



COMPANY UPDATE / ESTIMATE CHANGE

Key Metrics

TTWO - NASDAQ (as of 11/8/17)	\$117.65
Price Target	N/A
52-Week Range	\$45.87 - \$120.62
Shares Outstanding (mil) (basic)	109
Market Cap. (\$ mil)	\$12,874
3-Mo. Average Daily Volume	1,570,000
Institutional Ownership	99%
Total Debt/Total Capital (9/17)	3%
ROE (TTM ended 9/17)	36%
Book Value/Share (9/17)	\$13.46
Price/Book Value	8.7x
Annual Dividend & Yield	Nil Nil
EBITDA Margin, estim. (TTM ended 9/17)	21%

EPS FY 3/31 (non-GAAP figures)

	FY17	Prior FY18E	Current FY18E	Prior FY19E	Current FY19E
1Q	(\$0.34)		\$0.41	A	
2Q	\$0.66		\$1.09	A	
3Q	\$0.99	\$0.75	\$0.89		
4Q	\$0.68	\$0.20	\$0.51		
Year	\$2.10	\$2.10	\$2.92	\$4.15	\$4.55
P/E	56.0x		40.3x		25.9x

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)

	FY17	Prior FY18E	Current FY18E	Prior FY19E	Current FY19E
1Q	\$273		\$348	A	
2Q	\$479		\$577	A	
3Q	\$745	\$547	\$635		
4Q	\$407	\$330	\$430		
Year	\$1,904	\$1,730	\$1,990	\$2,700	\$2,800

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

Impressive 2Q Results; Valuation Remains Rich, In Our View

Investment Highlights

- Fiscal 2Q results were well above expectations.** Non-GAAP revenues (excluding nonrecurring items and adjusted for the change in deferred revenues) were \$577 million compared to \$479 million in the year ago period, up 20%. The street consensus estimate was \$511 million. Upside was related to strong performances from powerful franchises *Grand Theft Auto* and *NBA 2K*. We were particularly impressed by *GTA Online*, essentially a never-ending adventure with regularly supplied fresh content. Non-GAAP EPS of \$1.09 exceeded the year ago figure of \$0.66 considerably. The street consensus EPS estimate was \$0.74.
- The balance sheet is in excellent shape, in our view.** Total cash, cash equivalents, and short-term investments at 9/30/17 were \$1.263 billion. Total debt was just \$52 million and shareholders' equity was \$1.472 billion.
- We believe fundamentals remain strong at the company and for the industry.** We consider the September quarter successful for TTWO and its peers, with revenues and profits generally above expectations. Digital revenues (such as game downloads, in-game microtransactions, subscriptions, etc.) are growing at a healthy pace, leading to margin benefits.
- We rate TTWO Underperform due solely to valuation.** 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 a powerful portfolio of videogame franchises. However, we believe much of these traits and optimism surrounding future earnings are 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 2Q Ended		% chg
	<u>9/30/17</u>	<u>9/30/16</u>	
Net Revenue	\$576,989	\$479,441	20.3%
Gross Profit	329,475	250,623	31.5%
Income (Loss) from Operations	162,312	95,700	69.6%
Net Income (Loss)	<u>\$128,614</u>	<u>\$74,128</u>	73.5%
Diluted Earnings Per Share*	<u>\$1.09</u>	<u>\$0.66</u>	65.4%
Avg. Diluted Shares Outst.	118,100	115,202	2.5%
% of Net Revenue:			<u>bp chg.</u>
Gross Profit	57.10%	52.27%	483
Income from Operations	28.1%	20.0%	817
Net Income	22.3%	15.5%	683

Note: Non-GAAP presentation excludes items such as the change in deferred net revenue and related cost of goods sold, business reorganization and restructuring expenses, stock-based compensation, amortization of intangibles, professional and legal fees, and the income tax effects of these items.

* Non-GAAP EPS calculations for periods shown use the "if converted" method related to TTWO's convertible securities due to achieving level of profitability that prompts such treatment.

Source: Take-Two Interactive Software, Inc.

Note: March fiscal year

Further comments on fiscal 2Q results. We were impressed with TTWO's fiscal 2Q, as results exceeded our expectations just as they have for several consecutive quarters. We were particularly impressed by the *Grand Theft Auto* and *NBA 2K* franchises. The *GTA V* full-length game was released roughly four years ago and continues to sell well today. Management noted its cumulative sales total of 85 million units, making it the industry's best-selling videogame of all time. A line extension, so to speak, is *GTA Online*, which offers fresh content and endless cooperative gameplay possibilities, with in-game purchases representing a significant and high-margin revenue stream. In addition, *NBA 2K18* was released on September 2017 and has become the best-reviewed and best-selling game in that long-standing series. The game has provided TTWO with a high percentage of digitally delivered sales and recurrent consumer spending opportunities.

Financial condition. The balance sheet remained solid, in our view. Cash, cash equivalents, and short-term investments at September 30, 2017, were \$1.263 billion. Inventories and accounts receivable were at reasonable levels, in our view. The current ratio was 1.33-to-1. Total debt (primarily a convertible note) booked on the balance sheet stood at roughly \$52 million, just 3% of total capitalization. Total debt was much higher over the past few years, but has declined mainly due to conversions. One year ago, total debt was \$511 billion, or 47% of total capitalization. Shareholders' equity at the recent quarter end was \$1.472 billion.

Outlook. We view TTWO's near-term and long-term outlooks favorably and believe the company has some of the highest quality videogame franchises in the industry. The franchise portfolio has grown dramatically in size, quality, and profitability over the past ten years, in our view. The biggest franchise continues to be *Grand Theft Auto*, and online revenue generation from *GTA V* and *GTA Online* has consistently exceeded our expectations. We assume a future release pattern that could bring a new full-length *GTA* console game perhaps every six or more years. Meanwhile, *NBA 2K*, *Mafia*, *BioShock*, *Borderlands*, *XCOM* and *Red Dead* have grown into major franchises for TTWO.

The highly anticipated *Red Dead Redemption 2* is still targeted for a Spring 2018 release (early FY19). Interest in the game is considerable, 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, 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>L.A. Noire</i>	PlayStation 4, Xbox One, Switch	November 2017
<i>WWE: 2K18</i>	Switch	Fall 2017
<i>Kerbal Space Program: Making History Expansion</i>	PC	4Q FY17
<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 update. An industry trend picking up great momentum 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 for game publishers, 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 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 the 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. Based on excellent 2Q results and a generally favorable outlook on 2H, management raised its financial guidance. Non-GAAP revenues for FY18 are projected in the \$1.93-\$2.03 billion range. Our new estimate is \$1.99 billion, well above our previous figure of \$1.73 billion. We calculate non-GAAP EPS guidance (given some variables provided by the company) to be in a range of \$2.81-\$3.00. Our new non-GAAP EPS estimate for the year is \$2.92 compared to our previous estimate of \$2.10.

The blueprint for FY19 (twelve months ending March 31, 2019) has not changed much, in our view but we sense demand may be increasing. The fiscal year is 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 \$2.800 billion (up \$100 million from our previous estimate) and non-GAAP EPS of \$4.55 (up from our previous figure of \$4.15). These increases reflect our growing confidence in the release slate, margin trends, and the 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 40.3x our FY18 EPS estimate (below average product release year) and 25.9x our FY19 EPS estimate (above average product release year that is expected to include *Red Dead Redemption 2*). This translates to a 31.5x 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 44.5x an average EPS figure of \$2.64 for the five-year period of FY14-FY18 (includes *GTA V* release in FY14) and 43.5x an average EPS figure of \$2.70 for the five-year period of FY15-FY19 (includes the expected *Red Dead Redemption 2* release in FY19).

Opinion. Substantial price appreciation this year has led to a rich valuation, in our view. For the calendar year-to-date period, TTWO shares are up 139%. 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 (31.5x an average non-GAAP EPS figure for FY18 and FY19) rich and the risk/reward outlook below our liking. 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	\$1,990,000	\$2,800,000
Total Cost of Sales	1,411,176	861,008	838,947	1,003,267	863,660	1,260,000
Gross Profit	1,002,544	807,757	721,679	900,679	1,126,340	1,540,000
Total Oper. Exp.	468,501	498,214	483,467	600,181	676,600	837,000
Operating Income	534,043	309,543	238,212	300,498	449,740	703,000
Interest Exp. & Other	10,800	14,417	6,700	(5,564)	7,000	4,000
Pre-tax Income	523,243	295,126	231,512	306,062	442,740	699,000
Income Taxes, estim.	12,521	75,882	13,214	67,334	97,403	153,780
Net Income	\$510,722	\$219,244	\$218,298	\$238,728	\$345,337	\$545,220
Non-GAAP Diluted EPS	\$4.26	\$1.98	\$1.96	\$2.10	\$2.92	\$4.55
Avg. Shares Outst.	122,608	106,822	110,424	115,900	118,800	120,000
% Yr Over Yr Chg.						
Total Revenue	97.5%	(30.9%)	(6.5%)	22.0%	4.5%	40.7%
Gross Profit	94.5%	(19.4%)	(10.7%)	24.8%	25.1%	36.7%
Total Operating Exp.	0.4%	6.3%	(3.0%)	24.1%	12.7%	23.7%
Operating Income	998.9%	(42.0%)	(23.0%)	26.1%	49.7%	56.3%
Net Income	1443.9%	(57.1%)	(0.4%)	9.4%	44.7%	57.9%
% of Net Revenue:						
Gross Profit	41.54%	48.40%	46.24%	47.31%	56.60%	55.00%
Total Oper. Expenses	19.41%	29.86%	30.98%	31.52%	34.00%	29.89%
Operating Income	22.13%	18.55%	15.26%	15.78%	22.60%	25.11%
Net Income	21.16%	13.14%	13.99%	12.54%	17.35%	19.47%

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 - \$84.56 - Neutral
Sony Corp. - SNE - \$47.47
WWE, Inc. - WWE - \$27.26 - 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	32	29%	13%	88%
Hold/Neutral	73	65%	7%	93%
Sell	7	6%	0%	100%

As of 8 November 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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