of Nintendo 2019-2022.

This trend can be attributed to several reasons. Above all, in most countries, people's lives are getting back to normal in 2021 despite the virus, so they don't have much time and energy to play video games compared to when they are locked at home. Therefore, the will to buy a game machine, which is quite expensive for many people, will decrease. Additionally, the features of game machines decide that it takes a long time to update to new products. The main product (Nintendo Switch) began to sell in 2017, and the one before it (Wii) was in 2012. After many people buy the console in 2020, they would certainly not buy it again in 2021.

3.3. Blizzard

3.3.1. Brief Introduction

Established in 1991 in the USA, Activision Blizzard Inc. is often recognized as the world's biggest game developer and publisher. Its main subsidiary company Blizzard Entertainment produced a list of games that influenced generations, including the Warcraft series, StarCraft series, Overwatch, Hearthstone, and so on. All the games from Blizzard can be played for a long time, and they have attracted millions of players around the world.

Successful as it is, Blizzard is often involved in financial disputes and negative news. In January 2022, Micro soft acquired Activision Blizzard for 68.7 billion dollars.

3.3.2. Key Metrics

From the key metrics shown in table 2, a different situation can be identified.

Table 2: Key financial metrics of Blizzard (million dollars, except for per share data) [9].

	2019	2020	2021
Net Income	2,699	2,197	1,503
Earnings per share	3.47	2.85	1.96
Return on equity	0.210777	0.1461063	0.085403
Return on assets	0.136004	0.0950712	0.059986
Sales Growth	-13.48%	24.61%	8.87%

Although the company turned a decrease into an increase in its sales growth, its profit indicators kept going down in 2020 and 2021. Total assets and shareholder's equity kept increasing, but net income dropped a lot. Notice that the drop in net income from 2021 to 2020 was more than 2020 to 2019. The pandemic was still helpful, by slowing down the downward trend.

There are a lot of explanations, but they can all be attributed to the downward performance of the company itself. The quality of the games is not as good as it was before. This can be reflected in that the global monthly active users plummeted from 435 million in Q1 to 390 million in Q3 in the fiscal year 2021. Moreover, different from the game consoles, the products of Blizzard are in digital format, mostly on computer. The pandemic has a smaller influence on them, because there is not so much difference between the experience of playing them in the lockdown or not.

As for the stock price of Blizzard (Figure 3), it did not go down as the income indicators do, but followed the increase-and decrease trend like Nintendo. It is because the stock price matches the trend of the change in sales rather than other indicators. Moreover, the stock price also changes according to the people's anticipation of the company.

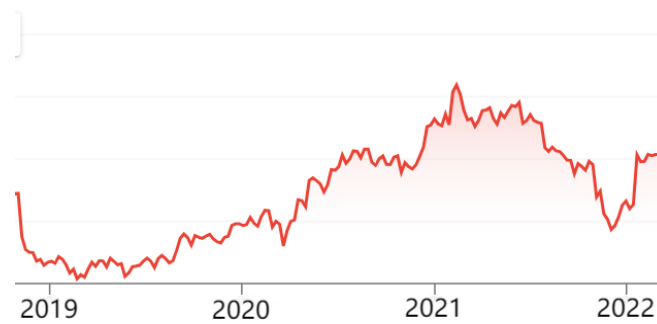


Figure 3: The stock price of Blizzard 2019-2022.

3.4. Bilibili

3.4.1. Brief Introduction

Different from the other 2 companies, Bilibili is not a game company entirely. Actually, it is more famous as a video site. Bilibili website was founded in June 2009 and officially named "Bilibili" in January 2010. It has grown from a community based on animation, manga, and games as its main content to a comprehensive community. However, in recent years, income from mobile games accounts for more than 85% of that of the company, so it can be recognized as a mobile game content provider.

Another difference is that Bilibili is relatively young as a listed company. It only went on the stock in 2018 as a newcomer to the game industry.

3.4.2. Key Metrics

From the report published by the company [10], the company is clearly losing money in the 3 years. The net income has been negative and decreased dramatically in both 2020 and 2021. The earnings per share is consistent with the net income (Table 3).

Table 3: Key financial metrics of Bilibili.

	2019	2020	2021
Net Income (Million yuan)	-1289	-3012	-6790
Net revenue (Million yuan)	6778	12000	19384
Earnings per share	-3.99	-8.71	-17.87
Return on equity	-0.18	-0.4	-0.31
Return on assets	-0.08	-0.13	-0.13
Sales Growth	64.16%	77.03%	61.54%

However, both have a decrease in net income, Bilibili is different from Blizzard. The positive data of net revenue and sales growth indicates that the company maintained high growth in its business in the 3 years, and the impact of COVID is reflected in the peak of that growth in 2020. As mentioned above, Bilibili is in a stage of rapid development. Therefore, it needs huge expenses to expand its business, so the net income became negative. This also explains why the return on assets and return on equity went up in 2021, despite the huge decrease in net income. The assets of the company grew by a huge percentage because of its development, and the company issued a lot more equity to get more financing. The pandemic did boost its growth in 2020, but it was already steady and of high quality before it.

The huge growth can also be attributed to the unique profit model of mobile games. The boon of the game market in a pandemic is based on smartphone penetration and profit models that users can download and use games without charging. A ‘freemium’ price policy, also called free-to-play (F2P), has become the basis for mobile games.[11]

The stock price of Bilibili also followed the fluctuated, with the lager increase than the two companies (Figure 4). This matches the sales growth of the company.



Figure 4: The stock price of Bilibili 2019-2022.

4. Conclusions

The virus and lockdown provide game companies with an excellent opportunity for growth. In order to examine the impact of COVID-19 on the financial position and performance of gaming companies, financial statement analysis is conducted for 3 big gaming companies in this paper to verify whether there were any changes in the financial position and performance of gaming companies before and after the pandemic. The analysis is conducted mainly by executing vertical comparison and calculating key financial metrics for each company.

The results showed that the overall performance of the market, the stock price and sales growth of all 3 companies followed an “increase-decrease” pattern. It suggests that the stimulation of COVID on game companies was huge in 2020, but no longer continues in 2021, the post-COVID era. The continuous increase of costs in game development, operation and distribution is also a reason. In the foreseeable future, the game market is expected to go back to normal.

In terms of profitability metrics, 3 companies show different characteristics. Nintendo is a mature game console manufacture with a steady financial performance. The impact of COVID is clearest on it because its other metrics also followed the “increase-decrease” pattern. For Blizzard, it was in a clear downward trend before 2022 when Microsoft purchased it. The pandemic could not stop the trend, but slowed it down at least. Bilibili is a new company in rapid development. Although it has been losing money in the 3 years, it maintained a high growth rate. Its equity and assets increased significantly in the pandemic, and it is the most promising company among the three.

However, there are several limitations in this research. The analysis is restricted to big game companies. Therefore, it may be difficult to generalize the study results to small and medium-sized game companies. There may be different characteristics in these companies that are not taken into account in the study. In addition, this study is inadequate in its discussion of the financial sustainability of the companies. There is also a lack of research on liquidity.

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