

THE
MACRO
SHOW

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1

BOUNCE



2

VIX



3

TECH



A child in a blue shirt and shorts is jumping over a large blue ball on a sidewalk. The background shows a residential street with houses and trees. The image is overlaid with a semi-transparent dark grey layer containing text.

1

BOUNCE

Both longstanding Bearish @Hedgeye TRENDS and new ones bounce. We'd sell both types this morning as the bounces aren't telling us anything new – on the longstanding side, big things like KOSPI, Copper, Oil, then the new and developing bears like U.S. Tech and Consumer Discretionary head the list.

The background of the slide is a dark blue overlay featuring a faint, semi-transparent financial chart. The chart includes candlestick patterns in green and red, overlaid with several colored trend lines (pink, orange, and blue). Numerical data points and percentages are visible throughout the chart, such as '18567 (2)', '18567 (9)', '18560 (5)', '18514 (-1)', '18514 (-2)', '17755 (1)', '18590 (1)', '18591 (1)', '18590 (2)', '-60 -0.322% -62 12856 18520', and '176 18535'.

2

VIX

We measure and map these bounces in beta within the lens of volatility – our signal says this is a Phase Transition in U.S. Equity Vol in particular with the new low-end of our VIX Risk Range being the former top-end of the range = 15.37-25.67 (this should happen during Quad 4 in Q3).

3 TECH

Consensus is still long of Tech – you probably know that but if you want to see that just look at the implied volatility DISCOUNT of -2% (vs. 30-day realized) in the mainline Tech ETF (XLK) this morning. S&P Tech Earnings are now -7% y/y and slowing at a faster rate.

COMMUNICATIONS POSITION MONITOR

Best Ideas - Longs							Best Ideas - Shorts						
LONG		Sentiment Score*	Market Cap (bill)	Price	Trend	Tail	SHORT		Sentiment Score*	Market Cap (bill)	Price	Trend	Tail
Active Longs							Active Shorts						
DIS	Walt Disney Company	100	\$ 242.7	\$ 134.9	✓	✓	NFLX	Netflix, Inc.	38	\$ 133.2	\$ 304.3	×	×
PINS	Pinterest, Inc. Class A	N/A	\$ 21.3	\$ 32.1	✓	✓							
ROKU	Roku, Inc. Class A	76	\$ 11.5	\$ 101.0	✓	✓							
Long Bias (Bench)							Short Bias (Bench)						
CHTR	Charter Communications, Inc. Clas	20	\$ 83.1	\$ 375.0	---	---	T	AT&T Inc.	92	\$ 248.9	\$ 34.1	---	---
DISCA	Discovery, Inc. Class A	32	\$ 15.7	\$ 29.9	---	---	VZ	Verizon Communications Inc.	88	\$ 227.9	\$ 55.1	---	---
ATUS	Altice USA, Inc. Class A	40	\$ 17.5	\$ 26.7	---	---	CMCSA	Comcast Corporation Class A	80	\$ 189.7	\$ 41.7	---	---
LYV	Live Nation Entertainment, Inc.	56	\$ 15.1	\$ 70.8	---	---	CBS	CBS Corporation Class B	76	\$ 18.4	\$ 49.2	---	---
GOOGL	Alphabet Inc. Class A	69	\$ 760.7	\$ 1,175.9	---	---	DISH	DISH Network Corporation Class	50	\$ 14.8	\$ 31.5	---	---
TMUS	T-Mobile US, Inc.	96	\$ 65.3	\$ 76.5	---	---	AMCX	AMC Networks Inc. Class A	8	\$ 2.9	\$ 52.2	---	---
FB	Facebook, Inc. Class A	100	\$ 528.2	\$ 185.2	---	---							

Sentiment score as of 6/22/2019, market cap and price information as of 6/22/2019, short interest data as of 6/14/2019

Active Long or Short = Idea that has gone through our research process, and have conviction in timing and fundamentals.

Bench Long or Short = Idea that is still going through our research process, but have long/short bias based on initial thematic, policy or fundamental work.

*Hedgeye Communications Sentiment Score is a stock’s relative percentile rank within its own sub-sector, calculated by factoring the stock’s short interest, sell-side ranking, relative forward earnings multiple to the S&P 500 over a rolling 12-mo basis and relative performance to S&P 500 over a 90-day period. A Sentiment Score of 1 represents high short interest, negative sell side rating, relative underperformance and multiple compression. A Sentiment Score of 100 represents low short interest, positive sell side rating, relative outperformance and multiple expansion.

“Trend” is a duration of 3 months or more / “Tail” is a duration of 3 years or less

Hedgeye’s “bench” represents Hedgeye’s outlook on companies currently under Hedgeye’s review, or for which timing is not right for greater coverage. Hedgeye may or may not provide further commentary on any or all companies represented on the bench and representation of a company on the bench does not forecast whether Hedgeye will or will not issue any additional material on that company

THEME EXPOSURE MATRIX

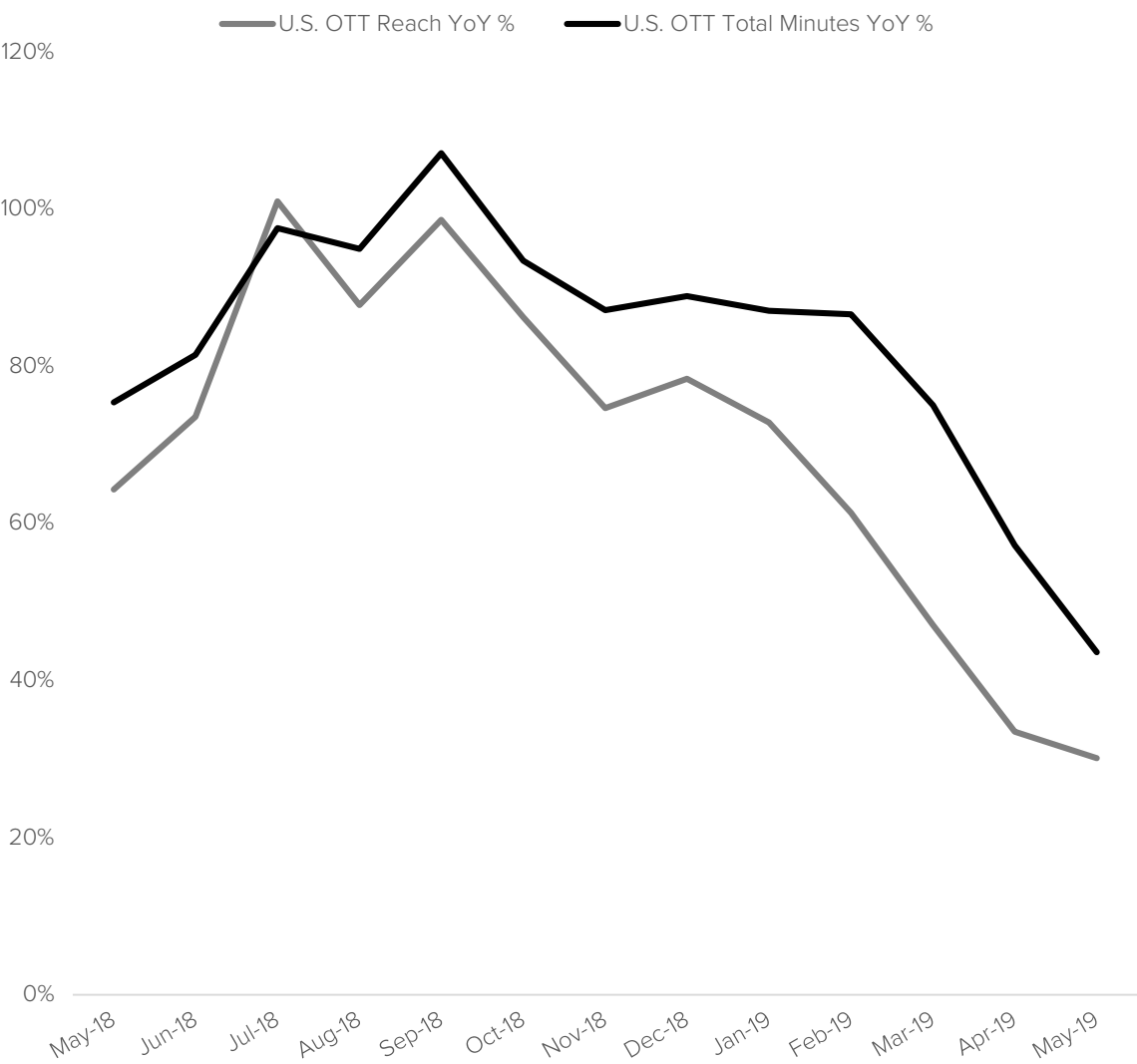
Long	✓									
Short	✗									Position Monitor
Ticker	Broadband	OTT	AVOD	Audience Fragmentation	OTT Competition	vMVPD	Content	Linear TV	MVPD/DBS	Long/ Short
CHTR	✓	✗	✗	✗	-	✓	-	✓	✓	Long
ATUS	✓	✗	✗	✗	-	✗	-	✓	✓	Long
ROKU	-	✓	✓	✓	-	✓	-	✗	✗	Long
GOOGL	-	✓	✓	✓	-	✓	✓	✗	✗	Long
FB	-	✓	✓	✓	✗	-	✓	-	-	Long
DIS	-	✓	✓	-	✓	✓	✓	✓	-	Long
DISCA	-	-	-	✗	-	✗	✓	✓	-	Long
NFLX	-	✗	✓	✓	✓	✓	✗	✓	-	Short
AMCX	-	-	-	✓	-	-	✗	✗	-	Short
CBS	-	✓	-	✓	✓	-	✗	✗	-	Short
CMCSA	✓	✗	-	✓	✓	-	✗	✗	✗	Short
T	✓	✗	-	✓	✗	✗	✗	✗	✗	Short
DISH	✗	✓	-	✓	✓	✗	✓	✗	✗	Short

MANY DIFFERENT WAYS TO EXPRESS THESE THEMES LONG/SHORT

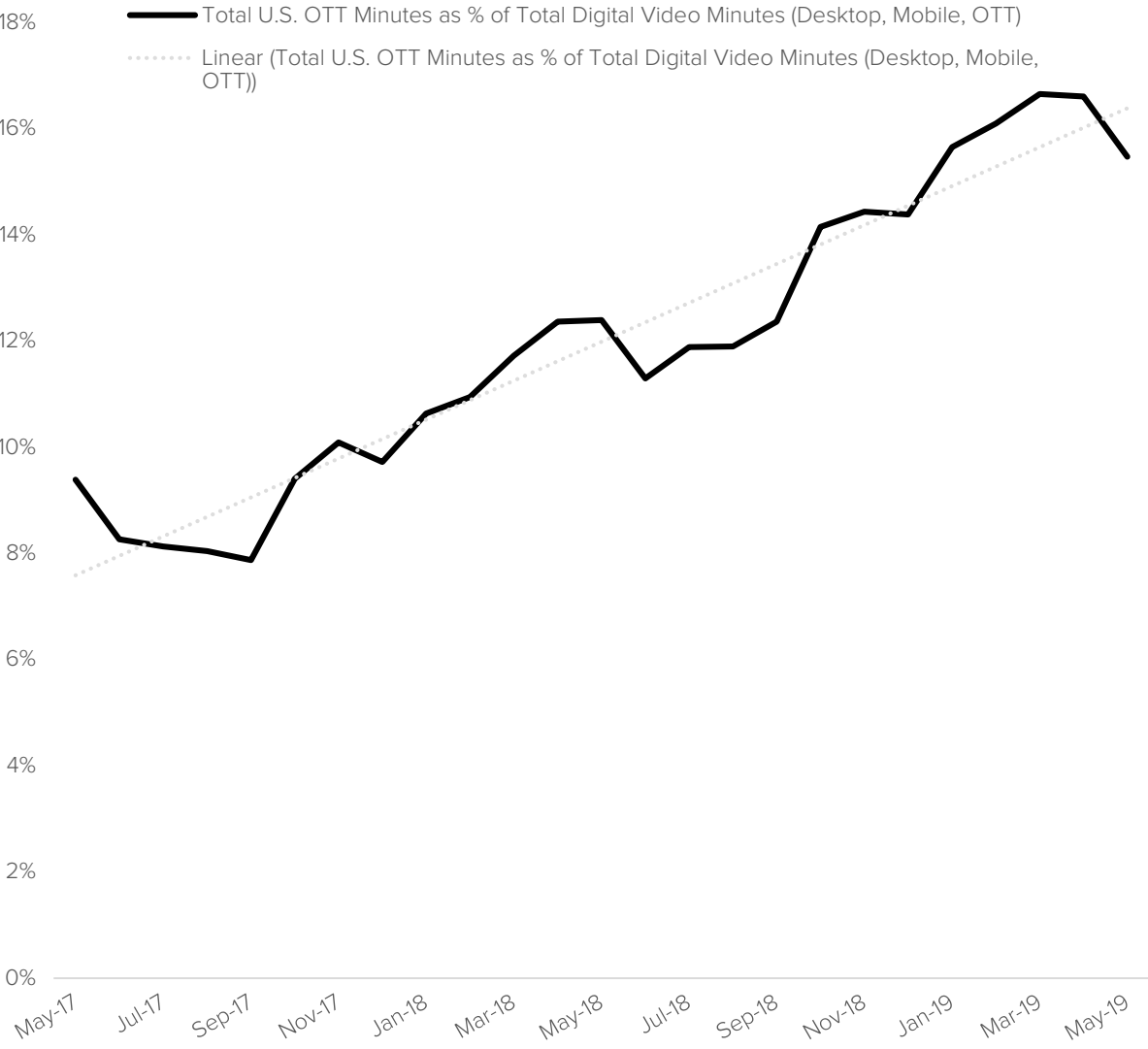
We want to be long diversified portfolios of proprietary content, broadband, audience fragmentation and OTT competition (i.e., short NFLX). We want to be short linear TV and traditional video distribution (MVPD). While consolidation has made gaining direct exposure to these factors difficult, some companies are more uniquely exposed than others.

U.S. OTT REACH AND TIME SPENT

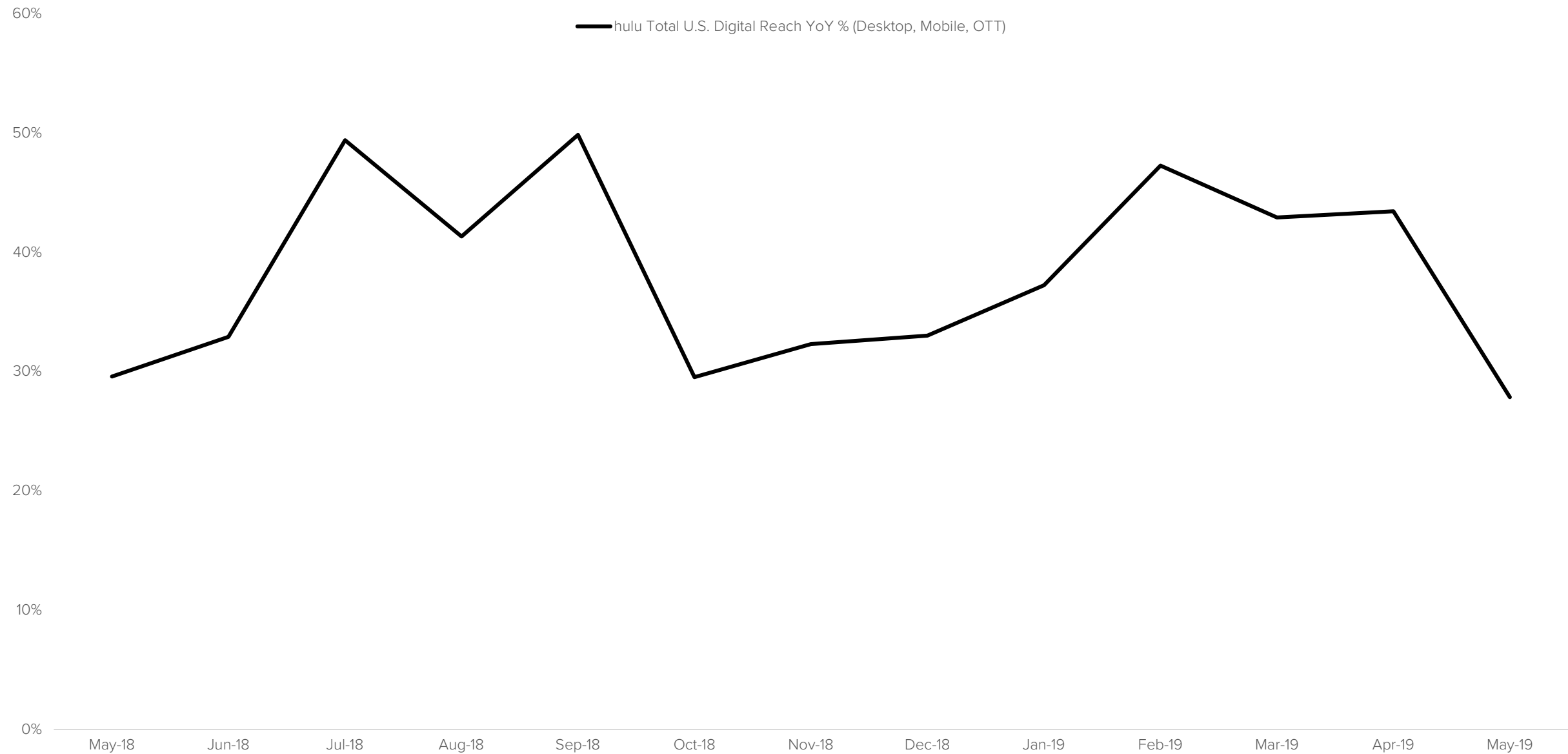
Growth in U.S. OTT Reach and Time Spent Slowing



OTT Still < 20% Share of U.S. Digital Video Minutes

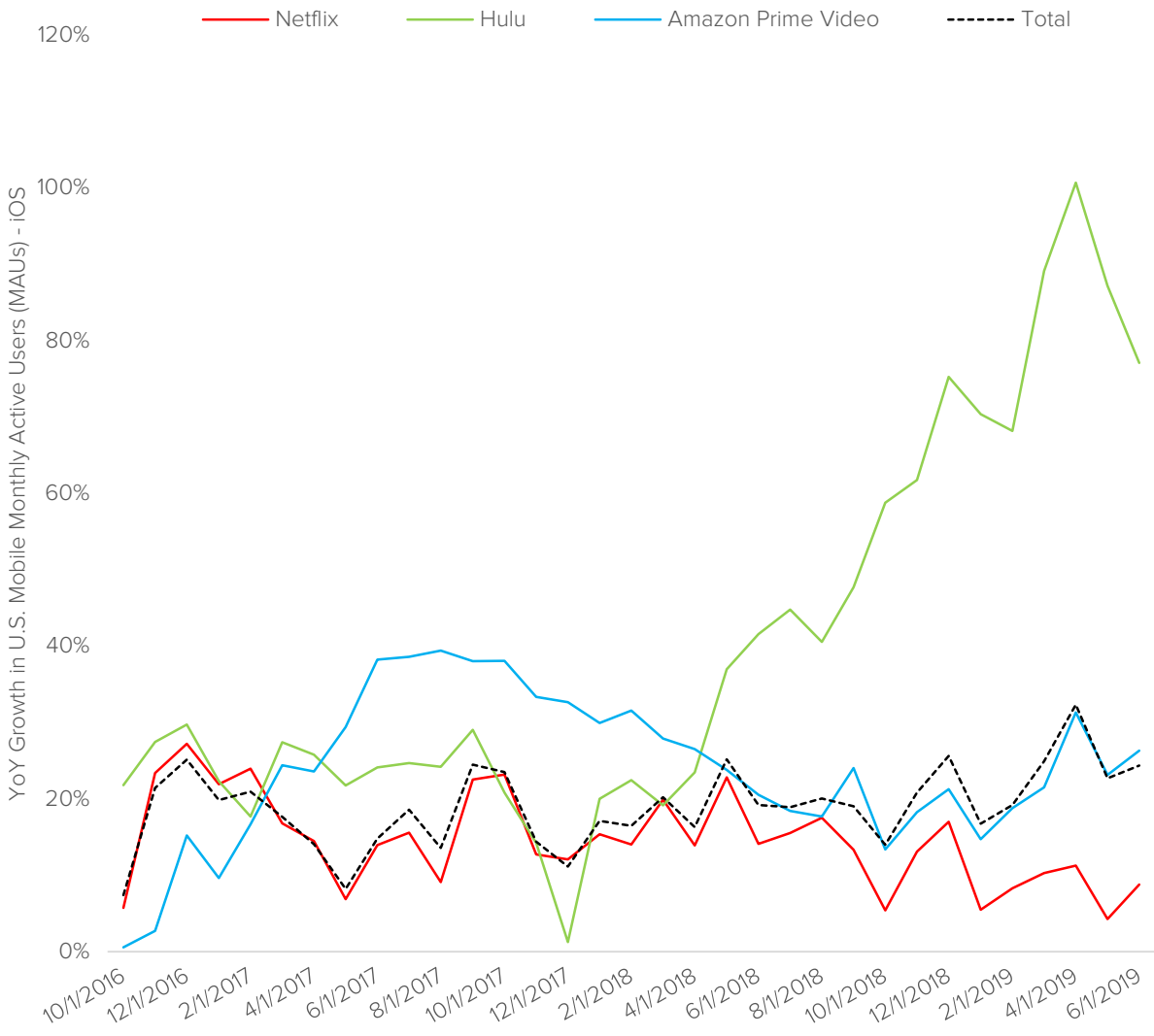


HULU GROWTH IN U.S. DIGITAL REACH

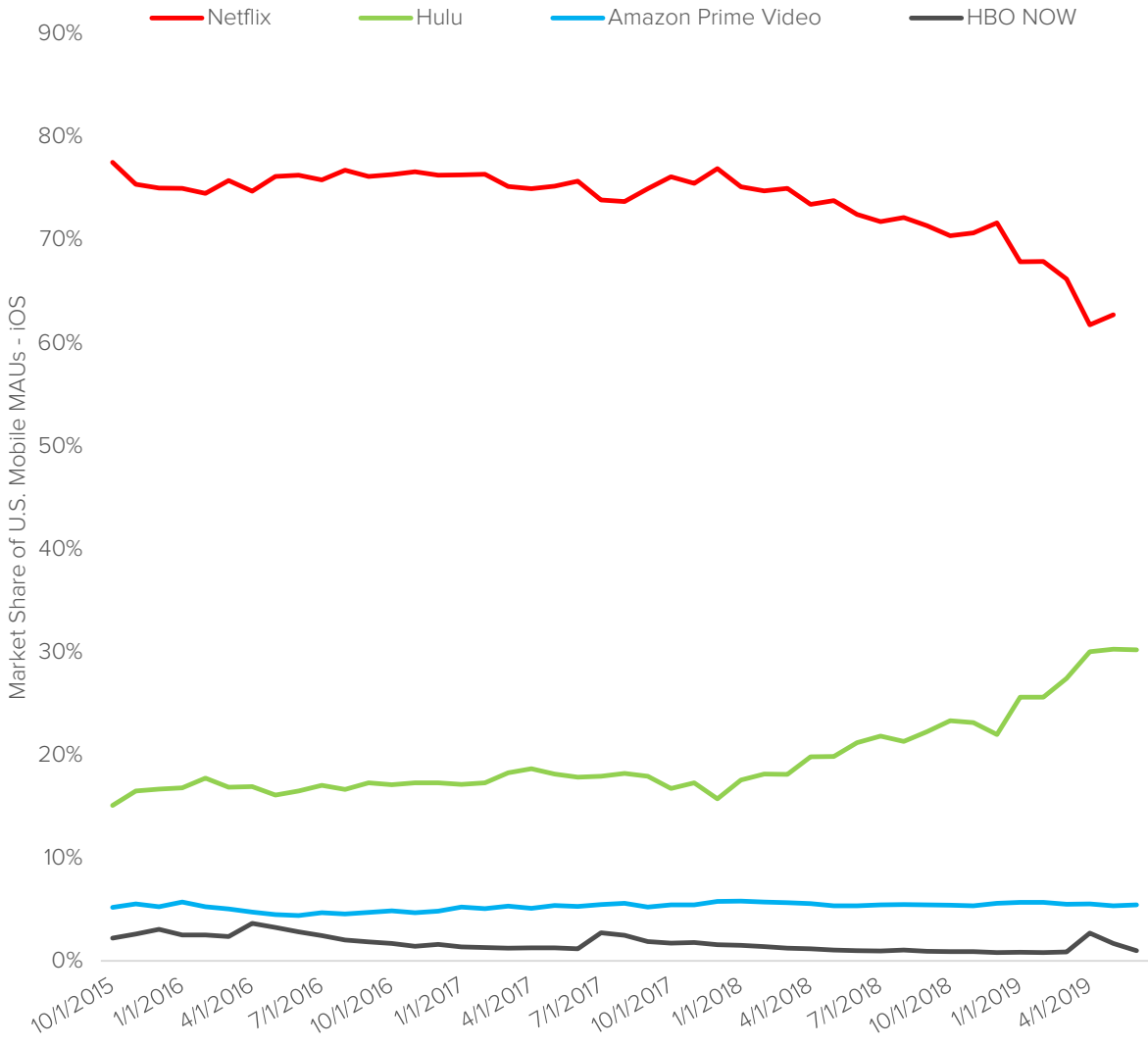


U.S. SVOD GROWTH IN MOBILE MONTHLY ACTIVE USERS

Hulu Growth Accelerating in U.S.

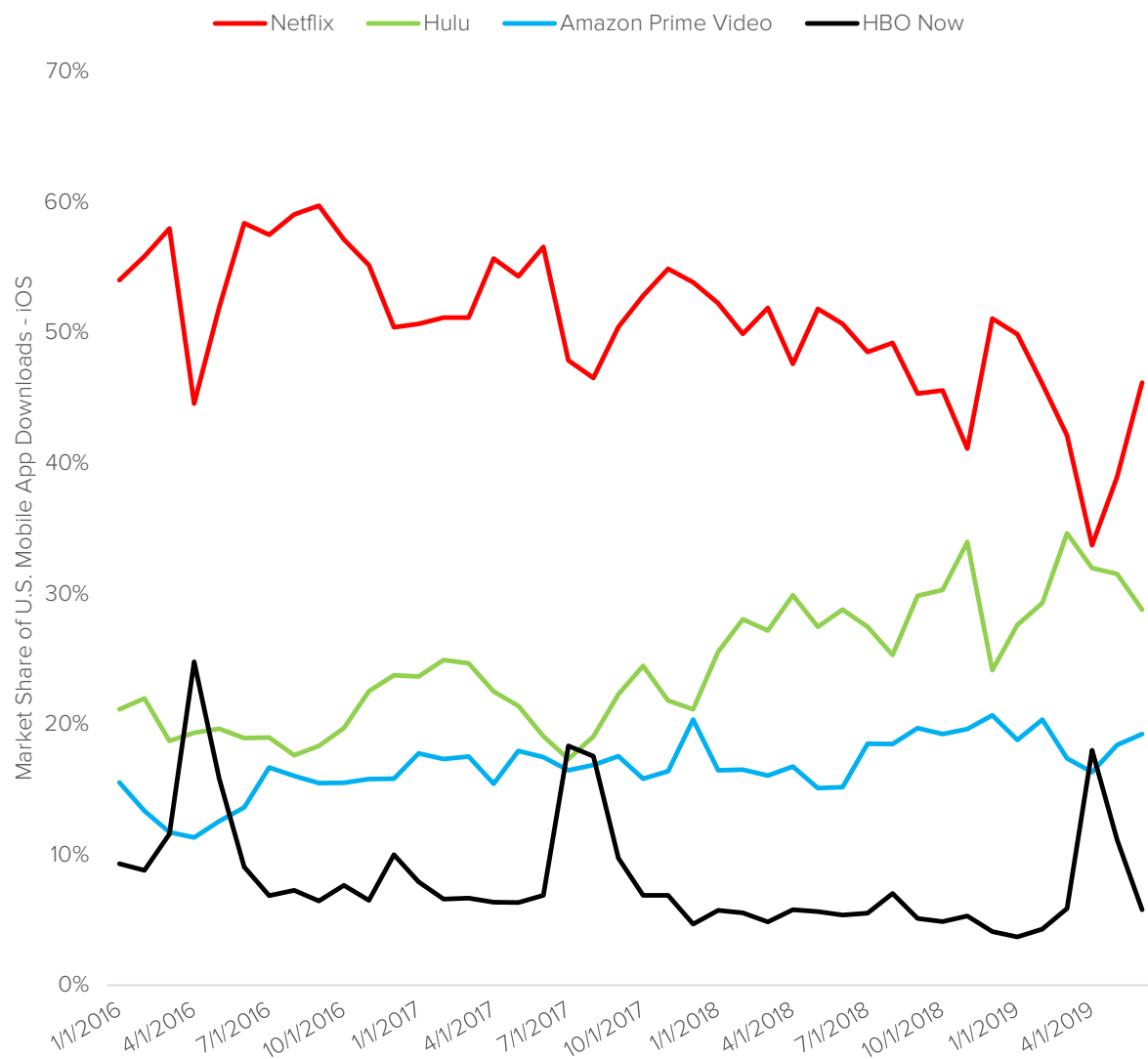


Netflix Losing Share of MAUs as Growth Slows

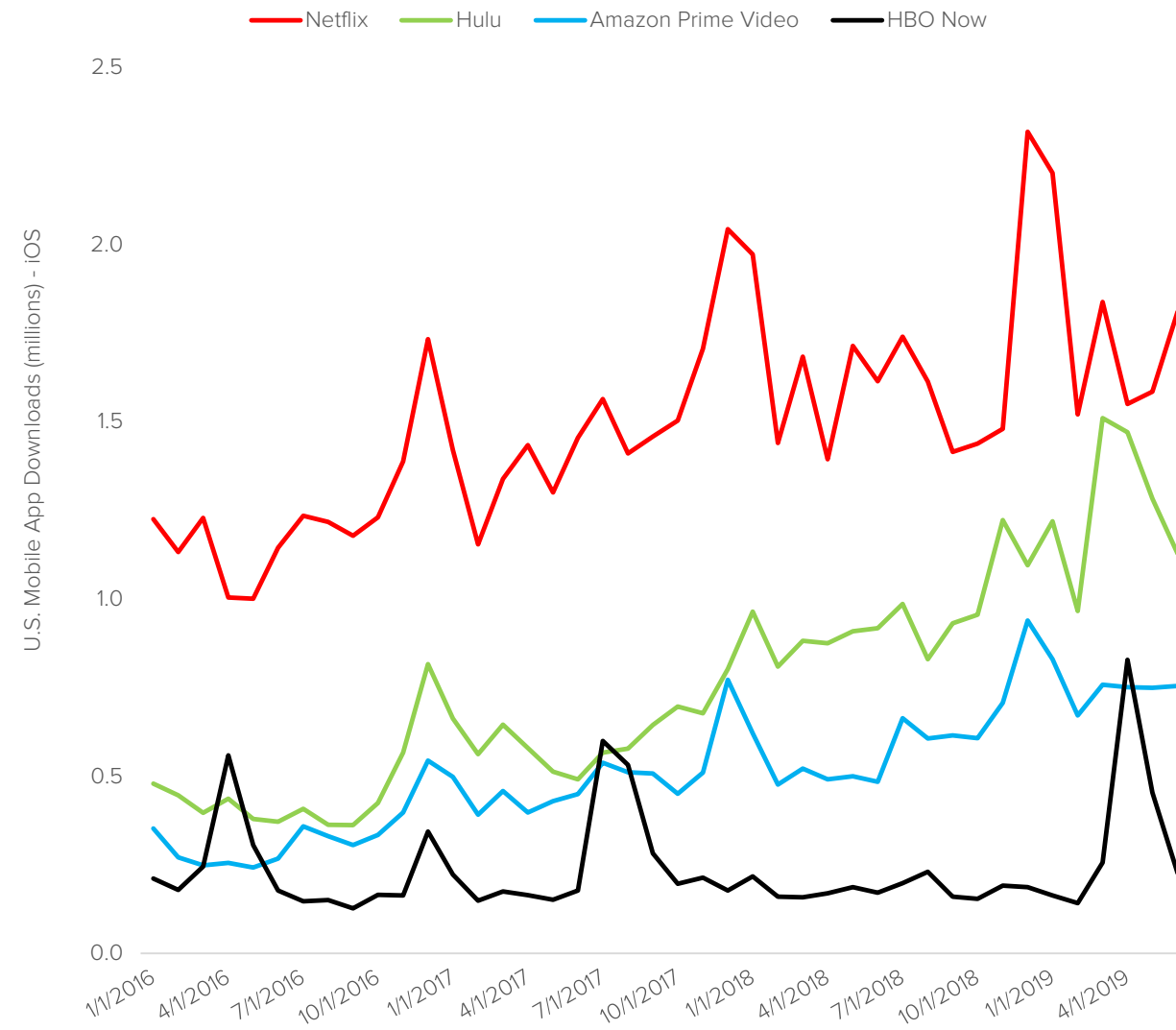


U.S. SVOD MARKET SHARE OF APP DOWNLOADS

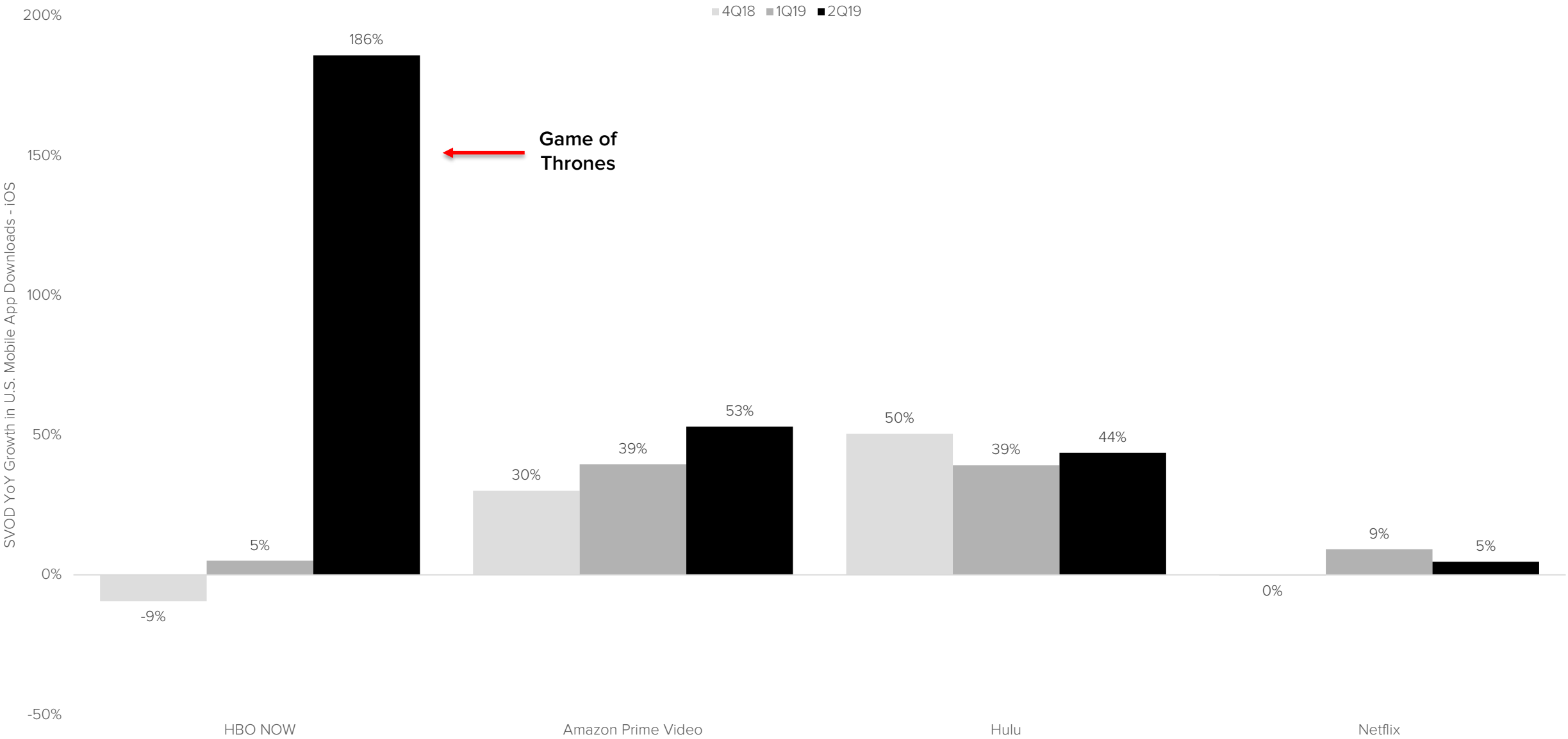
Did Game of Thrones Negatively Impact NFLX?



Large Spike in HBO Now Downloads in April 2019

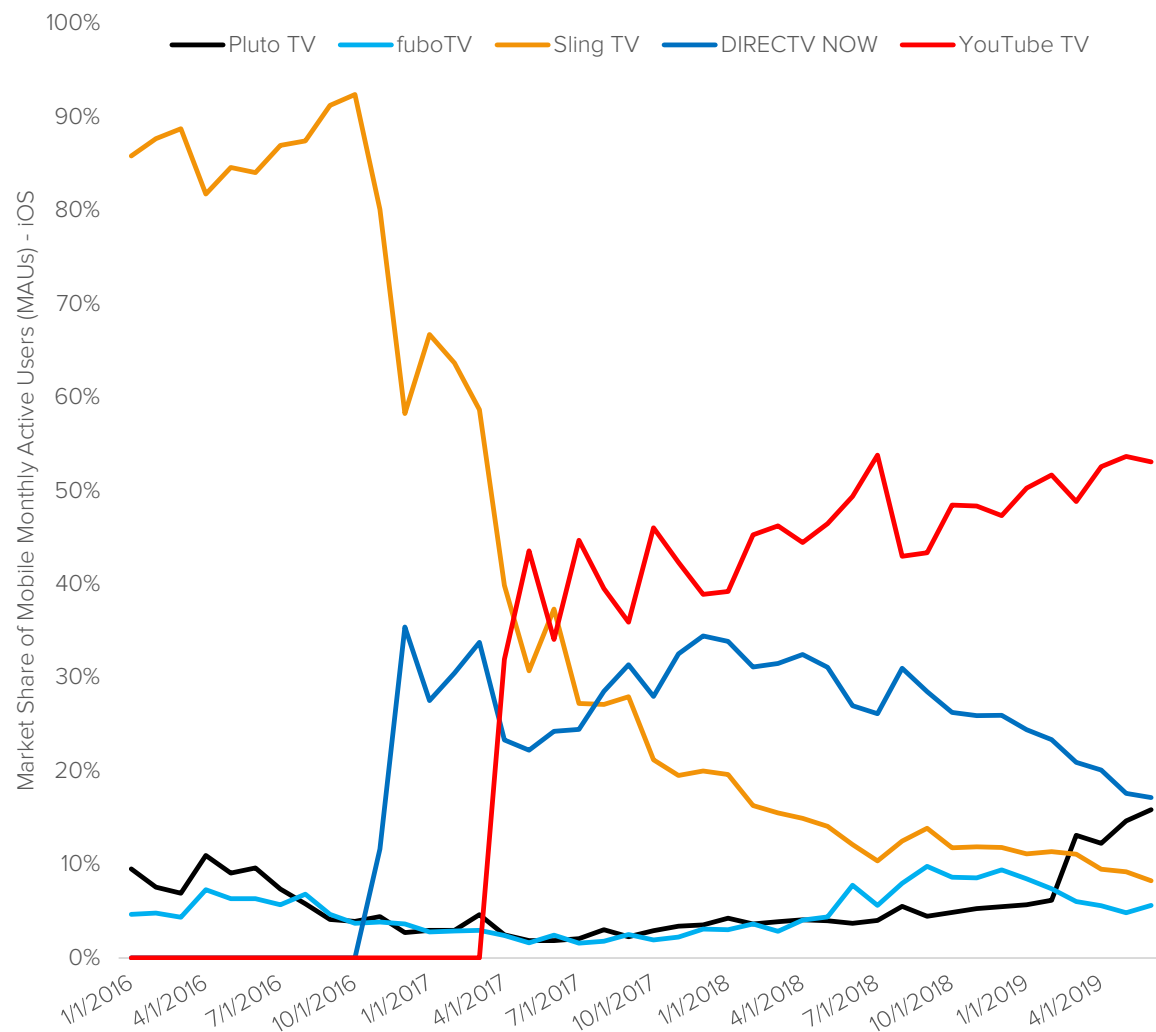


2Q19 SVOD U.S. MOBILE APP DOWNLOAD GROWTH YOY

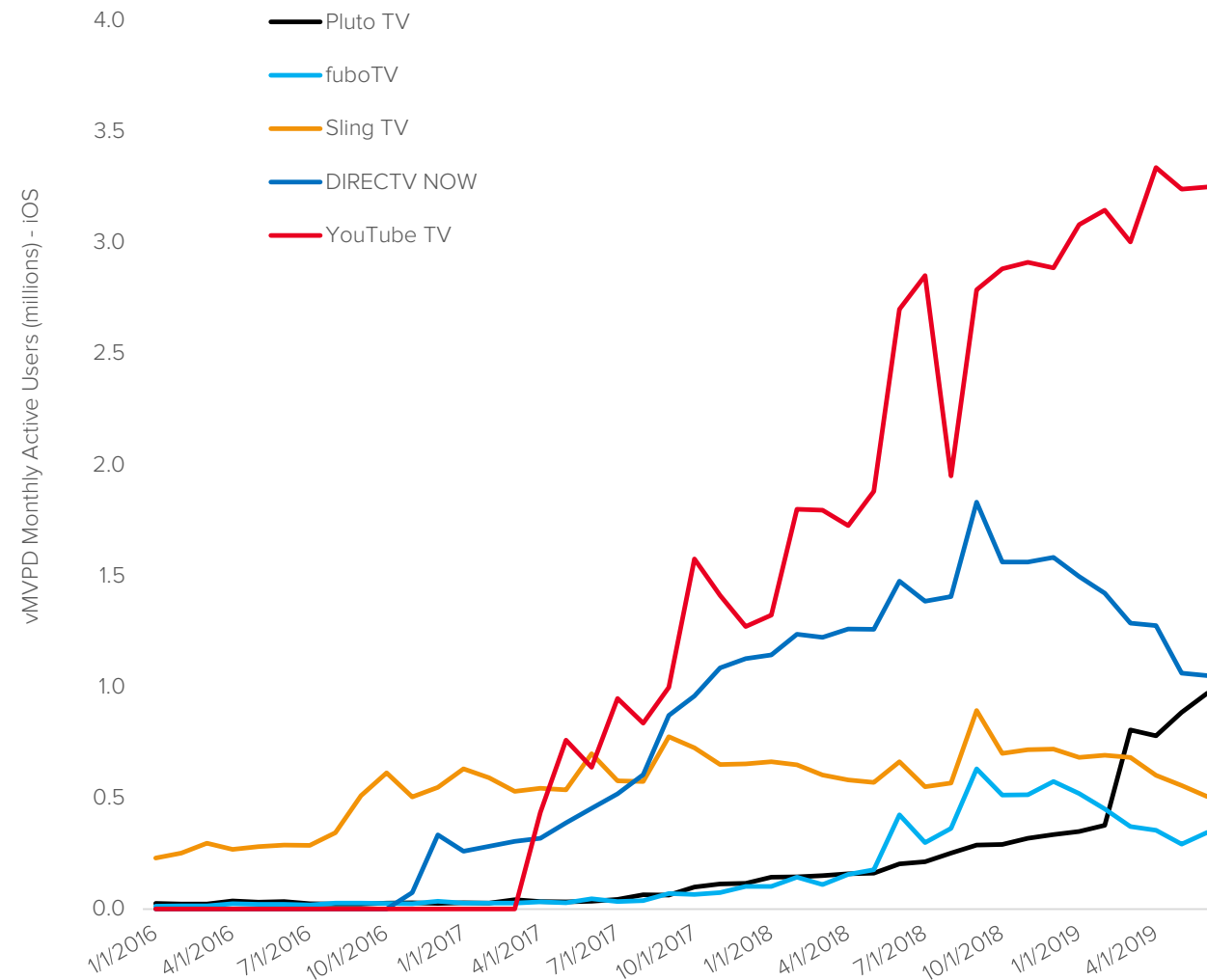


vMVPD U.S. MARKET SHARE OF MOBILE ACTIVE USERS

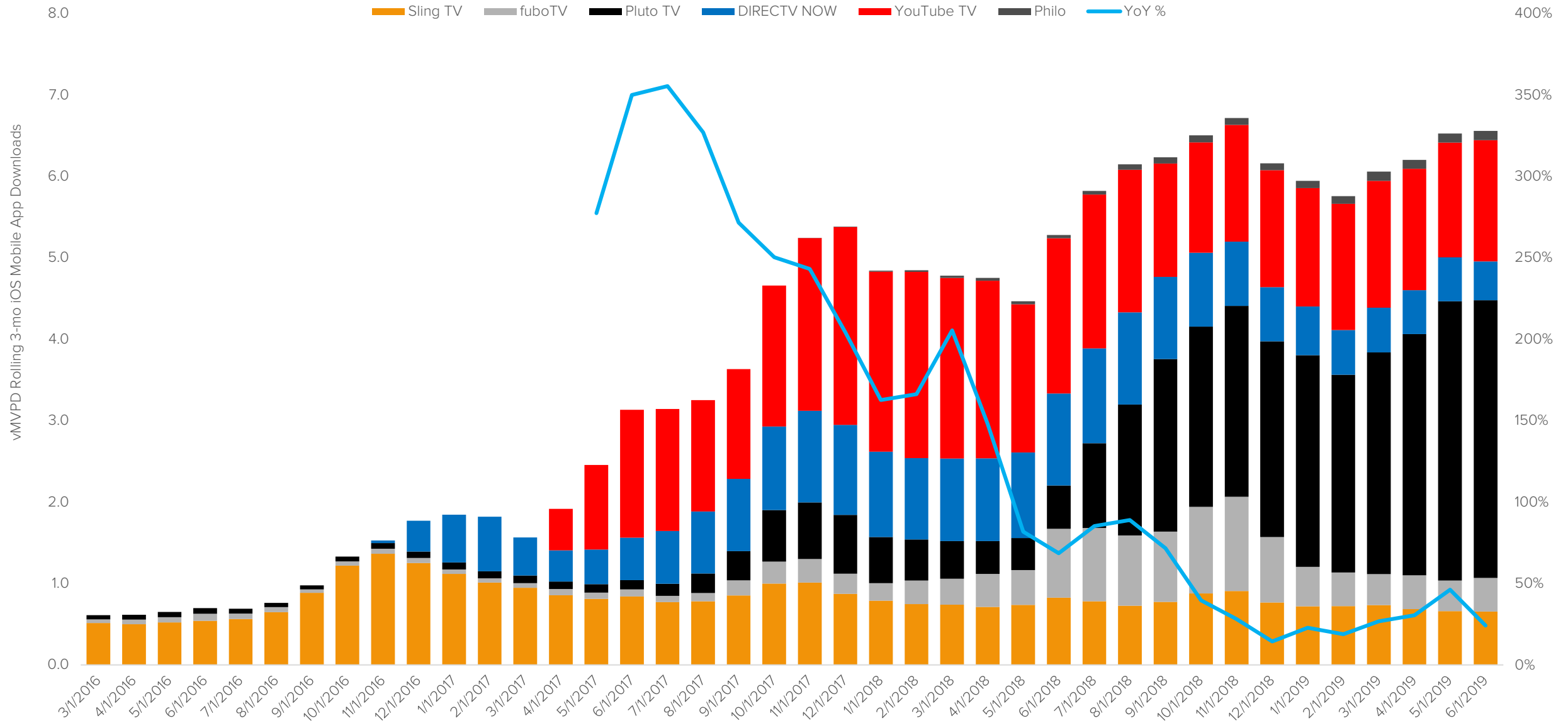
YouTube TV Remains #1 / Direct TV Now Declines



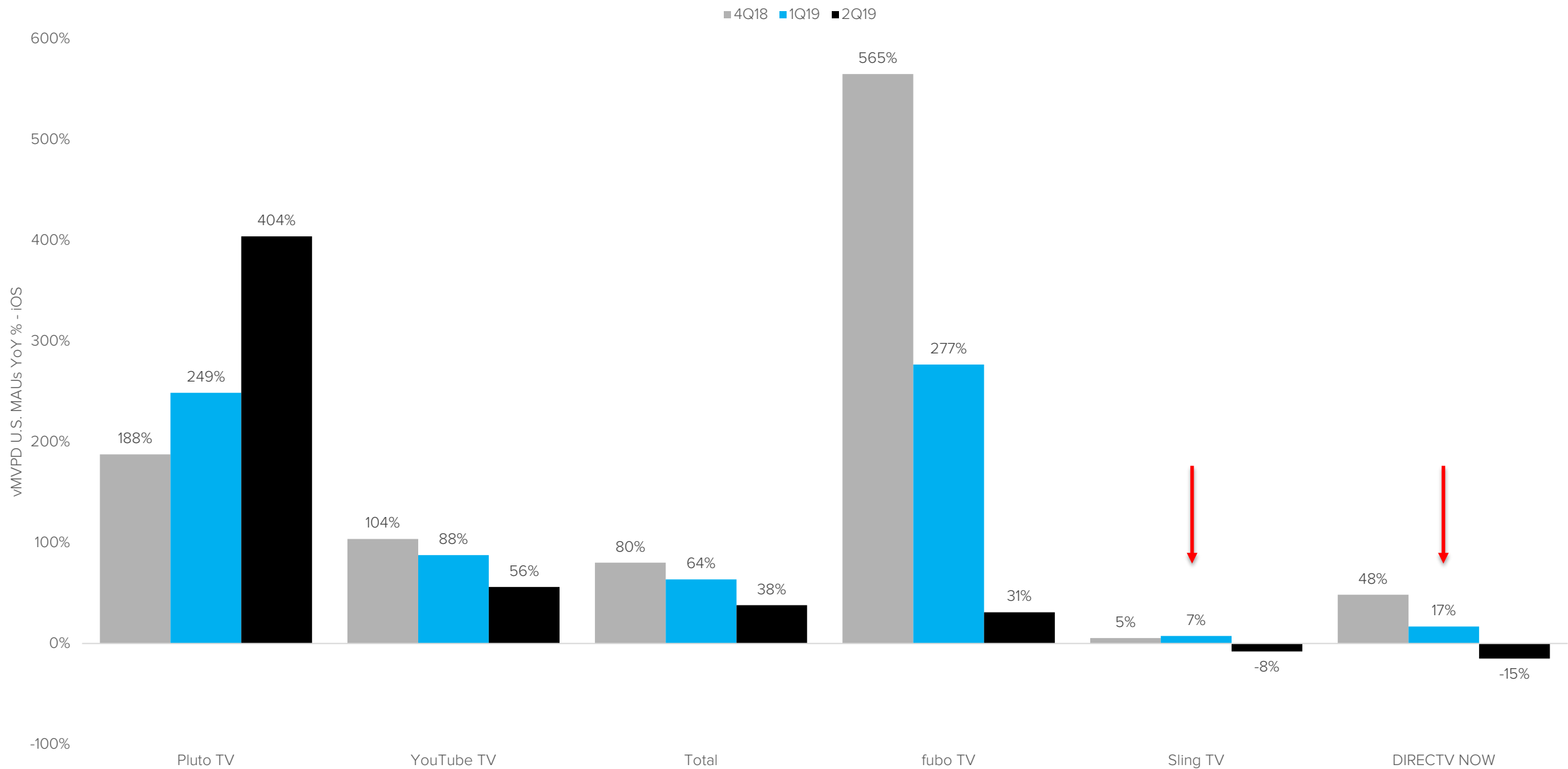
DirectTV NOW MAUs Trending Down in Q2



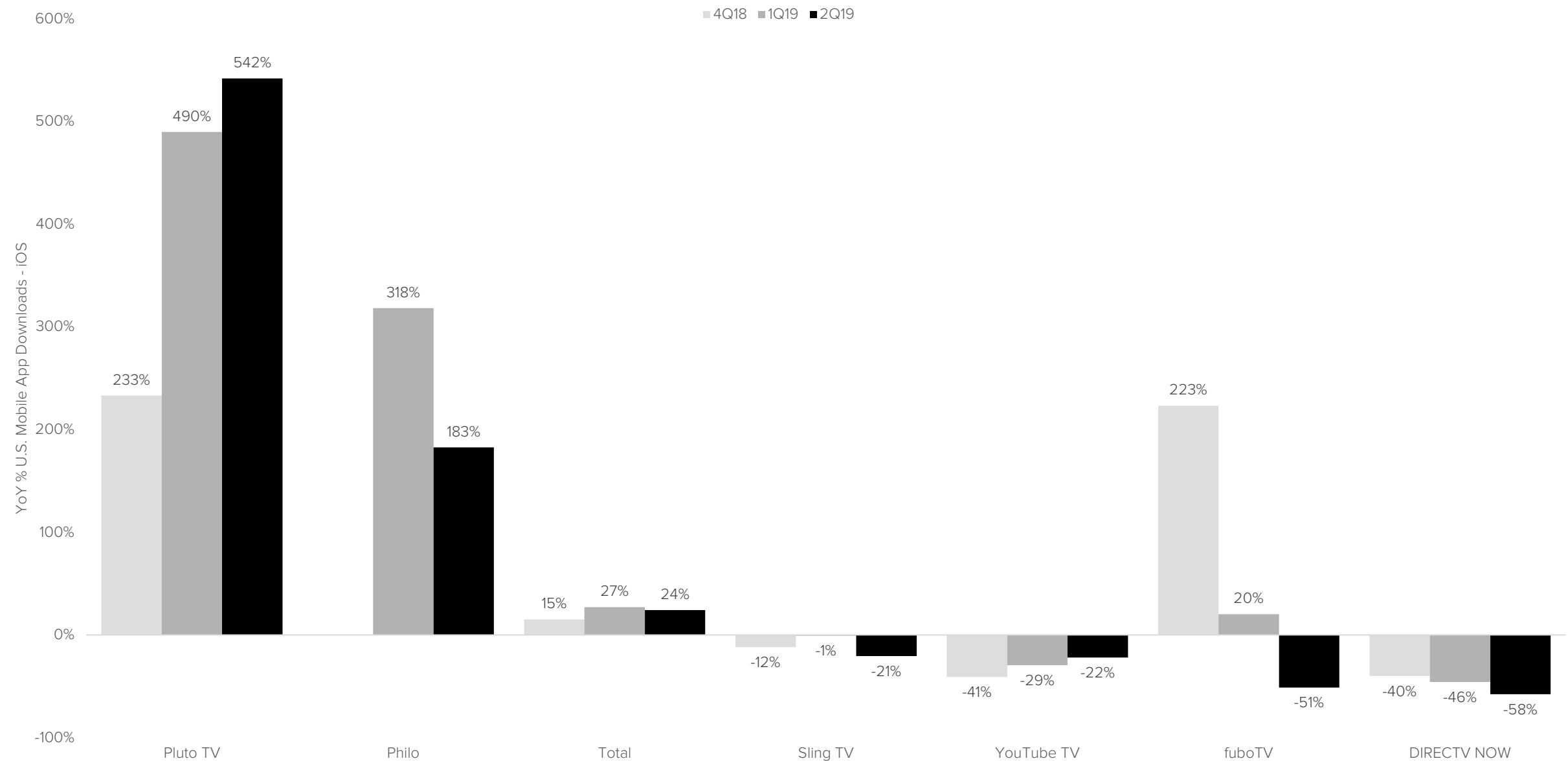
vMVPD U.S. GROWTH IN MOBILE APP DOWNLOADS



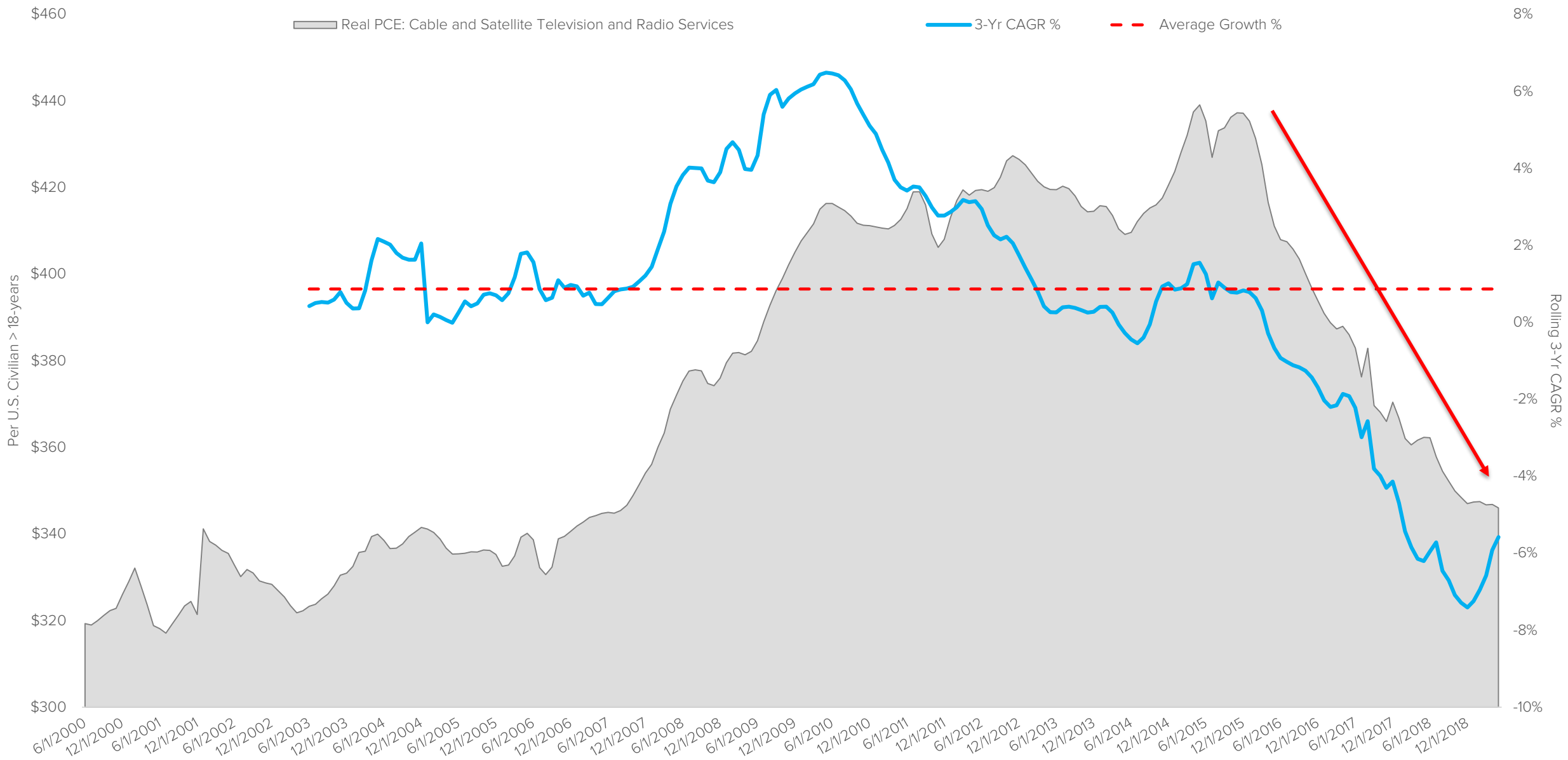
vMVPD U.S. MOBILE ACTIVE USERS +38% YOY 2Q19



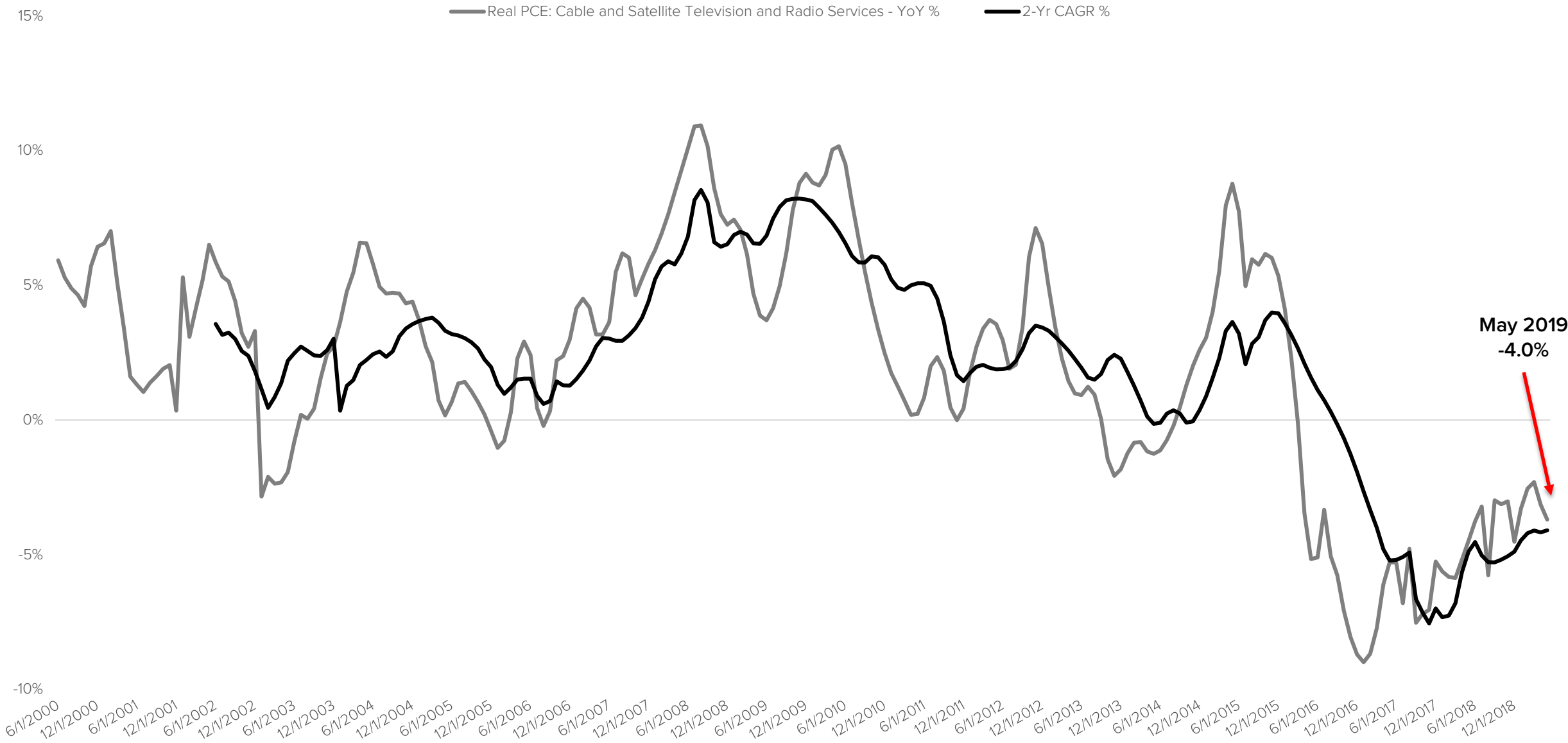
vMVPD U.S. MOBILE APP DOWNLOADS +24% YOY 2Q19



REAL PCE: CABLE AND SATELLITE TELEVISION

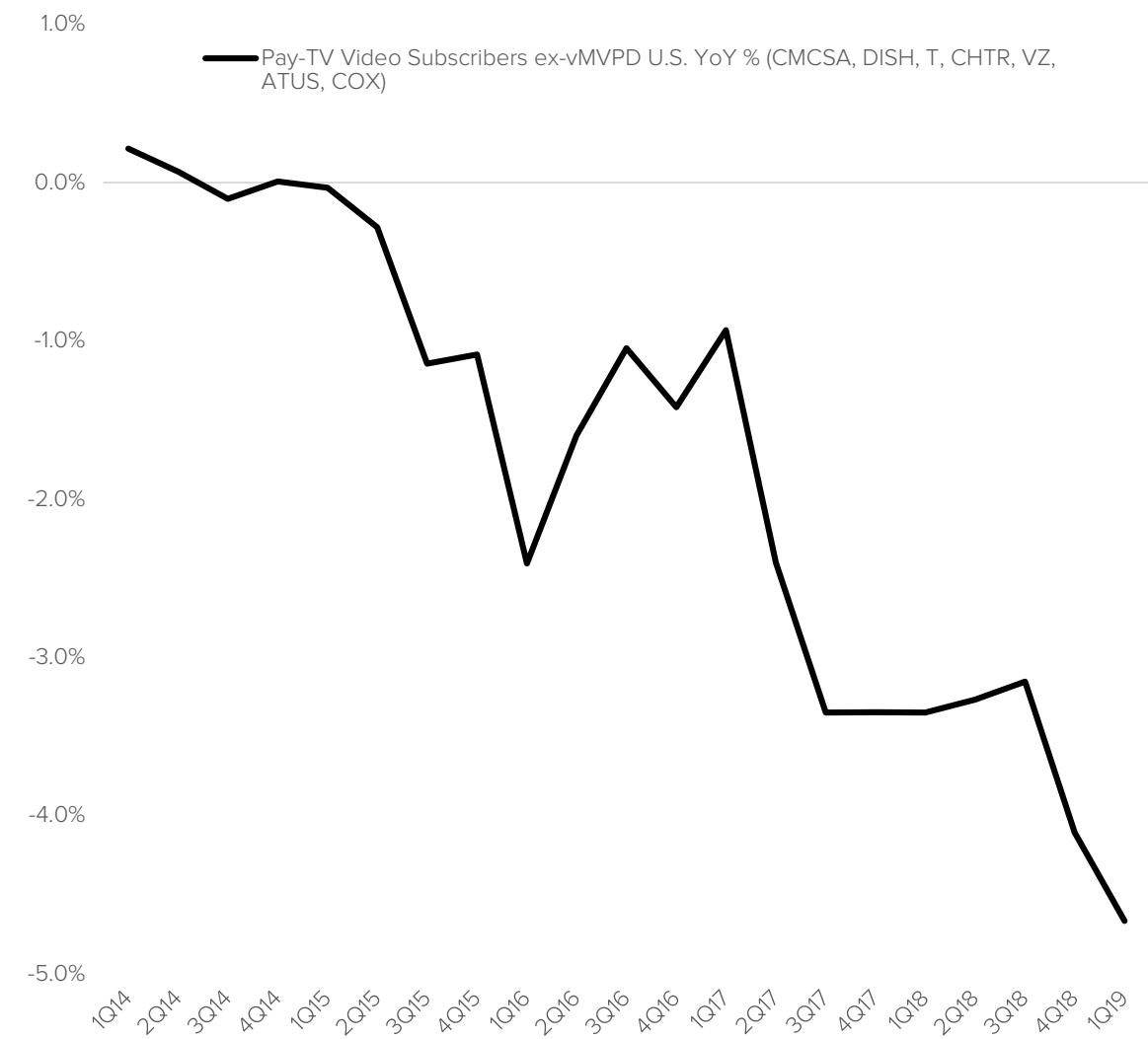


REAL PCE: CABLE AND SATELLITE TELEVISION

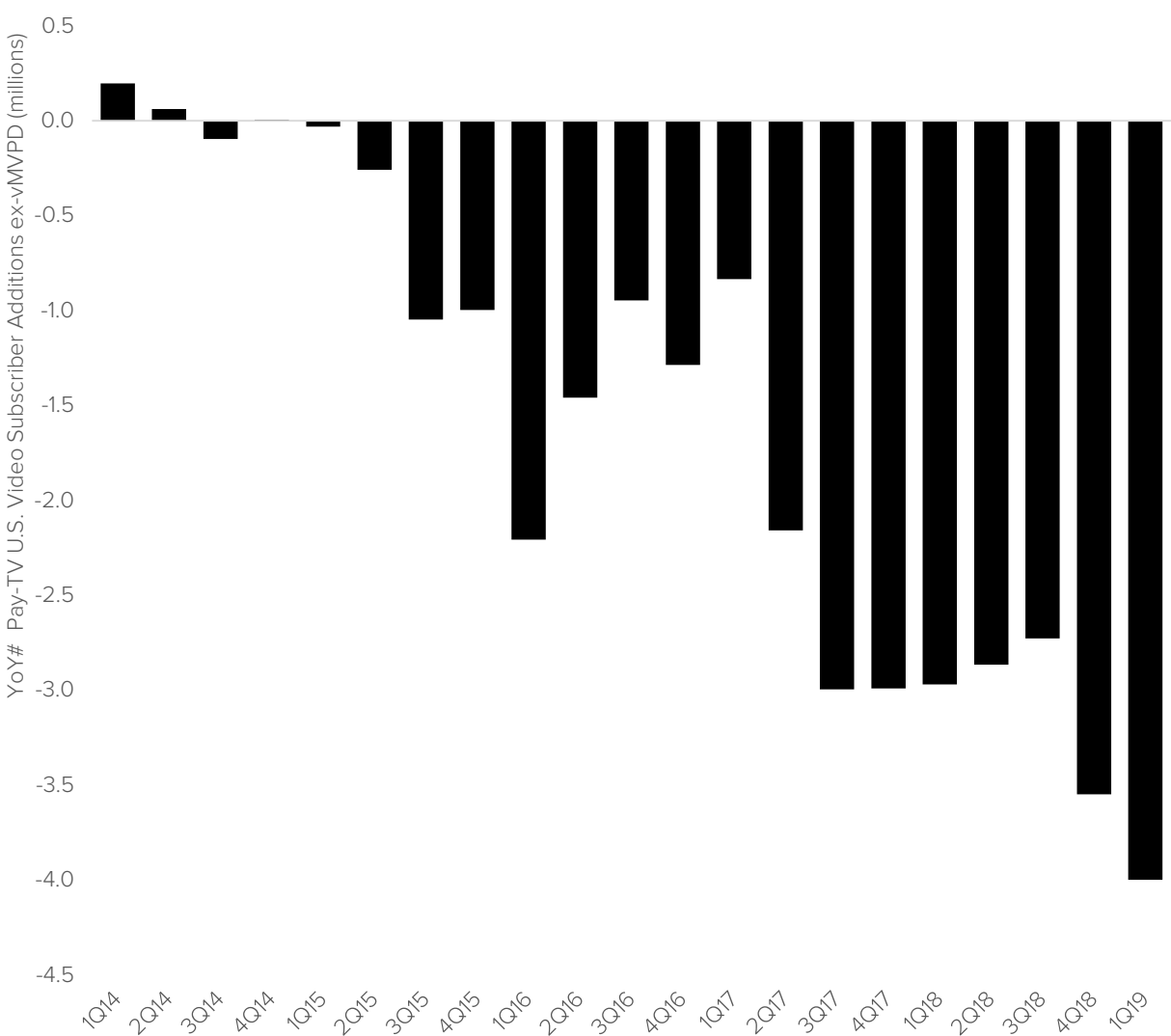


U.S. PAY-TV VIDEO SUBSCRIBER BASE DECLINING

Trend In Cord-cutting Accelerating

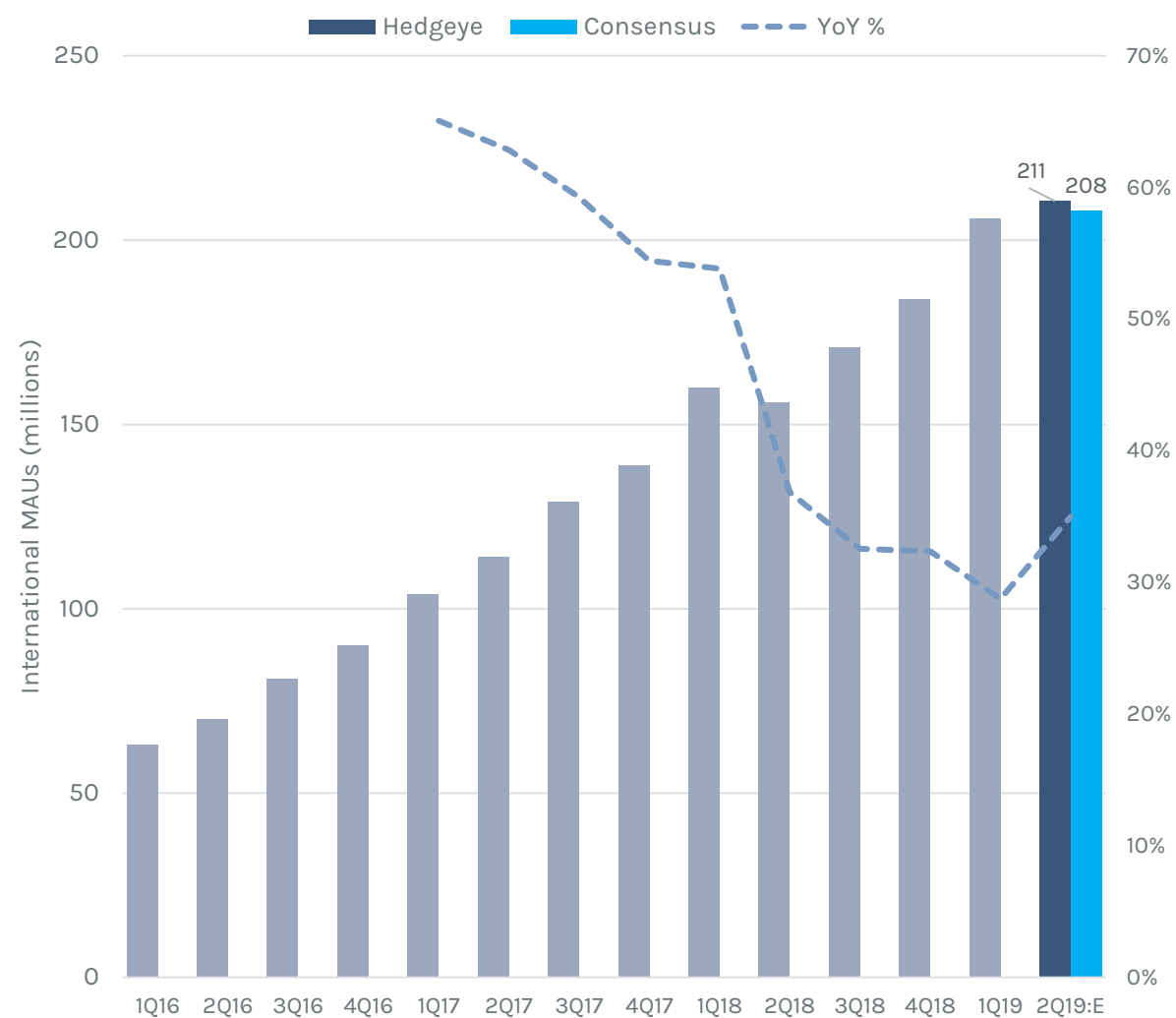
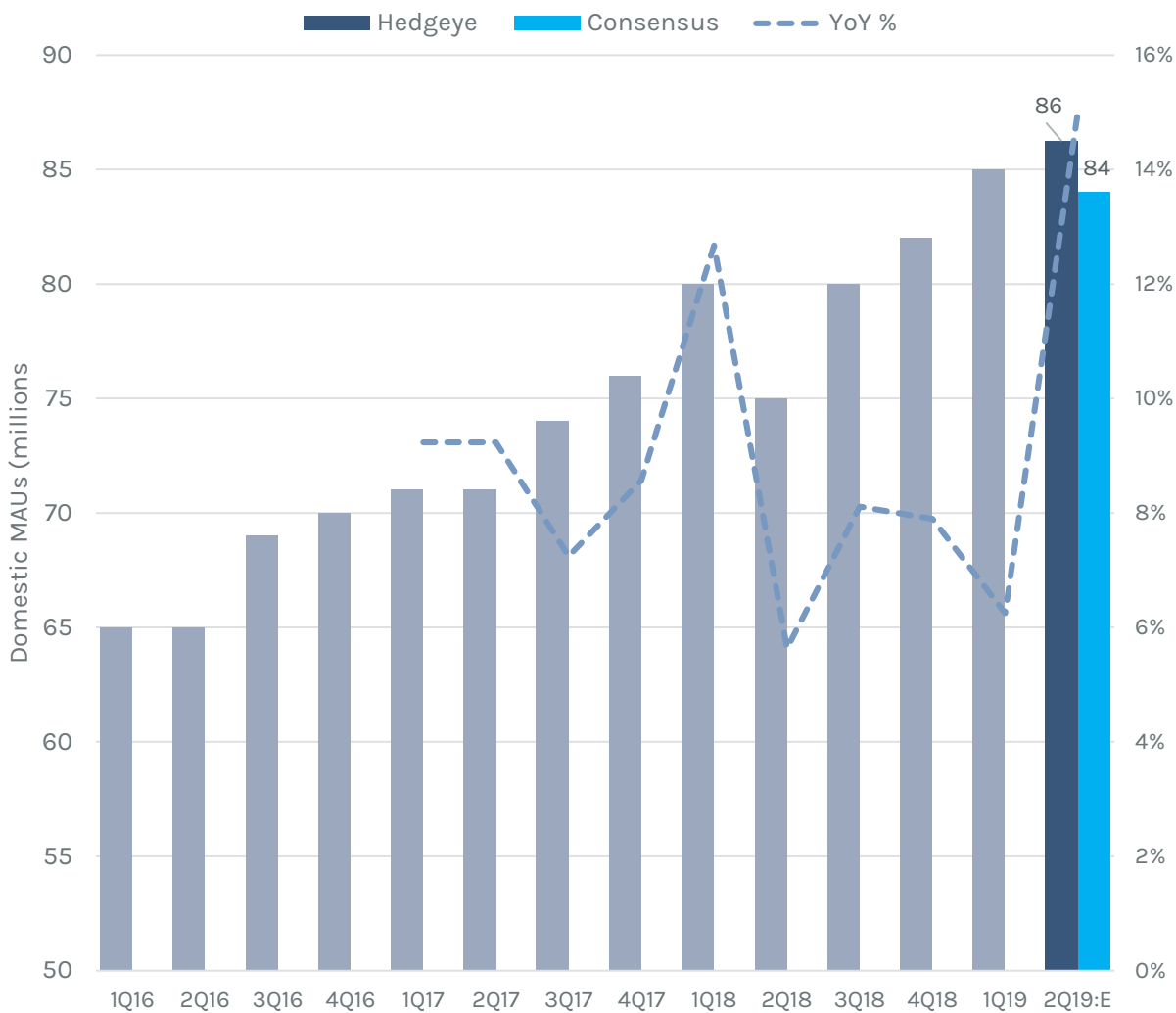


~4M Pay-TV Sub Losses Last 12-mo ex-vMVPD



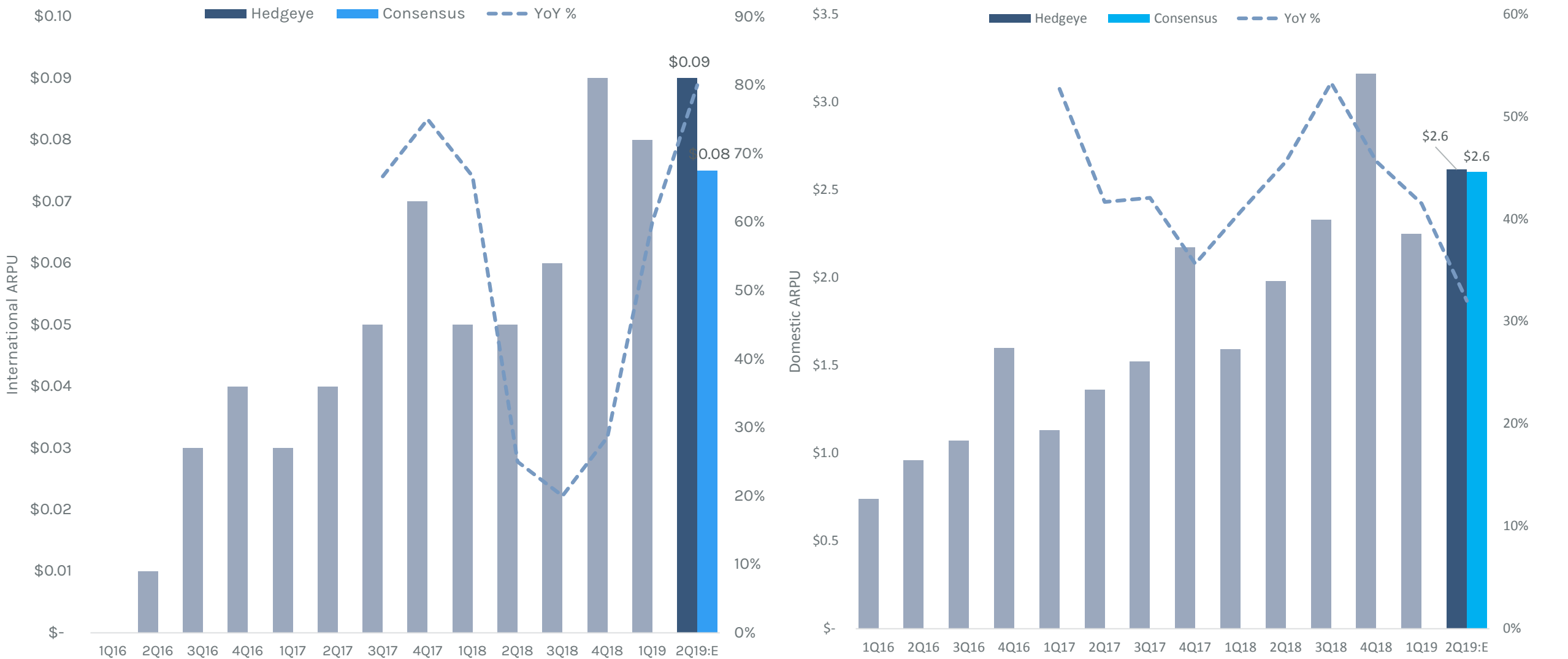
Pinterest (PINS) MAU Growth Accelerating in 2Q19

Easier comparison due to negative impact from Google de-indexing in 1H18



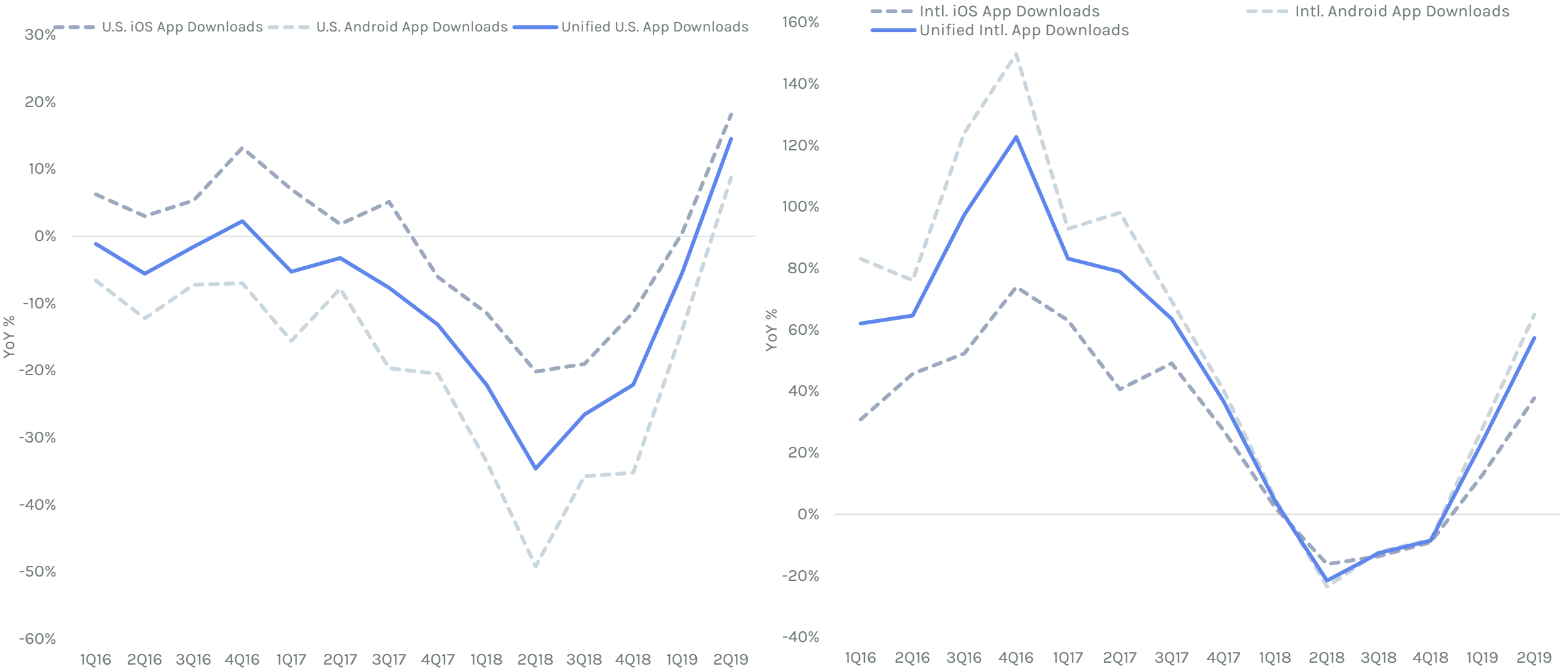
Pinterest (PINS) Under Monetizing ex-U.S.

International expansion, self-service and new ad formats drive ARPU higher



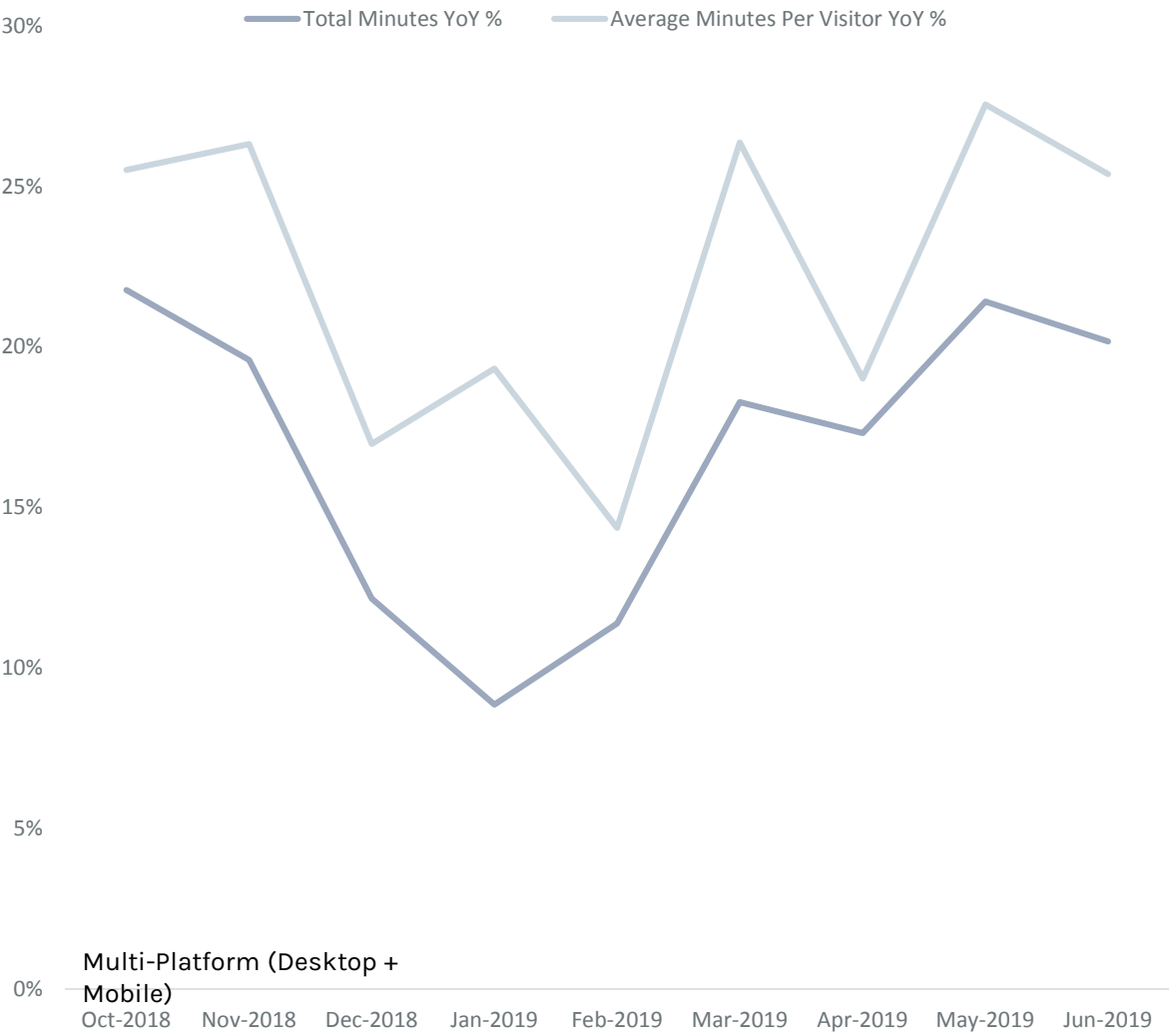
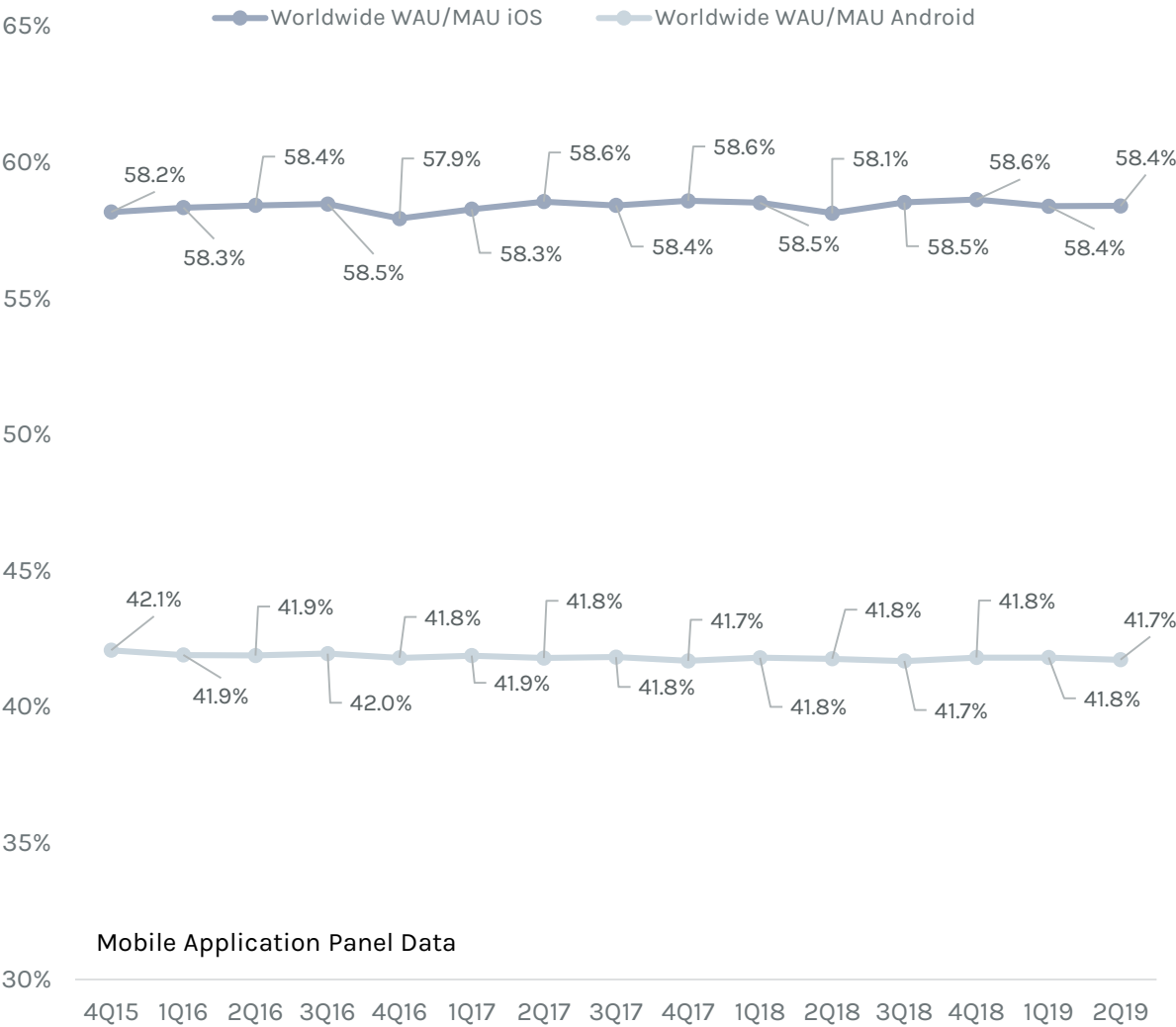
Pinterest (PINS) Mobile App Downloads Accelerating in 2Q19

Accelerating growth in the U.S. and International



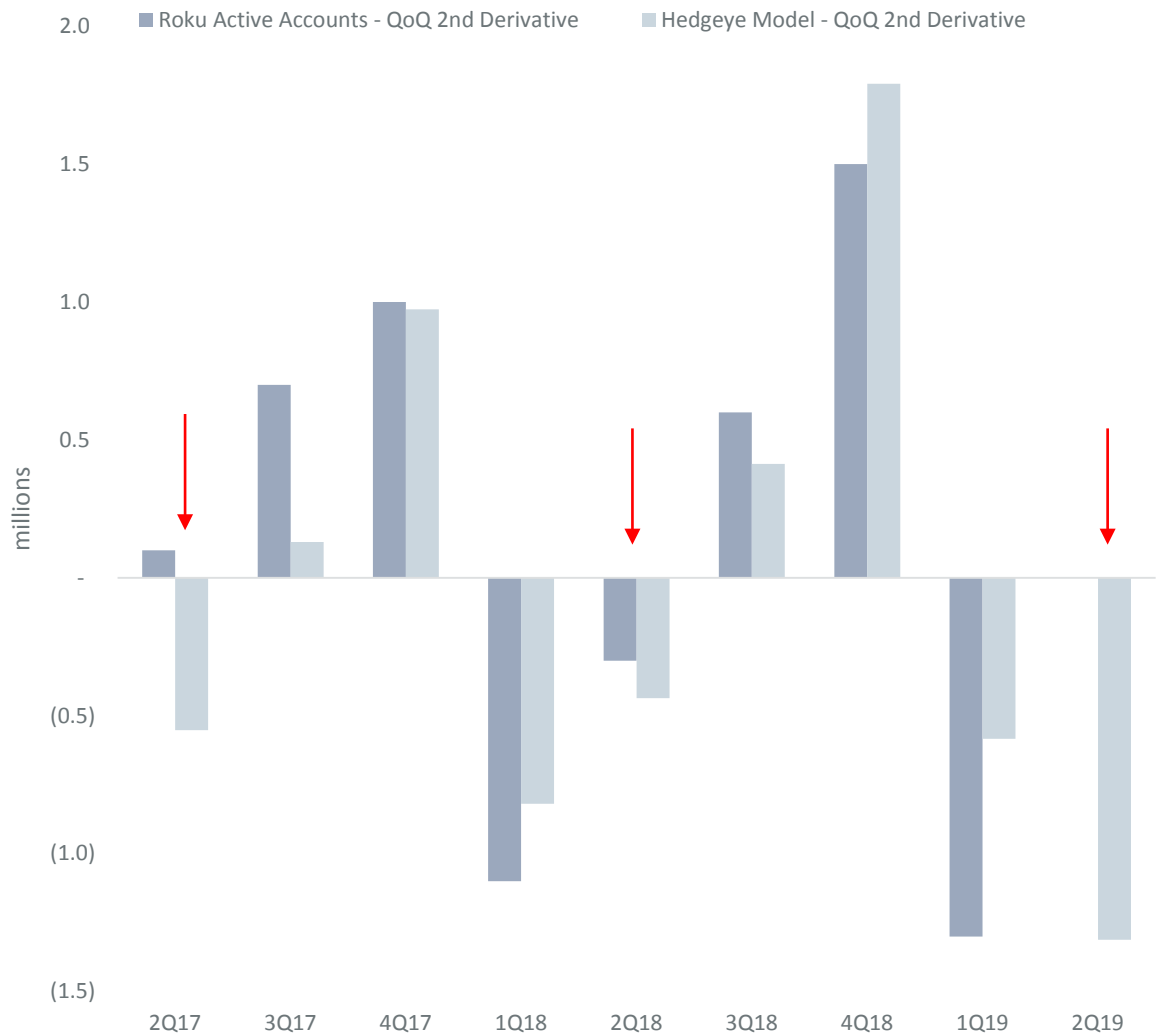
Pinterest (PINS) Stable->Improving Engagement Metrics

WAU/MAU Stable; Total Minutes and Time Spent Per Visitor Improving



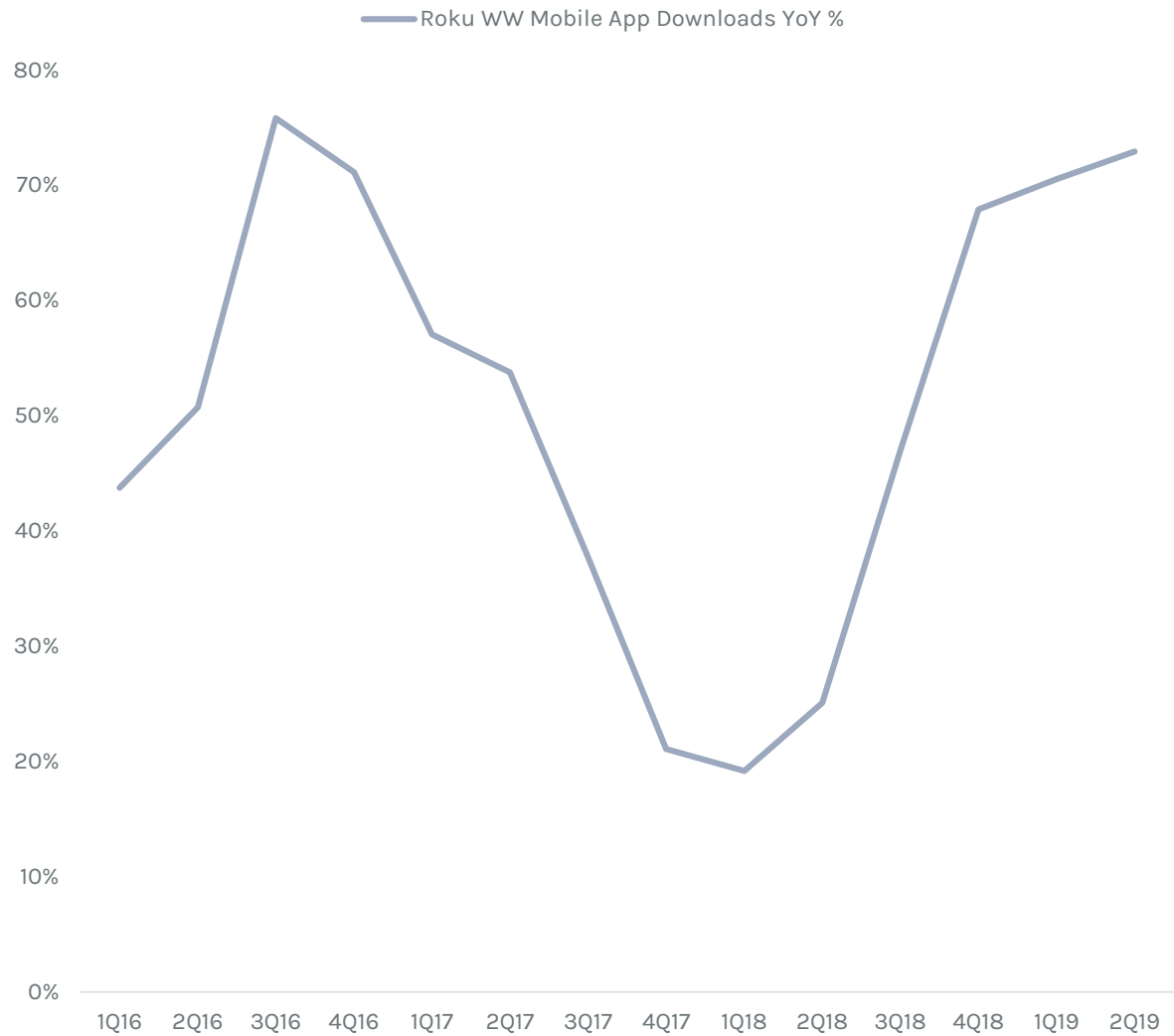
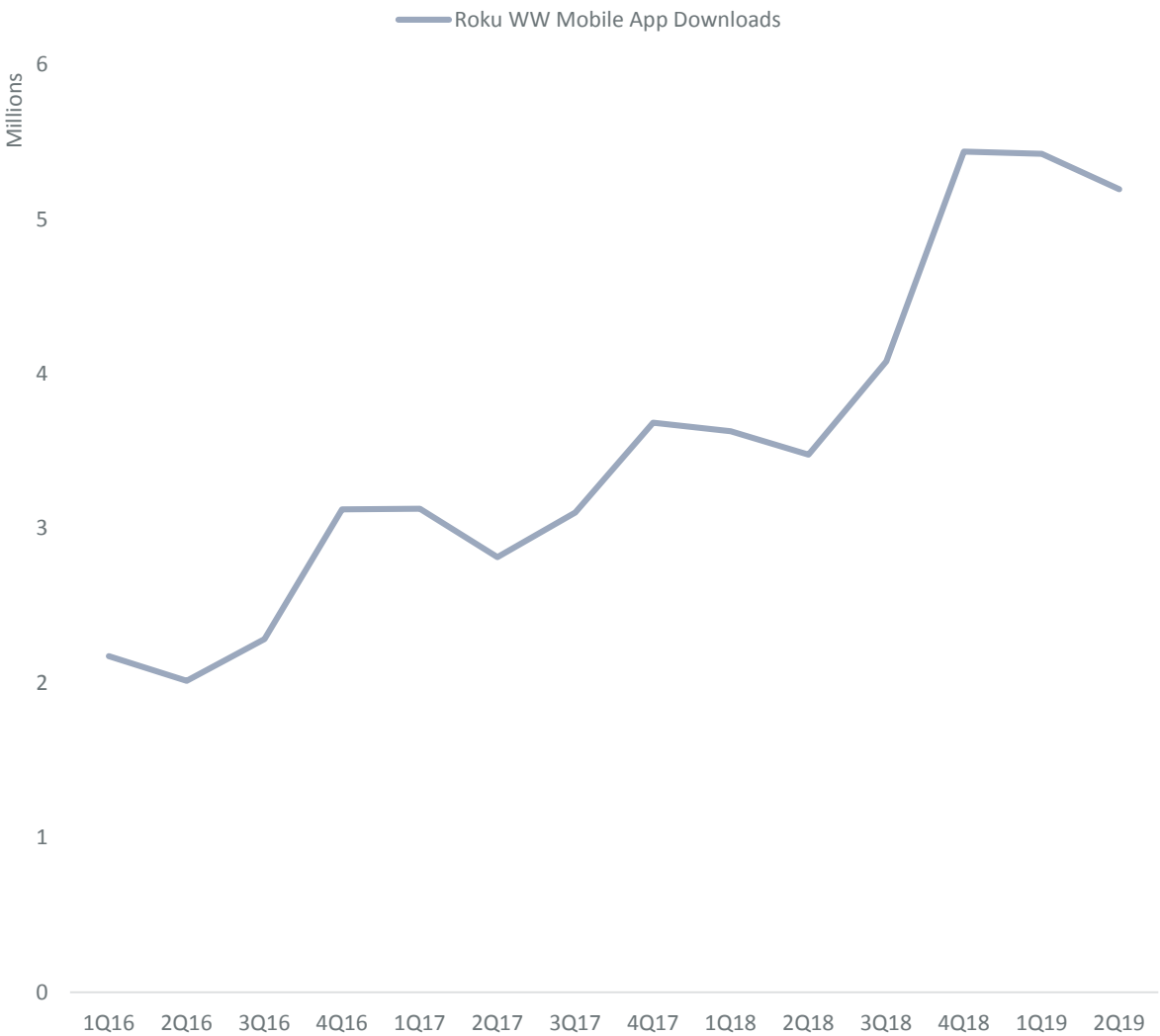
Roku (ROKU) | Tracking Active Accounts

Larger than usual QoQ decline in mobile user growth in 2Q19



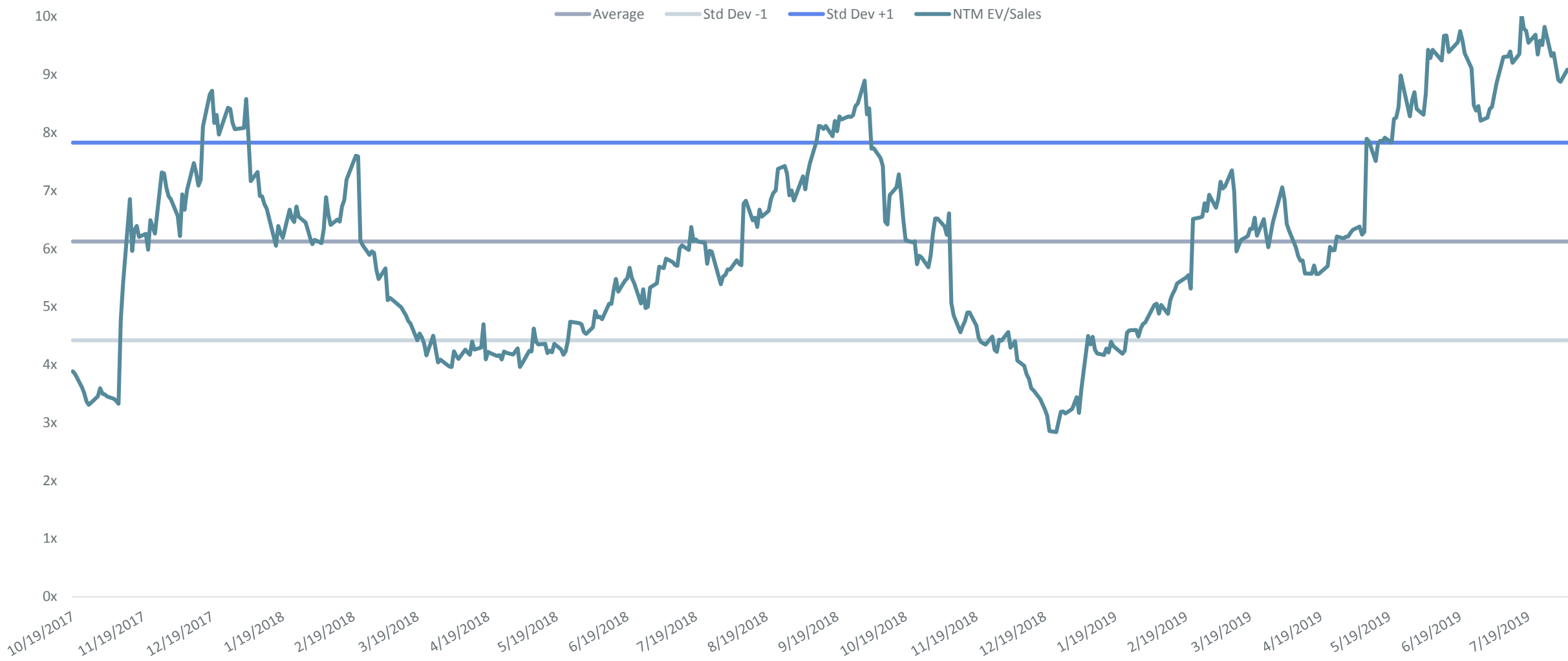
Roku (ROKU) | Mobile App Download Growth Strong

Sequential decline in 2Q19 consistent with seasonal trends; YoY growth continues to accelerate



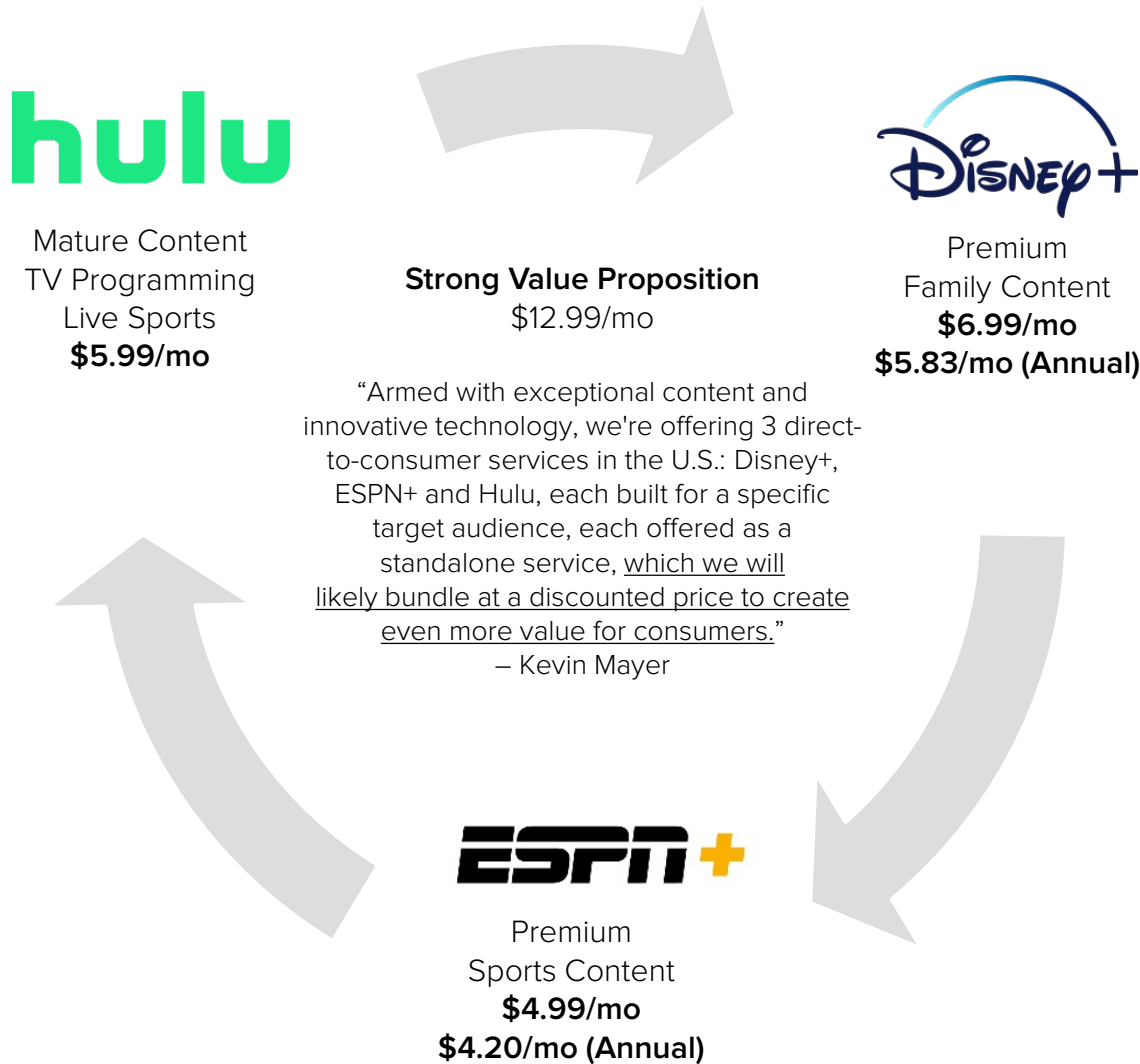
Roku (ROKU) | Historical NTM EV/Sales

Valuation near all-time-high as market values ROKU as an ad-platform and not a hardware company

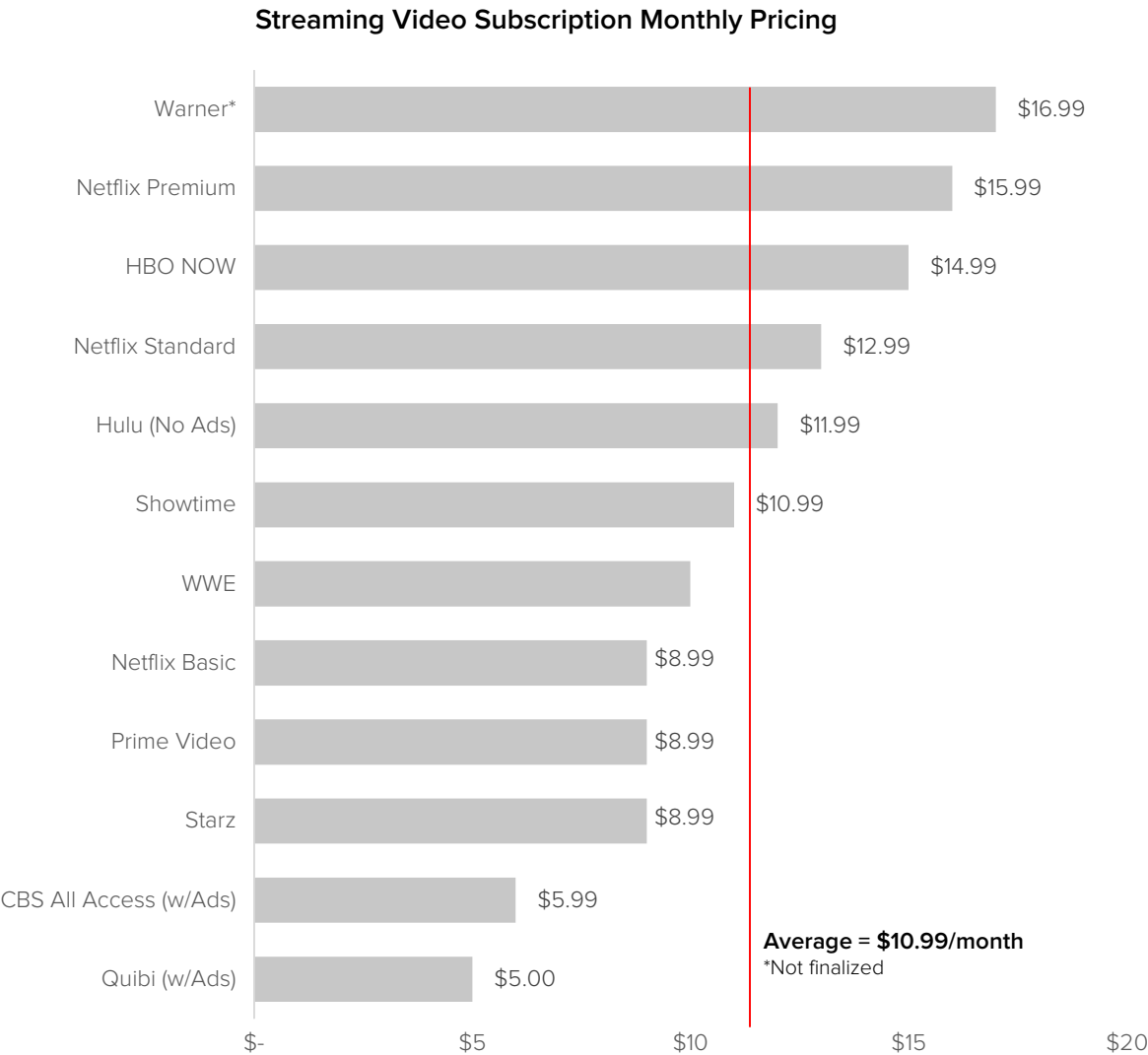


IMAGINEERING THE BUNDLE

Complementary Content Offerings

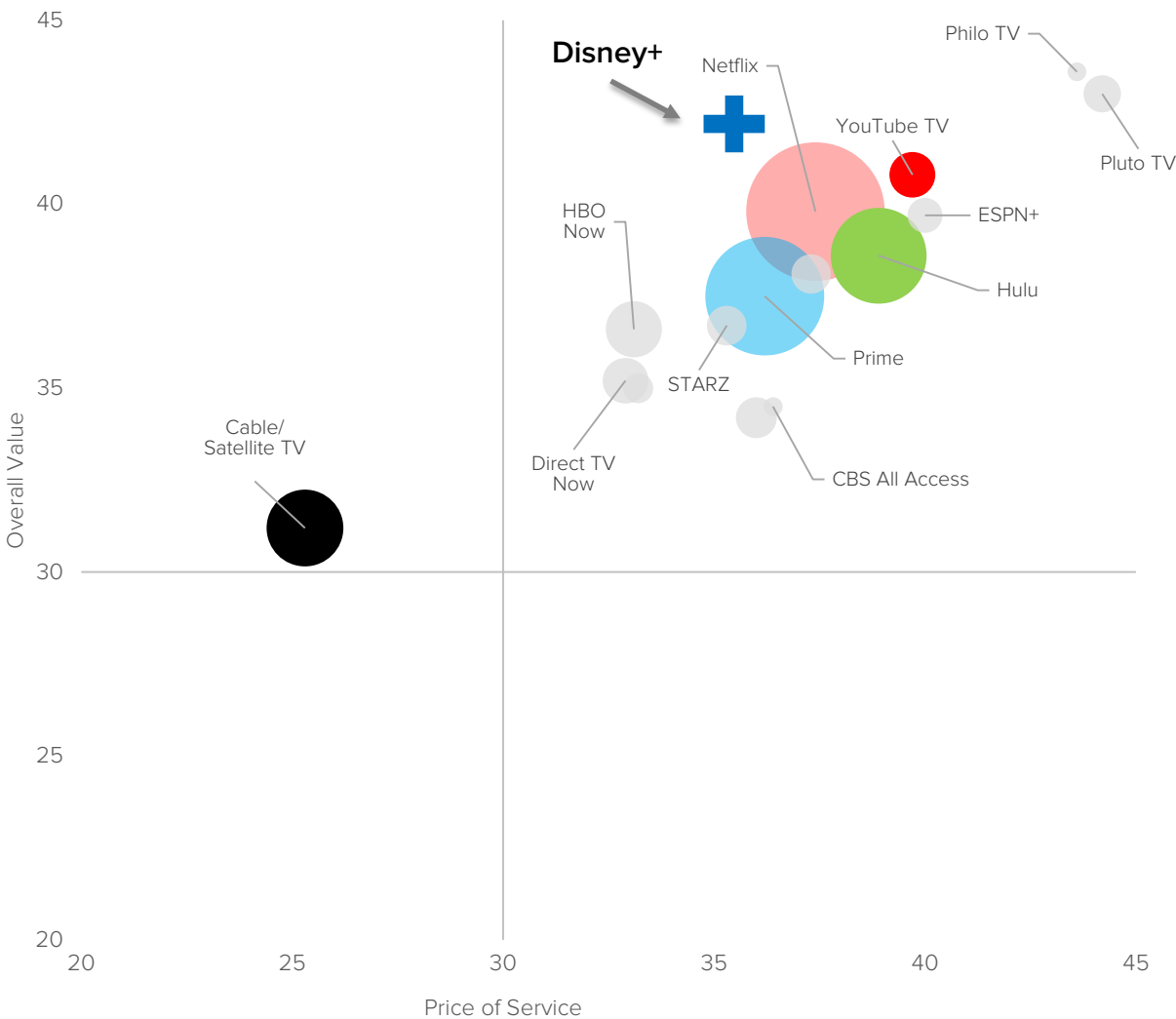


Disney Streaming Options Priced Competitively

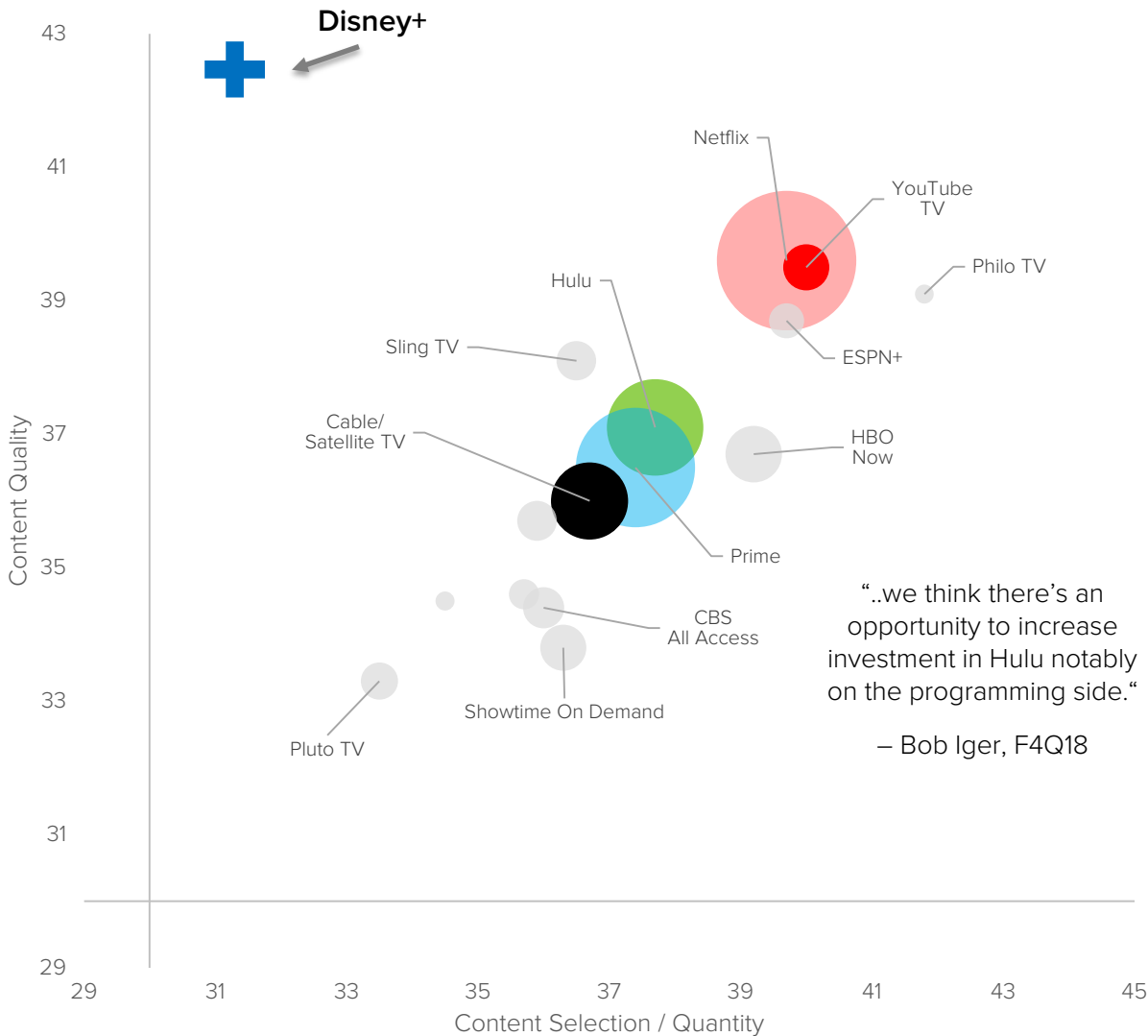


DISNEY+, HULU AND ESPN+ POSITIONED WELL

Overall Value



Quantity vs Quality

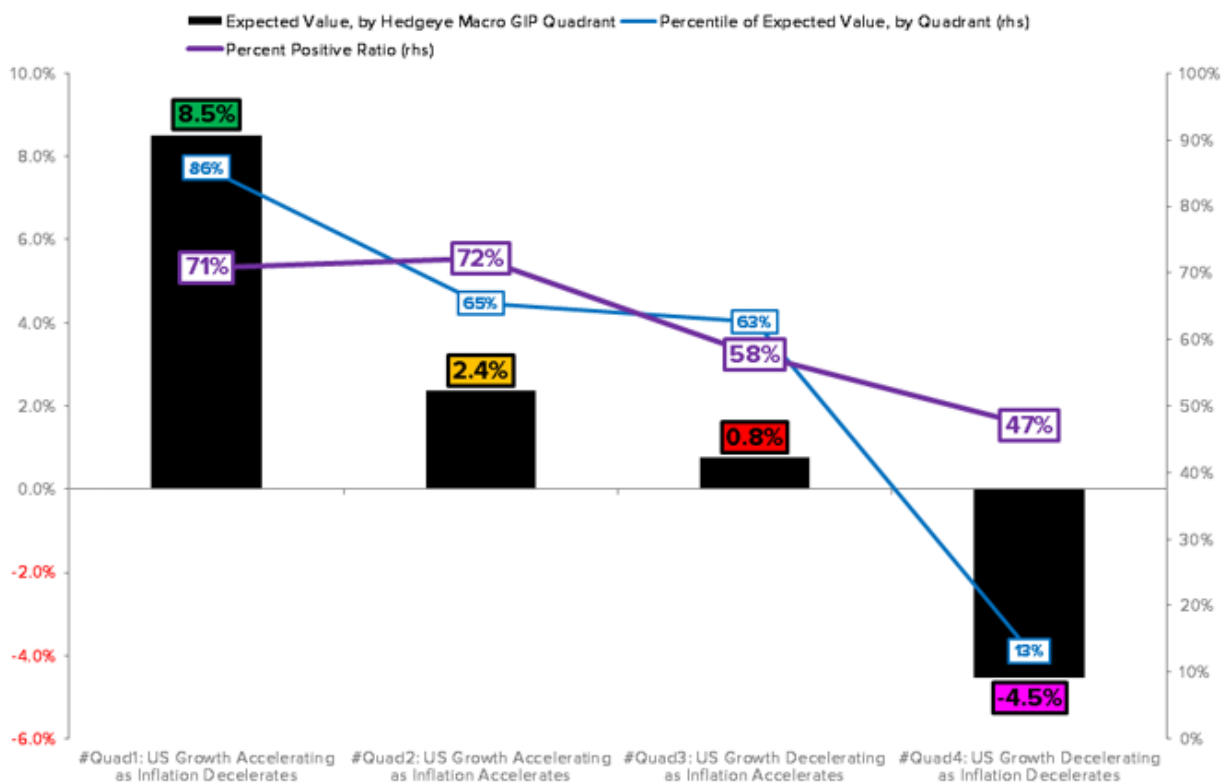


MACRO GRIND

Reviewing The #Quad4 Playbook

SHORT HIGH BETA

S&P 500 High Beta Index



Data Source: Bloomberg. Asset classes include equities, fixed income, currencies and commodities. 20+ years of quarterly observations.

LIQUIDITY RISK

Top Holdings | [View All](#)

as of 08/07/2019

Fund Holdings subject to change

Ticker	Company	% of Fund
AMD	Advanced Micro Devices Inc	1.78
MU	Micron Technology Inc	1.54
TWTR	Twitter Inc	1.54
NVDA	NVIDIA Corp	1.42
WDC	Western Digital Corp	1.38
KLAC	KLA Corp	1.32
AMZN	Amazon.com Inc	1.30
AMAT	Applied Materials Inc	1.29
ADBE	Adobe Inc	1.28
TTWO	Take-Two Interactive Software Inc	1.28

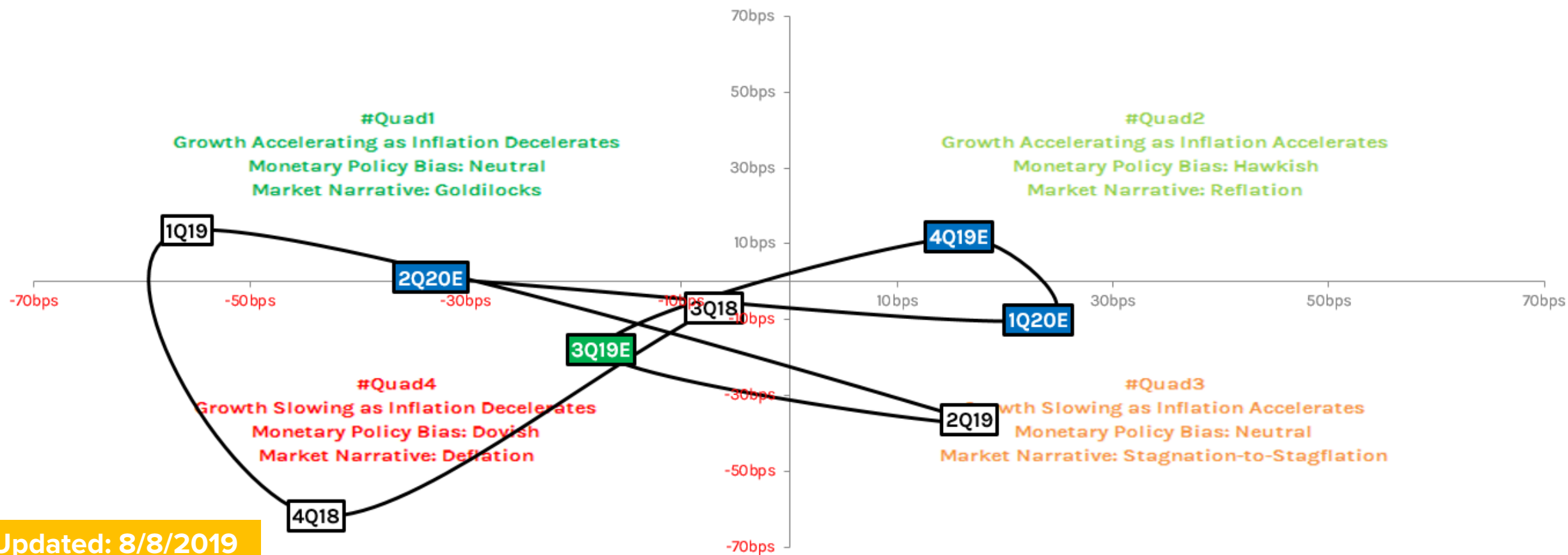
S&P 500 Index Earnings

S&P 500 INDEX			Range CQ2 Ending: 5/16/2019 - 8/15/2019			
	Surprise	Growth				
Sector (GICS)	Reported		Sales Growth		Earnings Growth	
1) All Securities	436 / 497			3.98%		2.47%
12) > Energy	29 / 29			-2.06%		-2.18%
13) > Materials	27 / 27			-21.44%		-13.39%
14) > Industrials	66 / 68			1.53%		2.58%
15) > Consumer Discretionary	39 / 61			6.58%		-1.67%
16) > Consumer Staples	22 / 32			2.39%		0.10%
17) > Health Care	56 / 62			14.97%		11.13%
18) > Financials	68 / 68			2.50%		3.01%
19) > Information Technology	51 / 67			-0.35%		-6.64%
20) > Communication Services	19 / 23			13.86%		13.40%
21) > Utilities	27 / 28			-0.35%		3.42%
22) > Real Estate	32 / 32			4.20%		4.47%

United States	3Q16	4Q16	1Q17	2Q17	3Q17	4Q17	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	← Actuals Estimates →	3Q19E	4Q19E	1Q20E	2Q20E
Real GDP QoQ SAAR	2.20%	2.00%	2.30%	2.20%	3.20%	3.50%	2.50%	3.50%	2.90%	1.10%	3.10%	2.10%	Hedgeye Estimates	2.19%	1.55%	2.66%	2.08%
YoY Hurdle Rate	1.30%	0.10%	2.00%	1.90%	2.20%	2.00%	2.30%	2.20%	3.20%	3.50%	2.50%	3.50%	YoY Hurdle Rate	2.90%	1.10%	3.10%	2.10%
Real GDP YoY	1.56%	2.03%	2.10%	2.16%	2.42%	2.80%	2.86%	3.20%	3.13%	2.52%	2.65%	2.29%	Hedgeye Estimates	2.11%	2.23%	2.13%	2.14%
2Y Comparative Base Effects	2.78%	2.39%	2.80%	2.35%	2.00%	1.97%	1.86%	1.75%	1.99%	2.41%	2.48%	2.68%	2Y Comparative Base Effects	2.77%	2.66%	2.76%	2.75%
Headline CPI YoY	1.12%	1.80%	2.54%	1.90%	1.97%	2.12%	2.21%	2.71%	2.64%	2.20%	1.64%	1.81%	Headline CPI YoY	1.64%	1.79%	2.03%	1.69%
2Y Comparative Base Effects	0.95%	0.86%	0.51%	0.50%	0.61%	1.13%	1.81%	1.48%	1.54%	1.96%	2.38%	2.31%	2Y Comparative Base Effects	2.30%	2.16%	1.93%	2.26%

United States

◆ x-axis: First Difference of YoY Headline CPI;
y-axis: First Difference of YoY Real GDP



Data Source: Bloomberg. Green box = Hedgeye Predictive Tracking Algorithm nowcasts. Blue boxes = Hedgeye Comparative Base Effect Model estimates.

© Hedgeye Risk Management

Our Risk Management Overlay is Rules-Based

#QUAD1

- Maximum gross exposure, wide net exposure. Growth investing bias.
- **Asset Class Overweight(s):** Equities and Credit
- **Asset Class Underweight(s):** Fixed Income
- **Equity Sector Overweight(s):** Tech, Consumer Discretionary, Industrials, and Health Care
- **Equity Sector Underweight(s):** Utilities, Consumer Staples, Energy, and REITS
- **Equity Style Factor Overweight(s):** High Beta, Momentum, and Growth
- **Equity Style Factor Underweight(s):** Low Beta/Minimum Vol., High Dividend Yield, and Value
- **Fixed Income Overweight(s):** Convertibles, High Yield Credit, Leveraged Loans, and High Yield Munis,
- **Fixed Income Underweight(s):** TIPS, Long Duration Treasuries, and Short Duration Treasuries

#QUAD2

- Maximum gross exposure, wide net exposure. Inflation-hedging bias.
- **Asset Class Overweight(s):** Equities and Credit
- **Asset Class Underweight(s):** Fixed Income
- **Equity Sector Overweight(s):** Tech, Industrials, and Consumer Discretionary
- **Equity Sector Underweights(s):** Communication Services*, Utilities, REITS, and Consumer Staples
- **Equity Style Factor Overweight(s):** Momentum, Growth, and Small Caps
- **Equity Style Factor Underweight(s):** Low Beta/Minimum Vol., Value, and High Dividend Yield
- **Fixed Income Overweight(s):** Convertibles, Leveraged Loans, High Yield Credit, and TIPS
- **Fixed Income Underweight(s):** Long Duration Treasuries, Munis, and Investment Grade Credit

#QUAD3

- Middling gross exposure, tight net exposure. Defensive, yield-chasing bias.
- **Asset Class Overweight(s):** Fixed Income
- **Asset Class Underweight(s):** Equities and Credit
- **Equity Sector Overweight(s):** Utilities, Tech, Energy, and REITS
- **Equity Sector Underweight(s):** Financials, Materials, Communication Services*, and Consumer Staples
- **Equity Style Factor Overweight(s):** Low Beta/Minimum Vol., Growth, and Quality
- **Equity Style Factor Underweight(s):** High Dividend Yield, Value, and Small Caps
- **Fixed Income Overweight(s):** Long Duration Treasuries, Taxable Munis, and TIPS
- **Fixed Income Underweight(s):** Convertibles, Leveraged Loans, and High Yield Credit

#QUAD4

- Minimum gross exposure, net short exposure. Deflation-hedging bias.
- **Asset Class Overweight(s):** Fixed Income
- **Asset Class Underweight(s):** Equities and Credit
- **Equity Sector Overweight(s):** Consumer Staples, REITS, Health Care, and Utilities
- **Equity Sector Underweight(s):** Tech, Energy, Industrials, and Financials
- **Equity Style Factor Overweight(s):** High Dividend Yield, Low Beta/Minimum Vol., and Quality
- **Equity Style Factor Underweight(s):** Momentum, High Beta, and Growth
- **Fixed Income Overweight(s):** Long Duration Treasuries, Taxable Munis, and MBS
- **Fixed Income Underweight(s):** Convertibles, TIPS, Leveraged Loans, and High Yield Credit

Sector Performance

<u>SECTOR</u>	<u>Ticker</u>	<u>Price</u>	<u>1-Day %</u> <u>Chg</u>	<u>MTD %</u> <u>Chg</u>	<u>QTD %</u> <u>Chg</u>	<u>YTD %</u> <u>Chg</u>
Consumer Discretionary	XLY	\$117.15	0.40%	-2.96%	-1.72%	18.32%
Financial Select Sector	XLF	\$26.75	-1.33%	-5.31%	-3.08%	12.30%
Health Care Select Sector	XLV	\$90.09	0.03%	-1.15%	-2.75%	4.14%
Technology Select Sector	XLK	\$77.49	0.62%	-4.06%	-0.70%	25.02%
Consumer Staples Select Sector	XLP	\$58.89	1.17%	-0.91%	1.41%	15.97%
Industrial Select Sector	XLI	\$74.79	-0.05%	-3.89%	-3.40%	16.12%
Materials Select Sector	XLB	\$57.10	1.38%	-2.13%	-2.39%	13.02%
The Energy Select Sector	XLE	\$58.09	-0.75%	-7.35%	-8.82%	1.29%
Utilities Select Sector	XLU	\$60.18	0.25%	1.06%	0.92%	13.72%
Real Estate Select Sector	XLRE	\$37.88	0.93%	1.26%	3.02%	22.19%
Communications Services Sector	XLC	\$49.19	0.12%	-3.13%	-0.06%	19.16%
S&P 500	SPX	2,883.98	0.08%	-3.23%	-1.96%	15.04%

Sector Relative Performance

	<u>Ticker</u>	<u>Price</u>	<u>1-Day %</u> <u>Chg</u>	<u>MTD %</u> <u>Chg</u>	<u>QTD %</u> <u>Chg</u>	<u>YTD %</u> <u>Chg</u>
Consumer Discretionary	XLY	\$117.15	0.33%	0.28%	0.24%	3.28%
Financial Select Sector	XLF	\$26.75	-1.40%	-2.08%	-1.12%	-2.74%
Health Care Select Sector	XLV	\$90.09	-0.04%	2.08%	-0.79%	-10.91%
Technology Select Sector	XLK	\$77.49	0.55%	-0.83%	1.26%	9.98%
Consumer Staples Select Sector	XLP	\$58.89	1.09%	2.33%	3.38%	0.93%
Industrial Select Sector	XLI	\$74.79	-0.13%	-0.66%	-1.43%	1.07%
Materials Select Sector	XLB	\$57.10	1.31%	1.11%	-0.43%	-2.02%
The Energy Select Sector	XLE	\$58.09	-0.83%	-4.12%	-6.86%	-13.75%
Utilities Select Sector	XLU	\$60.18	0.17%	4.29%	2.89%	-1.33%
Real Estate Select Sector	XLRE	\$37.88	0.86%	4.49%	4.98%	7.15%
Communications Services Sector	XLC	\$49.19	0.05%	0.10%	1.90%	4.12%

Market Share Volume & Total Value Traded

<u>INDEX/SECURITY</u>	VOLUME: (8/7) vs.			
	<u>Prior Day</u>	<u>1M Ave</u>	<u>3M ave</u>	<u>1Y Ave</u>
Total Market Volume*	12%	18%	14%	-1%
Total Exchange Volume**	13%	32%	31%	24%

*Total Market Volume = Total US exchange volume plus OTC and OTCBB trading volume for all security types. Calculated by Bloomberg.

**Tape A+B+C volume = total US exchange volume

*** Total Traded Value for Russell 3000 (total mkt proxy)

Style Factor Performance

	FACTOR	1D % Chg	1W % Chg	1M % Chg	3M % Chg	6M % Chg	YTD % Chg
Debt	High Debt/EV	0.1%	-3.6%	-4.5%	-2.3%	1.8%	13.4%
	Low Debt/EV	0.1%	-3.7%	-5.2%	-1.6%	5.4%	15.8%
SI	High Short Interest	0.2%	-4.2%	-5.8%	-5.5%	-1.8%	8.6%
	Low Short Interest	-0.1%	-3.1%	-3.6%	1.2%	8.0%	18.3%
BETA	High Beta	-0.5%	-7.5%	-8.7%	-7.9%	-5.0%	8.2%
	Low Beta	0.8%	0.1%	-0.3%	4.2%	10.1%	17.3%
YIELD	High Yield	-0.2%	-4.5%	-5.6%	-5.2%	-4.2%	4.7%
	Low Yield	0.2%	-4.1%	-5.4%	-0.5%	7.4%	20.1%
MKT CAP	MCAP Bottom 25%	-0.1%	-5.6%	-7.8%	-8.0%	-6.6%	4.0%
	MCAP Top 25%	0.1%	-2.7%	-2.7%	1.8%	7.8%	16.5%
Sales	Top 25% Sales Growth	0.1%	-4.3%	-4.8%	-1.0%	6.5%	18.7%
	Bottom 25% Sales Growth	-0.3%	-4.5%	-5.3%	-4.9%	-2.4%	6.8%
EPS	Top 25% EPS Growth	0.3%	-4.0%	-5.3%	-0.4%	6.6%	19.3%
	Bottom 25% EPS Growth	-0.1%	-3.5%	-4.1%	-2.2%	-0.8%	8.0%

**Mean Performance of Top Quartile vs. Bottom Quartile, S&P500 Companies*

August 8, 2019

Rates & Spreads

		1D	5D	1M	3M	vs. 52-Wk, Bps		vs.	vs.
	Price	Bps Chg	Bps Chg	Bps Chg	Bps Chg	High	Low	3Y Ave	5Y Ave
3M T-Bill	2.01%	-1.5	-4.9	-20	-40	-47	5	53	108
3M LIBOR	2.19%	0.0	-7.9	-12	-36	-64	0	37	94
2Y T-Note	1.61%	2.4	-26.5	-25	-68	-137	10	-26	22
5Y T-Note	1.55%	3.7	-27.7	-28	-71	-155	14	-63	-35
10Y T-Note	1.73%	3.2	-28.0	-30	-72	-153	14	-75	-58
30Y T-Note	2.25%	1.9	-27.3	-29	-61	-121	13	-67	-62
2Y-10Y Spread, Bps	13	0.8	-1.5	-4.7	-4	-16	4	-49	-80
IG SPREAD (AAABBB)	1.47%	0.0	7.0	4	-3	-42	9	-3	-15
HIGH YIELD	6.21%	0.0	33.0	37	1	-191	57	6	-29
5Y BREAK EVEN	1.42%	1.3	-12.9	-13.7	-34.6	-65.9	5.3	-39.4	-24.1

Key \$USD Correlations

METRIC	15D	30D	90D	120D	180D	52-Wk Rolling 30D Correlation			
						High	Low	% Time Pos	% Time Neg
SPX	0.12	0.04	-0.14	0.20	0.50	0.77	-0.92	43%	57%
BRENT Oil	0.32	-0.42	0.14	0.17	0.42	0.71	-0.86	48%	52%
CRB Index	-0.04	-0.36	0.04	0.17	0.01	0.71	-0.71	44%	56%
GOLD	-0.23	0.30	-0.27	-0.09	0.09	0.54	-0.91	16%	84%

*Days = Trading Days

CFTC Non-Commercial Net Long Positioning

CFTC NON-COMMERCIAL NET LONG POSITIONING

	METRIC	Latest	W/W Chg	3M Ave	6M Ave	1Y Ave	3Y		Z-Score	
							Max	Min	1Y	3Y
EQUITIES	SPX (Index + E-mini)	70,730	13,277	70,942	14,527	80,749	249,638	(128,189)	-0.16X	-0.32X
	VIX	(144,314)	(12,047)	(117,536)	(117,447)	(78,572)	92,913	(180,359)	-0.97X	-0.93X
	Russell 2000 (mini)	(78,759)	6,479	(47,975)	(29,488)	(39,590)	100,839	(168,500)	-0.91X	-1.74X
	Dow Jones (mini)	46,631	2,140	26,830	23,903	26,235	95,976	(282)	1.82X	0.06X
	Nasdaq (mini)	26,535	1,676	17,536	4,780	8,533	163,838	(24,815)	0.97X	-0.30X
	Nikkei Index	(6,356)	151	(10,186)	(11,485)	(9,389)	14,214	(16,298)	0.83X	-0.81X
RATES	10Y UST	(407,344)	13,757	(357,791)	(261,550)	(349,511)	372,991	(758,490)	-0.31X	-0.95X
	2Y UST	(314,575)	(53,681)	(178,380)	(181,491)	(223,896)	91,279	(421,551)	-0.85X	-1.48X
	5Y UST	(123,547)	(56,855)	(87,283)	(107,999)	(332,685)	6,400	(866,140)	0.69X	0.90X
	UST Bonds	(36,651)	5,825	(28,124)	(33,220)	(47,618)	122,839	(142,810)	0.36X	-0.71X
	30D Fed Funds	(144,020)	-	(104,113)	(131,278)	(87,388)	219,071	(286,025)	-0.80X	-0.72X
	Eurodollar	527,430	(299,506)	596,727	81,711	(944,117)	930,046	(3,110,209)	1.26X	2.19X
CURRENCIES	\$USD	30,280	1,154	26,619	28,451	32,190	56,635	(10,666)	-0.39X	0.40X
	JPY	(6,746)	4,853	(33,181)	(47,657)	(64,947)	69,211	(140,151)	1.82X	0.97X
	EUR	(60,042)	(13,903)	(70,818)	(78,605)	(53,043)	147,318	(143,673)	-0.70X	-0.74X
	GBP	(95,188)	(14,915)	(50,949)	(35,566)	(44,338)	49,216	(113,271)	-2.70X	-1.50X
	AUD	(53,206)	(5,648)	(58,845)	(52,551)	(52,992)	77,969	(74,181)	-0.62X	-1.15X
	CAD	22,652	(9,377)	(16,348)	(29,335)	(27,518)	78,001	(99,736)	2.24X	0.81X
	MXN	128,352	3,477	127,341	121,990	77,003	156,013	(89,524)	0.99X	1.32X
	NZD	(12,323)	(97)	(17,273)	(9,322)	(14,379)	35,981	(35,412)	0.17X	-0.49X
COMMODITIES	CHF	(14,146)	(1,373)	(23,530)	(25,613)	(24,842)	8,389	(47,216)	1.00X	0.35X
	CRUDE OIL	419,309	(16,040)	457,600	452,026	462,736	784,290	278,615	-0.51X	-0.74X
	GOLD	231,365	13,848	151,093	100,552	36,168	278,994	(103,009)	2.05X	1.44X
	COPPER	(29,060)	(5,612)	(26,229)	(8,803)	(5,114)	67,602	(40,322)	-1.44X	-1.85X
	Natural Gas	(203,650)	(7,219)	(133,158)	(84,381)	(51,793)	57,455	(203,650)	-2.50X	-2.77X
	RBOB Gasoline	78,110	628	81,969	86,433	89,515	114,862	29,519	-1.02X	0.06X
	ULSD Heating Oil	4,970	6,370	(12,875)	(13,166)	3,853	67,696	(25,442)	0.05X	-0.80X
	Silver	68,473	8,438	15,184	21,394	11,883	107,003	(30,158)	1.99X	0.92X
	Platinum	26,325	5,167	13,387	17,124	12,292	56,853	(11,540)	1.14X	0.41X
	Aluminum	163,475	(2,043)	159,128	161,735	157,727	168,292	122,356	0.55X	1.31X
	Nickel	42,230	(365)	42,658	44,005	37,006	47,708	13,508	0.60X	1.21X
	Corn	206,695	(38,056)	135,540	(701)	32,381	372,734	(270,560)	1.12X	1.16X
	Soybeans	(21,187)	(10,551)	(58,377)	(52,088)	(41,878)	210,365	(148,817)	0.50X	-0.56X
	Wheat	27,661	5,507	7,811	(18,645)	(8,099)	63,219	(143,292)	1.00X	1.38X
	Live Cattle	63,234	3,408	80,167	119,895	108,653	183,134	19,421	-1.25X	-0.88X
	Lean Hogs	78,847	4,056	78,298	62,097	43,322	97,769	(11,151)	1.12X	1.28X
	Sugar	(100,487)	18,522	(78,567)	(53,677)	(39,430)	351,383	(145,405)	-1.08X	-0.96X
	Cotton	(31,463)	2,145	(22,017)	(2,932)	24,555	132,318	(33,608)	-1.44X	-2.27X
	Coffee	(17,541)	(11,243)	(28,712)	(45,355)	(54,013)	67,942	(106,651)	1.34X	0.17X
	Cocoa	47,562	(5,325)	34,649	14,397	7,037	61,244	(43,846)	1.82X	1.53X
	Orange Juice	(6,861)	231	(6,949)	(7,324)	(5,634)	9,066	(9,416)	-0.35X	-1.18X

Volatility

TIME WINDOW SETTING:		TICKER	TOTAL RETURN PERFORMANCE YTD %	IVOL PREMIUM/DISCOUNT					REALIZED VOLATILITY TRENDS			IMPLIED VOLATILITY TRENDS			
VOLATILITY_30D				IVOL PREM %					RVOL		PERCENTILE	IVOL		PERCENTILE	
PUT_IMP_VOL_30D				IVOL / RVOL	Yesterday	1W Ago	1M Ago	TTM Z-Score	3Yr Z-Score	CURRENT	MM %	10YR	CURRENT	MM %	10YR
US EQUITIES															
			CURRENT												
Technology Sector SPDR ETF	XLK US EQUITY	25.87%	-2%	34%	38%	-18%	-0.2	-0.4	18.4	-1%	76%	18.1	19%	70%	
Vanguard Real Estate REIT ETF	VNQ US EQUITY	21.87%	23%	15%	3%	-11%	1.3	1.1	13.2	-10%	39%	16.2	24%	58%	
Power Shares QQQ Trust ETF	QQQ US EQUITY	19.92%	32%	37%	41%	-8%	0.9	0.6	16.5	-3%	63%	21.8	39%	83%	
Communication Services SPDR ETF	XLC US EQUITY	19.66%	23%	26%	17%	-14%	0.4		17.7	4%	42%	21.8	49%	69%	
Consumer Discretionary Sector SPDR ETF	XLY US EQUITY	19.13%	50%	41%	48%	-6%	1.4	1.0	13.9	5%	52%	20.8	67%	80%	
Consumer Staples Sector SPDR ETF	XLP US EQUITY	17.49%	12%	40%	15%	-16%	0.1	0.0	13.9	5%	80%	15.6	41%	89%	
Industrials Sector SPDR ETF	XLI US EQUITY	17.30%	29%	23%	14%	-3%	0.9	0.6	16.4	18%	61%	21.2	58%	80%	
SPDR S&P 500 ETF Trust	SPY US EQUITY	16.29%	30%	35%	51%	-9%	0.8	0.5	13.3	13%	59%	17.3	63%	76%	
Utilities Sector SPDR ETF	XLU US EQUITY	15.47%	45%	0%	-13%	-19%	1.7	1.8	11.0	-26%	29%	15.9	32%	76%	
Materials Sector SPDR ETF	XLB US EQUITY	14.19%	116%	85%	30%	-12%	4.6	4.3	14.1	-10%	31%	30.5	121%	93%	
Financials Sector SPDR ETF	XLF US EQUITY	13.45%	21%	16%	33%	-5%	0.5	0.4	17.7	24%	60%	21.5	57%	70%	
I-Shares Russell 2000 ETF	IWM US EQUITY	12.21%	24%	27%	22%	-2%	0.9	0.6	16.9	14%	51%	20.9	45%	69%	
Health Care Sector SPDR ETF	XLV US EQUITY	4.97%	44%	16%	40%	10%	1.2	1.2	12.0	3%	39%	17.2	36%	79%	
Energy Sector SPDR ETF	XLE US EQUITY	3.01%	58%	44%	23%	-3%	2.9	2.4	16.1	-11%	34%	25.4	45%	79%	
INTERNATIONAL EQUITIES															
Euro Stoxx 50 Index	SXSE INDEX	13.83%	22%	26%	37%	-7%	0.8	0.1	15.0	32%	36%	18.3	74%	50%	
I-Shares MSCI Japan ETF	EWJ US EQUITY	7.02%	23%	29%	24%	-8%	1.6	0.4	12.1	3%	25%	15.0	39%	30%	
I-Shares MSCI Emerging Markets ETF	EEM US EQUITY	2.64%	33%	33%	57%	10%	1.9	1.4	15.9	19%	27%	21.1	43%	54%	
I-Shares China Large-Cap ETF	FXI US EQUITY	0.41%	27%	30%	32%	-2%	1.9	1.2	17.2	2%	18%	21.9	33%	43%	
CURRENCIES															
PowerShares US Dollar Index ETF	UUP US EQUITY	4.01%	20%	10%	15%	7%	-0.1	0.0	5.1	-8%	14%	6.1	3%	11%	
Currency Shares Japanese Yen ETF	FXJ US EQUITY	2.88%	7%	1%	-11%	-2%	-0.3	-0.1	7.1	21%	29%	7.6	32%	23%	
Currency Shares Euro Trust ETF	FXE US EQUITY	-2.69%	4%	2%	-16%	-16%	0.0	0.0	5.6	-6%	9%	5.8	17%	8%	
Currency Shares British Pound ETF	FXB US EQUITY	-4.77%	31%	24%	7%	16%	1.2	1.5	6.9	25%	24%	9.1	41%	57%	
COMMODITIES															
SPDR Gold Shares ETF	GLD US EQUITY	16.31%	-6%	-17%	-35%	-4%	-0.4	-0.9	17.8	19%	75%	16.7	17%	63%	
United States Oil Fund ETF	USO US EQUITY	12.22%	4%	-3%	-11%	-21%	-0.1	0.0	34.6	-15%	73%	36.0	12%	73%	
PowerShares DB Agriculture Fund ETF	DBA US EQUITY	-8.09%	22%	27%	17%	11%	-0.5	-0.4	11.2	-13%	40%	13.6	-4%	33%	
United States Natural Gas Fund ETF	UNG US EQUITY	-26.63%	15%	12%	-16%	-2%	0.4	0.4	35.7	0%	52%	41.0	18%	59%	
FIXED INCOME															
I-Shares 20+ Year Treasury Bond ETF	TLT US EQUITY	16.94%	22%	1%	-8%	-12%	1.0	1.2	11.9	10%	46%	14.5	53%	68%	
I-Shares IBOX IG Corporate Bond ETF	LQD US EQUITY	14.00%	43%	8%	1%	-10%	1.1	1.5	5.4	-3%	61%	7.6	55%	92%	
I-Shares J.P. Morgan USD EM Bond ETF	EMB US EQUITY	12.76%	39%	48%	8%	-28%	1.6	0.7	5.3	-21%	41%	7.3	52%	53%	
I-Shares IBOX HY Corporate Bond ETF	HYG US EQUITY	9.40%	48%	46%	24%	-21%	0.9	0.9	5.2	-14%	40%	7.6	62%	61%	
I-Shares 7-10 Year Treasury Bond ETF	IEF US EQUITY	9.23%	23%	7%	-7%	1%	-0.1	0.0	5.4	6%	44%	6.6	29%	61%	

Data Source: CBOE, CME, Bloomberg

Global Data

Date Time	Country/Region	C	Event	Period	Surv(M)	Actual	Prior	Revised	Ticker
08/07/19 08:00	Brazil	BZ	Retail Sales YoY	Jun	0.60%	-0.30%	1.00%	--	BZRTRYOY Index
08/07/19 23:00	China	CH	Trade Balance	Jul	\$42.65b	\$45.06b	\$50.98b	\$50.97b	CNFRBAL\$ Index
08/07/19 23:00	China	CH	Exports YoY	Jul	-1.00%	3.30%	-1.30%	--	CNFREXPY Index
08/07/19 23:00	China	CH	Imports YoY	Jul	-9.00%	-5.60%	-7.30%	-7.40%	CNFRIMPY Index
08/07/19 23:00	China	CH	Trade Balance CNY	Jul	310.00b	310.26b	345.18b	345.10b	CNTSTCN Index
08/07/19 23:00	China	CH	Imports YoY CNY	Jul	-3.30%	0.40%	-0.40%	--	CNTSICNY Index
08/07/19 23:00	China	CH	Exports YoY CNY	Jul	7.00%	10.30%	6.10%	6.00%	CNTSECNY Index
08/08/19 01:00	Japan	JN	Eco Watchers Survey Current SA	Jul	43.6	41.2	44	--	JWCOOVSA Index
08/08/19 01:00	Japan	JN	Eco Watchers Survey Outlook SA	Jul	45.4	44.3	45.8	--	JWEXOVS Index
08/08/19 02:30	France	FR	Bank of France Ind. Sentiment	Jul	96	95	95	--	FRBSI Index
08/08/19 03:00	Spain	SP	Industrial Output SA YoY	Jun	1.10%	1.80%	1.40%	--	SPIOWSAY Index