



COMPANY UPDATE / ESTIMATE CHANGE

Key Metrics

TTWO - NASDAQ (as of 8/3/17)	\$89.09
Price Target	N/A
52-Week Range	\$40.45 - \$89.90
Shares Outstanding (mil) (basic)	105
Market Cap. (\$ mil)	\$9,398
3-Mo. Average Daily Volume	2,570,000
Institutional Ownership	99%
Total Debt/Total Capital (6/17)	16%
ROE (TTM ended 6/17)	39%
Book Value/Share (6/17)	\$10.42
Price/Book Value	8.5x
Annual Dividend & Yield	Nil Nil
EBITDA Margin, estim. (TTM ended 6/17)	24%

EPS FY 3/31 (non-GAAP figures)

	Prior FY17	Current FY18E	Prior FY18E	Current FY19E
1Q	(\$0.34)	\$0.41	A	
2Q	\$0.66	\$0.56	\$0.70	
3Q	\$0.99	\$0.65	\$0.75	
4Q	\$0.68	\$0.15	\$0.20	
Year	\$2.10	\$1.55	\$2.10	\$4.05 \$4.15
P/E	42.4x	42.4x		21.5x

Note: Quarterly EPS figures may not add to annual figure due to rounding & differing treatment of convertible securities from quarter to quarter.

Revenue (\$mm) (non-GAAP figures)

	Prior FY17	Current FY18E	Prior FY18E	Current FY19E
1Q	\$273	\$348	A	
2Q	\$479	\$460	\$505	
3Q	\$745	\$470	\$547	
4Q	\$407	\$285	\$330	
Year	\$1,904	\$1,490	\$1,730	\$2,550 \$2,700

Company Description: *Take-Two Interactive Software, Inc. is a global developer, marketer, distributor, and publisher of interactive entertainment software games for the PC and a variety of game systems. Popular franchises include Grand Theft Auto, Red Dead, BioShock, Borderlands, Civilization, NBA 2K, WWE 2K, and XCOM. The company is headquartered in New York City and its website address is www.take2games.com.*

Take-Two Interactive Software, Inc.

TTWO — NASDAQ — Underperform-3

Strong 1Q Results; Valuation Remains an Issue

Investment Highlights

- Fiscal 1Q results were well above expectations.** Non-GAAP revenues (adjusted for the change in deferred revenues) were \$348 million compared to \$273 million in the year ago period, up 28%. The street consensus estimate was \$281 million. Revenues came from a variety of videogames released in previous quarters, with digitally delivered content growing an impressive 56%. Key franchises included *Grand Theft Auto* and *NBA 2K*, and *WWE*, among others. Non-GAAP EPS of \$0.41 compared favorably to a net loss of \$0.34 a year ago. The street consensus EPS estimate was \$0.19.
- The balance sheet is in good shape, in our view.** Total cash, cash equivalents, and short-term investments at 6/30/17 were \$1.281 billion. Total debt was \$212 million and shareholders' equity was \$1.099 billion.
- We believe fundamentals are strong for the company and for the industry.** The June quarter was generally successful for TTWO and its peers, with revenues and profits above expectations. Consumers are seemingly adapting to digital purchasing (whole games, add-on content, microtransactions, subscriptions, etc.) at a healthy pace, leading to margin benefits for publishers such as TTWO. Based on this trend and TTWO's product release schedule, we forecast rising operating margins this year and next.
- We maintain our Underperform rating.** While we are impressed by recent results and future earnings potential, we consider TTWO shares richly valued at this time. We are mindful of strong fundamentals and an improving portfolio of videogame franchises; however, we believe much optimism is reflected in the current stock price. We will monitor business conditions and stock valuations for more attractive risk/reward conditions. We believe a profit taking strategy could be prudent for existing TTWO investors.

**Note Important Disclosures on Pages 6-7.
Note Analyst Certification on Page 6.**

Exhibit 1**Non-GAAP Statements of Income** (figures in thousands except per share data and percentages)

	Fiscal 1Q Ended		% chg
	6/30/17	6/30/16	
Net Revenue	\$348,305	\$272,556	27.8%
Gross Profit	201,750	110,185	83.1%
Income (Loss) from Operations	61,059	(38,256)	N/A
Net Income (Loss)	<u>\$48,660</u>	<u>(\$28,895)</u>	N/A
Diluted Earnings Per Share*	<u>\$0.41</u>	<u>(\$0.34)</u>	N/A
Avg. Diluted Shares Outst.	118,800	84,588	40.4%
% of Net Revenue:			bp chg.
Gross Profit	57.92%	40.43%	1,750
Income from Operations	N/A	N/A	N/A
Net Income	N/A	N/A	N/A

Note: Non-GAAP presentation excludes items such as business reorganization and restructuring expenses, stock-based compensation, professional and legal fees, and the income tax effects of these items.

* Non-GAAP EPS calculation for current year 1Q uses the "if converted" method related to TTWO's convertible securities due to achieving level of profitability that prompts such treatment.

* Non-GAAP EPS calculation for prior year 1Q does not use the "if converted" method related to TTWO's convertible securities, as assumed conversion would have been anti-dilutive.

Source: Take-Two Interactive Software, Inc.

Note: March fiscal year

Further comments on fiscal 1Q results. We were impressed with TTWO's fiscal 1Q, as results exceeded our expectations just as they have for several consecutive quarters. We were particularly impressed by the results considering there were no major new videogame releases in the period. Instead, over 90% of the quarter's revenues came from previously released titles from established franchises such as *Grand Theft Auto*, *NBA 2K*, *WWE 2K*, and *Mafia*. Digitally delivered revenues grew 56%, a reflection of industry trends and TTWO's product portfolio, which we believe lends itself well to digital purchasing. Non-GAAP EPS of \$0.41 were well above the year ago net loss of \$0.34. Our 1Q EPS estimate was \$0.19, street consensus was also \$0.19, and company guidance was a range of \$0.13-\$0.22.

Financial condition. The balance sheet remained solid, in our view. Cash, cash equivalents, and short-term investments at June 30, 2017, were \$1.281 billion. Inventories and accounts receivable were at reasonable levels, in our view. The current ratio was 1.44-to-1. Total debt (primarily a convertible note) booked on the balance sheet stood at roughly \$212 million, just 16% of total capitalization. One year ago, total debt was \$504 billion, or 49% of total capitalization. Shareholders' equity at the recent quarter end was \$1.099 billion.

Outlook. We continue to view TTWO's outlook favorably and believe it has some of the highest quality videogame franchises in the industry. We particularly like that the portfolio has grown in size, quality, and profitability over the years. The biggest franchise continues to be *Grand Theft Auto*, and online revenue generation from *GTA V* (a console game released in September 2013) and *GTA Online* (a stand-alone online experience) have consistently exceeded our expectations. We are comfortable with a potential release pattern that could bring a new full-length *GTA* console game perhaps every six or more years. Meanwhile, *NBA 2K*, *Mafia*, *BioShock*, and *Red Dead* have grown into major franchises for TTWO and have produced some of the company's best games to date, in our view. We have even been positively surprised by sales of the company's *WWE* videogames, which came into the TTWO fold in 2013 with low expectations, in our view.

The highly anticipated *Red Dead Redemption 2* game was recently moved from a Fall 2017 release to Spring 2018. This translated to a shift from TTWO's FY18 to FY19, which we incorporated into our financial models in our report dated 6/2/17. Interest in the game seems to be building, and we have confidence in TTWO's highly acclaimed developer/studio, Rockstar Games. We expect *Red Dead Redemption 2* to possibly become the company's second-best selling title of all time, behind *Grand Theft Auto V*. The *Red Dead* franchise last made an appearance in 2010 with the critically acclaimed *Red Dead Redemption*. We believe the combination of pent-up demand, effective marketing, and the high quality reputation of Rockstar Games bode well for this future game.

Exhibit 2
Near-term Product Pipeline (selected titles only)

<u>Title</u>	<u>Platform</u>	<u>Release Date</u>
<i>XCOM 2: War of the Chosen</i> (downloadable content)	multi-platform	August 29, 2017
<i>WWE 2K18</i>	multi-platform	October 17, 2017
<i>NBA 2K18</i>	multi-platform	September 19, 2017
<i>Kerbal Space Program: Making History Expansion</i>	PC	Calendar 2017
<i>Red Dead Redemption 2</i>	PlayStation 4, Xbox One	Spring 2018 ~

~ represents TTWO's FY19 year

 Source: Take-Two Interactive Software, Inc.

 Note: March fiscal year

E-sports becoming a growing proposition. An industry trend deserving of close attention is e-sports. This essentially entails competitive gaming with key roles coming from participants, event organizers, team leaders/owners, viewers, and advertisers. This is a nascent initiative that is beginning to grow rapidly, and the videogame industry's size and demographics could help this turn into a meaningfully positive business model, in our view. At this time, it is difficult to quantify the near-term impact of e-sports, including revenue and expense levels, but we are generally bullish on the long-term potential.

TTWO has franchises that are seemingly well-suited to explore e-sports business models, including *NBA 2K*, in our opinion. The company recently created a competitive gaming league with the National Basketball Association, with a debut set for 2018. The league will consist of teams operated by actual NBA franchises and will feature videogame competitions patterned after the NBA regular and playoff seasons, as well as a championship matchup. We will be closely monitoring this initiative and perhaps soon will incorporate it into our financial forecast.

Guidance. A favorable industry environment and strong titles from TTWO combine for a generally favorable financial outlook. Management expects non-GAAP revenues for FY18 in the \$1.65-\$1.75 billion range. Our new estimate is \$1.73 billion, well above our previous figure of \$1.49 billion. We calculate non-GAAP EPS guidance (given some variables provided by the company) to be in a range of \$1.95-\$2.16. Our new non-GAAP EPS estimate for the year is \$2.10 compared to our previous estimate of \$1.55. This matches the non-GAAP EPS figure from last year.

The blueprint for FY19 (twelve months ending March 31, 2019) has not changed much, in our view. The fiscal year is still expected to include a landmark event—the long awaited release of *Red Dead Redemption 2*—and another major though unannounced title from the company's 2K label. We have assumed a release date of April/May 2018 for *Red Dead Redemption 2*. We have increased our projected outlook for FY19, which now includes non-GAAP revenues of \$2.700 billion (up from our previous estimate of \$2.550 billion) and non-GAAP EPS of \$4.15 (up from \$4.05). These increases reflect our growing confidence in the release slate and industry environment.

Valuation. We have been impressed with the development of TTWO's product portfolio, which now includes roughly a dozen major franchises. While new releases from the *GTA* franchise can lead to "spike" earnings years, we note new releases from other franchises, combined with catalog sales of older *GTA* games and recurring revenues from *GTA Online*, can help smooth earnings. Although the company is now typically profitable in years without a new *GTA* game, we prefer to look at price/earnings ratios over a multi-year period rather than any single year. Moreover, we believe the multi-year period should include at least one year of a full-game release from either the *GTA* or *Red Dead* franchise since such releases are likely to represent meaningful boosts to earnings and are expected to be a recurring part of TTWO's future.

TTWO shares are currently trading at 42.4x our FY18 EPS estimate (below average product release year) and 21.5x our FY19 EPS estimate (above average product release year that is expected to include *Red Dead Redemption 2*). This translates to a 28.5x multiple on an average EPS figure for those two fiscal years.

Although we are comfortable with a two-year time average EPS figure, we believe a longer time frame adds insight. TTWO shares are trading at 35.9x an average EPS figure of \$2.48 for the five-year period of FY14-FY18 (includes *GTA V* release in FY14) and a similar valuation of 36.2x an average EPS figure of \$2.46 for the five-year period of FY15-FY19 (includes the expected *Red Dead Redemption 2* release in FY19).

Over the past ten years, TTWO valuations have been in a wide range due to a volatile earnings history, yet a median P/E multiple for that time frame is 27.3x. Over a more recent five-year period, the stock's median P/E is 22.5x. The S&P 500 is currently trading at 19.5x expected forward earnings, while the S&P Consumer Discretionary sector is trading at 16.9x.

Opinion. Substantial price appreciation of late has led to a rich valuation, in our view. For the calendar year-to-date period, TTWO shares are up 88% compared to a 10% gain for the S&P 500 and a 12% increase for the S&P Consumer Discretionary sector. We remain mindful of TTWO's improving fundamentals related to growing diversification of the product portfolio, as well as the upcoming release slate. However, we simply find the current valuation excessive and the risk/reward outlook below our liking as high expectations are seemingly built into the current price, in our view. We continue to believe the company and the videogame industry have bright long-term futures. We would consider a more favorable rating on TTWO at a lower valuation, given no change in company fundamentals.

Suitability. Our Suitability rating on TTWO is 3 on a 1-to-4 scale (1=most conservative, 4=most aggressive). This reflects the company's earnings history, product portfolio, and financial condition, among other factors. Recent improvements in earnings quality (such as profitability in years without a new, full-length *GTA* game) have led us to consider a more conservative Suitability rating, yet we maintain our 3 rating at this time due largely to market capitalization and balance sheet factors.

Risks. In addition to the importance of the *Grand Theft Auto* franchise, other investment considerations include general risks associated with a hit-driven business; the pace of production on games in development; overall debt levels; legal risks; potential uses for the company's current cash balance and future cash flow; the industry's hardware replacement cycle including supply and demand for consoles; creative and financial abilities to bring popular games to market; healthy relationships with the major hardware manufacturers; and general economic and consumer spending conditions.

Exhibit 3**Non-GAAP Statements of Income** (figures in thousands except per share data and percentages)

	FY14	FY15	FY16	FY17	FY18E	FY19E
Net Revenue	\$2,413,720	\$1,668,765	\$1,560,626	\$1,903,946	\$1,730,000	\$2,700,000
Total Cost of Sales	1,411,176	861,008	838,947	1,003,267	718,000	1,250,000
Gross Profit	1,002,544	807,757	721,679	900,679	1,012,000	1,450,000
Total Oper. Exp.	468,501	498,214	483,467	600,181	680,000	790,000
Operating Income	534,043	309,543	238,212	300,498	332,000	660,000
Interest Exp. & Other	10,800	14,417	6,700	(5,564)	7,000	7,500
Pre-tax Income	523,243	295,126	231,512	306,062	325,000	652,500
Income Taxes, estim.	12,521	75,882	13,214	67,334	71,500	143,550
Net Income	\$510,722	\$219,244	\$218,298	\$238,728	\$253,500	\$508,950
Non-GAAP Diluted EPS	\$4.26	\$1.98	\$1.96	\$2.10	\$2.10	\$4.15
Avg. Shares Outst.	122,608	106,822	110,424	115,900	121,500	123,000
% Yr Over Yr Chg.						
Total Revenue	97.5%	(30.9%)	(6.5%)	22.0%	(9.1%)	56.1%
Gross Profit	94.5%	(19.4%)	(10.7%)	24.8%	12.4%	43.3%
Total Operating Exp.	0.4%	6.3%	(3.0%)	24.1%	13.3%	16.2%
Operating Income	998.9%	(42.0%)	(23.0%)	26.1%	10.5%	98.8%
Net Income	1443.9%	(57.1%)	(0.4%)	9.4%	6.2%	100.8%
% of Net Revenue:						
Gross Profit	41.54%	48.40%	46.24%	47.31%	58.50%	53.70%
Total Oper. Expenses	19.41%	29.86%	30.98%	31.52%	39.31%	29.26%
Operating Income	22.13%	18.55%	15.26%	15.78%	19.19%	24.44%
Net Income	21.16%	13.14%	13.99%	12.54%	14.65%	18.85%

Note: Presentation of earnings per share (EPS) is a function of the potential dilutive/anti-dilutive impact of a convertible note in each period. Our annual EPS figures for the presented years assume conversion of the note due to projected levels of profitability. This has the effect of increasing the fully diluted share count and adding back related annual interest, net of tax. Some periods, such as FY13 (not shown in the exhibit above), may not reach the profitability threshold and therefore would not reflect conversion.

Source: Take-Two Interactive Software, Inc. and Hilliard Lyons estimates

Note: March fiscal year

Additional information is available upon request.

Prices of other stocks mentioned: Microsoft Corp. - MSFT - \$72.15 - Neutral
Sony Corp. - SNE - \$40.20
WWE, Inc. - WWE - \$21.23 - Neutral

Analyst Certification

I, Jeffrey S. Thomison, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject company(ies) and its (their) securities. I also certify that I have not been, am not, and will not be receiving direct or indirect compensation in exchange for expressing the specific recommendation(s) in this report.

Important Disclosures

Hilliard Lyons' analysts receive bonus compensation based on Hilliard Lyons' profitability. They do not receive direct payments from investment banking activity.

Investment Ratings

Buy - We believe the stock has significant total return potential in the coming 12 months.

Long-term Buy - We believe the stock is an above average holding in its sector, and expect solid returns to be realized over a longer time frame than our Buy rated issues, typically 2-3 years.

Neutral - We believe the stock is an average holding in its sector, is currently fully valued, and may be used as a source of funds if better opportunities arise.

Underperform - We believe the stock is vulnerable to a price set back in the next 12 months.

Suitability Ratings

1 - A large cap, core holding with a solid history

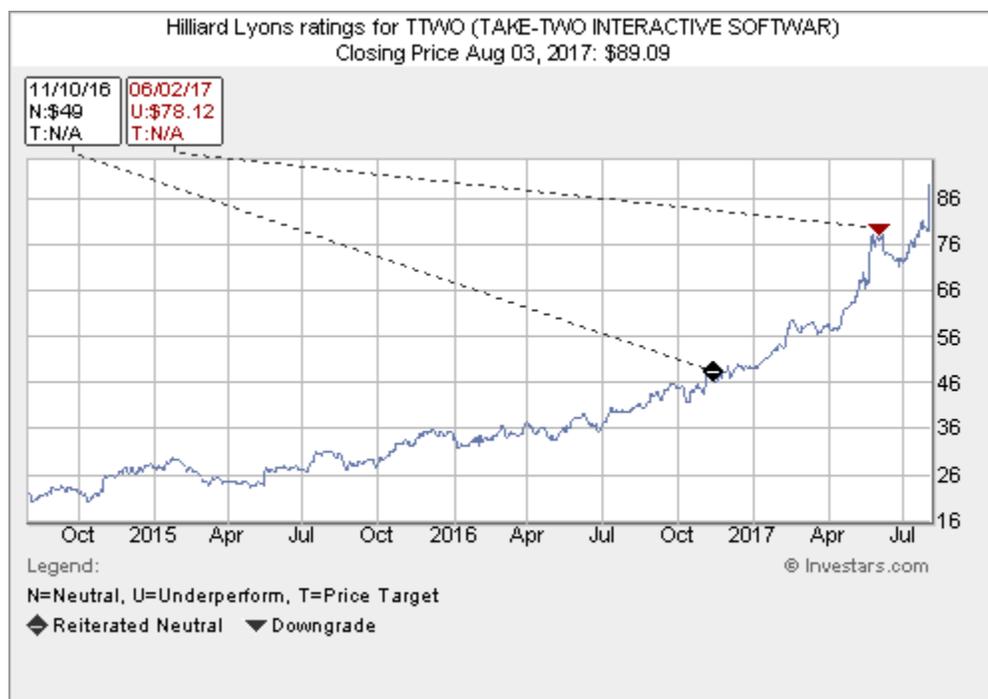
2 - A historically secure company which could be cyclical, has a shorter history than a "1" or is subject to event driven setbacks

3 - An above average risk/reward ratio could be due to small size, lack of product diversity, sporadic earnings or high leverage

4 - Speculative, due to small size, inconsistent profitability, erratic revenue, volatility, low trading volume or a narrow customer or product base

Rating	Hilliard Lyons Recommended Issues		Investment Banking Provided in Past 12 Mo.	
	# of Stocks Covered	% of Stocks Covered	Banking	No Banking
Buy	36	29%	14%	86%
Hold/Neutral	79	63%	5%	95%
Sell	10	8%	0%	100%

As of 7 July 2017



Note: Price chart is current as of most recent calendar quarter end. Price targets accompanying Buy ratings reflect a one year time period while price targets accompanying Long-term Buy ratings reflect a two to three year time period.

Other Disclosures

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