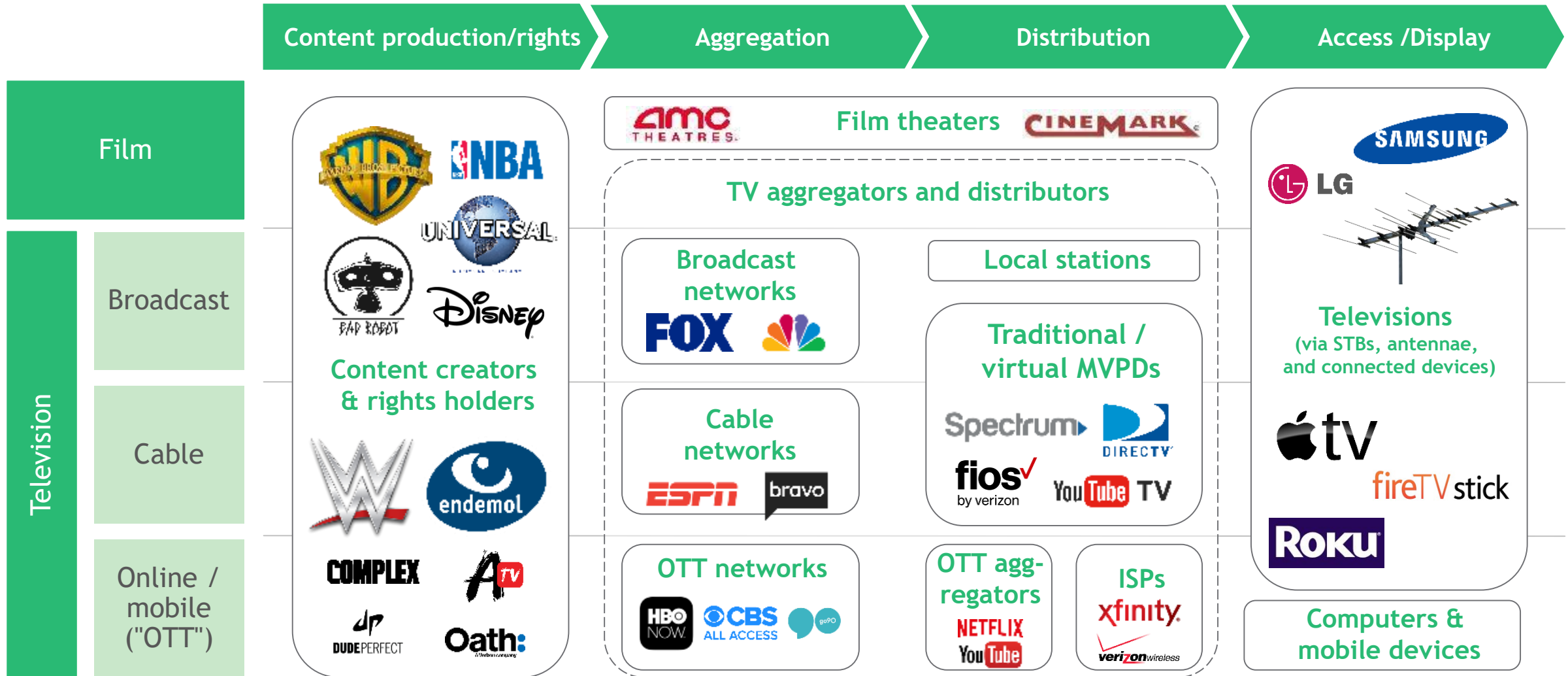




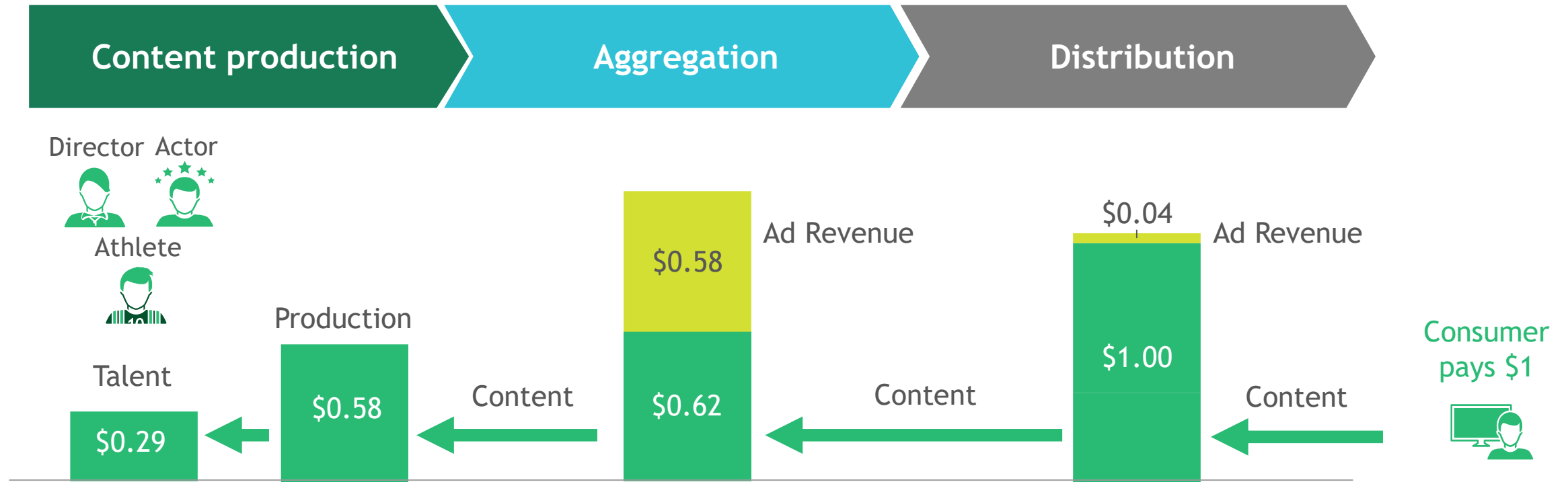
TV Ecosystem and Trends

FEBRUARY 2019

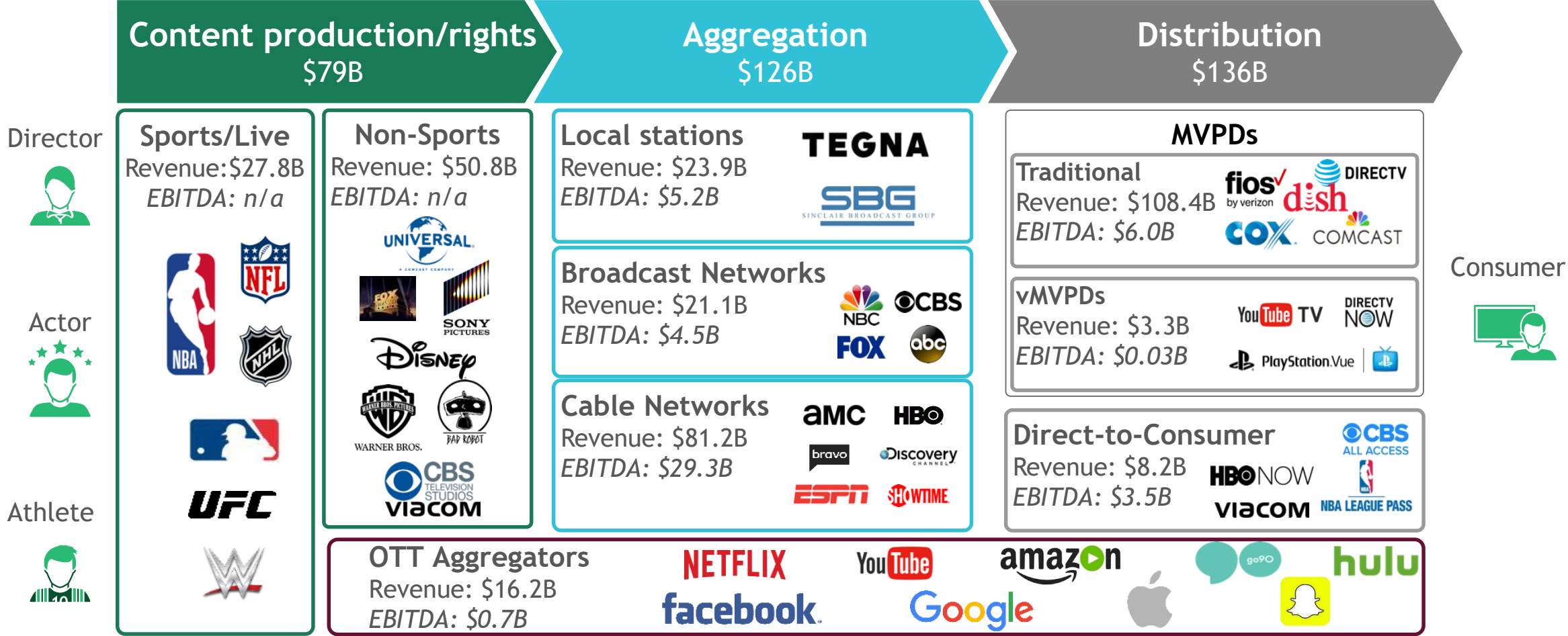
Overview of the video ecosystem



We build our view of the market by "following the money"



Economics of film & TV video value chain - 2018



Source: BCG Video Value Chain Scenario Model (base case)

2 Shift to non-linear viewing

1 Subscriber spend contracting while viewing grows

3 New business models for aggregation reshaping industry

6 New consumption patterns emerging

4 Traditional advertising models under attack

5 Profile of "valuable" content changing, as spend balloons

Key changes in the video landscape

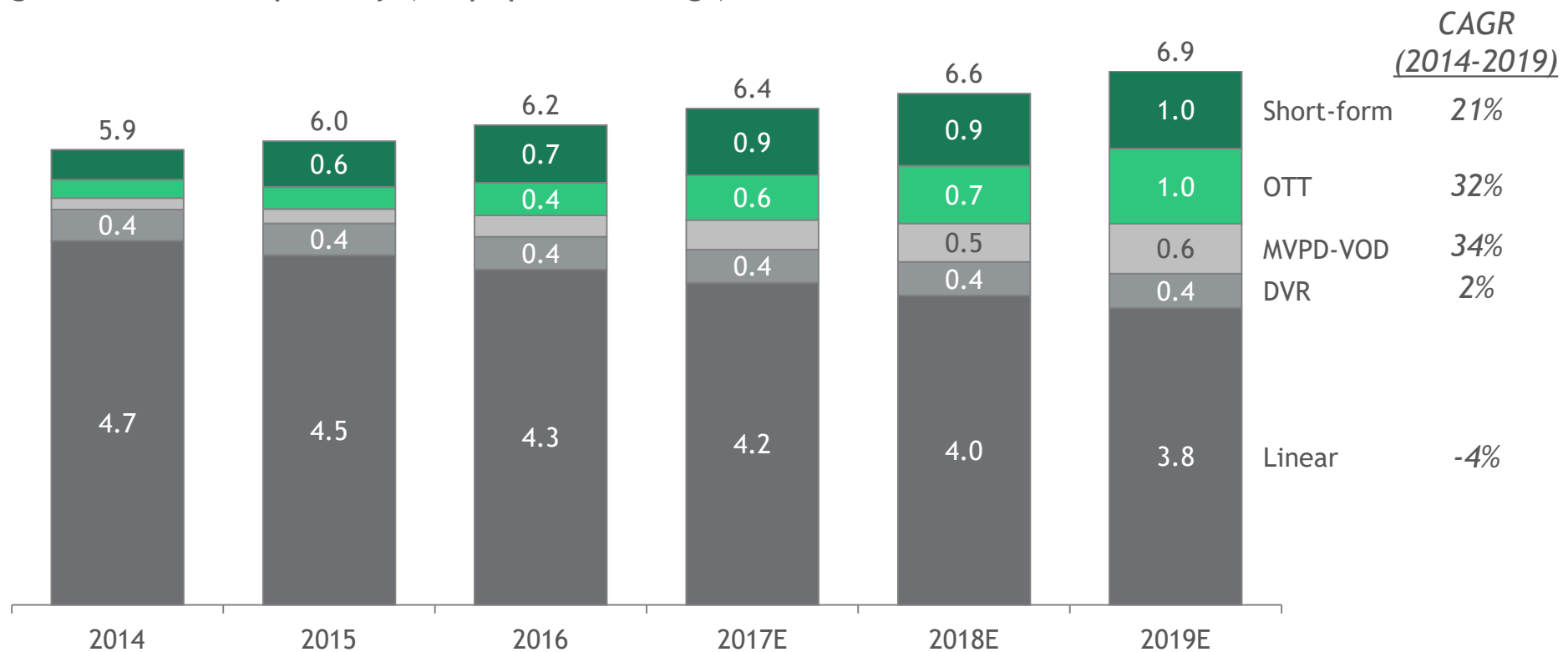




Video subscriber spend contracting while consumption grows

OTT has - to date - been mostly additive to video consumption

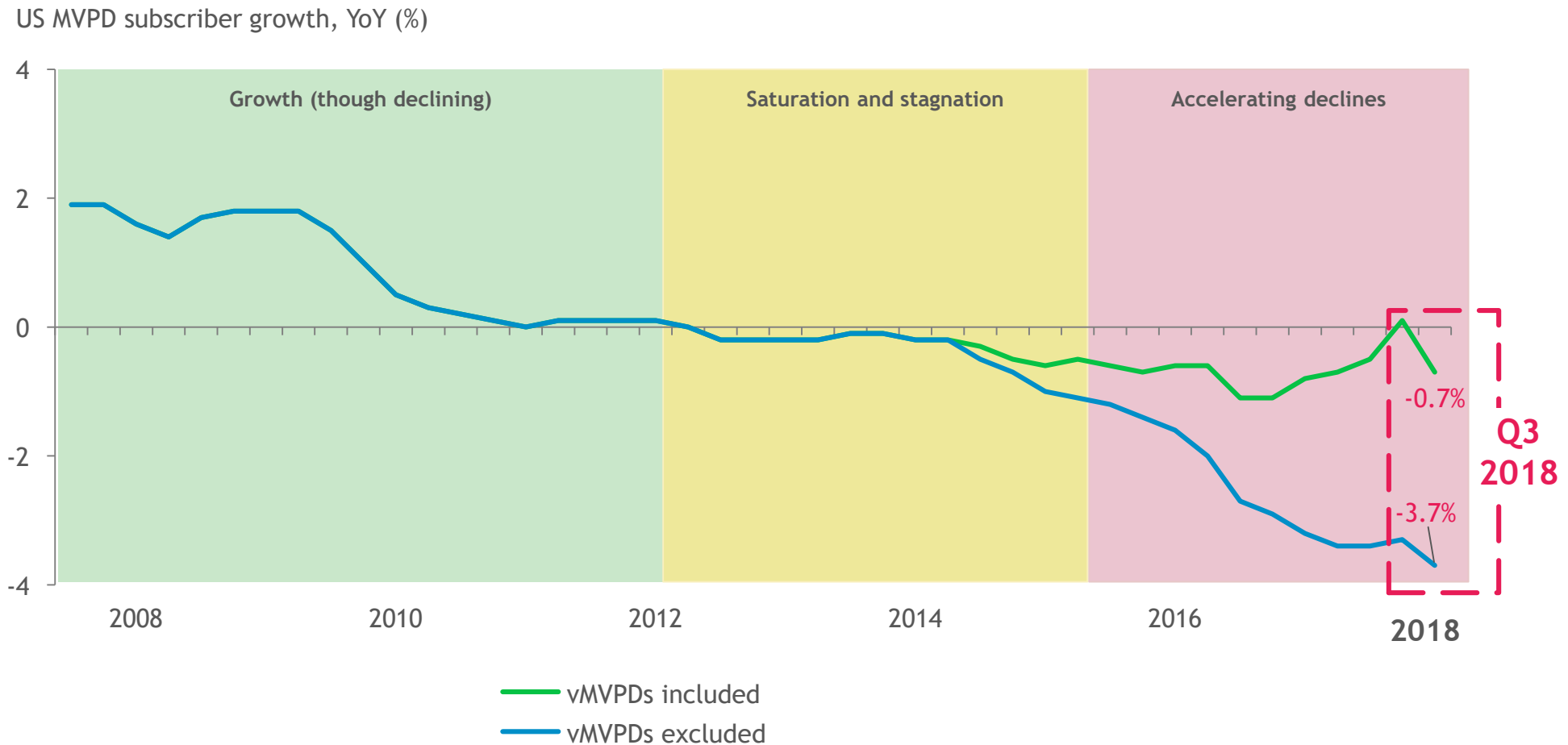
Avg. hours viewed per day (US population avg.)





Video subscriber spend contracting while consumption grows

MVPD subscriptions in decline after sustained period of slowing growth

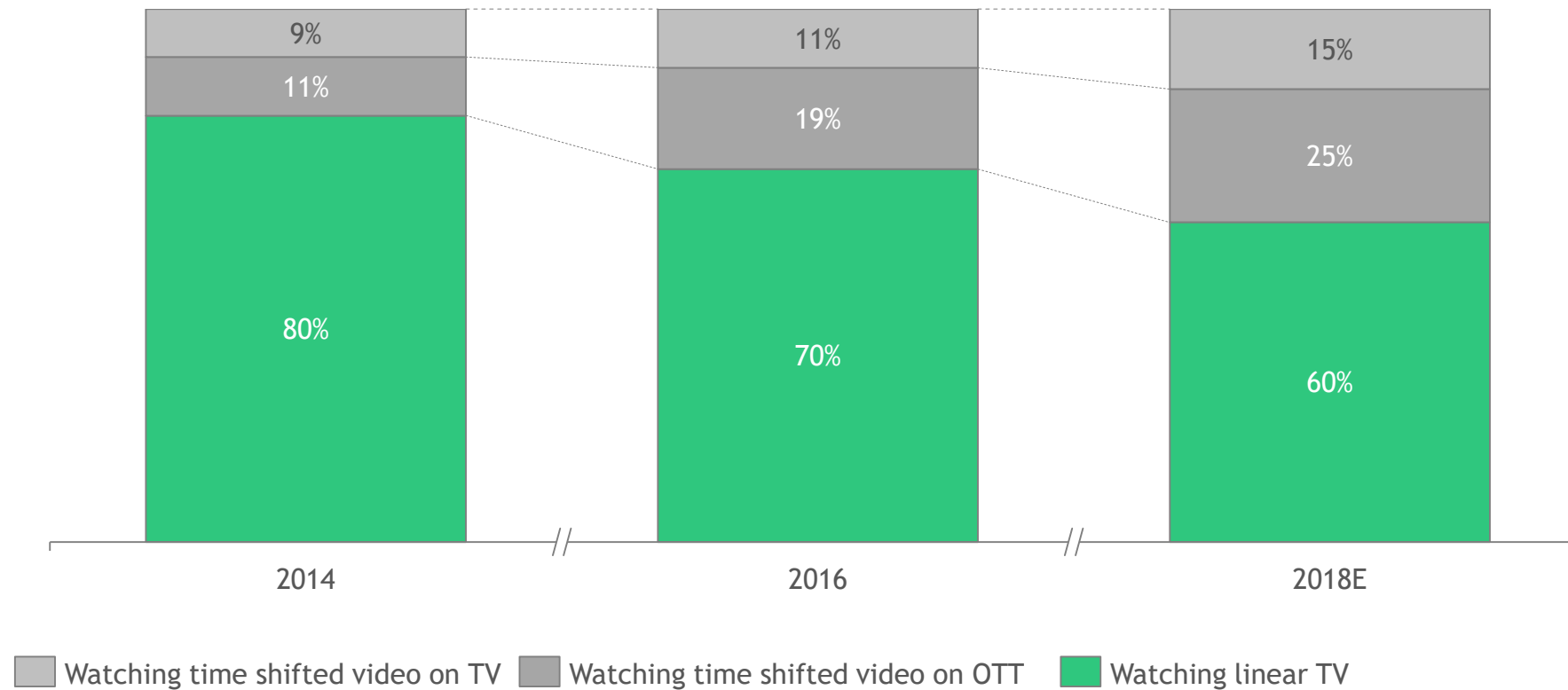




Shift to non-linear viewing

Linear viewing projected to be down to ~60% of all video viewership by next year

Share of total US video viewership (%)



Note: OTT defined as un-tethered viewing to stationary and mobile devices; TV as traditional, facilities based video tethered to the traditional infrastructure

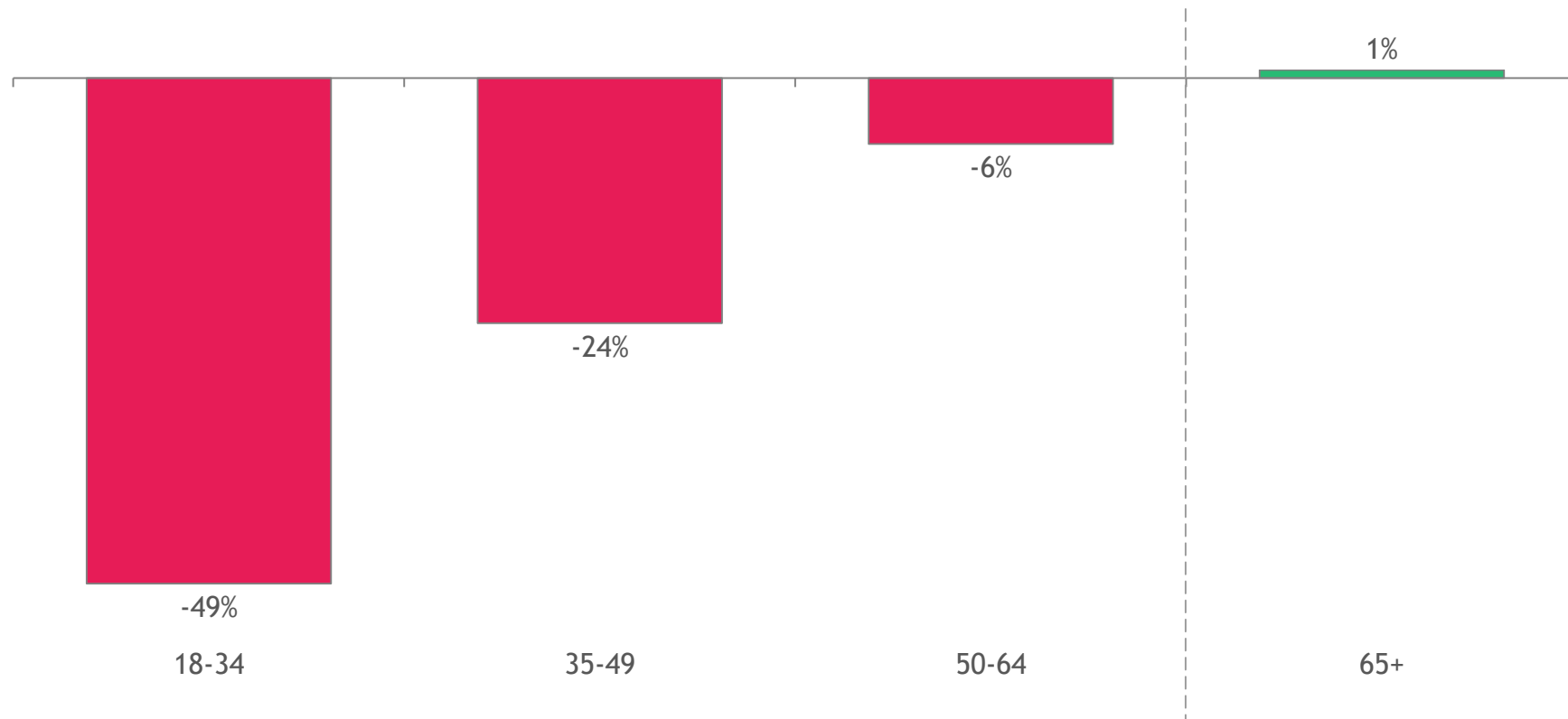
Source: Nielsen, BCG Analysis



Shift in video consumption from linear to non-linear viewing

Linear ratings declining - especially for younger viewers

% change in total weekly hours of linear + 3 days delayed viewing (Q2 2012 vs. Q2 2018)



Note: Figures include all live + DVR/time-shifted TV viewing after 3 days during the quarter for the total population
Source: Nielsen

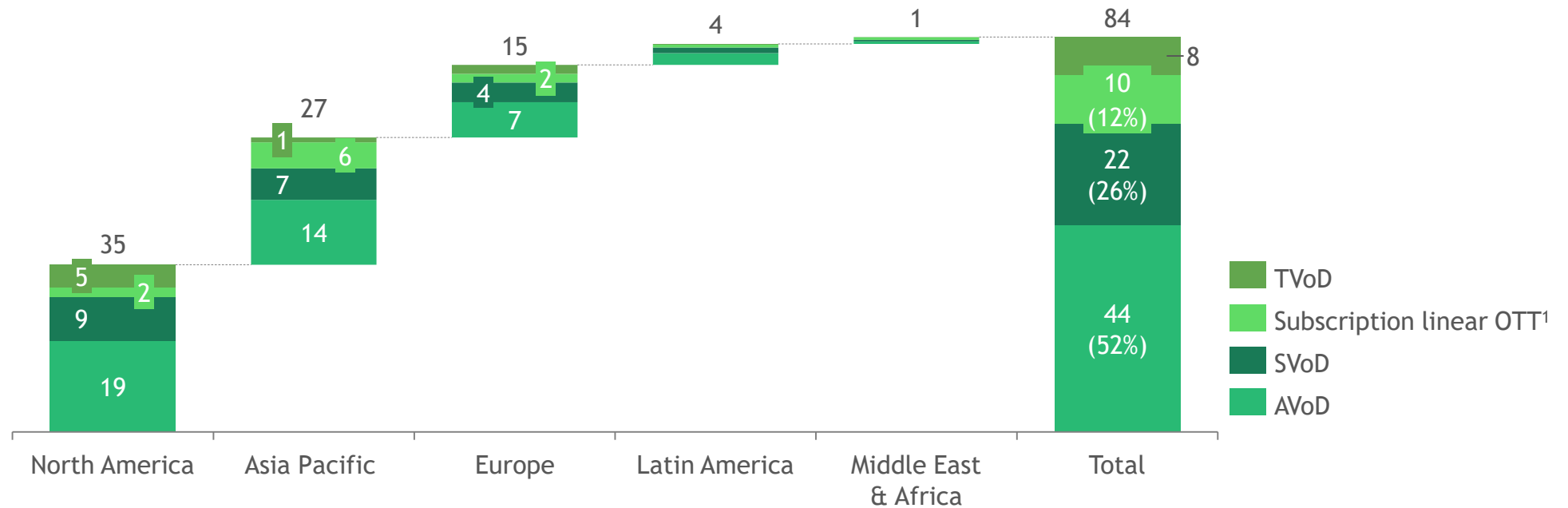




New business models for aggregation reshaping industry

The economics of OTT are scaling quickly, with AVoD & Subscription OTT capturing ~90% of revenue

Global OTT Revenue (2018, \$B)



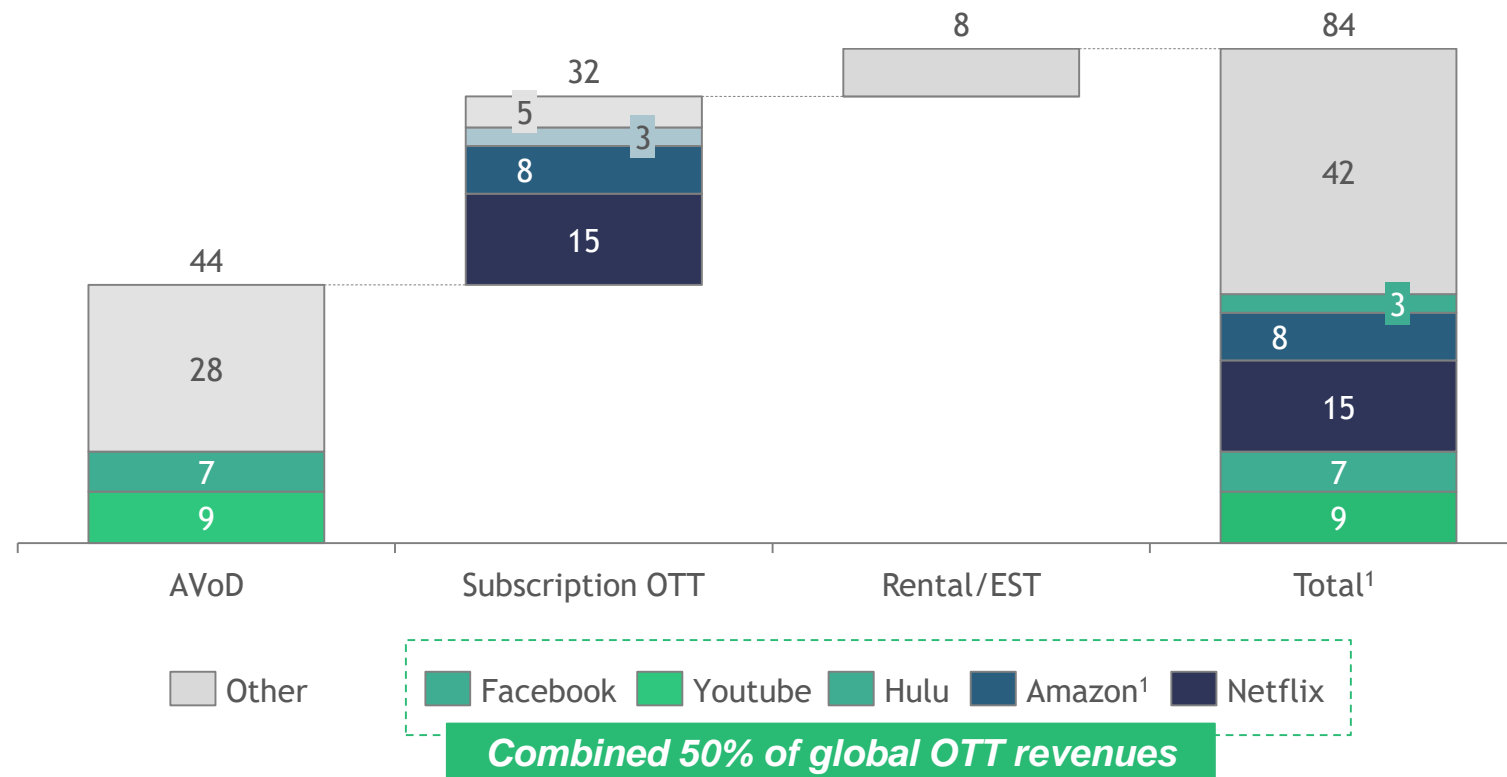
1. Refers to subscription-based linear OTT video streaming
Source: OVUM, BCG Analysis



New business models for aggregation reshaping industry

Five global players represent nearly half of all OTT revenues

Global OTT Revenue (2018, \$B)








1. Estimated revenue based on prime video users multiplied by prime video monthly price of \$8.99 2. Hulu subscription revenue provide

Note: Subscription OTT includes SVOD and Subscription Linear OTT services

Source: BMO Capital, Pivotal Research, OVUM, BCG analysis







New business models for aggregation reshaping industry

Heightened focus on direct-to-consumer OTT distribution by traditional media network groups

Media Group	Launch date	Pricing	Advertising	Content
	<ul style="list-style-type: none"> Early 2020 	<ul style="list-style-type: none"> Free to Comcast and SKY cable subscribers Additional charge for others 	<ul style="list-style-type: none"> Ad-supported 	<ul style="list-style-type: none"> TV and films from NBCU library and others Original programming
	<ul style="list-style-type: none"> Q4 2019 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> No ads 	<ul style="list-style-type: none"> Warner's collection of films, TV series, docs and animation
	<ul style="list-style-type: none"> Fall 2019 	<ul style="list-style-type: none"> < \$12.99/month 	<ul style="list-style-type: none"> No ads 	<ul style="list-style-type: none"> 5 content channels including Disney, Marvel, Nat Geo, Pixar, Star Wars Estimated 4000 titles from Disney and Fox library Original films and TV series
	<ul style="list-style-type: none"> 3 new services to launch in 2019 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Ad-supported 	<ul style="list-style-type: none"> The new services will be library-heavy products focused on African-American programming, reality programming, and Spanish-language programming
	<ul style="list-style-type: none"> Announced in 2018 with no launch date 	<ul style="list-style-type: none"> \$5-\$8/month 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Live and on-demand programming from all of Discovery's networks

New business models for aggregation reshaping industry

Most recently launched virtual MVPDs disrupting existing linear models

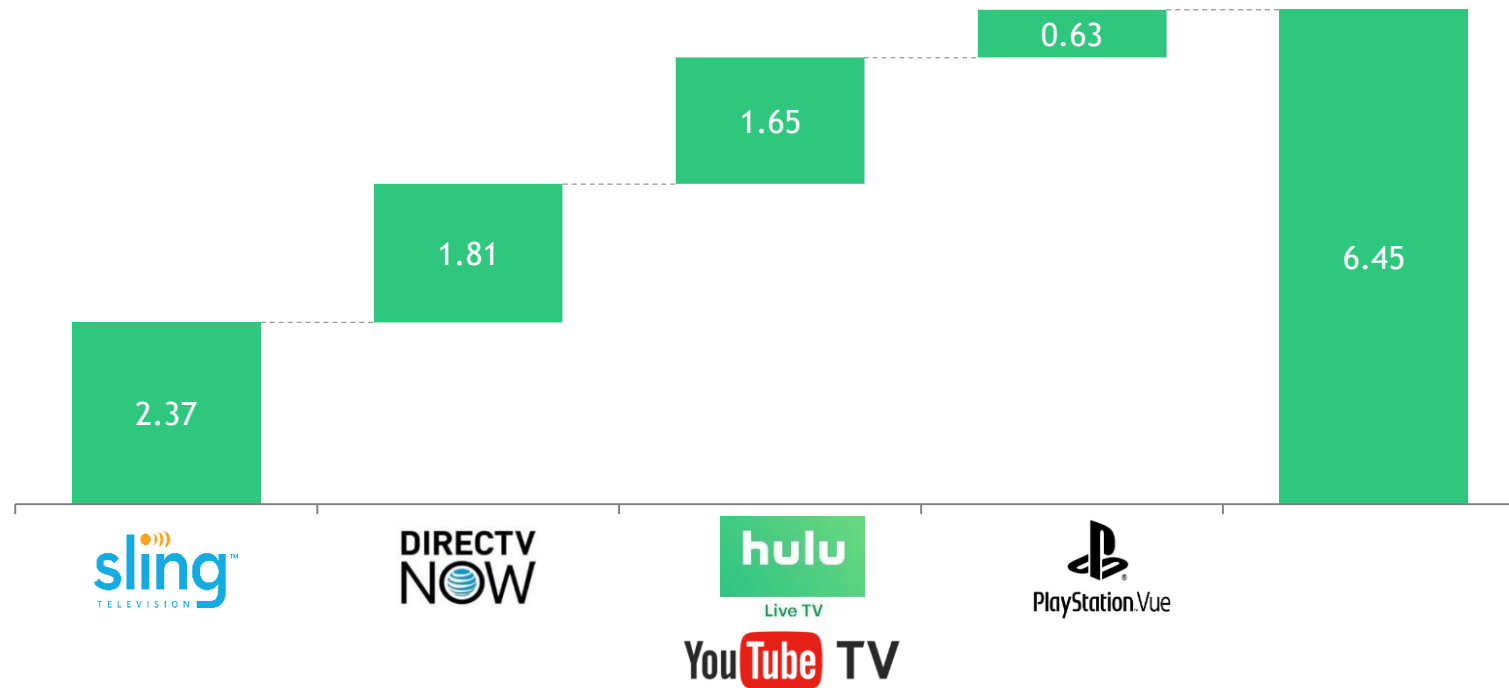
						
Pricing	<ul style="list-style-type: none"> Orange: \$25 Blue: \$25 Orange + Blue: \$40 	<ul style="list-style-type: none"> Live a Little: \$40 Just Right: \$55 Gotta Have It: \$75 	<ul style="list-style-type: none"> Limited SVOD ads: \$40 No SVOD ads: \$44 	<ul style="list-style-type: none"> Price: \$40 	<ul style="list-style-type: none"> Access: \$45 Core: \$50 Elite: \$60 Ultra: \$80 	<ul style="list-style-type: none"> fubo: \$45 fubo Extra: \$60
# of channels in starting tier	<ul style="list-style-type: none"> 30+ 	<ul style="list-style-type: none"> 60+ 	<ul style="list-style-type: none"> 50+ 	<ul style="list-style-type: none"> 60+ 	<ul style="list-style-type: none"> 40+ 	<ul style="list-style-type: none"> 70+
Broadcast Networks	<ul style="list-style-type: none"> Orange: ABC Blue: Fox, NBC Affiliations: 82 	<ul style="list-style-type: none"> ABC, CBS, CW, Fox, NBC, Telemundo, Univision, Unimas Affiliations: 360 	<ul style="list-style-type: none"> ABC, CBS, CW, NBC, Telemundo, MyNetworkTV Affiliations: 627 	<ul style="list-style-type: none"> ABC, CBS, CW, NBC, Telemundo, MyNetworkTV Affiliations: 511 	<ul style="list-style-type: none"> ABC, CBS, NBC, Telemundo, MyNetworkTV Affiliations: 252 	<ul style="list-style-type: none"> ABC, CBS, NBC, Telemundo, Univision, MyNetworkTV, Unimas Affiliations: 499
RSNs	<ul style="list-style-type: none"> Blue only 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Core, Elite and Ultra only 	<ul style="list-style-type: none"> Yes
Premium add-ons	<ul style="list-style-type: none"> EPIX, Showtime, Starz NBA League Pass 	<ul style="list-style-type: none"> Cinemax, HBO, Showtime, Starz 	<ul style="list-style-type: none"> Cinemax, HBO, Showtime, Starz 	<ul style="list-style-type: none"> Showtime, Starz AMC Premiere, Shudder, Sundance Now Fox Soccer Plus 	<ul style="list-style-type: none"> Cinemax, EPIX, HBO, Showtime Fox Soccer Plus 	<ul style="list-style-type: none"> Showtime RAI Italia
DVR	<ul style="list-style-type: none"> 50H @ \$5/month Disney/ESPN excluded Fast forward option 	<ul style="list-style-type: none"> 20H free 100H @ \$10/month Fast forward option 	<ul style="list-style-type: none"> 50H free 200H @ \$15/month No fast forward 	<ul style="list-style-type: none"> Unlimited storage up to 9 months Fast forward option 	<ul style="list-style-type: none"> Unlimited up to 500 shows for 28 days free Limited fast forward 	<ul style="list-style-type: none"> 30H free 500H @ \$10/month Fast forward option



New business models for aggregation reshaping industry

Virtual MVPDs now have 6M+ subscribers

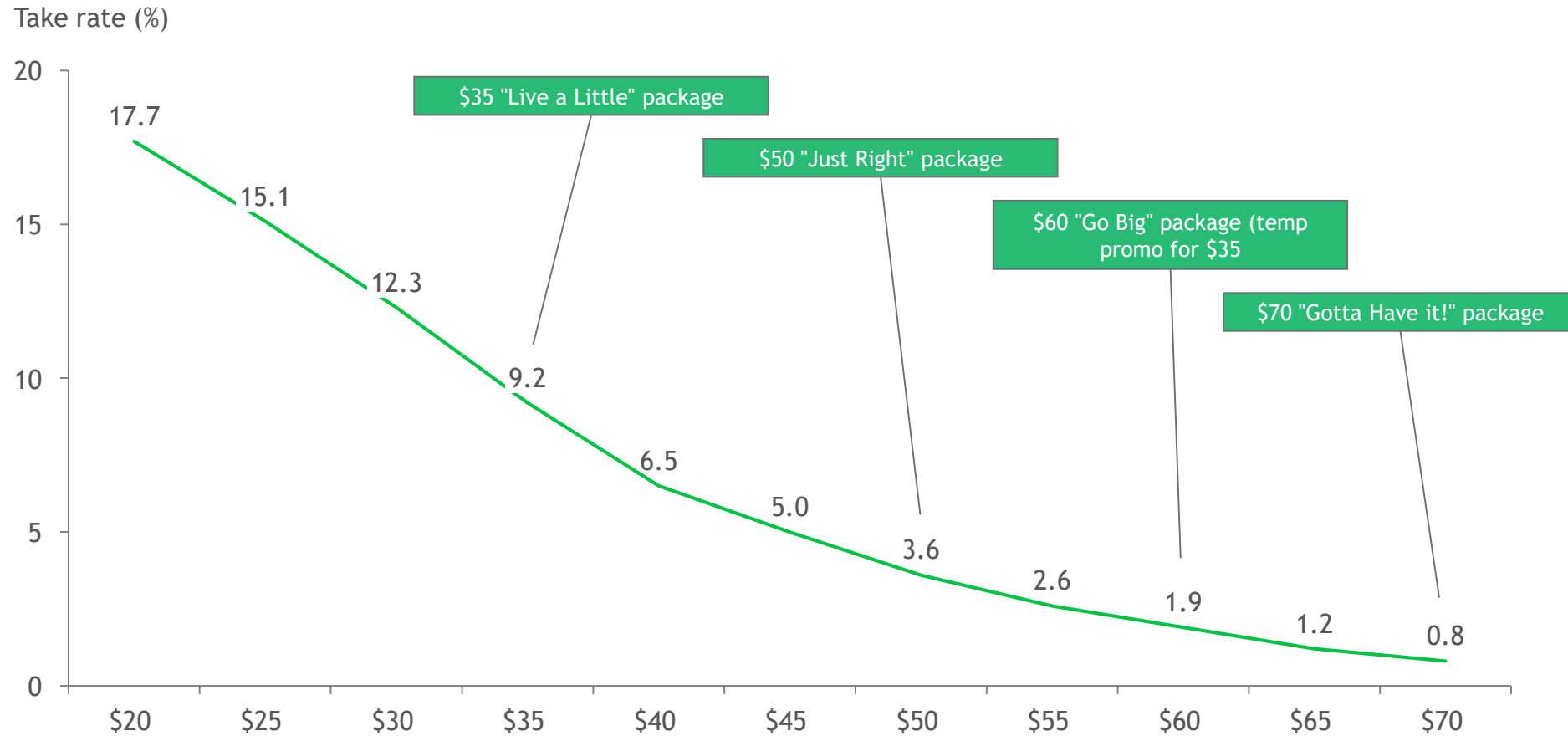
Subscribers as of Q3 2018 (M)





New business models for aggregation reshaping industry







Demand curve for virtual MVPD services - consumer research results for DirecTV NOW



Source: Altman Vilandrie and Co., MoffettNathanson estimates and analysis






New business models for aggregation reshaping industry

Many independent OTT services have also emerged over the years (I/II)

OTT player	Launch Details	Pricing	Funding/Revenue	Content
	<ul style="list-style-type: none"> Launched: 2015 HQ: New York, NY Founders: Stewart Lane and Bonnie Comley 	Ad-free subscription <ul style="list-style-type: none"> \$8.99/month \$99.99/year 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> On-demand streaming for high-caliber, full-length theatrical productions Over 200 titles of recorded live theater performances and theatrical productions
	<ul style="list-style-type: none"> Launched: 2013 HQ: Troy, MI Founded by David Farbman 	Ad-supported <ul style="list-style-type: none"> Free sign-up 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Premium outdoor themed shows and engaging personalities Hundreds of series' focused on outdoor and hunting content
	<ul style="list-style-type: none"> Launched: 2015 HQ: Silver Spring, MD Founded by John Hendricks 	Ad-free subscription <ul style="list-style-type: none"> Standard: \$2.99/month, \$19.99/year Premium: \$9.99/month, \$69.99/year 	<ul style="list-style-type: none"> \$254.7M in funding over 2 round from Blum Capital Ventures and TimesSquare Capital 	<ul style="list-style-type: none"> Non-fiction documentaries and series about science, technology, history, and nature 2,000+ shows across science, nature, history, technology, society and lifestyle
	<ul style="list-style-type: none"> Launched: 2011 HQ: San Francisco, CA 	Ad-free subscription <ul style="list-style-type: none"> \$5.99/month \$49.99/year 	<ul style="list-style-type: none"> \$7M in funding Recently laid off most staff and restructured, seeking buyer 	<ul style="list-style-type: none"> Collection of independent films from around the world across all genres More than 7,000 independent films
	<ul style="list-style-type: none"> Launched: 2011 HQ: Louisville, CO Founded by Jirka Rysavy 	Ad-free subscription <ul style="list-style-type: none"> \$11.99/month \$99.00/year 	<ul style="list-style-type: none"> \$28M net revenue in 2017 	<ul style="list-style-type: none"> Spiritual films, documentaries, interviews, yoga classes, transformation related content, and others 8000+ exclusive videos
	<ul style="list-style-type: none"> Launched: 2005 HQ: Seattle, Washington 	Ad-free subscription <ul style="list-style-type: none"> \$4.99 per month 	<ul style="list-style-type: none"> \$22.5M annual revenue 	<ul style="list-style-type: none"> Social impact films and documentaries 8,000 titles

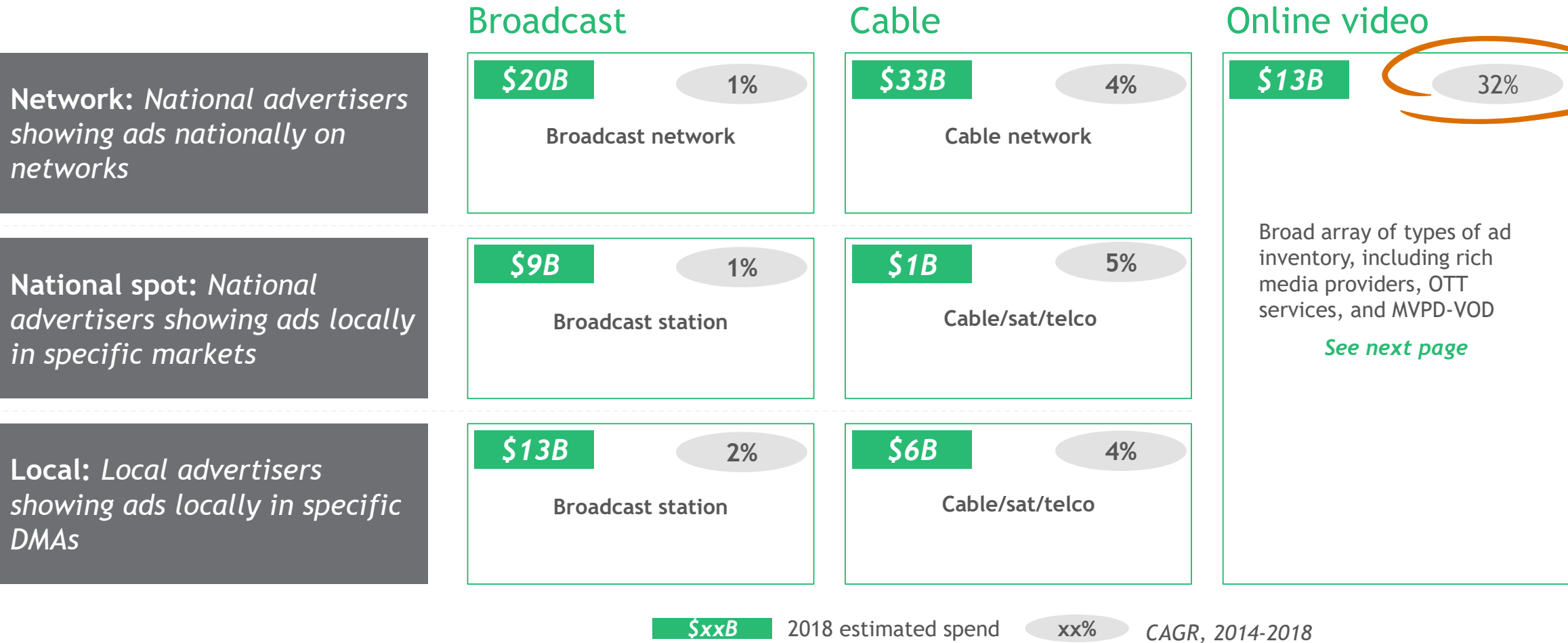
New business models for aggregation reshaping industry

Many independent OTT services have also emerged over the years (II/II)

OTT Player	Launch Details	Pricing	Funding/Revenue	Content
	<ul style="list-style-type: none"> Launched: 2007 HQ: Palo Alto, CA Founded by Efe Cakarel 	Ad-free subscription <ul style="list-style-type: none"> \$6.99 per month 	<ul style="list-style-type: none"> \$36M in funding over 8 rounds 	<ul style="list-style-type: none"> International arthouse cinema films, it integrates its SVOD service with a film database and online magazine known as The Notebook Rotating selection of 30 critically acclaimed films
	<ul style="list-style-type: none"> Launched: 2015 HQ: Los Angeles, CA 	Ad-supported <ul style="list-style-type: none"> Free, no sign-up 	<ul style="list-style-type: none"> \$11.5M in annual revenue 	<ul style="list-style-type: none"> Classic films, classic TV series, live streaming events and original content 2,000+ hours of programming
	<ul style="list-style-type: none"> Launched: 2008 HQ: New York, NY Founded by Ted Leonsis 	Ad-supported <ul style="list-style-type: none"> Free, no sign-up 	<ul style="list-style-type: none"> \$37.5M in funding over 5 rounds 	<ul style="list-style-type: none"> Films, TV shows, documentaries, and comedy shorts covering content across genres ~5,000 titles
	<ul style="list-style-type: none"> Launched: 2014 HQ: San Francisco, CA Founded by Farhad Massoudi 	Ad-supported <ul style="list-style-type: none"> Free, no sign-up 	<ul style="list-style-type: none"> ~\$35M in funding 	<ul style="list-style-type: none"> Oscar-winning films and Emmy-winning TV shows spanning more than 40 genre categories from comedy, drama, family and children's programming, classics, horror and niche content 7,500 TV shows and movies
	<ul style="list-style-type: none"> Launched: 2014 HQ: Los Angeles, CA Founded by Lemuel Plummer 	Ad-free subscription <ul style="list-style-type: none"> \$3.99 per month 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Original scripted and unscripted content created by millennials for millennials featuring content created by popular personalities in social media Library size unknown

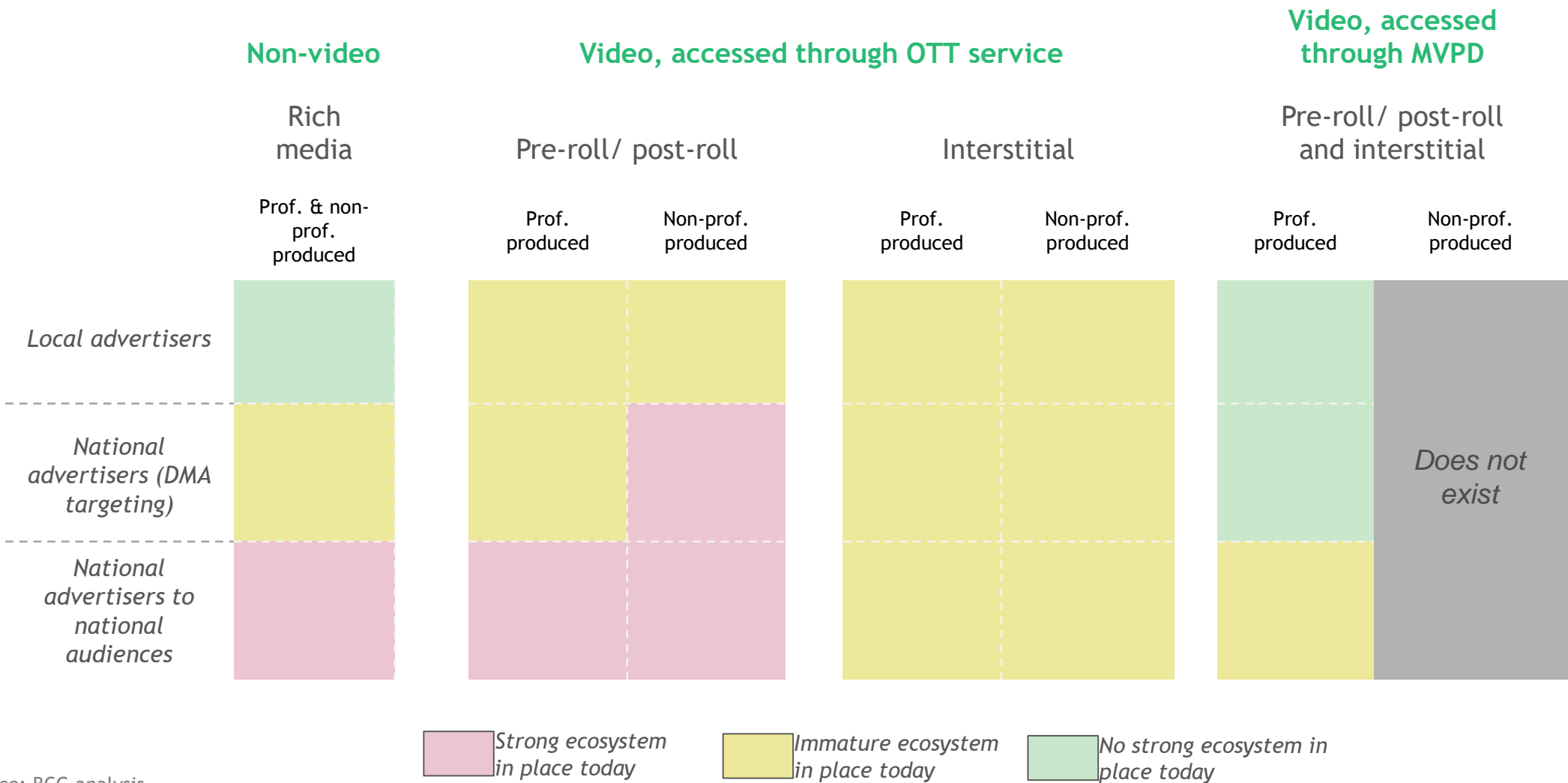
Traditional advertising models under attack

Online video advertising estimated to grow 32% per year vs. low single digit growth for broadcast/cable



Traditional advertising models under attack

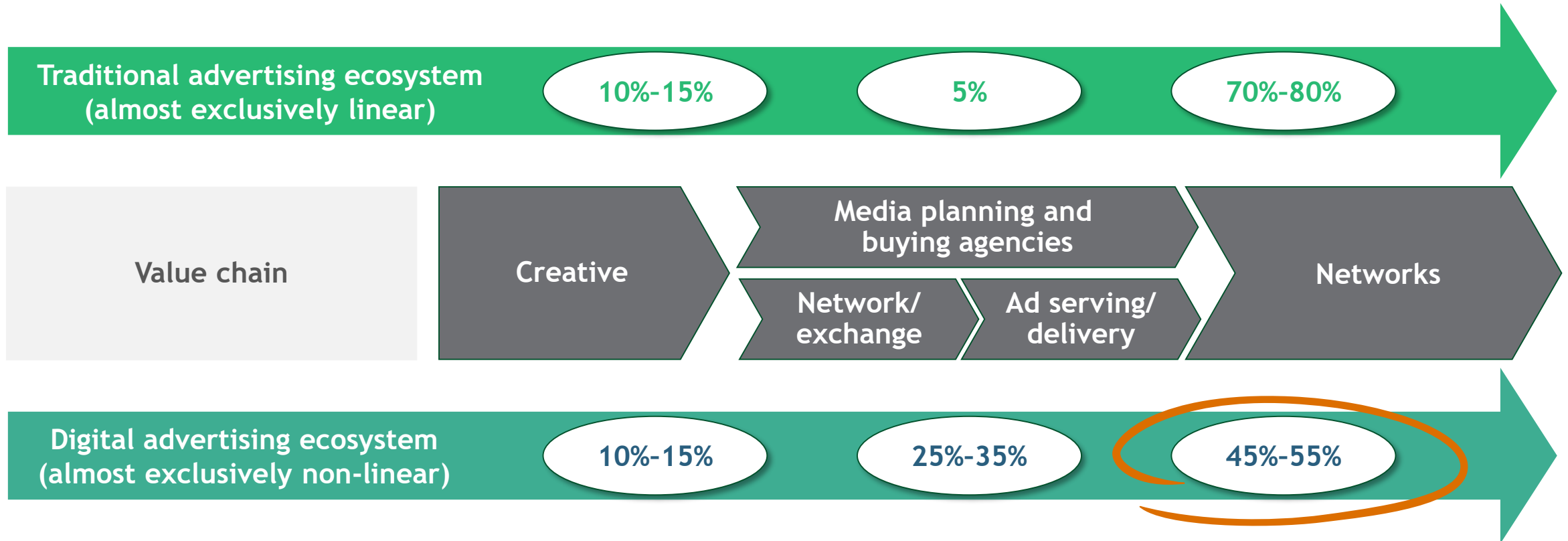
Digital video ad ecosystems consists of various elements



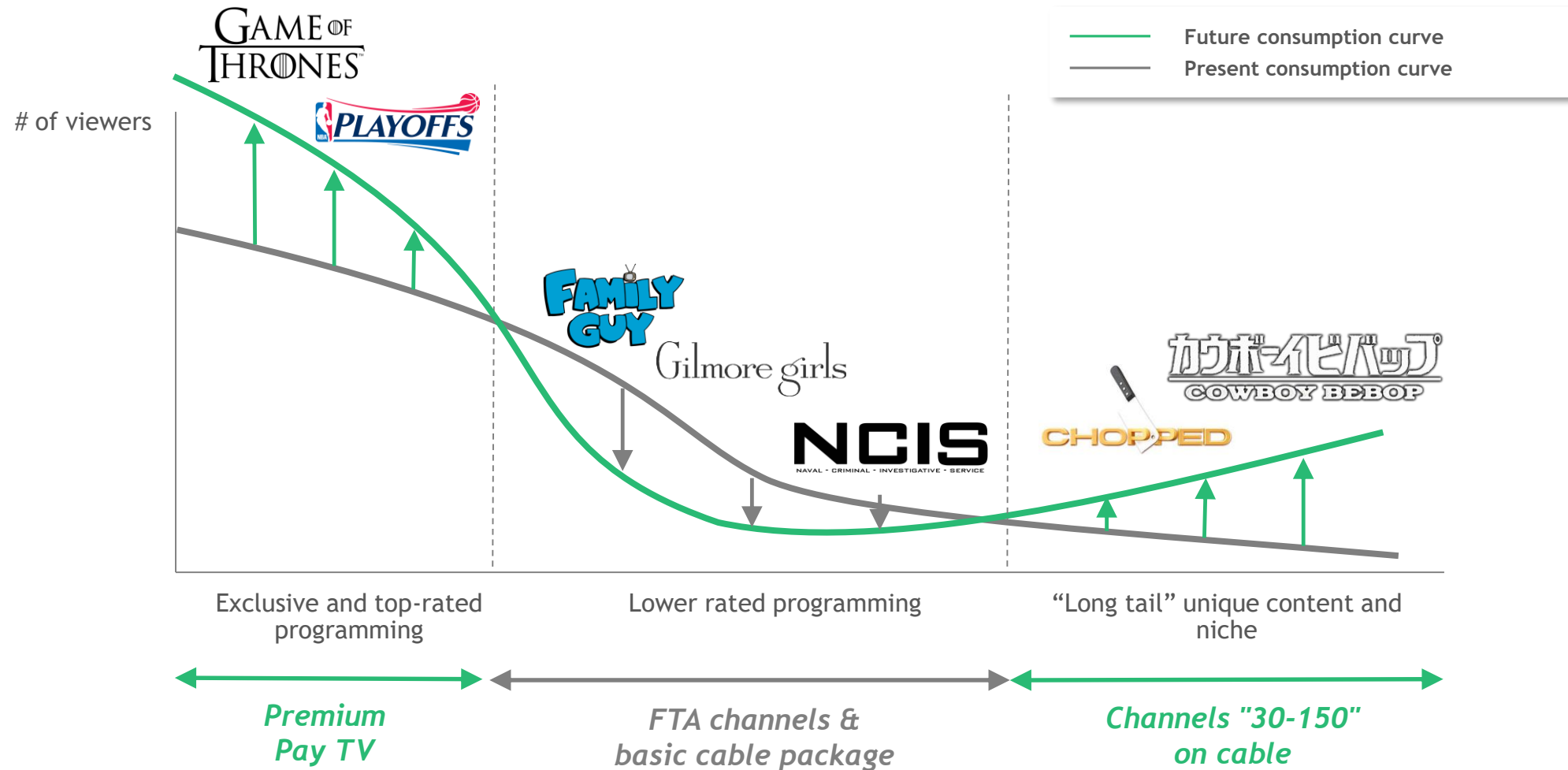
Source: BCG analysis

Traditional advertising models under attack

Aggregator/networks capture smaller share of dollars in digital



Profile of "valuable" content changing, as spend balloons

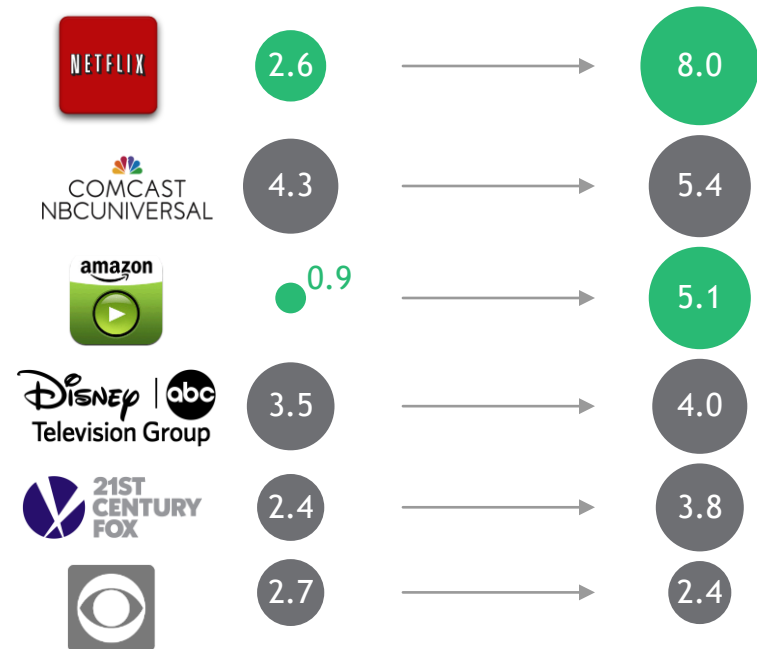


Profile of "valuable" content changing, as spend balloons

Big increases in premium content spend and show creation, led by some of the emerging OTT players

Netflix, Amazon spending ~\$13B/year

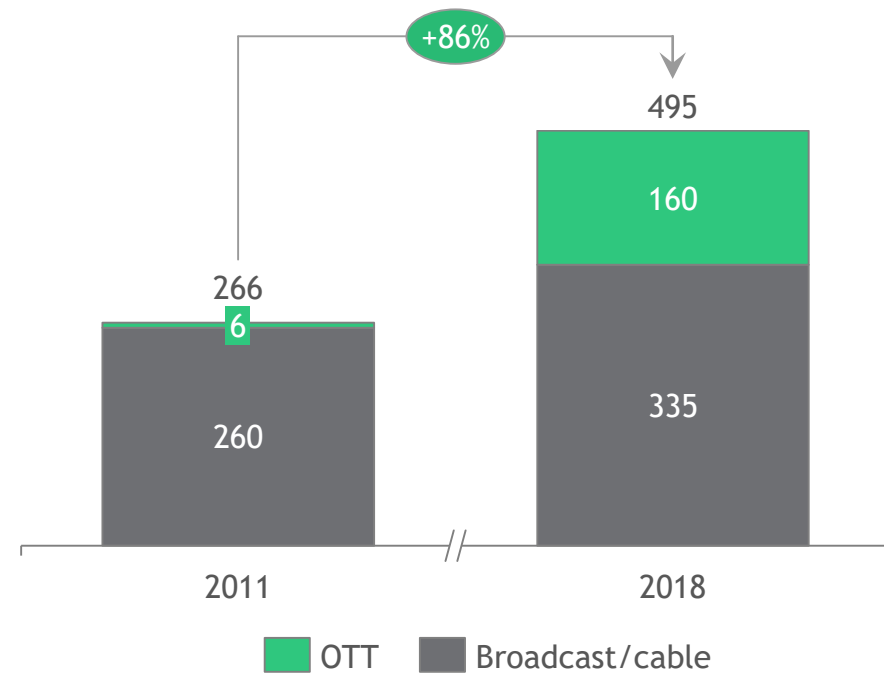
(Total content spend¹ , 2014 vs. 2018)



...and by end of 2019, Netflix, Amazon, & Hulu alone committed to \$19B in content spend

More TV shows now than ever before

(# of new original series, 2011 vs. 2018)

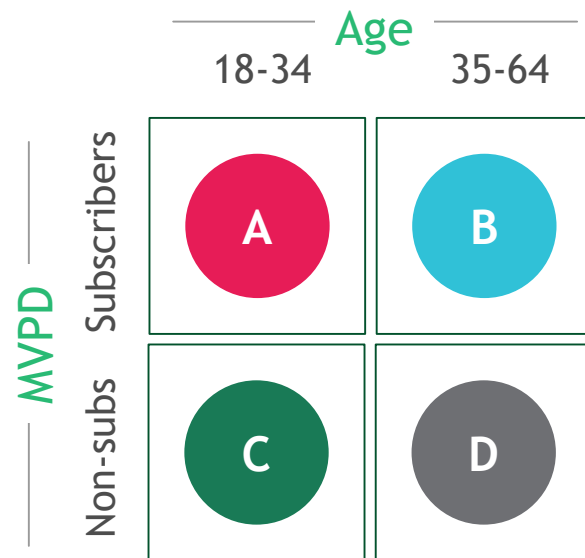


1. Content spend does not include sports spend
Source: FX Networks Research, SNL Kagan, BCG analysis

New consumption patterns emerging

Viewing behaviors vary considerably across age & MVPD relationship

Viewer segments



Current behaviors & forward-looking risks

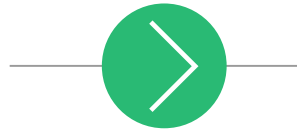
A	<ul style="list-style-type: none"> Minimal reliance on MVPDs: avg of ~8 hrs/wk High interest in more nascent genres: For men, anime/eSports; women, celebrity/animal 	High prospect cord-cutters?
B	<ul style="list-style-type: none"> High reliance on MVPDs: avg of ~15 hrs/wk More 'traditional' genre preferences: Men watch Big5 sports; women, news/primetime 	Potential to cord-"thin"?
C	<ul style="list-style-type: none"> Similar interests to subscribers: High interest in anime, eSports, celebrity, etc. Broad usage of platforms: Social, AVoD, etc. 	Behaviors get fixed with age?
D	<ul style="list-style-type: none"> Most viewership of film/TV of all segments High use of SVoD, FTA: Nearly all viewing on Netflix, Amazon, Hulu - or via antenna 	Behaviors too fixed to change?

New consumption patterns emerging

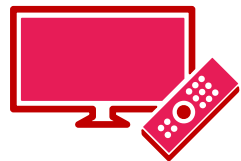
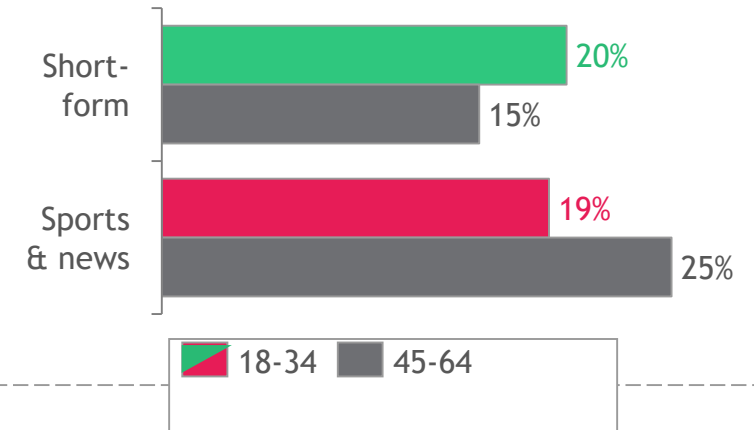
Younger viewers show strikingly different content preferences



Younger viewers spend more time watching **short-form** content than **sports/news**...



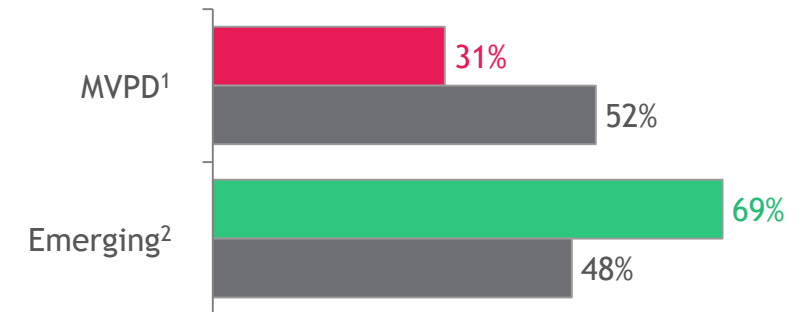
% of total video time watching



...and far less time watching **MVPDs** on average than the range of **emerging** platforms



% of total video time using

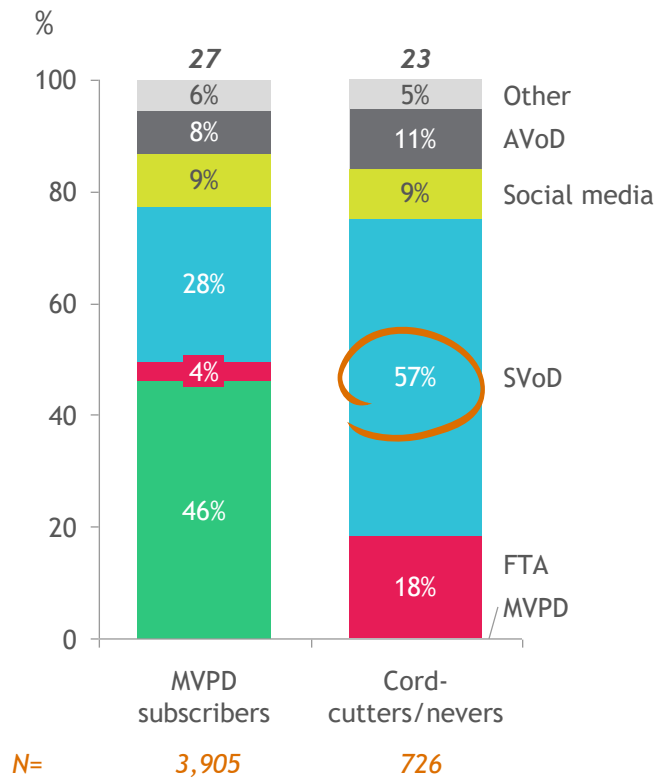


1. MVPD includes traditional MVPD and FTA; 2. Emerging includes SVoD, AVoD, social media, & virtual MVPDs
Source: Emerging Video Content Landscape consumer survey, n=4,630; BCG analysis

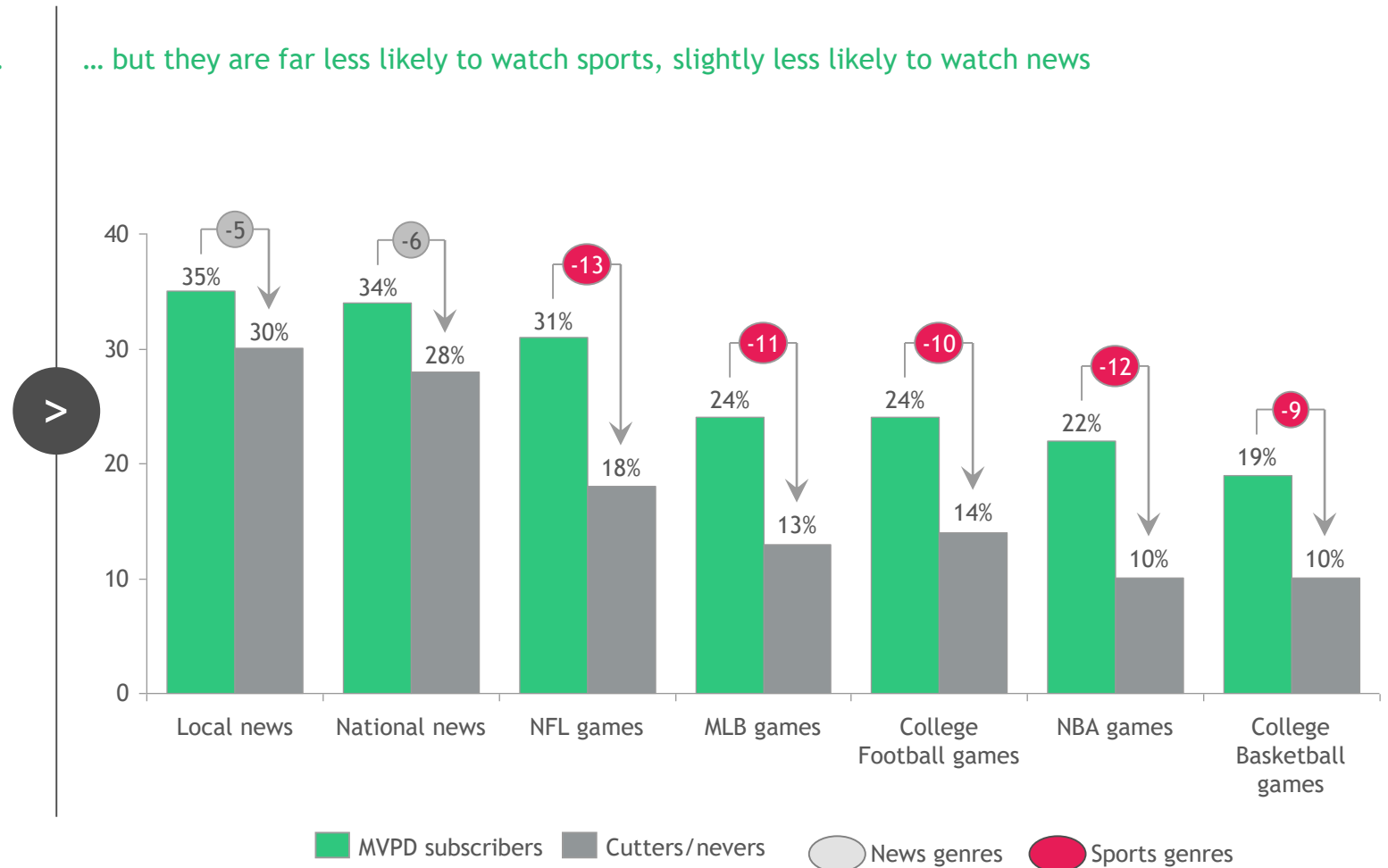
New consumption patterns emerging

Cord-cutters/-nevers still watch a lot of TV but less likely to watch news and sports

SVoD/FTA replace MVPD viewing for internet only...



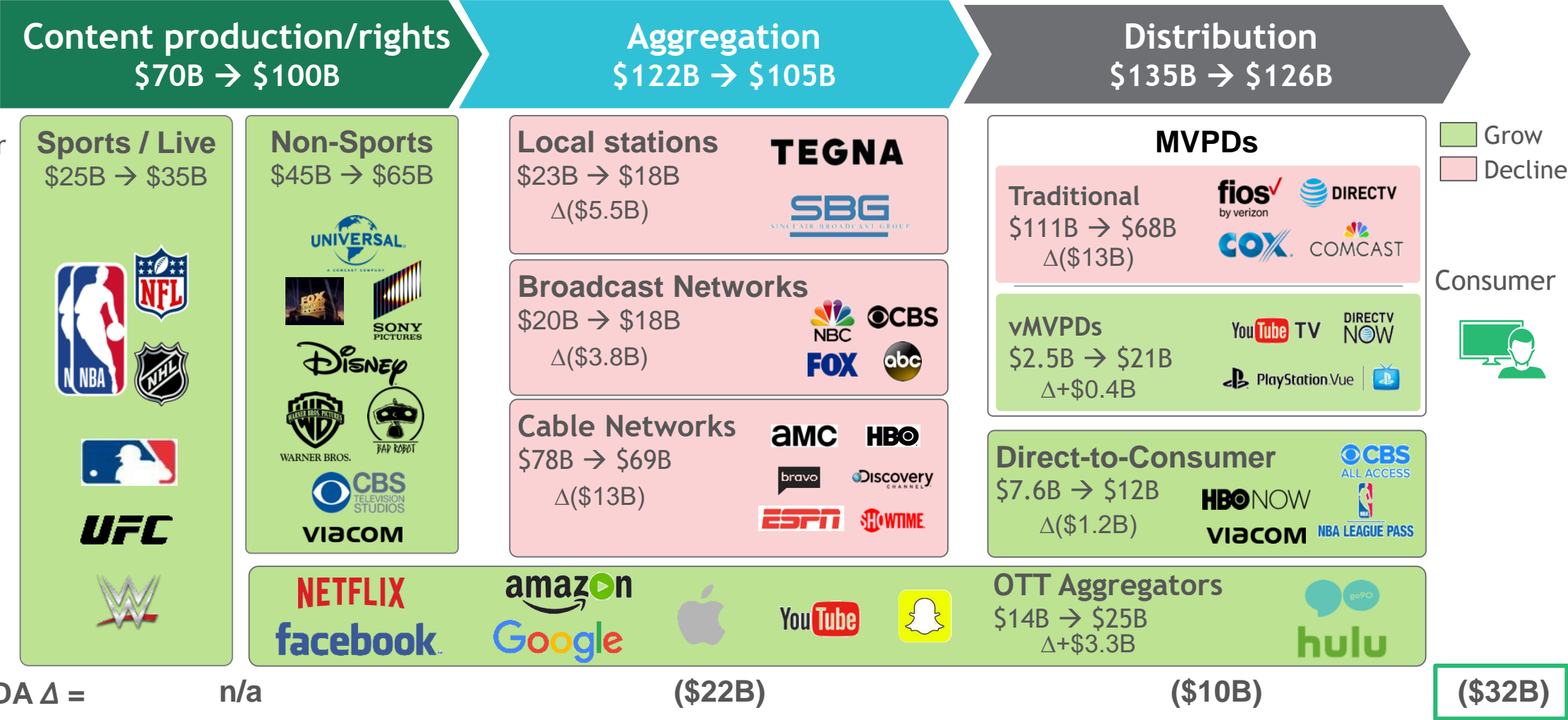
... but they are far less likely to watch sports, slightly less likely to watch news



Possible scenarios of where the world can go



Disruptive View: Film & TV video value chain ('17→'22)



We built three distinct market evolution scenarios to 2022

		Massive Disruption (Pessimistic)			Slow Erosion (Moderate)			Return to Growth (Optimistic)					
Drivers	Description	vMVPDs and OTT services accelerate penetration and ad dollars continue to shift away from traditional			MVPD's will continue their decline as vMVPDs and other OTT services steal share and cord cutting continues			MVPDs see decline for 3 years but return to growth as they innovate to compete with OTT players					
	Subscribers / HH penetration	MVPD	<u>2017</u> 77%	→	<u>2022</u> 48%	MVPD	<u>2017</u> 77%	→	<u>2022</u> ~62%	MVPD	<u>2017</u> 77%	→	<u>2022</u> ~70%
		vMVPD	~4%	→	26%	vMVPD	~4%	→	16%	vMVPD	~4%	→	12%
	Weighted Avg. ARPU	Decline at 2%			Flatten out ARPU			Increase by 2%					
	Ad dollars	Traditional distributors (e.g., MVPD)			<u>2017</u> ~\$3.8B	→	<u>2022</u> ~\$4.1B	While MVPD ad revenues stay generally constant, Aggregator ad revenues decline as dollars shift from linear to non-linear TV to follow viewership					
	Digital distributors (e.g., vMVPD, OTT, D2C)			~\$6.8B	→	\$18B							
	Aggregators (e.g., Local, Broadcast, Cable)			~\$57.5B	→	~\$38.6B							

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