

Mizuho's U.S. Gaming Survey 2.0

Survey Says: Solid Demand for Console Games in 2017!

Summary

In December 2016, we conducted our second gaming survey of more than 630 console gamers, and we remain generally bullish for the overall video game industry as we head into 2017. More importantly, per our survey, Take Two's *Red Dead Redemption* appears to be the most anticipated game for 2017. Furthermore, most people plan to spend the same if not more on games and additional content next year, which we view as a positive, and engagement appears to be increasing.

Key Points

Engagement with console games is increasing. 60% of respondents said they are spending 3-15 hours per week vs 50% back in June. Players playing more 11-15 hour a week ticked up 300 bps from our June survey, and players playing less than two hours per week also ticked down 600 bps. **In our view, greater engagement leads to greater revenue for publishers through higher margin digital and micro-transaction revenue.**

Demand for games remains strong into next year. Respondents indicated that 83% plan to spend the same or more on video games and additional content in 2017, which is better than 69% from our June survey. This is positive as it points to how publishers have implemented a successful strategy of selling games and additional content to keep people engaged (and spending money) on those properties. **In our view, EA will need to make *Star Wars Battlefront* stand out next year, and ATVI will need to breathe new life into *CoD*.**

Red Dead 2 is the most anticipated game for next year. Based on our survey, 15% of console owners have pre-ordered the game, while 23% plan to buy it at some point in time. This indicates to us that 38% of active console players in the US, or ~10m people could buy the upcoming game. Given that there are very few details about this game, this is remarkable. As the TTWO marketing machine heats up, we expect that demand could grow significantly.

Making TTWO our top gaming pick for 2017, followed by EA. We are currently modeling about 12m units for Red Dead 2 but we think there could be upside. We also remain positive on EA, as we believe that strong BF1 unit sales will drive solid DLC revenue next year, and the upcoming Star Wars game should benefit from the next Star Wars movie.

Company	Symbol	Price (12/23)	Rating		PT
			Prior	Curr	
Activision Blizzard Inc	ATVI	\$36.50	–	Buy	\$48.00
Electronic Arts Inc.	EA	\$80.67	–	Buy	\$92.00
GameStop Corp.	GME	\$25.41	–	Buy	\$35.00
Take-Two Interactive Software, Inc.	TTWO	\$49.88	–	Buy	\$52.00
Ubisoft Entertainment SA	UBI FP	€33.28	–	Neutral	€35.00

Source: Bloomberg and Mizuho Securities USA

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Mizuho's U.S. Video Game Market Survey 2.0

We expect 2017 to be a strong year for the video game publishing stocks, based on our second U.S. Consumer Video Game survey. During mid-December, we surveyed over 630 people in the U.S. who are current-gen console owners (PS4 and Xbox One) to better understand existing and emerging video game playing trends. What is most fascinating is that most of the key trends appear to be improving in terms of core gamer time engagement, willingness to spend money on games, and enthusiasm for new platforms (like AR/VR and eSports) seems to be gaining steam. We remain bullish on the overall gaming sector as we head into 2017.

So, why are we bullish on the gaming sector?

- 1) **Gamers are engaging with multiple platforms and spending more time playing games.** Players are spending significant amounts of time in their games highlighted by 69% playing more than three hours a week. We also notice increased engagement as 60% of respondents are spending 3-15 hours per week vs 50% back in June. Players playing more 11-15 hour a week ticked up 300 bps, and players playing less than two hours a week also ticked down 600 bps.
- 2) **TTWO's *Red Dead Redemption* tops our survey as the most requested game for 2017.** Based on the results we found that 23% of console player want to buy *Red Dead Redemption 2*, which is expected to come out in fall 2017. Also, 15% of console owners have already pre-ordered, per our survey. Our very rough math comes up to about 10m units that are in demand from the game, and that is before any major details, trailers, etc. have been released.
- 3) **Gamers are spending more money than they were a year ago.** Roughly 83% of players plan to spend the same amount of money or more on games over the next year, up from 69% in our June survey. This is positive as it points to how publishers have implemented a successful strategy of selling games and additional content to keep people engaged (and spending money) on those properties.
- 4) **Plenty of room for digital gaming growth.** Per our survey, we found that 32% of players currently download full games, up from 30% in our June survey. We view these as opportunities for the publishers to drive more digital sales with console owners. In our opinion, digital revenue will be paramount to driving higher gross margins and EPS upside.
- 5) **Surprisingly, there is still some demand for *CoD: Infinite Warfare*.** Despite poor reviews and sales (per NPD and GFK data), our survey found that *CoD: Infinite Warfare* ranked as one of the top games that people purchased for the holidays. We believe that this was partially due to heavy discounting and unusual promos (like the \$1 for a copy at GameStop with a specific trade-in), as

well as gamers who wanted to play the Modern Warfare Remastered game. **If we apply the approximately 38% of respondents who said they bought the game to 25m active gaming units, we get to roughly 9.5m units in the U.S. If we gross that up for International sales (assuming international makes up 40% of CoD units), we get to approximately 13m units.**

- 6) **Interest in VR & eSports has improved dramatically since our June Survey.** More than half of the gamers in our December survey were interested in eSports and buying a VR which is up from the 30% and 20% we found our June Survey respectively. We expect Sony with PS VR to benefit on the VR side, and Activision to benefit the most from eSports as it aggressively builds out its eSports platform and leagues (like the Overwatch League).

Our Top Picks for 2017 are TTWO and EA. We believe that TTWO should see significant revenue and EPS growth from the launch of Red Dead Redemption 2, and could see a very nice tailwind of high margin digital sales to follow. We like the steady-eddy margin story at EA, and EA should benefit from Battlefield DLC, Mass Effect 4 units and DLC, and a new Star Wars game.

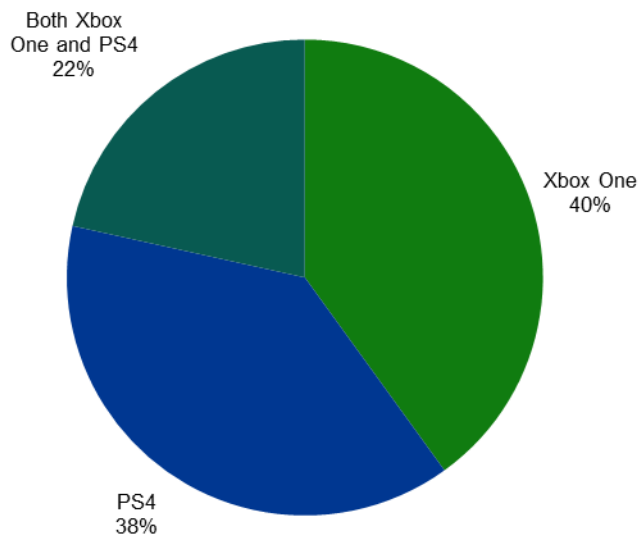
And now, we move on to the Mizuho Video Game Market Survey results:

1. Overall Video Games

Gaming Platforms

Per our second Mizuho Video Game Market survey, 62% own an Xbox1, and 60% own a PS4. However, the split of PS4 and XB1 units sold in the U.S is 53%/47% according to NPD data, while our survey had figures flipped for PS4 and XB1. We note that 21% of these respondents own both console systems up from 15% in June 2016. Based on NPD data, the cumulative unit sales for PS4 and XB1 are 30m units, out of which 28m expected to be actively used for gaming and since 15%-21% overlaps, we estimate that there are approximately ~25m households with at least one console.

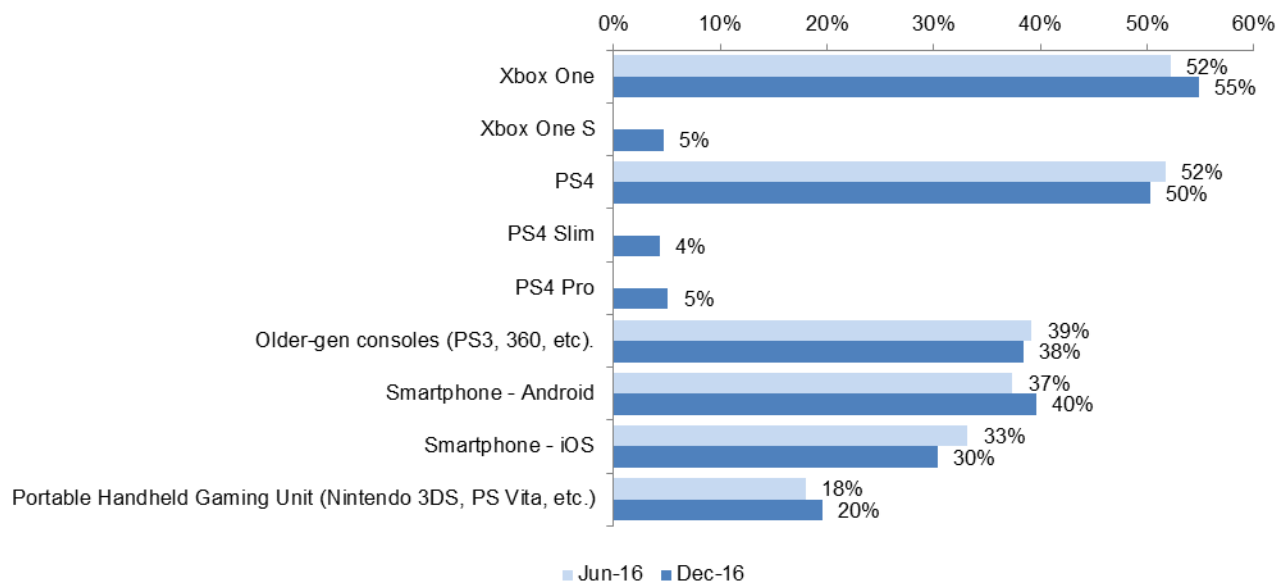
Exhibit 1: Question 1: Do You Own an Xbox One or PS4?



Source: MSUSA; Survata, N=632 (December 2016)

Of those that own a current-gen console, we see that 5% already have a XB1 S, 4% have the PS4 Slim, and 5% have the PS4 Pro. Furthermore, roughly 2/3 play games on their smartphones – less than what we would have expected. In our view, this highlights that mobile still has a long way to go in capturing the hearts of core players.

Exhibit 2: Which Video Game Platforms Do You Play Games On (Select All That Apply)?

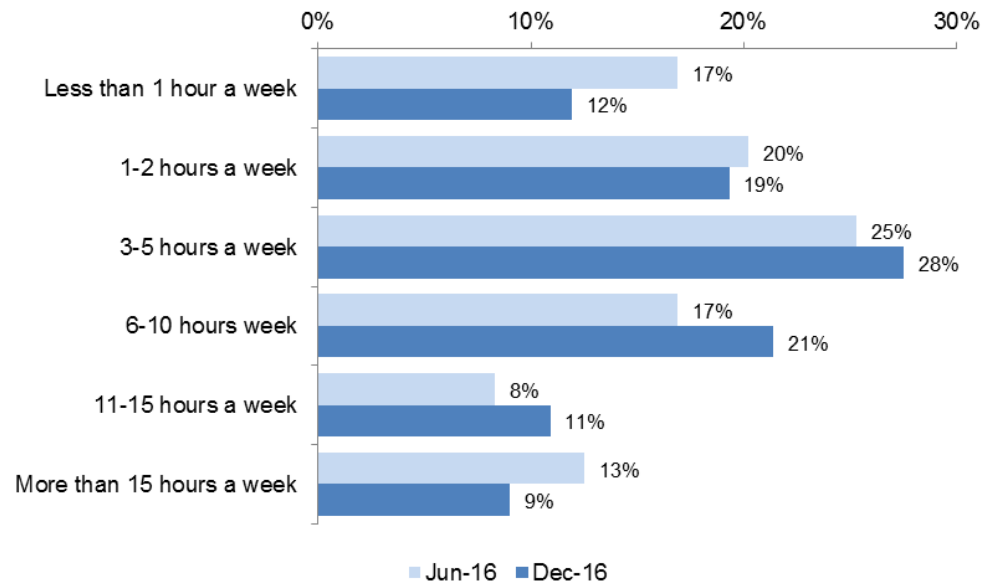


Source: MSUSA, SurveyMonkey, N=807 (June 2016); Survata, N=632 (December 2016)

Playing Trends: Engagement Is Positive

Players are spending significant amounts of time in their games highlighted by 69% playing more than three hours a week. We also notice increased engagement as 60% of respondents said they spending 3-15 hours per week, which is up from the 50% who said this back in our June survey. Players playing more 11-15 hour a week ticked up 300 bps, and players playing less than two hours a week also ticked down 600 bps!

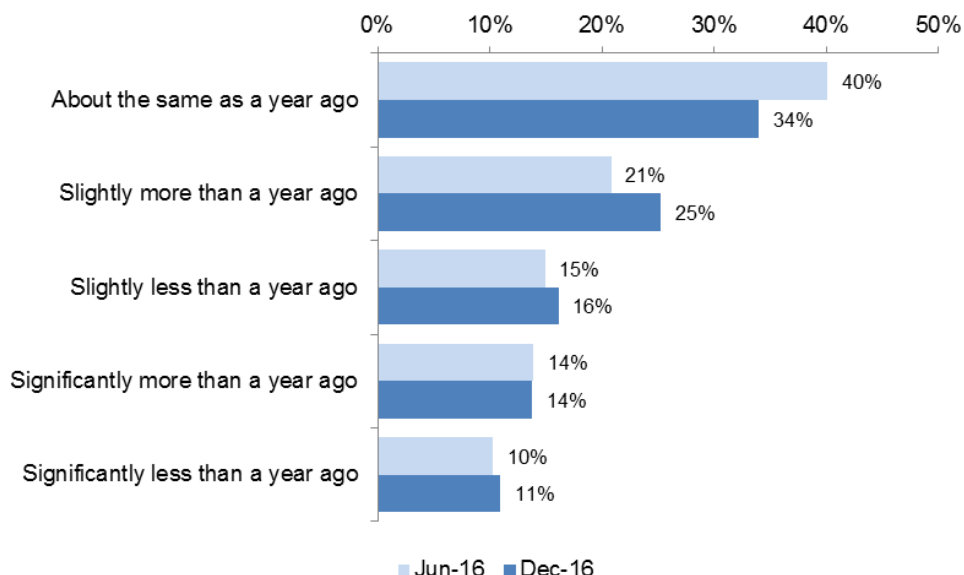
Exhibit 3: How Often Do You Play Video Console Games?



Source: MSUSA, SurveyMonkey, N=807 (June 2016); Survata, N=632 (December 2016)

Gamers also said that they are more engaged now than before -- 73% of players are playing the same or more than a year ago versus 27% who are playing less than they were a year ago. We give credit to the publishers for releasing more content in a timely manner for key games to drive engagement and playing time up.

Exhibit 4: Over Past 12 months, I Am Playing Console Video Games...



Source: MSUSA, SurveyMonkey, N=807 (June 2016); Survata, N=632 (December 2016)

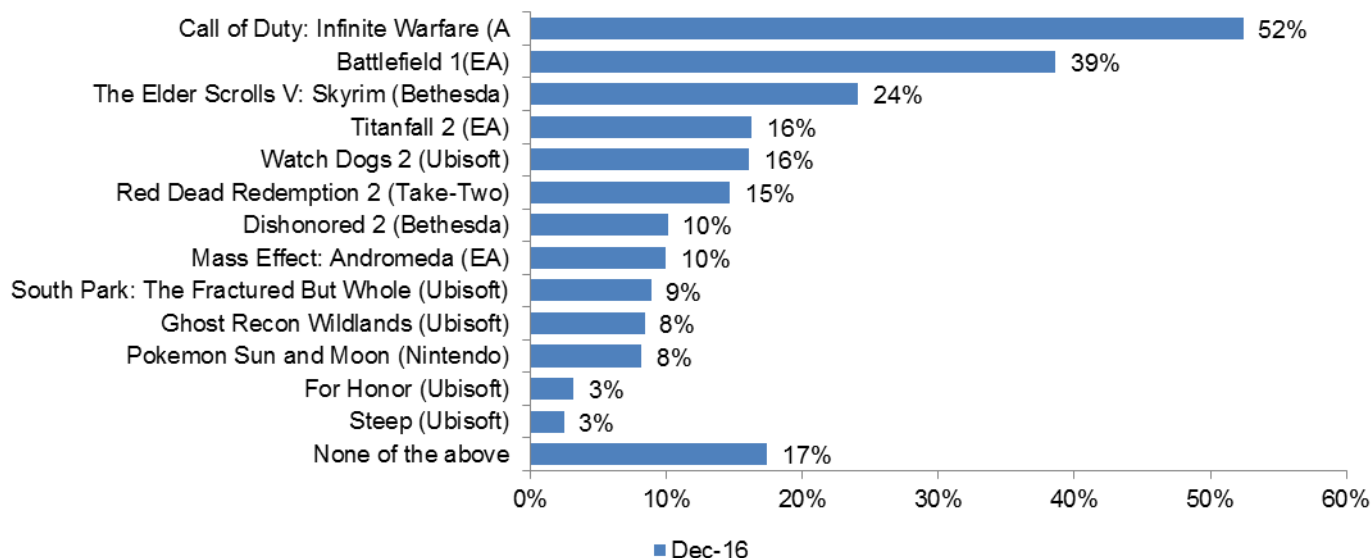
2. Console Games for 2016 and 2017

The most owned title was *Call of Duty: Infinite Warfare*

Per our survey, the most bought game was *Call of Duty: Infinite Warfare* as 52% of respondents said that they own the game. This was surprising to us, given the weak NPD and GFK data, as well as poor receptivity that the game received from the gaming community. Part of this could be due to the heavy discounting we saw (GameStop had a \$1 promotion with a trade-in), and many people may have purchased the game for the ability to play *Modern Warfare Remastered*. We believe that ATVI could sell *MW Remastered* as a separate SKU in 2017 for \$20-\$30.

Battlefield 1, *The Elder Scrolls V: Skyrim*, *Titanfall 2*, and *Watch_Dogs 2* followed *CoD: IW* with 39%, 24%, 16%, and 16%. Based on MSUSA estimation of ~25m console households we can estimate that approximately ~13m units of *CoD: IW* were sold, ~10m *BF1*, ~6m *Skyrim*, ~4m *TF2*, and ~4m *Watch_Dogs 2*.

Exhibit 5: Which of These Video Games Do You Own? Select All That Apply

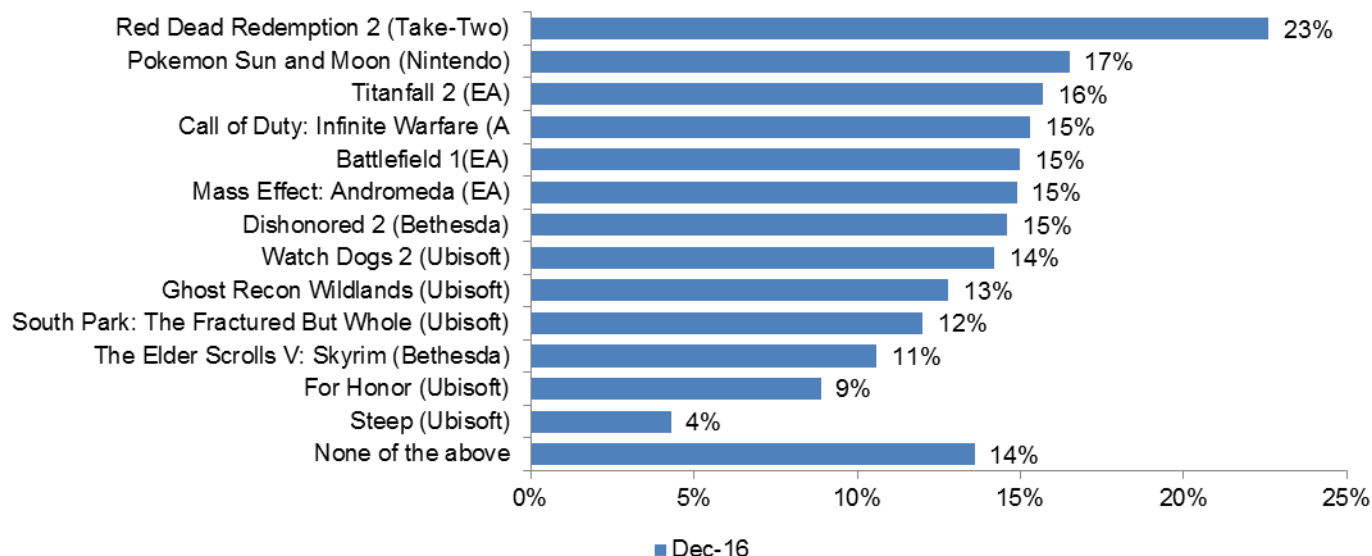


Source: MSUSA, Survata, N=632 (December 2016)

The top title on everyone's list: *Red Dead Redemption 2*

In our survey we looked for the most anticipated games going forward. Based on the results we see that 23% of console player want to buy the *Red Dead Redemption 2* coming out fall 2017. We estimate this to be around ~6m units; note that our survey also indicated that 15% console owners have already pre-ordered the game which is an additional ~4m units. We also found that 16%, 15%, and 15% respondents plan to still buy *TF2*, *CoD: IW*, and *BF1* respectively which could be up ~4m additional units for each of the games.

Exhibit 6: Which of These Video Games Do You Plan to Buy? Select All That Apply

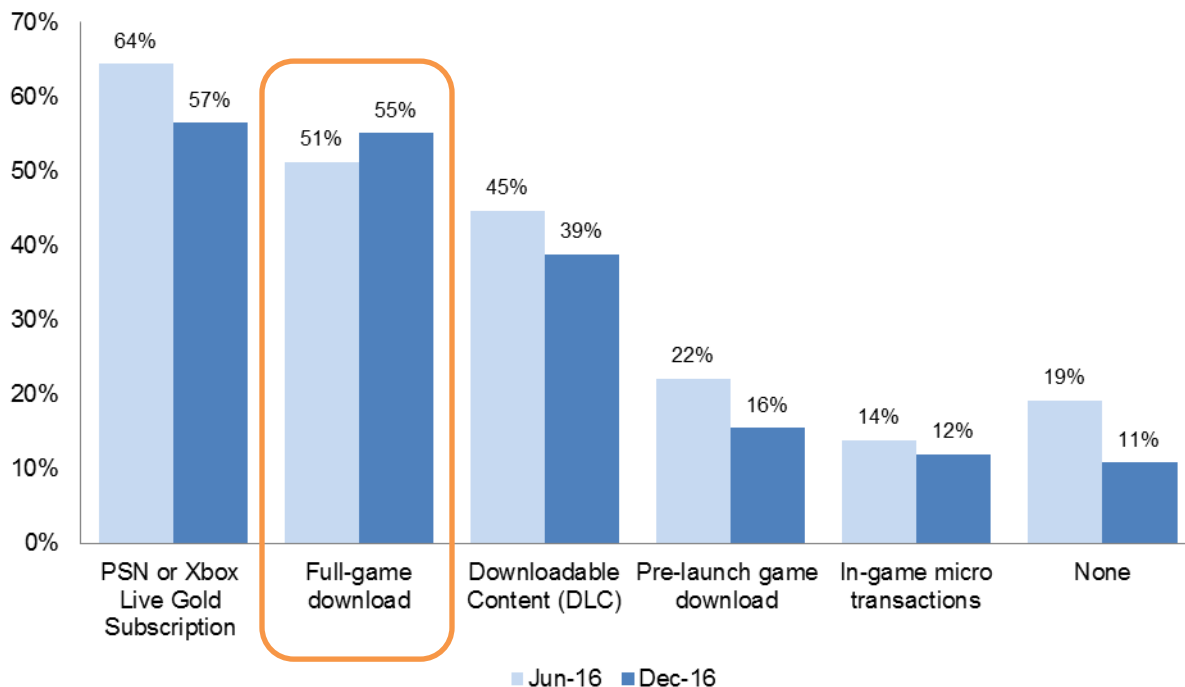


Source: MSUSA, Survata, N=632 (December 2016)

Digital Services

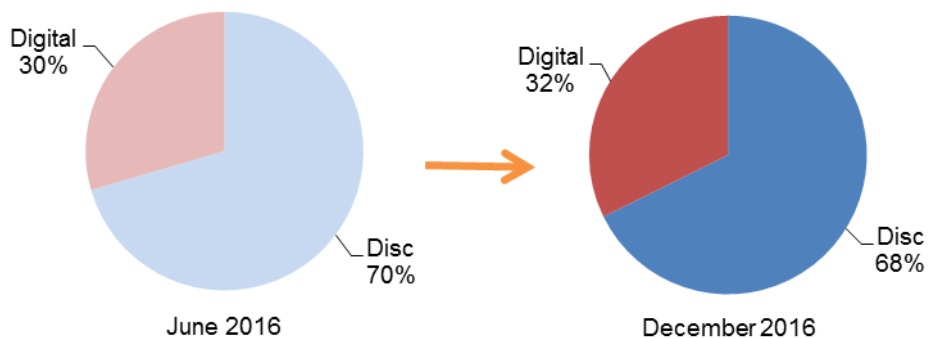
Our survey indicated 55% of current-gen console owners have downloaded a digital copy of a game, but only about 32% of players regularly do so. This is in-line with our expectations based on commentary from the major publishers. Although we believe digital sales will continue to grow as a percentage of software sales, we believe the shift to digital will likely be a longer runway than widely perceived owing to various factors such as U.S. broadband speeds are slower than assumed, hard drive storage limits as games get bigger, home broadband penetration has plateaued, and entrenched used ecosystem.

Exhibit 7: Which of the Following Digital Services or Products Do You Use for Your Gaming Console? Select All That Apply



Source: MSUSA, SurveyMonkey, N=807 (June 2016); Survata, N=632 (December 2016)

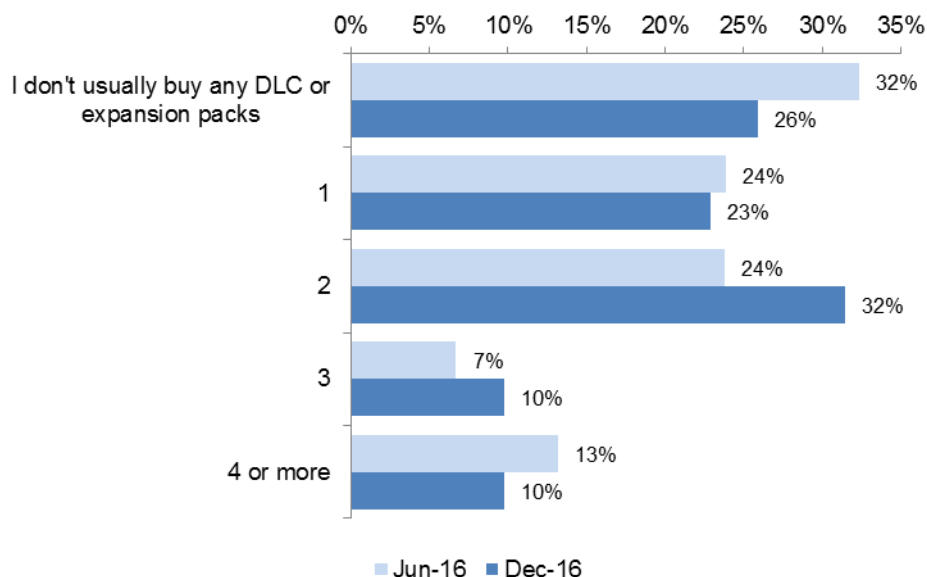
Exhibit 8: Do You Usually Buy Physical Video Game Discs or Do You Download Digital Copies of Games?



Source: MSUSA, SurveyMonkey, N=807 (June 2016); Survata, N=632 (December 2016)

Our survey also indicated 75% of current-gen owners have downloaded digital DLC which is higher than we expected. Since June the number of people who don't usually buy any DLC dropped from 32% to 26% in December and the number of people who buy two and three DLCs went up from 24% to 32% and 7% to 10%, respectively.

Exhibit 9: On Average, How Many DLC / Expansion Packs Do You Usually Buy for Console Games That You Play?



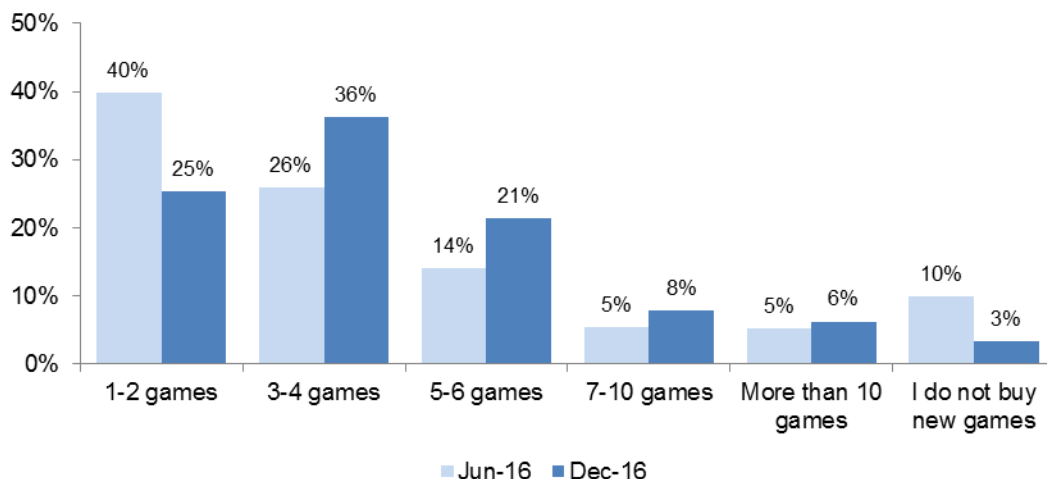
Source: MSUSA, SurveyMonkey, N=652 (June 2016); Survata, N=632 (December 2016)

New / Used Games

Although 97% of players purchase new games, 84% of players also purchase used games which is up significantly from 68% in June, which makes us incrementally more positive regarding the strength of the used games ecosystem, particularly for GameStop (the company does generate north of \$1B in trade-in credits annually). We also believe the 16% of players that do not buy used games are likely those that are most keen to digital downloads and it'll be interesting to see if that number grows in the future.

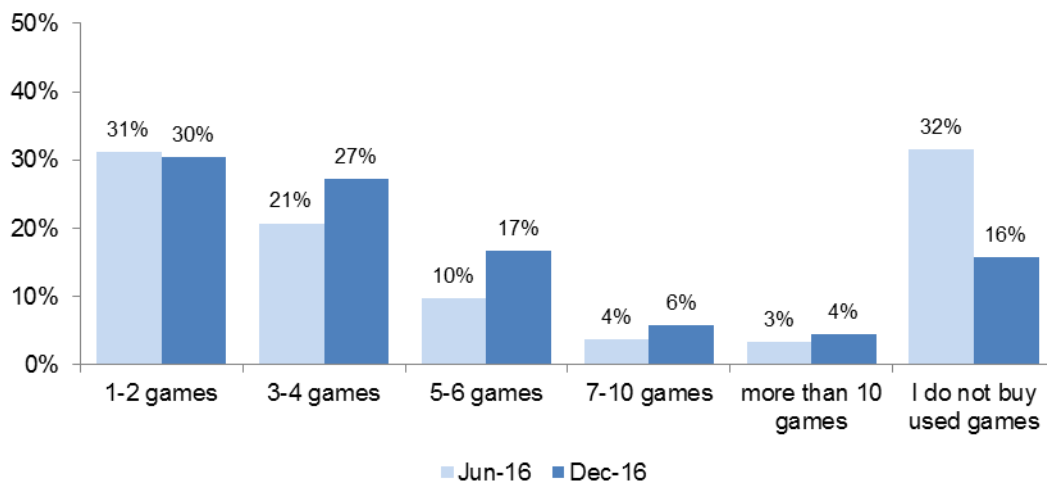
We also saw that players are interested in more games than before. For **NEW** games players who buy 1-2 games went from 40% to 25% while the number of players who buy 3-4 went from 26% to 36%, 5-6 went from 14% to 21%, and 7-10 went from 5% to 8%. For **USED** games the number of people interested in 3-4 games went from 21%-27%, 5-6 went from 10% to 17%, and 7-10 went from 4% to 6%.

Exhibit 10: How Many NEW Console Games Do You Purchase Each Year, On Average?



Source: MSUSA, SurveyMonkey, N=807 (June 2016); Survata, N=632 (December 2016)

Exhibit 11: How Many USED Console Games Do You Purchase Each Year, On Average?



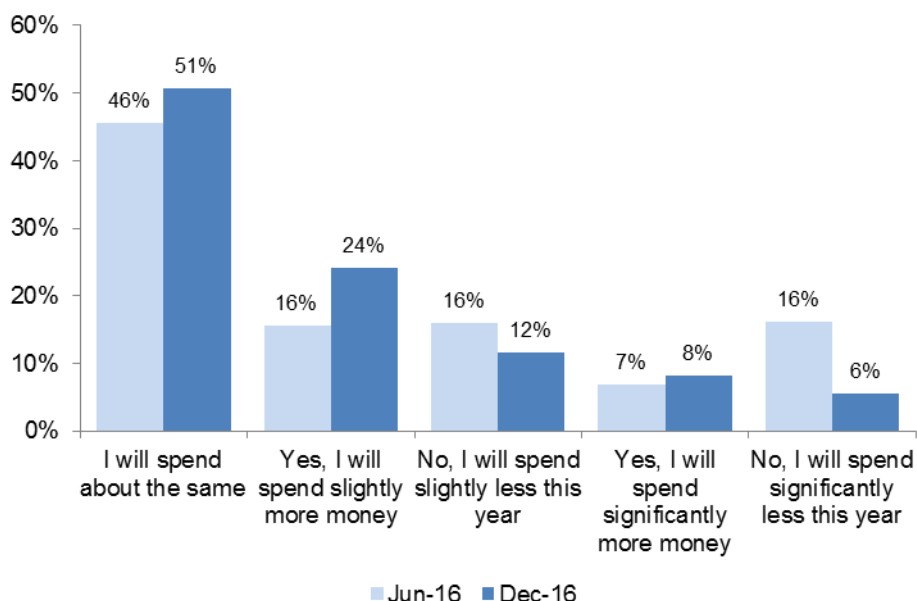
Source: MSUSA, SurveyMonkey, N=807 (June 2016); Survata, N=632 (December 2016)

Spending Trends

Roughly 83% of players plan to spend the same amount of money or more on games over the next year, up from 69% in June: 17% plan to spend less. We believe consumers will increasingly focus their discretionary dollars on fewer, bigger, better titles that will also benefit from additional follow-on content. Furthermore, this points to how publishers have implemented a successful strategy of selling games

and additional content to keep people engaged (and spending money) on those properties

Exhibit 12: Do You Think You Will Spend More Money on Games and Additional Content Over the Next 12 Months Than You Did Over Last 12 Months?

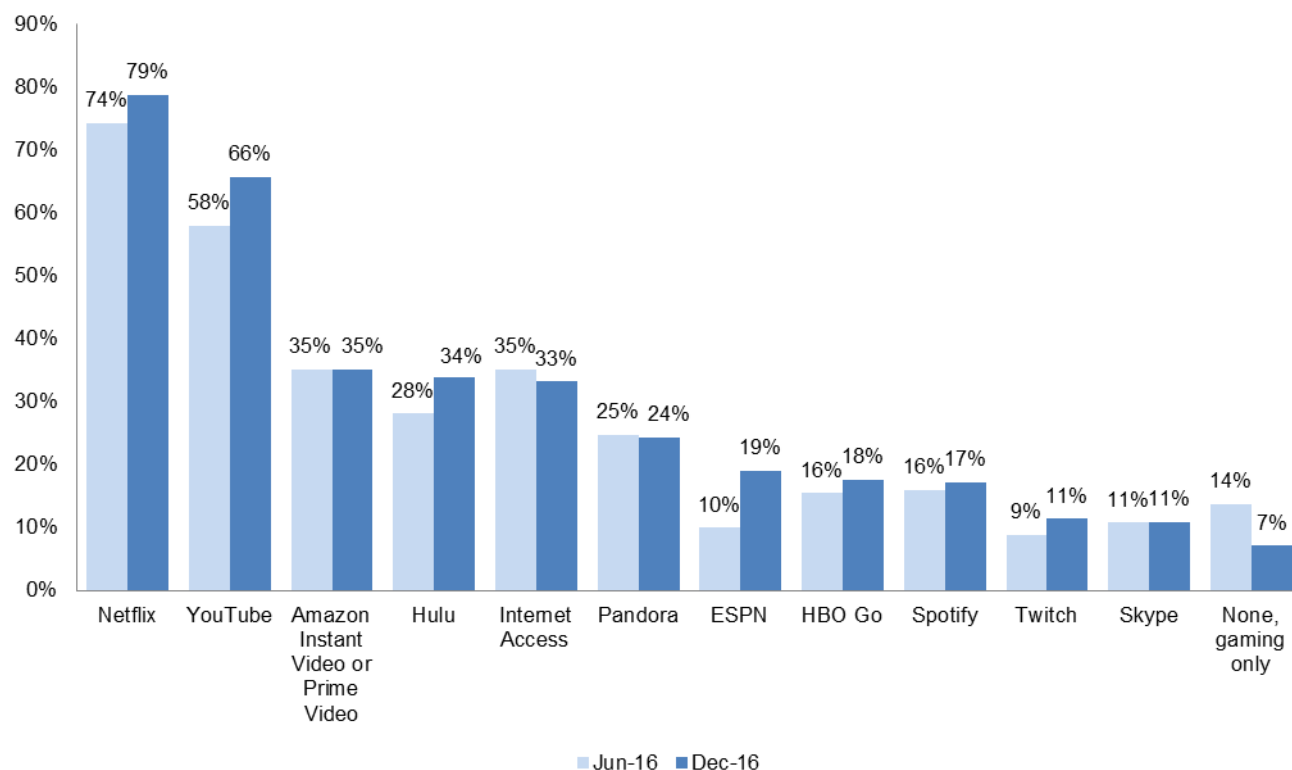


Source: MSUSA, SurveyMonkey, N=807 (June 2016); Survata, N=632 (December 2016)

3. Other Digital Media Services

In our survey we looked at what PS4 and Xbox One owners do with their consoles aside from playing games. We found that 93% of our respondents use their consoles for other forms of entertainment as well, which we believe helps boost demand for this (and subsequent) generations of hardware consoles, and the percentage of people that stream video services from their consoles increased from our June survey. The most popular use of the gaming console outside of gaming is Netflix -- 79% of respondents watch Netflix on their console, up from 74%. We found that 66% are using YouTube (up from 58%), 35% are using Amazon Prime Video (no change), 34% are using Hulu (up from 28% in June).

Exhibit 13: Aside from Gaming, How Do You Use Your Gaming Console? (Select All That Apply)



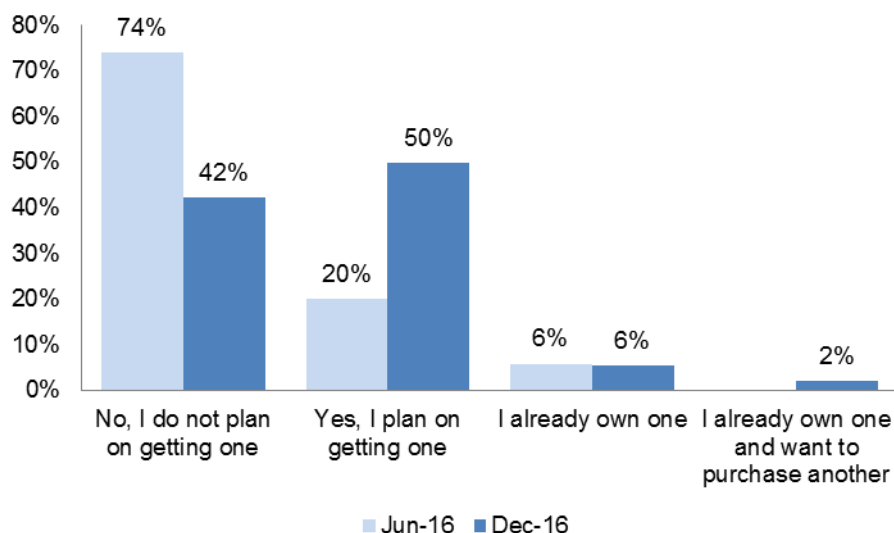
Source: MSUSA, SurveyMonkey, N=807 (June 2016); Survata, N=632 (December 2016)

4. Virtual Reality – Could 2017 Be A Tipping Point?

In regards to virtual reality, we found 50% of current-gen console owners plan on purchasing a VR headset, which is significant improvement from 20% that was interested in VR in June. We believe awareness of VR is improving and more people are getting a hands-on experience with VR technology. Also, the Sony VR launched in October which may have been the primary driver for the increased interest.

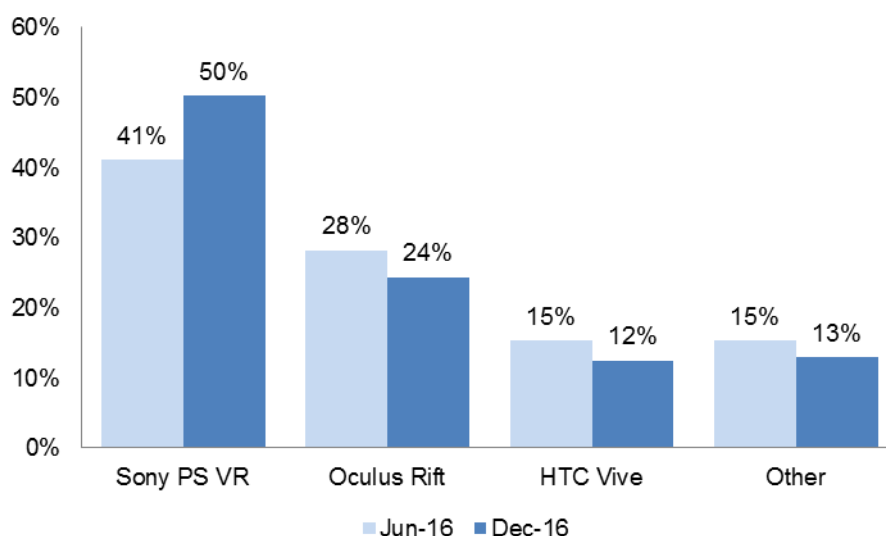
50% were interested in the Sony PS VR while 24% indicated interest in the Oculus Rift and 12% wanting the HTC Vive. We believe that Oculus will need to launch a cheaper, more user-friendly version of its VR headset if it is to gain share.

Exhibit 14: Do You Plan on Buying a Fully Integrated Virtual Reality (VR) Headset (Excluding Google Cardboard and Samsung VR) in The Next 12 months?



Source: MSUSA, SurveyMonkey, N=807 (June 2016); Survata, N=632 (December 2016)

Exhibit 15: If You Own a VR Device, Which One Do You Own? If You Don't Own One but Plan on Buying One in the Next 12-18 Months, Which VR Device Do You Plan on Buying?

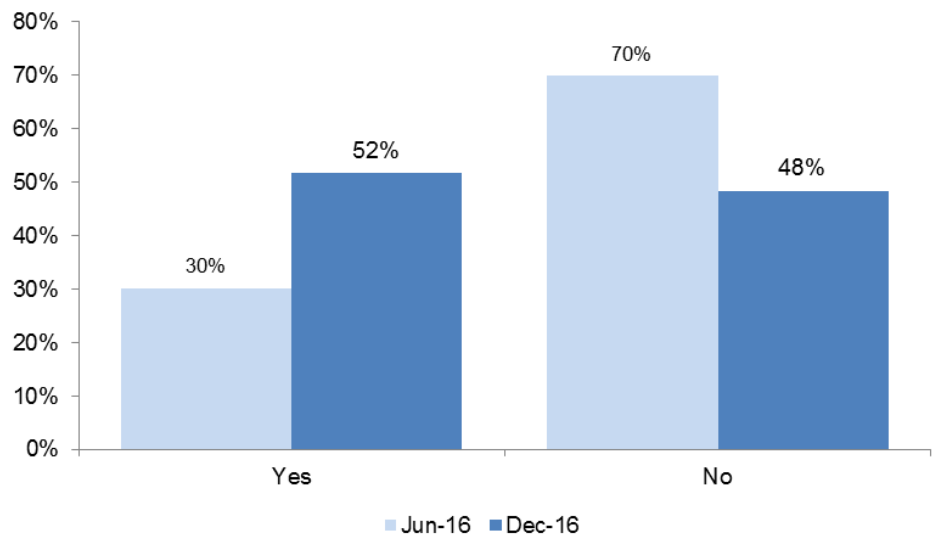


Source: MSUSA, SurveyMonkey, N=209 (June 2016); Survata, N=378 (December 2016)

5. eSports

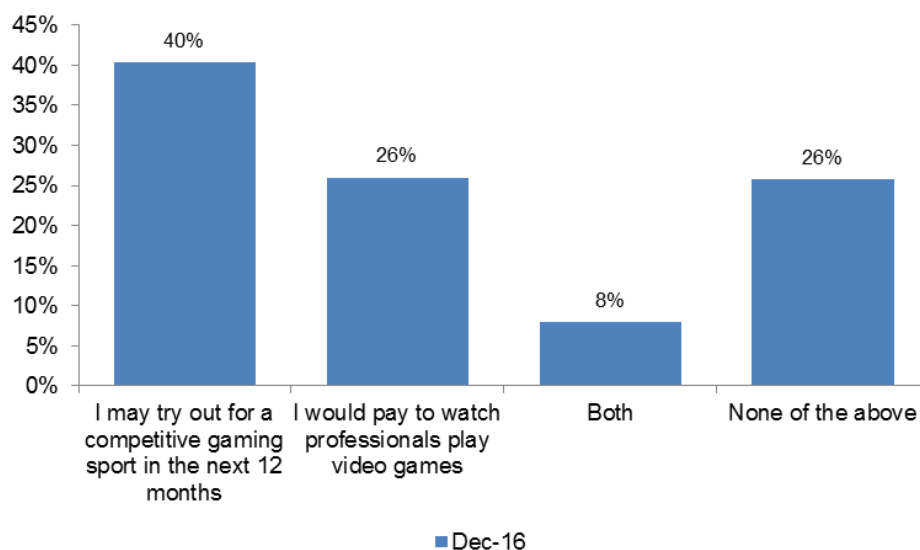
In 2015 eSports generated global revenue of approximately \$748 million with a viewership of approximately 188 million worldwide according to SuperData Research. What was most interesting was that 52% of our most recent survey respondents expressed interest in eSports/Competitive gaming, vs. 30% back in June. Digging deeper, we found that 40% of console players have an interest to compete, while 26% would be willing to pay to watch competitive gaming. With Activision aggressively building out the Overwatch League, and other publishers building out their eSports franchises, we believe that interest in starting to accelerate.

Exhibit 16: Do You Have Interest in eSports or Competitive Gaming?



Source: MSUSA, SurveyMonkey, N=807 (June 2016); Survata, N=632 (December 2016)

Exhibit 17: Which Best Describes Your Interest In eSports Or Competitive Gaming?



Source: MSUSA, Survata, N=327 (December 2016)

Demographic Data

For our second survey, the demographic split was approximately 52% male, and 48% female. When we cut the data via age group, we had 19% between 18-24 years, 43% between 25-34 years, 21% between 35-44 years and 15% were 45+. This split is roughly in-line with our original survey we did back in June 2016.

Exhibit 18: ATVI Model

ATVI Non-GAAP Income Statement ((\$M except share and per-share amounts))													2013	2014	2015	2016E	2017E
	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17					
Non-GAAP Net Revenue	\$703	\$759	\$1,040	\$2,118	\$908	\$1,609	\$1,630	\$2,395	\$1,175	\$1,393	\$1,640	\$2,523	\$4,341	\$4,813	\$4,620	\$6,542	\$6,732
Total Cost of Sales	195	189	355	737	257	399	425	884	354	348	415	860	1,479	1,684	1,476	1,965	1,977
Cost of sales - product costs	91	81	175	474	86	105	95	443	94	84	87	404	1,036	1,006	821	729	669
Cost of sales - game ops and distribution costs	58	69	81	83	136	248	242	251	216	226	240	260	210	253	291	877	942
Cost of sales - product sw royalties and amort	21	10	94	172	31	39	67	182	39	32	66	189	182	394	297	319	326
Cost of sales - subs/lic/other sw royalties and amort	25	29	5	8	4	7	21	7	5	6	21	8	51	31	67	39	40
Gross Profit	508	570	685	1,381	651	1,210	1,205	1,511	821	1,045	1,226	1,663	2,862	3,129	3,144	4,577	4,754
Operating Expenses	304	397	434	543	399	622	630	699	504	549	629	714	1,508	1,602	1,678	2,350	2,396
Product Development	138	143	153	188	165	236	238	259	211	201	236	267	552	549	622	898	916
Sales and Marketing	90	162	187	287	132	240	257	297	162	204	254	305	598	704	726	926	925
General and administrative	76	92	94	68	102	146	135	144	131	143	139	141	358	349	330	527	555
Operating Income	204	173	251	838	252	588	575	812	317	496	596	949	1,354	1,527	1,466	2,227	2,358
Interest and other investment income	(50)	(50)	(51)	(49)	(51)	(64)	(53)	(45)	(45)	(45)	(45)	(45)	(53)	(202)	(200)	(213)	(180)
Income before taxes	154	123	200	789	201	524	522	767	272	451	551	904	1,301	1,325	1,266	2,014	2,178
Income tax expense	38	30	42	167	28	120	125	184	65	108	132	217	301	268	277	457	523
Net Income	\$116	\$93	\$158	\$622	\$173	\$404	\$397	\$583	\$206	\$343	\$419	\$687	\$1,000	\$1,057	\$989	\$1,557	\$1,655
Non-GAAP EPS, Fully Diluted	\$0.16	\$0.13	\$0.21	\$0.83	\$0.23	\$0.54	\$0.52	\$0.76	\$0.27	\$0.45	\$0.54	\$0.89	\$0.94	\$1.42	\$1.33	\$2.04	\$2.14
Diluted Shares Outstanding	741	744	747	750	750	753	758	765	767	768	770	771	1,060	745	746	762	775
Adjusted EBITDA	\$223	\$193	\$275	\$861	\$267	\$619	\$606	\$812	\$337	\$516	\$616	\$969	\$1,439	\$1,604	\$1,552	\$2,304	\$2,438
YoY Growth																	
Revenue	(9%)	15%	(11%)	(4%)	29%	112%	57%	13%	29%	(13%)	1%	5%	(13%)	11%	(4%)	42%	3%
Operating Expenses	(5%)	16%	3%	5%	31%	57%	45%	29%	26%	(12%)	(0%)	2%	(7%)	6%	5%	40%	2%
Adjusted EBITDA	(13%)	47%	(2%)	(8%)	20%	221%	120%	(6%)	26%	(17%)	2%	19%	(20%)	11%	(3%)	48%	6%
Operating Income	(15%)	53%	(3%)	(8%)	24%	240%	129%	(3%)	26%	(16%)	4%	17%	(20%)	13%	(4%)	52%	6%
EPS	(17%)	101%	(9%)	(12%)	47%	329%	147%	(8%)	17%	(17%)	4%	17%	(20%)	50%	(6%)	54%	5%
Margin Analysis																	
Gross Margin	72.3%	75.1%	65.9%	65.2%	71.7%	75.2%	73.9%	63.1%	69.8%	75.0%	74.7%	65.9%	65.9%	65.0%	68.1%	70.0%	70.6%
Adjusted EBITDA Margin	31.7%	25.4%	26.4%	40.7%	29.4%	38.5%	37.2%	33.9%	28.6%	37.1%	37.6%	38.4%	33.1%	33.3%	33.6%	35.2%	36.2%
Operating Margin	29.0%	22.8%	24.1%	39.6%	27.8%	36.5%	35.3%	33.9%	26.9%	35.6%	36.4%	37.6%	31.2%	31.7%	31.7%	34.0%	35.0%
Tax Rate	24.7%	24.4%	21.0%	21.2%	13.9%	22.9%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	23.1%	20.2%	21.9%	22.7%	24.0%
Cost Analysis																	
Cost of sales - product costs	12.9%	10.7%	16.8%	22.4%	9.5%	6.5%	5.8%	18.5%	8.0%	6.0%	5.3%	16.0%	23.9%	20.9%	17.8%	11.1%	9.9%
Cost of sales - online	8.3%	9.1%	7.8%	3.9%	15.0%	15.4%	14.8%	10.5%	18.4%	16.2%	14.6%	10.3%	4.8%	5.3%	6.3%	13.4%	14.0%
COGS (Prod/Online)	21.2%	19.8%	24.6%	26.3%	24.4%	21.9%	20.7%	29.0%	26.4%	22.2%	20.0%	26.3%	28.7%	26.2%	24.1%	24.6%	23.9%
COGS (Prod/Online) - redefined																	
Cost of sales - software royalties and amortization	3.0%	1.3%	9.0%	8.1%	3.4%	2.4%	4.1%	7.6%	3.3%	2.3%	4.0%	7.5%	4.2%	8.2%	6.4%	4.9%	4.8%
Cost of sales - intellectual property/licenses	3.6%	3.8%	0.5%	0.4%	0.4%	0.4%	1.3%	0.3%	0.4%	0.4%	1.3%	0.3%	1.2%	0.6%	1.5%	0.6%	0.6%
Product development	19.6%	18.8%	14.7%	8.9%	18.2%	14.7%	14.6%	10.8%	18.0%	14.5%	14.4%	10.6%	12.7%	11.4%	13.5%	13.7%	13.6%
Sales and Marketing	12.8%	21.3%	18.0%	13.6%	14.5%	14.9%	15.8%	12.4%	13.8%	14.6%	15.5%	12.1%	13.8%	14.6%	15.7%	14.2%	13.7%
General and administrative	10.8%	12.1%	9.0%	3.2%	11.2%	9.1%	8.3%	6.0%	11.1%	10.3%	8.5%	5.6%	8.2%	7.3%	7.1%	8.1%	8.2%
OpEx Incl Royalties	49.8%	57.4%	51.3%	34.1%	47.8%	41.5%	44.0%	37.1%	46.7%	42.1%	43.7%	36.1%	40.1%	42.1%	44.2%	41.4%	41.0%

Source: Company reports and Mizuho Securities estimates

Source: Company Reports, MSUSA Estimate

Exhibit 19: EA Model

EA Non-GAAP Income Statement (FY Ends March 31, \$Ms Except EPS)													F2014	F2015	F2016	F2017E	F2018E
	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16	Mar-17					
Total Revenue (Non-GAAP)	\$775	\$1,220	\$1,428	\$896	\$693	\$1,146	\$1,803	\$924	\$682	\$1,098	\$2,044	\$1,118	\$4,021	\$4,319	\$4,566	\$4,942	\$5,186
Costs of Goods Sold	231	414	388	220	161	397	534	213	165	388	532	255	1,285	1,253	1,305	1,339	1,378
Gross Profit	544	806	1,040	676	532	749	1,269	711	517	710	1,513	863	2,736	3,066	3,261	3,603	3,808
Research and Development	249	238	261	264	270	240	240	256	267	264	298	268	1,035	1,012	1,006	1,098	1,114
Marketing and Sales	126	177	163	160	118	149	185	146	121	135	200	159	654	626	598	615	622
General and Administrative	84	82	97	89	84	90	86	97	95	99	104	105	330	352	357	403	410
Total Operating Expenses	459	497	521	513	472	479	511	499	483	498	603	532	2,019	1,990	1,961	2,116	2,147
Operating Income	\$85	\$309	\$519	\$163	\$60	\$270	\$758	\$212	\$34	\$212	\$910	\$331	\$717	\$1,076	\$1,300	\$1,487	\$1,661
Adjusted EBITDA	\$116	\$342	\$551	\$193	\$90	\$300	\$789	\$240	\$63	\$240	\$938	\$359	\$843	\$1,202	\$1,419	\$1,601	\$1,775
Interest and other income (expense), net	(3)	0	(1)	3	3	2	6	(5)	(6)	(3)	(3)	(3)	(5)	(1)	6	(15)	(40)
Income (loss) before provision for (benefit from) income	82	309	518	166	63	272	764	207	28	209	907	328	712	1,075	1,306	1,472	1,621
Provision for income taxes	21	77	130	41	14	60	168	46	6	44	190	69	178	269	288	309	340
Net Income	\$61	\$232	\$388	\$125	\$49	\$212	\$596	\$161	\$22	\$165	\$717	\$259	\$534	\$806	\$1,018	\$1,163	\$1,281
EPS (Non-GAAP)	\$0.19	\$0.73	\$1.22	\$0.39	\$0.15	\$0.65	\$1.83	\$0.50	\$0.07	\$0.53	\$2.28	\$0.82	\$1.70	\$2.51	\$3.14	\$3.70	\$4.06
Basic shares	313	313	311	310	311	312	311	307	301	301	302	303	308	312	310	302	304
Diluted shares	321	319	319	324	325	326	325	319	313	314	315	315	314	321	324	314	316
Margin Analysis (Non-GAAP)																	
Gross Margin	70.2%	66.1%	72.8%	75.4%	76.8%	65.4%	70.4%	76.9%	75.8%	64.7%	74.0%	77.2%	68.0%	71.0%	71.4%	72.9%	73.4%
Research and Development	32.1%	19.5%	18.3%	29.5%	39.0%	20.9%	13.3%	27.7%	39.1%	24.0%	14.6%	24.0%	25.7%	23.4%	22.0%	22.2%	21.5%
Marketing and Sales	16.3%	14.5%	11.4%	17.9%	17.0%	13.0%	10.3%	15.8%	17.7%	12.3%	9.8%	14.2%	16.3%	14.5%	13.1%	12.4%	12.0%
General and Administrative	10.8%	6.7%	6.8%	9.9%	12.1%	7.9%	4.8%	10.5%	13.9%	9.0%	5.1%	9.4%	8.2%	8.2%	7.8%	8.2%	7.9%
Op Income Margin	11.0%	25.3%	36.3%	18.2%	8.7%	23.6%	42.0%	22.9%	5.0%	19.3%	44.5%	29.6%	17.8%	24.9%	28.5%	30.1%	32.0%
EBITDA Margin	15.0%	28.0%	38.6%	21.5%	13.0%	26.2%	43.8%	26.0%	9.2%	21.9%	45.9%	32.1%	21.0%	27.8%	31.1%	32.4%	34.2%
Effective income tax rate	25.6%	24.9%	25.1%	24.7%	22.2%	22.1%	22.0%	22.2%	21.4%	21.0%	21.0%	21.0%	25.0%	25.0%	22.1%	21.0%	21.0%
Net Income Margin	7.9%	19.0%	27.2%	14.0%	7.1%	18.5%	33.1%	17.4%	3.2%	15.0%	35.1%	23.2%	13.3%	18.7%	22.3%	23.5%	24.7%
<i>Op Income (Non-GAAP) Margin, TTM</i>	<i>22.4%</i>	<i>25.2%</i>	<i>25.8%</i>	<i>24.9%</i>	<i>24.8%</i>	<i>24.3%</i>	<i>27.6%</i>	<i>28.5%</i>	<i>28.0%</i>	<i>27.0%</i>	<i>28.8%</i>	<i>30.1%</i>	<i>17.8%</i>	<i>24.9%</i>	<i>28.5%</i>	<i>30.1%</i>	<i>32.0%</i>
Growth Rate Y/Y (non-GAAP)																	
Revenue	56.6%	17.3%	(9.2%)	(2.0%)	(10.6%)	(6.1%)	26.3%	3.1%	(1.6%)	(4.2%)	13.4%	21.0%	6.0%	7.4%	5.7%	8.2%	4.9%
Gross Profit	72.2%	25.5%	(2.9%)	(4.4%)	(2.2%)	(7.1%)	22.0%	5.2%	(2.8%)	(5.2%)	19.2%	21.3%	9.4%	12.1%	6.4%	10.5%	5.7%
Research and Development	(3.5%)	(8.5%)	4.4%	(1.1%)	8.4%	0.8%	(8.0%)	(3.0%)	(1.1%)	10.0%	24.4%	4.8%	(4.3%)	(2.2%)	(0.6%)	9.1%	1.5%
Marketing and Sales	(10.0%)	12.0%	(21.3%)	7.4%	(6.3%)	(15.8%)	13.5%	(8.8%)	2.5%	(9.4%)	8.3%	8.7%	(11.6%)	(4.3%)	(4.5%)	2.9%	1.2%
General and Administrative	6.3%	1.2%	16.9%	2.3%	0.0%	9.8%	(11.3%)	9.0%	13.1%	10.0%	21.2%	8.3%	5.8%	6.7%	1.4%	13.0%	1.7%
Operating Income	(152.8%)	116.1%	(2.3%)	(20.1%)	(29.4%)	(12.6%)	46.1%	30.1%	(43.3%)	(21.5%)	20.0%	56.0%	95.4%	50.1%	20.8%	14.4%	11.7%
Provision for tax	(152.5%)	120.0%	(2.3%)	(18.0%)	(33.3%)	(22.1%)	29.2%	12.2%	(57.1%)	(26.9%)	13.1%	50.0%	74.5%	51.1%	7.1%	7.3%	10.2%
Net Income	(150.4%)	121.0%	(2.5%)	(17.8%)	(19.7%)	(8.6%)	53.6%	28.8%	(55.1%)	(22.1%)	20.3%	60.8%	102.3%	50.9%	26.3%	14.2%	10.2%
EPS (Non-GAAP)	(147.7%)	118.9%	(3.1%)	(19.0%)	(20.7%)	(10.6%)	50.8%	30.8%	(51.5%)	(19.1%)	24.1%	62.8%	101.3%	47.8%	25.1%	17.7%	9.7%

Source: Company reports and Mizuho Securities estimates

Source: Company Reports, MSUSA Estimate

Exhibit 20: TTWO Model

TTWO Non-GAAP Income Statement																
(\$000 except share and per-share amount)													F2014	F2015	F2016	F2017E
	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16	Mar-17				
Net Revenue	\$151,611	\$135,442	\$953,976	\$427,736	\$366,392	\$364,930	\$486,791	\$342,512	\$272,556	\$479,441	\$700,006	\$299,550	\$2,413,720	\$1,668,765	\$1,560,625	\$1,751,553
Cost of Goods Sold	63,553	56,082	518,129	223,244	198,051	188,862	268,616	183,418	162,371	228,818	385,003	122,816	1,411,176	861,008	838,947	899,008
Gross Profit	88,058	79,360	435,847	204,492	168,341	176,069	218,175	159,094	110,185	250,623	315,003	176,735	1,002,544	807,757	721,678	852,545
Operating Expenses	95,775	110,175	167,217	125,047	119,699	124,392	129,778	109,597	148,441	154,701	181,744	119,593	468,501	498,214	483,466	604,479
Selling and marketing	34,846	46,887	94,481	50,329	42,184	52,763	57,482	35,454	68,585	77,908	91,001	35,946	222,119	226,543	187,883	273,440
G&A	34,196	34,880	37,127	35,059	39,415	40,891	37,300	35,397	40,038	39,911	43,902	41,707	136,634	141,262	153,003	165,558
R&D	22,585	23,278	29,764	33,725	31,525	23,385	27,462	31,408	32,440	29,391	39,200	34,149	96,389	109,352	113,780	135,180
D&A	4,148	5,130	5,845	5,934	6,575	7,353	7,534	7,338	7,378	7,491	7,641	7,791	13,359	21,057	28,800	30,301
Operating Income	(\$7,717)	(\$30,815)	\$268,630	\$79,445	\$48,642	\$51,677	\$88,397	\$49,497	(\$38,256)	\$95,922	\$133,258	\$57,142	\$534,043	\$309,543	\$238,212	\$248,066
Interest and other, net	(3,592)	(3,574)	(4,396)	(1,398)	(3,931)	(4,736)	(4,299)	(2,196)	1,593	(196)	0	0	(12,663)	(12,960)	(15,162)	1,397
Gain on sale of long-term investment	0	8,036	(559)	0	0	0	0	2,683	1,350	0	0	0	0	7,477	2,683	1,350
Loss on extinguishment of debt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gain on convertible note hedge and warren	0	0	0	0	0	0	0	0	0	0	0	0	1,911	0	0	0
Income Before Taxes	(11,309)	(26,353)	263,675	78,047	44,711	46,941	84,098	49,984	(35,313)	95,726	133,258	57,142	523,291	304,060	225,733	250,813
Provision for (benefit from) income taxes	(78)	9,056	52,075	23,763	10,503	14,241	(15,122)	(1,731)	(6,418)	20,865	29,317	12,571	12,569	84,816	7,891	56,335
Net Income	(\$11,231)	(\$35,409)	\$211,600	\$54,284	\$34,208	\$32,700	\$99,220	\$51,715	(\$28,895)	\$74,861	\$103,942	\$44,571	\$510,722	\$219,244	\$217,842	\$194,478
Non-GAAP EPS	(\$0.14)	(\$0.44)	\$1.87	\$0.49	\$0.31	\$0.30	\$0.89	\$0.46	(\$0.34)	\$0.66	\$0.90	\$0.38	\$4.26	\$1.98	\$1.96	\$1.72
Weighted Average Shares Outstanding (00)	79,369	80,355	107,114	107,540	109,288	110,304	109,881	111,802	84,588	113,419	116,000	117,000	111,780	114,000	110,424	115,400
Growth - YoY																
Revenue	5.1%	(89.3%)	24.3%	83.5%	141.7%	169.4%	(49.0%)	(19.9%)	(25.6%)	31.4%	43.8%	(12.5%)	97.5%	(30.9%)	(6.5%)	12.2%
Selling and marketing	11.4%	(52.3%)	40.9%	97.7%	21.1%	12.5%	(39.2%)	(29.6%)	62.6%	47.7%	58.3%	1.4%	(11.8%)	2.0%	(17.1%)	45.5%
G&A	(11.3%)	3.5%	18.8%	5.9%	15.3%	17.2%	0.5%	1.0%	1.6%	(2.4%)	17.7%	17.8%	6.3%	3.4%	8.3%	8.2%
R&D	9.5%	(3.8%)	17.8%	28.3%	39.6%	0.5%	(7.7%)	(6.9%)	2.9%	25.7%	42.7%	8.7%	27.1%	13.4%	4.0%	18.8%
Operating Expenses	2.4%	(31.0%)	31.7%	41.5%	25.0%	12.9%	(22.4%)	(12.4%)	24.0%	24.4%	40.0%	9.1%	0.4%	6.3%	(3.0%)	25.0%
Margins														6.87%	-3.29%	
Gross Margin	58.1%	58.6%	45.7%	47.8%	45.9%	48.2%	44.8%	46.4%	40.4%	52.3%	45.0%	59.0%	41.5%	48.4%	46.2%	48.7%
Operating Margin	(5.1%)	(22.8%)	28.2%	18.6%	13.3%	14.2%	18.2%	14.5%	(14.0%)	20.0%	19.0%	19.1%	22.1%	18.5%	15.3%	14.2%
EBITDA Margin	(2.4%)	(19.0%)	28.8%	20.0%	15.1%	16.2%	19.7%	16.6%	(11.3%)	21.6%	20.1%	21.7%	22.7%	19.8%	17.1%	15.9%
Tax Rate	NM	NM	19.7%	30.4%	23.5%	30.3%	(18.0%)	(3.5%)	18.2%	21.8%	22.0%	22.0%	2.4%	27.9%	3.5%	22.5%
Cost Analysis																
Total COGS	41.9%	41.4%	54.3%	52.2%	54.1%	51.8%	55.2%	53.6%	59.6%	47.7%	55.0%	41.0%	58.5%	51.6%	53.8%	51.3%
Sales and Marketing	23.0%	34.6%	9.9%	11.8%	11.5%	14.5%	11.8%	10.4%	25.2%	16.2%	13.0%	12.0%	9.2%	13.6%	12.0%	15.6%
General and Administrative	22.6%	25.8%	3.9%	8.2%	10.8%	11.2%	7.7%	10.3%	14.7%	8.3%	6.3%	13.9%	5.7%	8.5%	9.8%	9.5%
Product and Development	14.9%	17.2%	3.1%	7.9%	8.6%	6.4%	5.6%	9.2%	11.9%	6.1%	5.6%	11.4%	4.0%	6.6%	7.3%	7.7%

Source: Company reports and Mizuho estimates

Source: Company Reports, MSUSA Estimate

Exhibit 21: UBI Model

UBI Income Statement												
In millions of euros												
	Sep-13	Mar-14	Sep-14	Mar-15	Sep-15	Mar-16	Sep-16	Mar-17	F2014	F2015	F2016	F2017E
Sales	€293.3	€713.8	€484.2	€979.6	€207.3	€1,186.7	€281.4	€1,354.9	€1,007.1	€1,463.8	€1,394.0	€1,636.3
Cost of sales	91.1	376.4	106.1	231.0	53.0	252.1	55.0	291.3	285.3	337.1	305.1	346.3
Gross Profit	202.2	519.6	378.1	748.6	154.3	934.6	226.4	1,063.6	721.8	1,126.7	1,088.9	1,290.0
R&D expenses	138.9	287.2	181.2	392.3	99.5	400.8	123.8	487.8	426.1	573.5	500.3	611.6
SG&A expenses	161.3	200.0	172.1	210.4	162.6	257.0	164.4	273.7	361.3	382.5	419.6	438.1
Selling expenses	123.5	155.8	127.2	156.9	111.1	193.4	113.4	202.5	279.3	284.1	304.5	315.9
General & Administrative expenses	37.8	44.2	44.9	53.7	51.5	63.6	51.0	71.2	82.0	98.6	115.1	122.2
Non-IFRS Operating Income (Loss)	(€98.0)	€32.4	€24.9	€145.9	(€107.8)	€276.8	(€61.8)	€302.2	(€65.6)	€170.7	€169.0	€240.4
Stock based comp.	(4.3)	(5.4)	(5.0)	(4.6)	(6.0)	(6.9)	(24.9)	(15.1)	(9.7)	(9.6)	(12.9)	(40.0)
Other operating revenues and expenses	(11.7)	(10.9)	(5.7)	(16.0)	(3.5)	(15.8)	(3.6)	(9.0)	(22.6)	(21.7)	(19.3)	(12.6)
IFRS Operating income/(loss)	(€114.0)	€16.1	€14.2	€125.3	(€117.3)	€254.1	(€90.3)	€278.1	(€97.9)	€139.5	€136.8	€187.7
Net financial income (expense)	13.4	(3.1)	2.7	(2.0)	(6.9)	(6.8)	(3.9)	(4.0)	10.3	0.7	(13.7)	(7.9)
Adjustment - net financial income			(5.3)	0.1	1.1	2.2	2.3			(5.2)	3.3	2.3
Non-IFRS net financial income			(2.5)	(2.0)	(5.9)	(4.5)	(1.6)	(3.0)		(4.5)	(10.4)	(4.6)
Non-IFRS income before taxes	(23.9)	(3.3)	12.7	143.9	(113.7)	272.3	(63.4)	299.2	(71.4)	166.2	158.6	235.8
IFRS net income tax (benefit)			4.8	48.6	(48.1)	77.8	(28.1)			53.4	29.7	(28.1)
Non-IFRS net income tax (benefit)	(38.2)	16.1	4.8	48.7	(48.1)	77.8	(27.4)	83.8	22.1	53.5	29.7	56.4
IFRS Net income (loss)	(€62.3)	(€3.2)	€21.1	€74.7	(€76.2)	€169.6	(€66.1)	€274.1	(€65.5)	€86.7	€93.4	€123.5
Non-IFRS Net income (loss)	(€62.1)	€12.8	€17.5	€95.2	(€65.7)	€194.6	(€36.0)	€215.4	(€49.3)	€112.7	€128.9	€179.4
Shares Outstanding	99.6	99.6	106.5	106.5	110.0	106.2	112.0	108.7	99.6	106.5	108.1	110.4
Diluted Shares Outstanding	104.5	110.2	112.9	113.3	115.9	112.5	118.7	115.2	107.3	113.1	114.2	117.0
IFRS Diluted EPS	(€0.60)	(€0.03)	€0.10	€0.66	(€0.66)	€1.51	(€0.56)	€2.38	(€0.61)	€0.77	€0.82	€1.06
Non-IFRS Diluted EPS	(€0.59)	€0.12	€0.15	€0.84	(€0.57)	€1.73	(€0.30)	€1.87	(€0.46)	€1.00	€1.13	€1.53
Margins (Non-IFRS)												
Gross Margin	68.9%	72.8%	78.1%	76.4%	74.4%	78.8%	80.5%	78.5%	71.7%	77.0%	78.1%	78.8%
R&D	47.4%	40.2%	37.4%	40.0%	48.0%	33.8%	44.0%	36.0%	42.3%	39.2%	35.9%	37.4%
SG&A	55.0%	28.0%	35.5%	21.5%	78.4%	21.7%	58.4%	20.2%	35.9%	26.1%	30.1%	26.8%
Selling expenses	42.1%	21.8%	26.3%	16.0%	53.6%	16.3%	40.3%	14.9%	27.7%	19.4%	21.8%	19.3%
General & Administrative expenses	12.9%	6.2%	9.3%	5.5%	24.8%	5.4%	18.1%	5.3%	8.1%	6.7%	8.3%	7.5%
Operating Margin	(33.4%)	4.5%	5.1%	14.9%	(52.0%)	23.3%	(22.0%)	22.3%	(6.5%)	11.7%	12.1%	14.7%
Tax Rate	159.8%	(487.9%)	37.8%	33.8%	42.3%	28.6%	43.2%	28.0%	(31.0%)	32.2%	18.7%	23.9%
Net margin	(21.2%)	1.8%	3.6%	9.7%	(31.7%)	16.4%	(12.8%)	15.9%	(4.9%)	7.7%	9.2%	11.0%
Growth - YoY (Non-IFRS)												
Sales	5.1%	(26.9%)	65.1%	37.2%	(57.2%)	21.1%	35.7%	14.2%	(19.8%)	45.4%	(4.8%)	17.4%
Gross Profit	4.9%	(27.9%)	87.0%	44.1%	(59.2%)	24.8%	46.8%	13.8%	(21.0%)	56.1%	(3.4%)	18.5%
R&D	43.5%	(13.3%)	30.5%	36.6%	(45.1%)	2.2%	24.4%	21.7%	(0.5%)	34.6%	(12.8%)	22.2%
SG&A	4.7%	(13.4%)	6.7%	5.2%	(5.5%)	22.1%	1.1%	6.5%	(6.2%)	5.9%	9.7%	4.4%
Selling expenses	5.7%	(16.8%)	3.0%	0.7%	(12.7%)	23.3%	2.1%	4.7%	(8.1%)	1.7%	7.2%	3.8%
General & Administrative expenses	1.6%	0.9%	18.8%	21.5%	14.7%	18.4%	(1.0%)	11.9%	1.2%	20.2%	16.7%	6.1%
Operating Income	68.7%	(79.5%)	(125.4%)	350.3%	(533.0%)	89.7%	(42.7%)	9.1%	(165.4%)	(360.2%)	(1.0%)	42.2%
Net margin	63.0%	(88.1%)	(128.2%)	643.8%	(475.2%)	104.4%	(45.2%)	10.7%	(171.2%)	(328.6%)	14.4%	39.2%
EPS	47.5%	(89.3%)	(125.4%)	622.7%	(477.7%)	105.8%	(46.5%)	8.1%	(164.8%)	(316.6%)	13.3%	35.9%

Source: Company reports and Mizuho Securities estimates

Source: Company Reports, MSUSA Estimate

Exhibit 22: GME Model

GME Income Statement (FY Ends Jan 31, \$Ms Except EPS)																			
	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Apr-17	Jul-17	Oct-17	Jan-18	F2014	F2015	F2016E	F2017E	F2018E		
Net Sales	\$2,060.6	\$1,761.9	\$2,016.3	\$3,525.0	\$1,971.5	\$1,631.8	\$1,959.2	\$3,308.3	\$1,988.9	\$1,662.1	\$1,963.0	\$3,317.1	\$9,296.0	\$9,363.8	\$8,870.8	\$8,931.2	\$8,940.5		
Cost of Sales	1,421.6	1,181.4	1,360.7	2,481.8	1,296.0	1,014.1	1,251.0	2,245.8	1,276.2	1,011.1	1,246.1	2,226.7	6,520.1	6,445.5	5,806.9	5,760.2	5,715.3		
Gross Profit	639.0	580.5	655.6	1,043.2	675.5	617.7	708.2	1,062.5	712.7	651.0	716.9	1,090.4	2,775.9	2,918.3	3,063.9	3,171.0	3,225.2		
SG&A	479.3	490.8	525.5	613.9	520.8	518.4	567.1	631.2	545.4	548.0	578.2	642.8	2,001.0	2,109.5	2,237.5	2,314.5	2,338.6		
Depreciation and amortization	35.8	38.0	39.4	43.4	40.7	41.0	42.3	43.3	43.8	44.3	44.8	45.3	154.4	156.6	167.3	178.2	186.2		
Asset impairment charges	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	4.0	0.0	0.0	0.0		
Operating Income	123.9	51.7	90.7	381.9	114.0	58.3	98.8	388.0	123.5	58.7	93.9	402.3	618.3	648.2	659.1	678.3	700.4		
Interest expense, net	5.4	5.6	6.5	5.5	10.8	13.6	14.8	14.8	14.8	14.8	14.8	14.8	10.0	23.0	54.0	59.2	59.2		
Earnings before income tax expense	118.5	46.1	84.2	376.4	103.2	44.7	84.0	373.2	108.7	43.9	79.1	387.5	608.3	625.2	605.1	619.1	641.2		
Income Tax Expense	44.7	20.8	28.3	128.6	37.4	16.8	33.2	134.4	39.1	15.8	28.5	139.5	215.2	222.4	221.8	222.9	230.8		
Net Income	73.8	25.3	55.9	247.8	65.8	27.9	50.8	238.9	69.6	28.1	50.6	248.0	393.1	402.8	383.4	396.2	410.3		
Diluted EPS	\$0.68	\$0.24	\$0.53	\$2.36	\$0.63	\$0.27	\$0.49	\$2.32	\$0.68	\$0.28	\$0.50	\$2.46	\$3.47	\$3.78	\$3.71	\$3.89	\$4.11		
Diluted shares	108.4	107.2	106.1	105.0	104.2	104.3	104.0	103.0	102.5	102.0	101.5	101.0	113.2	106.7	103.4	101.8	99.8		
Dividends per share	0.36	0.36	0.36	0.36	0.37	0.37	0.37						1.32	1.44	1.11	0	0		
GAAP Net Income	73.8	25.3	55.9	247.8	65.8	27.9	50.8	238.9	69.6	28.1	50.6	248.0	393.1	402.8	383.4	396.2	410.3		
Non-GAAP Net Income excl 1x items	73.8	33.1	56.9	251.6	68.4	27.9	50.8	238.9	69.6	28.1	50.6	248.0	392.4	415.6	386.0	396.2	410.3		
Non-GAAP Diluted EPS	\$0.68	\$0.31	\$0.54	\$2.40	\$0.66	\$0.27	\$0.49	\$2.32	\$0.68	\$0.28	\$0.50	\$2.46	\$3.47	\$3.90	\$3.73	\$3.89	\$4.11		
Adjusted EBITDA	\$160.2	\$90.0	\$130.6	\$425.6	\$155.0	\$99.7	\$141.4	\$431.3	\$167.3	\$103.0	\$138.7	\$447.6	\$774.8	\$806.4	\$827.4	\$856.5	\$886.6		
YoY Growth																			
Sales growth	3.2%	1.8%	(3.6%)	1.4%	(4.3%)	(7.4%)	(2.8%)	(6.1%)	0.9%	1.9%	0.2%	0.3%	2.8%	0.7%	(5.3%)	0.7%	0.1%		
Pretax growth	12.5%	29.5%	(2.9%)	(1.1%)	(12.9%)	(3.0%)	(0.2%)	(0.8%)	5.3%	(1.9%)	(5.8%)	3.8%	6.9%	2.8%	(3.2%)	2.3%	3.6%		
Net growth	8.5%	2.8%	(0.9%)	1.5%	(10.8%)	10.3%	(9.1%)	(3.6%)	5.7%	0.6%	(0.4%)	3.8%	11.0%	2.5%	(4.8%)	3.4%	3.6%		
EBITDA growth	9.7%	18.4%	1.7%	0.3%	(3.2%)	10.8%	8.3%	1.3%	7.9%	3.3%	(1.9%)	3.8%	4.3%	4.1%	2.6%	3.5%	3.5%		
EPS growth	16.0%	9.7%	5.5%	5.9%	(7.2%)	13.3%	(7.3%)	(1.7%)	7.5%	2.9%	2.1%	5.9%	16.1%	8.7%	(1.8%)	5.0%	5.6%		
Margin Analysis																			
Gross Profit	31.0%	32.9%	32.5%	29.6%	34.3%	37.9%	36.1%	32.1%	35.8%	39.2%	36.5%	32.9%	29.9%	31.2%	34.5%	35.5%	36.1%		
SG & A	23.3%	27.9%	26.1%	17.4%	26.4%	31.8%	28.9%	19.1%	27.4%	33.0%	29.5%	19.4%	21.5%	22.5%	25.2%	25.9%	26.2%		
Oper. Profit	6.0%	2.9%	4.5%	10.8%	5.8%	3.6%	5.0%	11.7%	6.2%	3.5%	4.8%	12.1%	6.7%	6.9%	7.4%	7.6%	7.8%		
Income taxes	37.7%	45.1%	33.6%	34.2%	36.2%	37.6%	39.5%	36.0%	36.0%	36.0%	36.0%	36.0%	35.4%	35.6%	36.6%	36.0%	36.0%		
Net Income	3.6%	1.4%	2.8%	7.0%	3.3%	1.7%	2.6%	7.2%	3.5%	1.7%	2.6%	7.5%	4.2%	4.3%	4.3%	4.4%	4.6%		
EBITDA	7.8%	5.1%	6.5%	12.1%	7.9%	6.1%	7.2%	13.0%	8.4%	6.2%	7.1%	13.5%	8.3%	8.6%	9.3%	9.6%	9.9%		

Source: Company Reports, MSUSA Estimate

Price Target Calculation and Key Risks

Activision Blizzard Inc

Valuation

Our price target of \$48 is based on a non-GAAP P/E valuation methodology with a target multiple of ~22x our 2017 non-GAAP EPS of \$2.14.

Risks

- 1) Competition - ATVI faces heavy competition from other game publishers, including EA, TTWO, and UBI. Furthermore, ATVI faces competition from first party studios, online/mobile game companies like Zynga and King, as well as from thousands of smaller developers.
- 2) King acquisition could come with some integration risk as well as add lower visibility into future guidance due to the fleeting nature of mobile casual gamers.
- 3) Destiny's success is questionable. Investors were expecting Destiny to be ATVI's next billion dollar franchise, but the game fell well below expectations. We believe that recent DLC releases have been well received, and Destiny is on its way to becoming another \$B franchise for ATVI, but it will take longer than investors expected.
- 4) Margin cap? ATVI has the best margin structure of any of the publishers, but at 32%, we are expecting modest margin improvement of the next three years. It is possible that margins move faster and higher than we are modeling, but it will depend on the success of new FTP and digital content that ATVI releases.

Electronic Arts Inc.

Valuation:

Our price target of \$92 is based on a combination of valuation methodologies, including F2018 P/FCF and P/E.

Using P/FCF, we apply a target multiple of 20x to our F2018 FCF estimate of \$1.43 billion to reach market value of \$28.5 billion, or \$91 per share.

Using P/E, we apply a target multiple of 23x our F2018 Non-GAAP EPS of \$4.06 to reach a price target of \$93.

Using an Adjusted P/E methodology, backing out the F2017 end of year net cash of \$3.4 billion results in a more reasonable P/E target multiple of approximately 20x excluding net cash of approximately \$11 per share. This gets us \$92 per share for target valuation.

Using the average of the three methodologies, we arrive at a target price of \$92.

Risks:

- 1) Competition - EA competes heavily with other publishers like ATVI, TTWO, Nintendo, and first party platform studios from Sony and Microsoft. New game development can be very costly, and stakes are high if a game fails.
- 2) Online Woes - EA has had issues in the past regarding large scale multi-player, and this has resulted in weak sales of particular games, loud complaints from players, and selling pressure on the stock.
- 3) Possible margin expansion ceiling. Given EA's reliance on licensed IP vs. its own IP, EA has a structural disadvantage on margin expansion potential as it must pay 20-30% of its revenue to the IP owners.

GameStop Corp.

Our \$35 price target is based on based on a combination of EV/EBITDA and P/E valuation methodologies.

We apply a target multiple of 5x to our F2017E adjusted EBITDA estimate of \$857mm to reach an enterprise value of \$4.3 billion. Adjusting for 2016 end-of-year net debt of \$188 million, we arrive at a market cap of \$4.1bn, or \$39 per share. On a P/E basis, we apply a target multiple of 8x our F2017 EPS estimate of \$3.89 to reach a price target of \$31.

Using the average of the two methodologies, we arrive at a target price of \$35. Given the strong management team, wide moats around its buy-sell-trade ecosystem, and compelling new retail opportunities, we believe that GME should trade at our target multiples, which we believe are conservative.

Risks

Digital disintermediation occurs faster than expected. Anything, like a new all-digital console, that accelerates the decline of video game software on disc would likely have a materially negative impact on GameStop's core new software and used software businesses. Every full game download is not only a lost physical game sale, but is also a lost used sale opportunity for GameStop, meaning that the company's revenue model could be hit on two fronts.

Failure to grow Tech Brands and Collectibles in line with expectations. Any material decline in the growth trajectories of these new businesses for GameStop could not only impact revenue expectation, but also an outsized portion of operating profit given their higher margins.

Integration Woes. As the company scale out its wireless business, which involves consolidating existing wireless retailers and opening new stores, the company could possibly face integration issues with potentially aggressive store roll-up plans.

Bad M&A. The company made some M&A mistakes back in 2011 and any further mistakes could have a material impact on the company's valuation.

Take-Two Interactive Software, Inc.

Valuation:

Our price target of \$52 is based on a combination of valuation methodologies – a four-year average of F2014-F2017E EV/EBTIDA and F2014-F2017E Non-GAAP P/E. We believe a 4-year average is sensible given the variance in revenues and earnings between years with GTA releases.

Using EV/EBTIDA, we apply a target multiple of 13x to our average F2014-F2017E EBITDA estimate of \$356 million to reach an enterprise value of \$4.6b. Adjusting for F2016 end of year net cash of \$1.3 billion (we are assuming the company's convertible debt will be satisfied by equity), we arrive at an equity value of \$5.9 billion, or \$53 per share.

Using P/E, we apply a target multiple of 21x our average F2014-F2017E Non-GAAP EPS of \$2.48 to reach a price target of \$52.

Using P/E adjusting for net cash per share, we apply a target multiple of 16x our average F2014-F2017E Non-GAAP EPS of \$2.48, while adjusting for \$11.50 in net cash per share to get to a target valuation of \$51.

Using the average of these methodologies, we arrive at a target price of \$52.

Risks:

- 1) Competition - Take-Two faces heavy competition from other publishers like Activision Blizzard, EA, Ubisoft, Nintendo, and first party platform studios from Sony and Microsoft.
- 2) Game delays - Making blockbuster AAA titles can be a herculean effort subject to numerous delays. Game delays are generally common in the industry, but Take-Two has had more than its share of delays in the past. Game delays result in higher development costs and defer earnings streams expected by investors.
- 3) We believe the company's success is highly dependent on its Rockstar Games subsidiary, particularly creative leads Sam and Dan Houser. Rockstar generally tends to spend more time, and correspondingly, more development dollars relative to peers in creating games.

Ubisoft Entertainment SA**Valuation:**

Our price target of €35 is based on an EV/EBITDA valuation where we apply a target multiple of 13.5x our F2017E EBITDA estimate of €294 million to reach an enterprise value of €4.0 billion. Adjusting for net cash of €38 million, we arrive at a market cap of €4.0 billion, or €35 per share.

Risks:

- 1) Competition - Ubisoft faces heavy competition from other publishers like Activision Blizzard, EA, Take-Two, Nintendo, and first party platform studios from Sony and Microsoft.
- 2) Game delays - Making blockbuster AAA titles can be a herculean effort subject to numerous delays. Game delays result in higher development costs and defer earnings streams expected by investors.
- 3) Ubisoft is unique in the industry for operating an integrated mini-studio. We are skeptical when video game companies try to move beyond their core competencies and start investing in movies, television, etc.
- 4) Vivendi has taken a 23% stake in Ubisoft which management is vocally unhappy about. This could disrupt the board and decision making process at Ubisoft.

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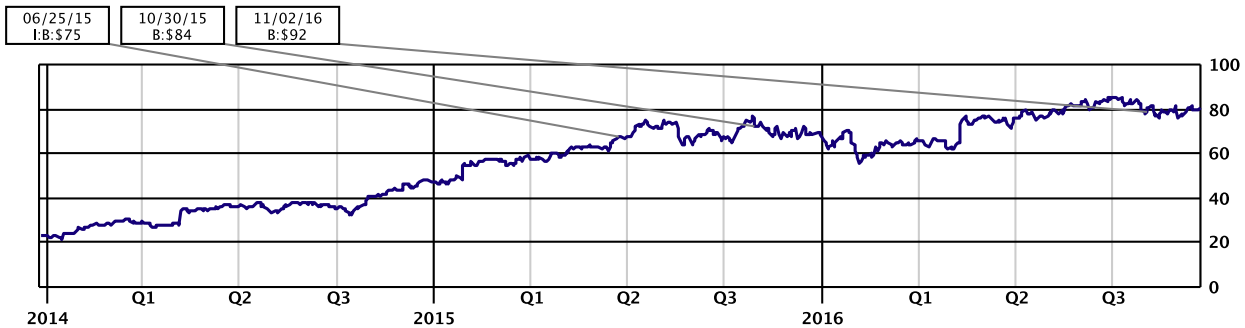
(As of 12/23)	% of coverage	IB service past 12 mo
Buy (Buy)	44.37%	42.06%
Hold (Neutral)	52.82%	34.67%
Sell (Underperform)	2.82%	50.00%

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Rating and Price Target History for: Activision Blizzard Inc (ATVI) as of 12-23-2016



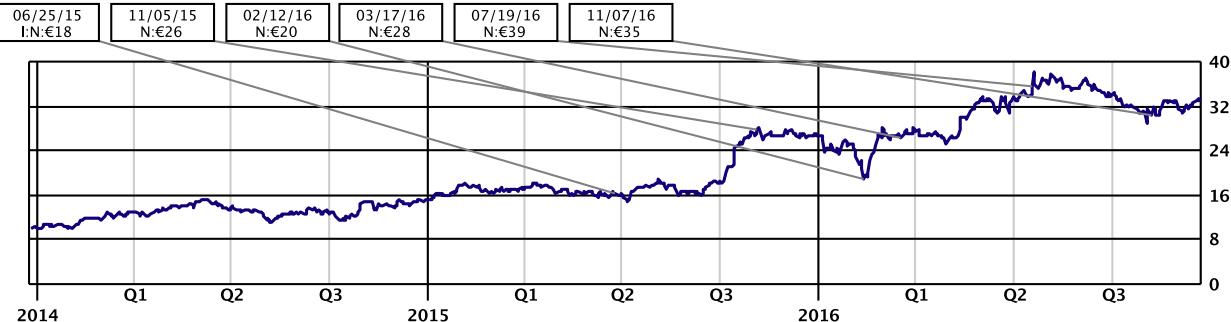
Rating and Price Target History for: Electronic Arts Inc. (EA) as of 12-23-2016



Rating and Price Target History for: Take-Two Interactive Software, Inc. (TTWO) as of 12-23-2016



Rating and Price Target History for: Ubisoft Entertainment SA (UBI FP) as of 12-23-2016



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Rating and Price Target History for: GameStop Corp. (GME) as of 12-23-2016



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