

Current Price:

\$101.69

Target Price:

\$129.82

Investment Summary:

We recommend a BUY for the gaming company, Take-Two Interactive. This is primarily due to its one-year target price of \$129.82, with a current price of \$101.69. We believe that due to a recent sell-off of technology companies, Take-Two is rather undervalued which makes it a great time to buy. We believe that Take-Two will encounter an increase due to the following reasons which will be explained throughout the report:

Short Term

- Red Dead Redemption II Sales
- Christmas Season Sales

Long Term

- Popular Games
- Expansion of International Business
- Boom in Mobile Gaming
- Strong Management

Business Description:

To better explain why Take-Two is a buy, we must first describe their overall business. Take-Two Interactive is a gaming company that creates a variety of games under four main subsidiaries. These four subsidiaries include 2K, Rockstar, Social Point, and Private Division.

2K: 2K is a gaming company owned by Take-Two. They specialize in computer, console, mobile games. Their main game is NBA2K which is a basketball game based on the NBA. This is mainly popular amongst teens and young adults. In addition, they recently released WWE2K, which is based on the WWE wrestling league. This has also been very popular amongst teens. Finally, Take-Two offers a variety of non-sports games which aren't as prominent in the market but they help to diversify 2K's portfolio.

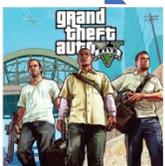
Rockstar: Rockstar is a gaming company that was acquired by Take-Two. Rockstar specializes in computer, console, and mobile games. Rockstar has two key games which include Grand Theft Auto (GTA) and Red Dead Redemption. Grand Theft Auto is an action-based game where a series of challenges are completed, usually based on crime. This game is popular amongst teens and young adults. In addition, GTA V was the best-selling game in history, with over 95 million copies sold. The second game, Red Dead Redemption, is a game that is based on an old west theme. Take-Two just released the second Red Dead Redemption game called Red Dead Redemption II, which is currently extremely popular in the gaming industry. We will discuss Red Dead Redemption II later in this report.

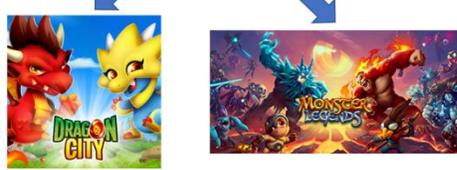


2K Games
Computer/Console/Mobile

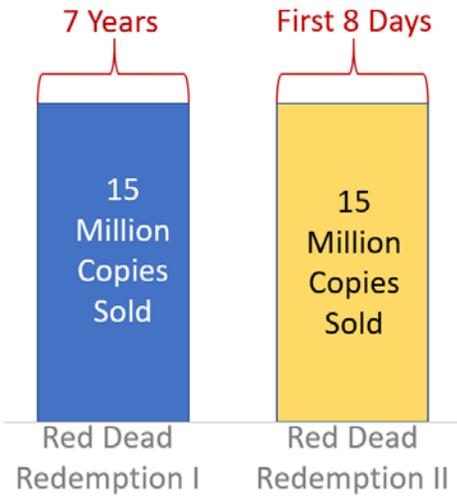


Rockstar Games
Computer/Console/Mobile





Social Point: Social Point is a Spanish gaming company that was recently acquired by Take-Two. Social Point specializes in children’s free-to-play mobile games. Their two key games are Dragon City and Monster Legends. These are currently very popular in the mobile gaming industry. In addition, we believe this helps to diversify Take-Two’s portfolio.

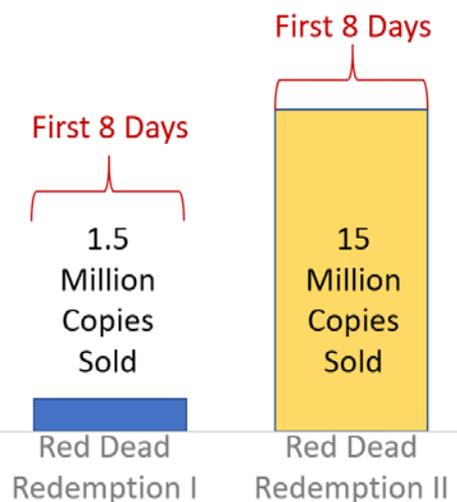


Private Division: Private Division was created by Take-Two last December as a game publisher and has seen success. Private Division bought a game called Kerbal Space Program in May 2017 which gives Private Division the rights to publish the future Kerbal Space Program game of which they recently created. Kerbal Space Program is a children’s space game, which we believe will help diversify Take-Two’s portfolio. This example shows why we think Private Division is going to be a differentiator for Take-Two going forward.

Short Term:

We believe that Take-Two is a short term buy for the following reasons:

- Red Dead Redemption II Sales
- Christmas Season Sales
- Low EPS Estimate

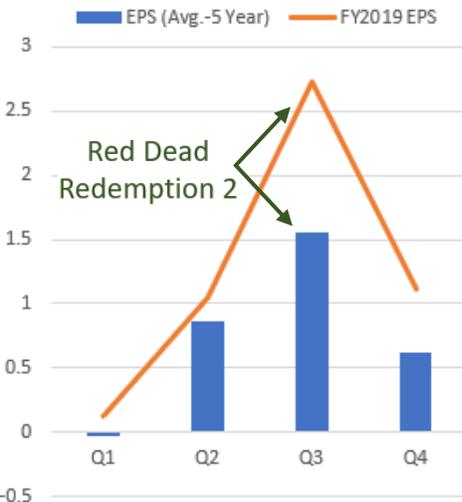


Red Dead Redemption II Sales: In order to explain these high Red Dead Redemption II sales, we must first analyze Red Dead Redemption I. Red Dead I sold 15 million copies over the 7-year lifetime of the game. Red Dead II was recently released on October 26th, 2018 and sold 15 million copies in the first eight days (shown on left); setting gaming records in pre-orders, one day sales, and sales within the first three days. Given these high sales within the first eight days, we wanted to compare these sales to the original Red Dead Redemption. We found that in comparison to this 15 million, Red Dead Redemption I sold 1.5 million copies within the first eight days. (shown on left) This comparison shows how aggressive this sales figure is and how unexpected this was in the gaming market.

Christmas Season Sales: Given these high Red Dead Redemption II sales, the gaming industry also experiences large increases in retail revenue during the Christmas season. (shown on left). In the chart, we see large increases in revenue during the Christmas season, especially in December. We believe this will help boost Take-Two’s revenue and earnings in this quarter.



Low EPS estimate: With these two aspects, we analyzed their EPS estimate (graph shown on next page) which shows the average EPS over the past 5 fiscal years, broken down by quarter, which is shown in blue. When analyzed, we see an increase in earnings during the Christmas season on average. Then, looking at the FY2019 estimates, we see that their Q3 estimate is higher than the average. We believe that



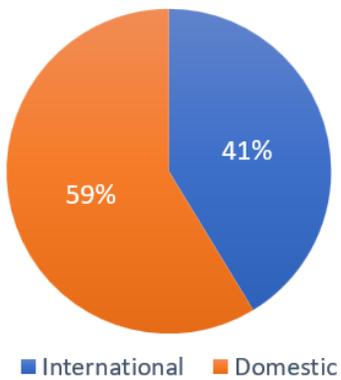
is caused from the release of Red Dead Redemption II. However, given the high sales figures, we believe that this estimate is too low. We feel that Red Dead Redemption II will make a higher impact than what the market is predicting, which will result in surpassing this estimate. We believe that this will be a positive note for the short-term outlook for the stock, as we do not believe that this price is already included.

Long Term:

We believe that Take-Two is a short term buy for the following reasons:

- Popular Games
- Expansion of International Business
- Boom in Mobile Gaming
- Strong Financials
- Strong Management

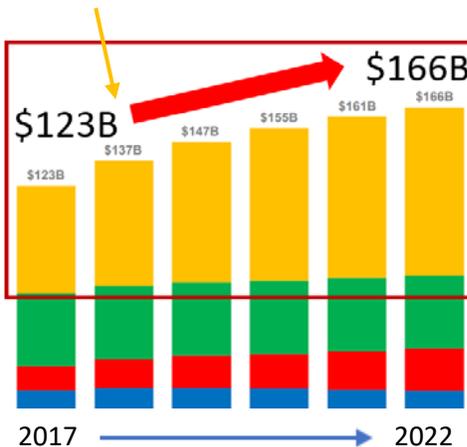
Revenue Breakdown



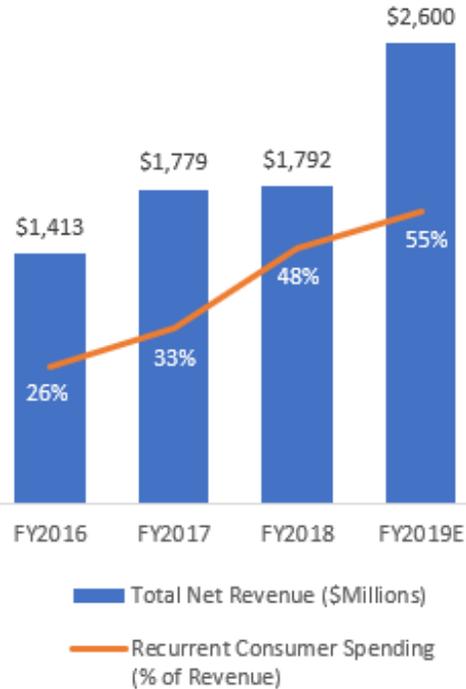
Popular games: Take-Two has produced very successful games in the past and holds the rights to expand these gaming series. This can mainly be seen with NBA2K and Grand Theft Auto. NBA2K has experienced positive-growth and shows few signs of declining. In addition, GTA V set a commanding record that has the best-selling game of all time, with 95 million copies sold. In addition to this, the gaming market is anxiously awaiting the next GTA game to be released. Studies show that this game could have higher sales than its predecessor. Additionally, Take-Two has experienced a massive success with their recent release of Red Dead Redemption II. We feel that this game series will bring Take-Two continued success in the future. In addition to these three popular games, we can also see an increase in the projected console and PC gaming market over the next five years. This shows that Take-Two is placing themselves in a position to succeed.

Expansion of International Business: Take-Two has a majority of the business domestically which is at 59%(shown on left). However, we feel that Take-Two’s international exposure is going to increase in the future. We feel that this is mainly due to their NBA2K online product which is the #1 online PC game in China. In addition, Take-Two expects that Red Dead Redemption II will be sold worldwide, despite that information not being released at this time.

Mobile



Mobile: Along with the increase in the PC and console gaming market, the mobile gaming market is expected to expand RAPIDLY over the next few years. (shown on left) With this expected increase, Take-Two should be positioned well. Their NBA2K Mobile and GTA Mobile games are very popular and have been very successful since their launch. In addition, we believe that the recently released Red Dead Redemption II mobile game will have success similar to the PC version. Finally, when these games are combined with the Social Point games, we feel that Take-Two has a very diversified portfolio of mobile games that will see success in the future.



Financials: We can see the strong impact that their popular mobile games have carried for their financials. Take-Two has experienced an increase in both earnings and in recurrent consumer spending. (shown on left) Now, recurrent consumer spending is the revenue earned from in-game purchases, such as to unlock a character or improve a level. This increase in recurrent consumer spending is mainly due to Take-Two’s mobile games as well as their NBA2K and GTA V games. In addition to this increase of revenue and recurrent consumer spending, we also have seen an increase in their operating cash flow. (Shown on left) This increase is due to Take-Two being able to control and decrease both product and software development costs. This decrease in costs has not only positively impacted their operating cash flow, but their net income as well, with an increase of 150%. Take-Two has seen increases in operating cash flow and net income over the past four years and is expected to see an increase in 2019, with their release of Red Dead Redemption II. We believe this will allow Take-Two to acquire companies easier, which will allow them to remain competitive in the ever-changing and volatile gaming industry.

CEO: We feel that this overall success can be contributed to Take-Two’s strong management, especially their CEO, Strauss Zelnick. We feel that his emphasis for the need of acquisitions, especially in the mobile and emerging markets, will be crucial for Take-Two’s acquire companies at an easier pace, which will allow them to remain competitive in the ever-changing gaming industry. In addition to this focus on acquisitions, we feel that his focus on expanding Take-Two’s international business will help increase their revenue going forward. Overall, Mr. Zelnick’s focus on increasing Take-Two’s customer base will help drive the future success of the company.



Stock Price:

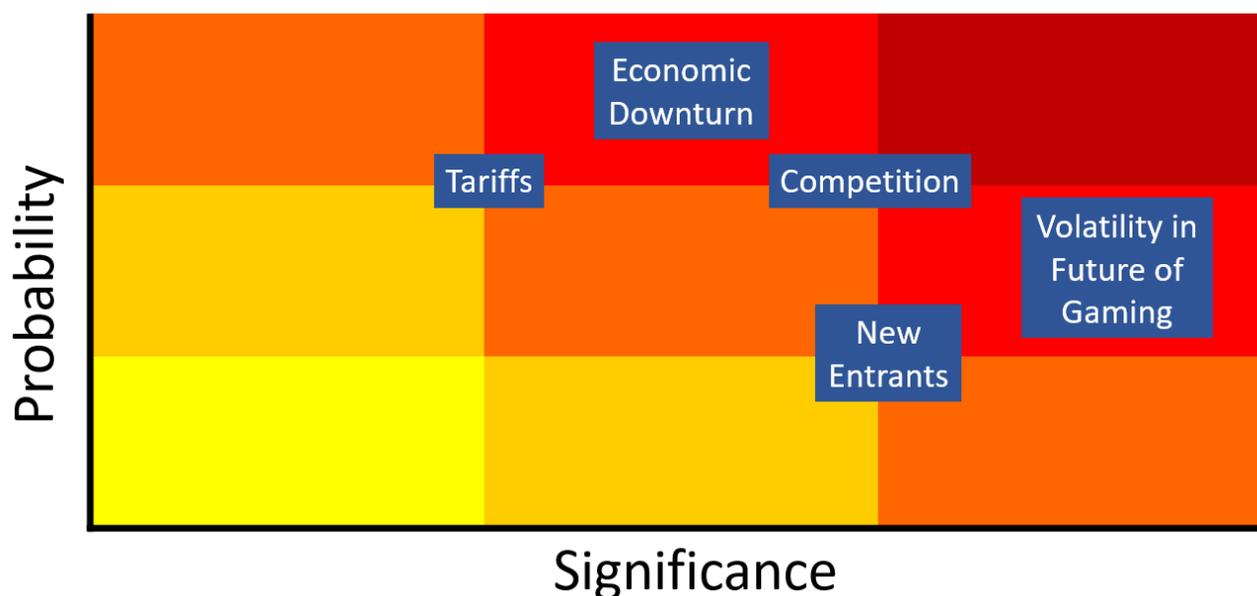
Take-Two’s stock price over the past year is listed below. We also added Activision Blizzard as this is the primary competitor of Take-Two, in the gaming industry. Over the past five months, we see that Take-Two outperformed Activision:



Risks:

We feel that there is a variety of risks affecting Take-Two, which is shown in the bullet points and heatmap below:

- The main risk for Take-Two is the **volatility** of future gaming as it is ever-changing.
- **Competition** and **new entrants** play a huge role in Take-Two's future as the gaming industry is extremely competitive with new games fighting for the top.
- The looming **economic downturn** and **trade-war** will affect Take-Two but we feel that with its diversified portfolio, it will still encounter success.



Peer Analysis:

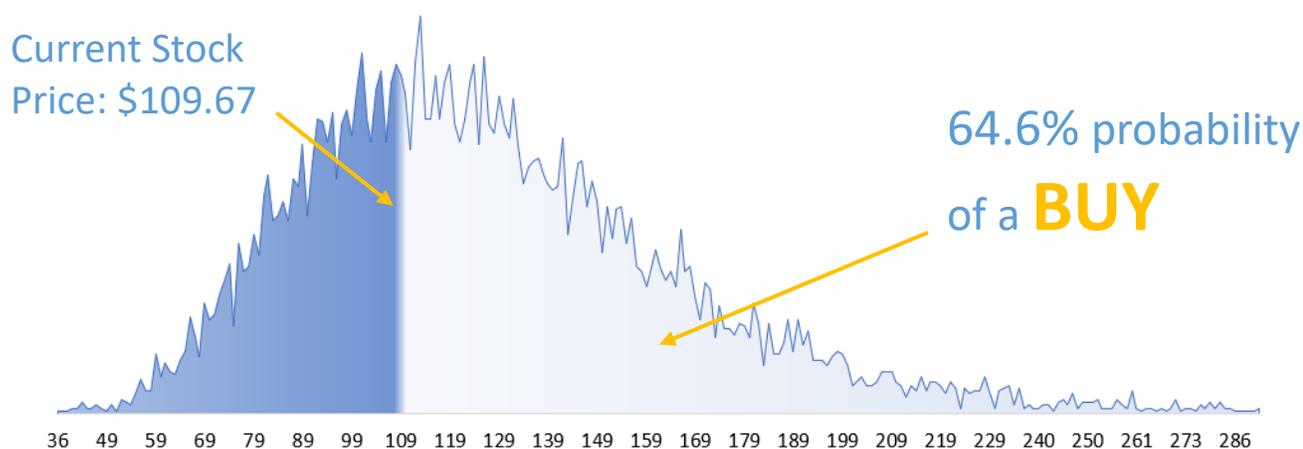
We performed a peer analysis of TTWO by comparing its financials with other gaming companies. Take-Two does not have the highest **Revenue Growth**, but that is mainly due to not releasing a big game in the past year. In addition, their high **EPS** growth rate and significantly lower **Debt/Equity** ratio supports our reasoning that TTWO is positioned well for potential acquisitions and the further capturing of emerging markets going forward.

Company Name	Mkt Cap	P/E (FY1)	Rev 1Yr Gr	EPS-1Yr Gr	ROE	Debt/Equity
Take Two Interactive Software, Inc	12.49B	21.95	0.74%	91.60%	13.22%	0.54%
Activision Blizzard, Inc	38.06B	18.42	6.19%	2.66%	12.40%	21.59%
Electronic Arts Inc	25.40B	19.14	6.30%	5.74%	23.99%	46.40%
Ubisoft Entertainment SA	8.63B	22.95	18.63%	31.96%	28.80%	145.62%

Valuation:

DCF/PE Model: When valuing TTWO, we utilized a 50/50 split between a P/E Multiple and a 5-year DCF model. The P/E Multiple gave an opportunity to compare TTWO to other gaming companies in the industry. By using the annual estimated EPS of \$5.73 and the industry average P/E multiple of 23.27, we arrived at 1-year target price of \$122.62. In addition, a 5-year discounted cash flow model was used to arrive at a target price of \$137.02. Combining the two models with a 50/50 split, we reached a final target price of \$129.82. Based on the current price of \$103.32 on December 3rd, it shows a 1-year upside potential of 25.65% for Take-Two.

Monte Carlo Simulation: In addition to the model listed above, we opted to perform a Monte Carlo simulation on the future stock price of Take-Two. We accounted for factors that align with our investment thesis which include the following: Low EPS Estimate, Boom in Mobile Gaming, Popular Games, Competition, Expansion of International Business, and CEO-Strauss Zelnick. With these factors in place, we found an intrinsic value of \$128.06, an upside potential of 25.93%, and a 64.6% probability of a buy.



Ownership of Shares:

Take-Two's ownership of shares information is listed below:

Top 5 Holders	% Out
The Vanguard Group, Inc.	10%
BlackRock Institutional Trust Company, N.A.	4.7%
State Street Global Advisors	3.6%
Jackson Square Partners, LLC	3.5%
Fidelity Management & Research Company	3.0%

Type of Holders	% Out
Institutional Ownership	92.26%
Insider Ownership	1.21%
Other	6.53%