BOTTOM LINE: We don’t think it’s hyperbole to dub the current environment “Streaming Wars” as the launch of DTC (direct to consumer) platforms Disney+, AppleTV+, HBO-Max, Peacock among others will likely drive costs for most of today’s Pay-TV media players materially higher at least for the next 18-24 months, while at the same time driving an acceleration in subscriber losses in their core “cash-cow” PayTV business. How media companies handle this DTC transition will be the key for media stocks going forward with DIS (N/R) currently leading the pack, which is ironic (and frankly scary for their smaller media peers) considering DIS has by far the most to lose from an increasingly bad broad PayTV environment given we estimate DIS generates $20 in high margin revenue per month per U.S. PayTV subscriber before advertising. In this in-depth research piece we review how we got here, where we see the future of PayTV and most importantly who are likely to be the ultimate winners and losers and how to successfully invest in these trends.

Big picture we believe content is NOT king from an investment perspective near and medium term and we continue to recommend being long the distributors of these multiplying DTC platforms namely CHTR (BUY), ATUS (BUY), CMCSA (BUY), ROKU (SELL), AMZN (BUY), TTD (BUY) and LBTYK (BUY). We also like NFLX stock as we believe NFLX service will remain a must have for most consumers, will benefit from a potential acceleration away from PayTV, is unencumbered by a legacy business to protect, is poised to win the global DTC race and the stock’s pullback has created an attractive opportunity. We also expect consolidation among the weaker media players as they merge to create more DTC scale and create synergies with DISCA (N/R) as a logical takeout candidate. Our SELL on ROKU is not driven by a negative view on 2H 2019 results (the 2H ’19 backdrop remains fantastic), but the nearly $20B valuation and our view that cable distributors have finally realized that effectively ceding that DTC aggregator position to ROKU/AMZN/GOOG is a reversible mistake with the key driver being massive declines in in-home device costs driven by the move to cloud based guides/delivery of programming, cable’s existing relationship with content players and control of the dominant fixed way consumers will access the Internet.

We remain relatively cautious on the balance of PayTV focused media (media, broadcasters, regional sports networks, SatTV, telcos, pay-networks) as: 1) media players remain in a major transition period where their content costs are likely to continue to skyrocket, 2) media players’ core PayTV business is likely to continue to accelerate to the downside [(with issues particularly large for players with large fixed programming (sports rights programming as an example)], 3) with audience losses and lack of targeted advertising media players may finally have issues taking price to offset negative environment (’21 in our view), 4) operating a DTC subscriber focused business is a dramatically more difficult proposition than the historic media operating strategy of force-feeding consumers, advertisers, distributors higher prices whether they watch the programming or not (which may force weaker content players to ironically share a much higher share of revenue with distributors such as cable to drive subscriber growth), 5) SatTV is pureplay on accelerating PayTV losses (with the potential benefit being a more favourable backdrop for an inevitable merger between AT&T DIRECTV and DISH could be allowed to happen sooner rather than later) and 6) we view DTC as helping fuel further market share gains towards cable’s best in class data plant and away from telcos.
Streaming Wars

How We Got Here and Where We Are Headed; Who Wins Who Loses

We like to say it is “always interesting” in the media, communications, Internet space, but this is likely more true than ever as the media companies rush from the previous fat, happy and easy (for them) traditional PayTV market position to a cutthroat likely brutally competitive (at least through ‘20) DTC world. Today’s world has its roots firmly with the success of Reed Hastings at Netflix and the frankly general overall arrogance and resistance to change from traditional media companies over the last 10-15 years. Hastings’ genius was to navigate and take advantage of the entrenched content and distribution players who in hindsight dramatically underestimated him (as evidenced by the TWX CEO famously calling NFLX the “Albanian Army”). After yet another abysmal (record) quarter of PayTV losses in 3Q and the launch of a number of new streaming service the sh*% is already hitting the proverbial fan and in the following in-depth research piece we review how we got here and where we logically think things will end up and of course how to generate alpha off the future PayTV.

How We Got Here:

1) **It all starts with NFLX and Reed Hastings**... NFLX pioneers subscription DVD rental by mail, taking advantage of consumer hatred of Blockbuster and its late fees and of media companies driving DVD prices to very low levels. In effect, NFLX gets an unavailable to cable/satellite distributors DVD window worth billions for effectively peanuts, driving major growth that leads to 15+M subscribers by mid-2010.

2) **...And Media players extreme price gouging.** Media companies can’t help themselves, raising commercial loads and leveraging antiquated retrans/must carry rules to force distributors to pay the same large monthly fees for broadcast nets that the largest cable networks receive with healthy annual increases + carriage of increasingly unattractive new networks at fat monthly pricing. Cable/distributor video margins begin to implode from ~85% to ~15% (even going negative for smaller players) despite healthy annual price increases.

3) **NFLX took advantage of the media industry’s arrogance.** Frankly, NFLX outmanoeuvred arrogant media players (recall TWX CEO labelling NFLX “the Albanian Army”) as they carelessly sold NFLX the rights to digital content in the premium window. A keystone example was Disney selling digital rights to NFLX at only a modest premium to what Starz offered at the time. While it may have provided revenues in the short term to Disney, it enabled NFLX to bolster its offerings to the large DVD subscriber base at NFLX and helped propel the streaming service into what NFLX is known for today.

4) **Net Neutrality rules allowed NFLX to piggy back on broadband pipes for nearly free.** NFLX benefits from effectively free access (via “Net Neutrality” laws) to consumers on the back of hundreds of billions of dollars of global private investment to dramatically increase broadband speeds.
5) Media companies get addicted to big NFLX payments to digitally stream their content. Most media players crow of their new fat revenue stream, ignoring that it might eventually become substitutive and kill their sacred cow, the PayTV business. During 2017, against the backdrop of numerous new revenue streams, content stocks hit all-time highs.

6) NFLX sees revenues growing rapidly and begins to invest in original content, anticipating that the move to DTC could drive a removal of key network content and creating a large barrier to entry. NFLX had their House of Cards moment in spring 2013 and then it's off to the races from there. Amazon Prime follows suit and starts to increase the costs of content, which combined with the commercial free inexpensive nature of the service to fuels further consumer acceleration away from PayTV.

7) Content cost inflation begins to spread as media companies are forced to invest in increasingly expensive content just to keep up in traditional TV. Meanwhile, ratings decline and margins are materially squeezed.

8) Cheap entertainment alternatives emerge besides NFLX and Amazon Prime, including YouTube, Facebook, Hulu, and Snapchat. As a result, consumers focused on value begin to exit PayTV at an accelerating pace.

9) DTC players are giving people what they want, without commercials and not forcing them to pay for programming they have no interest in which drives even faster PayTV losses.

10) The accelerating decline in PayTV subscribers is masked on the advertising side by media players ability to take giant price increases given their declining but still massive reach, but now advertisers appear to be warming to targeted nature of ads on DTC/Google/FB/SNAP etc., calling into question media players' ability to continue to generate massive price increases over time. Heavy political advertising in '20 may masks these trends but we see issues with pricing emerging as early as '21.

11) V-MVPD’s (virtual PayTV players) emerge to supposedly save media companies day fuelled by ultra-low (obviously money losing) initial pricing. V-MVPD’s appear to catch consumers exiting PayTV to save money. PayTV losses + V-MVPD’s = start to see a slowdown in the acceleration in PayTV subscriber losses.

12) V-MVPD’s realize that targeted advertising does not offset fundamental issues of sky-high content costs (without an existing content relationship = V-MVPD’s have no scale) and they start to take material price increases and surprise surprise they start to bleed subscribers. As an example, here is the trend in subscriber additions at ATT/DIRECTV-Now: 1Q18 +312K, 2Q18 +342K, 3Q18 +49K, 4Q18 (-267K), 1Q19 (-83K), 2Q19 (-168K), 3Q19 (-195K) reflecting the need to raise price 2X in '19 and drop certain programming.

13) OTT and V-MVPD players ignore the potential for piracy by giving consumers the right to 3-5 different streams allowing for effective piracy via password sharing
and further exacerbating their issues with PayTV. As an example, based on Nielsen data there are 13-14M households effectively pirating Netflix service in the U.S.

14) Media companies offset accelerating PayTV losses by pushing through even larger price increases and increased commercials loads which accelerates the number one reason people leave PayTV: the increasingly massive relative costs and mediocre experience relative to the aforementioned entertainment alternatives.

15) Pay TV ugliness seriously accelerates in 2019 even including V-MVPD- Fueled by all the trends above and AT&T’s decision to try to push back on programming price increases and short term focus on raising video ARPU’s PayTV y/y subscriber losses accelerate to -4% y/y in 1Q, -5% in 2Q and are set to move to -7% in 3Q as Pay TV losses appear close to a (-2.5M) loss dropping PayTV (with V-MVPD) penetration to 71% of U.S. occupied households vs. 84% only 4 years prior as highlighted in the following chart.
### Quarterly U.S. Pay TV Subscribers (1Q15 - 4Q19E)

<table>
<thead>
<tr>
<th>Period</th>
<th>Cable</th>
<th>Fixed Telco</th>
<th>Satellite</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Q15</td>
<td>137</td>
<td>319</td>
<td>127</td>
<td>295</td>
</tr>
<tr>
<td>2Q15</td>
<td>391</td>
<td>313</td>
<td>258</td>
<td>962</td>
</tr>
<tr>
<td>3Q15</td>
<td>84</td>
<td>96</td>
<td>34</td>
<td>115</td>
</tr>
<tr>
<td>4Q15</td>
<td>450</td>
<td>236</td>
<td>69</td>
<td>755</td>
</tr>
<tr>
<td>1Q16</td>
<td>102</td>
<td>330</td>
<td>38</td>
<td>470</td>
</tr>
<tr>
<td>2Q16</td>
<td>240</td>
<td>290</td>
<td>133</td>
<td>663</td>
</tr>
<tr>
<td>3Q16</td>
<td>204</td>
<td>100</td>
<td>21</td>
<td>325</td>
</tr>
<tr>
<td>4Q16</td>
<td>317</td>
<td>280</td>
<td>104</td>
<td>601</td>
</tr>
<tr>
<td>1Q17</td>
<td>124</td>
<td>306</td>
<td>28</td>
<td>458</td>
</tr>
<tr>
<td>2Q17</td>
<td>342</td>
<td>250</td>
<td>55</td>
<td>647</td>
</tr>
<tr>
<td>3Q17</td>
<td>181</td>
<td>200</td>
<td>44</td>
<td>425</td>
</tr>
<tr>
<td>4Q17</td>
<td>283</td>
<td>230</td>
<td>55</td>
<td>568</td>
</tr>
<tr>
<td>1Q18</td>
<td>86</td>
<td>292</td>
<td>92</td>
<td>370</td>
</tr>
<tr>
<td>2Q18</td>
<td>142</td>
<td>240</td>
<td>79</td>
<td>461</td>
</tr>
<tr>
<td>3Q18</td>
<td>235</td>
<td>160</td>
<td>115</td>
<td>510</td>
</tr>
<tr>
<td>4Q18</td>
<td>342</td>
<td>330</td>
<td>61</td>
<td>733</td>
</tr>
<tr>
<td>1Q19</td>
<td>272</td>
<td>270</td>
<td>40</td>
<td>582</td>
</tr>
<tr>
<td>2Q19</td>
<td>365</td>
<td>320</td>
<td>105</td>
<td>790</td>
</tr>
<tr>
<td>3Q19</td>
<td>365</td>
<td>320</td>
<td>105</td>
<td>790</td>
</tr>
</tbody>
</table>

### Net PayTV Subscriber Additions (000s)

### Share of U.S. Multichannel Video Subscribers

### Multichannel Video Subscribers (000s)

### U.S. Occupied Households**

### Multichannel Penetration

### Incremental Penetration

### New Households

### Net PayTV Subscribers

### Multichannel Penetration

### Total Multichannel Households + V-MVPD Only

### Net PayTV Subscribers

### Net PayTV Subscribers (000s)

### Source:
Pivotal Research Group estimates, SNL Kagan, Company Reports, "** U.S. Cable. **Assume 60% of reported V-MVPD subscribers are not PayTV Subscribers.
16) **Big media players begin to realize that nothing is going to stop the market moving to DTC and that they need scale, driving Disney and then Comcast to make a play for Fox assets and acquire greater scale to launch OTT successfully + synergies + IP to enhance ventures outside of PayTV (theme parks/consumer products).**

Disney wins Fox but Comcast manages secures a significant footprint in Europe via Sky acquisition. Disney then buys in the balance of Hulu and moves to launch Disney + at a very low price point in November 2019. Surprisingly, given Disney’s position as the clear King of PayTV, Iger appears willing to take material losses to generate subscriber growth. We remind you that Disney is the King of PayTV because they generate an estimated $20 a month in high margin per PayTV subscriber in the US BEFORE advertising whether the consumer is watching the programming or not. The King of PayTV diving into DTC hyper-aggressively has major ramifications for the balance of media players.

17) **Suddenly, after ~25 years of dancing around video, Apple TV+ appears spending supposedly $1B in year one with $4.99 pricing (which is actually quite expensive for what they are giving you) but the potential exists for Apple to spend dramatically more over time, thereby spooking media companies further into action.** We highlight though that Apple must be quickly realizing that force feeding modestly different, ever more expensive new iPhones to customers hooked on the iOS ecosystem is a lot easier than finding and creating new hit shows. Thus far, its big-dollar spending on original content has only been met with very mixed reviews.

18) **Peacock emerges from NBC likely smartly positioned as a free, ad-based alternative beginning in early 2020, although replacing PayTV $ with ad-based DTC dollars looks more like a necessary trade than a great trade or innovative idea.** AT&T starts to talk about an HBO Max DTC service but initial pricing appears fundamentally flawed at $15 as they are hamstrung by millions of cable/satellite/telco subscribers (with no to little margin for the distributor) that they cannot re-price downward. Google YouTube is the potential 800 pound gorilla to watch in the professionally curated content space, which also happens to much safer from an advertiser perspective.

19) **Content costs go ballistic.** With PayTV losses accelerating --even including virtual PayTV-- and the King of PayTV (Disney) willing to sacrifice short term results as it transitions to a DTC-centric world, traditional media players begin to seriously bid up the price for old library content and successful content creators/shows.

20) **The amount of content output across all different OTT players accelerates further, squeezing traditional media companies’ core businesses.**
Where Do We Go From Here?

1) **Step up or get stepped on. There are only likely to be a few winners in the DTC race.** We know it sounds cliché, but we think the streaming wars are only going to heat up further in 2020. The reality is that providing a significant amount of compelling content at a reasonable price point is the only way for new players to succeed, and even then there are likely to only be a couple of ultimate “winners,” or must-have OTT services for consumers. Thus, anyone who wants to be a player has no choice but to throw as much money as possible towards content if they want any shot at reasonable subscriber growth for at least 2020. Clearly, returns for DTC players will come under pressure while content will see continued, significant price inflation. On the bright side partly reflecting their multi year head start NFLX management against this backdrop is pointing to operating margin expansion in ’20 and beyond.

2) **Reflecting the move away from traditional PayTV to DTC, connected TV advertising is growing at incredible rates (albeit off a small base in 2018).** CTV grows 8-fold in 2018 for TTD – the leading player in the DSP space, and is up 3x and 2.5x in 1Q19 and 2Q19, respectively. The hope for traditional media companies is that as linear ratings erode, better targeted CPMs on CTV can help offset the short fall, which may be wishful thinking given the already very high monetization of current PayTV customers.

3) **While the future is clearly around better monetizing digital reach away, sales force alignment at the media companies and agency organizational issues continue to act as an impediment.** Disney appears to be on the leading edge with regards to sales force alignment. The company is compensating reps for both offline and online business, but we feel the rest of the industry needs to catch up.

4) **Within the agency holding companies, who are facing their own share of headwinds, online media buying arms are at odds with TV buyers as to who will have control of the buying. Turf wars are trumping correct alignment with client needs… at the expense of client’s best interests.**

5) **Traditional PayTV as we know it is toast.** Cheap Disney/Hulu bundles, free ad supported Peacock, Netflix are likely to drive ever accelerating PayTV losses, with sports programming and demographics likely the main factors potentially offsetting further significant acceleration. It seems reasonable to assume that large Internet players will inevitably bid for sports rights, if they do so successfully it would be another nail in the coffin for traditional PayTV. In ’22 AT&T’s NFL Sunday Ticket, which comes with an annual fee of $1.5B, ends and AT&T management has hinted at dropping the service. We would be surprised if that does not generate a lot of interest from large Internet players or perhaps a large successful DTC service.

6) **V-MVPD costs are likely to rise at an accelerating pace** - A lack of scale by most V-MVPD’s = they likely have significantly higher costs than their traditional PayTV distributors + the aforementioned high likelihood that media players will force through ever greater price increases (a newspaper like strategy) to offset declines in core
business + players such as SBGI force V-MVPD’s to take regional sports programming as part of negotiations for affiliate programming driving up V-MVPD materially or forcing them to drop key broadcast content = higher V-MVPD price increases or greater losses. We wonder if YouTube TV is really prepared for the losses they are likely to incur. $10-$15 monthly loss on a base of a potential 10M subscriber base = material losses.

7) **Traditional Media players will likely continue to try to make up for PayTV losses by raising price ever more aggressively on distributors (similar to the “newspaper” strategy) which will, in addition to the aforementioned cheap entertainment alternatives, significantly accelerate PayTV losses and also accelerate the day that distributors (including cable) move to passively passing on video costs to consumers (read generating little to no video margin).** Distributors of PayTV are already openly talking about not adding unprofitable PayTV customers and letting them bleed off. When PayTV margins inevitably fall to zero and when distributors inevitably become the aggregator of choice for DTC players (which could actually generate higher absolute profitability) there will come a day when distributors are ambivalent between offering PayTV and being a DTC aggregator. This will likely be the final nail in the coffin of traditional PayTV.

8) **Content-Network is King.** My how the tables appear to be turning... Distributors now control what we view as THE key relationship into the home the ultra broadband pipe into the hope that all these new services will ride over. Today, household bandwidth usage is growing 30-40% annually driven by DTC this should only accelerate and as consumers swap to DTC it puts even more power into the hands of distributors (especially if they become the primary aggregators of DTC content into the home. Cable video margins 15-20 years ago were 85% and now they are sub 15% (and less than zero for smaller players), so our view is that control of the network is now king as content is likely to be everywhere while the one product/service that consumers need is the most robust connection possible to the Internet. In addition, DTC players don’t have the advantage of antiquated must carry rules that owners of broadcast content have historically wielded like a club to extract higher rates. In a subscriber based streaming world, we believe the key is getting “closer” to distributors, by which we mean paying ad sharing fees, channel placement fees, spifs for new subscribers, and even paying for certain content to be displayed in the guide. Initially, this benefit could accrue to AMZN (BUY, Levine), ROKU (SELL, Wlodarczak) and to lesser extents GOOG (HOLD, Levine) and FB (BUY, Levine). In 2020, we expect distributors (led by Comcast) to lever their powerful position to re-establish themselves as the primary aggregator of DTC content given the likely material revenue opportunity, as the customer facing platform to sell the consumer more services and the leverage from aggregating DTC. It is simply too important to ignore any more and simply hand to AMZN, ROKU, FB and GOOG. In addition, if cable players can generate enough $ as an aggregator of DTC then they become potentially indifferent to losing a traditional PayTV subscriber if they simply swap to a DTC provider. As an example, Liberty Latin America in Puerto Rico incentivises subscribers to take the much lower ARPU Spanish language version of American program as their actual $ of profitability is higher on a lower ARPU Spanish language package.
9) The DTC players that appear to be losing (we figure it will be pretty obvious by 2021) are likely to cut deals with distributors to be bundled together in similar fashion to today’s PayTV environment (although likely with much lower fees and a material percentage of the economics going to distributors read in a DTC world we believe the content margins will start to skew back to cable distributors after 20 years moving in the opposite direction).

10) Traditional media companies that are unsuccessful with a DTC strategy must try to sell themselves to larger players looking for scale to boost their DTC prospects. Comcast buying DISCA, for instance, would give Comcast Olympic rights in Europe that they do not currently have and we believe DISCA has interesting content in a DTC world. For a DTC strategy to be successful, it will likely require a serious hit to margins. And while the investment and commitment still does not guarantee a success, without a semblance of a successful DTC strategy, traditional PayTV players are for lack of better word… toast.

11) We assume that losing DTC players will sell off parts of the business at risk to the “winners” of the DTC race and focus on core content creation and related businesses. At some point media companies will be cheap enough private equity players may do it for them. Valuations may become cheap enough that smart players such as Liberty Media may swoop into to acquire assets on the cheap with their relationship with Charter giving them a nice potential advantage.

12) The move of content to DTC is clearly quite positive for CHTR, ATUS and CMCSA (~80% of their business are providing cable services) in the U.S. as they own the key data backbone to provide all of the services, control the customer relationship and video is a primary driver of 30-40% annual per household data speed increases. As they increase speed (very economically) they have the ability to take material price and as they move back into their traditional role as DTC aggregator they are likely to end up with significant incremental ARPU opportunities and get out from under antiquated retrans rules leverage afforded content players.

13) Online GOOG/FB/TWTR/SNAP (covered by Michael Levine) should benefit from a “break” in linear TV despite some controversy around the ongoing rates of growth for online advertising, as DTC should –and appears to-- be helping drive this transition faster. To the extent this happens, particularly into an election year, we think upside surprises in online advertising will correlate well with accelerating DTC offerings. This should benefit names in our coverage.

To put it bluntly, a break in linear TV leaves marketers with no viable alternative than to spend their budgets online. There has certainly been ample commentary about privacy concerns, but our view has been that some of the strength seen in Q4 in the US is a result of ratings having declined to the point at which marketers have no option but to increase their online spend.

We are summarizing the basic reasoning below, but please refer to our Internet initiation report or reach out to Michael Levine for further details:
Investors have been rewarded handsomely owning FB and GOOG over the last several years as they showed impressive growth on the top-line and dominated almost all y/y advertising $ growth in the US from 2016 to 2018 (see Exhibit 1). The downside of winning so lopsidedly, however, comes with eventually experiencing the “winner’s curse.” For GOOGL and FB, the rapid growth in market share in a fairly constant TAM means a ceiling or limit to achievable revenues.


<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>1H/15 $ y/y</th>
<th>2H/15 $ y/y</th>
<th>2017</th>
<th>1H/16 $ y/y</th>
<th>2H/16 $ y/y</th>
<th>2018</th>
<th>1H/17 $ y/y</th>
<th>2H/17 $ y/y</th>
<th>2019R Pivotal</th>
<th>1H/18 $ y/y</th>
<th>2020E Pivotal</th>
<th>2019 $ y/y</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB US Advertising</td>
<td>13.0</td>
<td>5.2</td>
<td>19.3</td>
<td>3.9</td>
<td>26.5</td>
<td>7.0</td>
<td>35.7</td>
<td>7.8</td>
<td>41.8</td>
<td>8.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of US market</td>
<td>13%</td>
<td>22%</td>
<td>22%</td>
<td>25%</td>
<td>25%</td>
<td>27%</td>
<td>29%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOOGL US Advertising **</td>
<td>35.5</td>
<td>6.8</td>
<td>42.5</td>
<td>7.0</td>
<td>50.0</td>
<td>7.5</td>
<td>58.2</td>
<td>8.2</td>
<td>66.0</td>
<td>7.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of US market</td>
<td>49%</td>
<td>48%</td>
<td>47%</td>
<td>47%</td>
<td>46%</td>
<td>46%</td>
<td>16.0</td>
<td>46%</td>
<td>15.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FB+GOOGL y/y $ growth</td>
<td>12.0</td>
<td>12.9</td>
<td>12.9</td>
<td>13.5</td>
<td>16.0</td>
<td>16.0</td>
<td>16.0</td>
<td>15.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FB+GOOGL % of y/y dollar growth</td>
<td>92%</td>
<td>84%</td>
<td>81%</td>
<td>84%</td>
<td>82%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of US market</td>
<td>67%</td>
<td>70%</td>
<td>72%</td>
<td>72%</td>
<td>73%</td>
<td>74%</td>
<td>74%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMZN US Advertising</td>
<td>3.0</td>
<td>0.9</td>
<td>5.1</td>
<td>2.1</td>
<td>8.2</td>
<td>6.9</td>
<td>13.8</td>
<td>5.6</td>
<td>19.0</td>
<td>5.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pivotal estimated US Market Size</td>
<td>73.0</td>
<td>13.0</td>
<td>88.3</td>
<td>15.3</td>
<td>106.3</td>
<td>18.0</td>
<td>125.4</td>
<td>19.1</td>
<td>144.9</td>
<td>16.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Company estimates, Pivotal Research
** GOOGL 19 estimate GOOGL US ~80% ads, 72% in 2020

Source: Pivotal Research Estimates and Company Actual results

Referencing Mary Meeker’s 2018 slides, we see a continuation of the trend for 2018 vs 2017. At this point dollar share equals time spent, and while we don’t have 2019, we would bet that mobile is likely exceeding the “power ratio” of dollars spent/time spent based on year to date results from GOOG and FB and the smaller players.

**Exhibit 2: % of Time Spent in Media vs. % of Advertising Spending**

*Source: Bond Internet Trends 2019*
So as we ponder the question, if the time spent/monetization gap has converged, where do we go from here? Overall, if we are betting on a linear break in TV, there really is no other way for marketers to spend the money. There has certainly been ample commentary about privacy concerns, but our view has been that some of the strength seen in Q4 in the US is a result of ratings having declined to the point at which marketers have no option but to increase their online spend.

If we look at the pie of TV advertising, it is still likely a $67-69bn market in 2019, and given that this is going to be an election year, will likely lead to some crowding out of available linear ratings – already likely facing greater headwinds.

14) Who “wins” DTC? Our view is unchanged: NFLX has years of in-country investment, a giant head start, big data that boosts their content success rate materially and already massive spending without a traditional business model to protect. They should be able to continue to grow and ultimately should be able to outspend everyone (causing many other players to give up) and win although returns in the interim are likely to go down and subscriber growth could be become more difficult in the U.S., offset by the fact that the emergence of more robust DTC should accelerate traditional PayTV subscriber losses. Ultimately, we think NFLX is a winner. If indeed Iger at Disney is willing to make major margin sacrifices, Disney/Hulu has the IP to ultimately be a winner (with the major caveat that they are going to wax their core traditional business… which again generates $20 a month of high margin revenue per U.S. PayTV subscriber before advertising). We doubt ultimately AMZN will spend anywhere near DIS or NFLX --and we are not sure consumers even see Prime as competition-- but we expect them to be around. Ad-supported Peacock is likely to have enough good content and the backing of one of
the largest US cable operators to be successful, but we doubt they will ever be in the same ballpark as DIS and NFLX. A big question mark is if Google’s YouTube makes a big move into professionally curated content. Most other smaller players will hope they can be bundled up by distributors to eek out a living.

15) **Who loses DTC?** CBS/Viacom do not seem to have a very good strategy. AMC. FOXA. All the broadcasters. Regional sports nets (MSGN, SBGI) are the purest pure play on the decline of PayTV with fixed sports rights payments that rise 5+% annually and no offset for falling subs. Apple TV+ cannot be totally ruled out given their massive cash reserves and control of the Apple iOS ecosystem, but Apple TV+ is laughably expensive for what they are offering. Their initial foray into content seemed to have started with a thud based on reviews and at this point we still think it qualifies as an experiment (and an experiment that is likely to get dramatically more expensive). To keep up our view is Apple will ultimately have to spend $20B+ a year and if that is their strategy they would be better off buying NFLX (and potentially creating a NFLX tier of programming only available to consumers that buy an Apple device). Time Warner/HBO: on paper Time Warner has arguably the greatest content creation arm on the planet but AT&T management appears short term/dividend focused and we seriously doubt they have the (excuse us) “stones” to blow up Time Warner’s financials in order to spend to keep up. They are also limited in their ability to price down given the $15+ dollar priced into millions of existing cable/satellite/telco subscribers globally (which if they came in way under would likely drive massive losses). We also think an the massive volume of high quality content sold relatively inexpensively to consumers + ever cheaper TV’s is likely to put ever more pressure on the movie theatre companies.

16) **Separately, in a DTC world what happens to sports rights fees?** On the surface with the degradation of PayTV (where everyone pays for sports programming whether they watch it or not) the backdrop would seem to be ugly for sports rights fees unless (which is probably the case) in their quest for growth a player such as AMZN, GOOG, FB or AAPL bid up rights. There is also the possibility in a quest for subscriber growth that one of the new DTC services pays a high price for sports.
Who are the stock winners and losers from a U.S. stock perspective around DTC?

**STOCK WINNERS:**

1) **CHTR (BUY), ATUS (BUY), CMCSA (BUY)** – as mentioned the platforms that deliver all these services appear to be the clear winners and DTC has the ability to, in our view, to turn the content/distributor relationship on its head. CMCSA has exposure to media but this is a relatively small piece of the business, Peacock may partially offset issues with PayTV and CMCSA cable appears to have quite significant room to take price. We also believe the market severely underestimates the potential of wireless although CMCSA will need to secure a better MVNO than their VZ deal. Data usage of consumers that go exclusively DTC skyrockets and cable controls the best data mousetrap. We also believe in 2020 it will become increasingly clear that cable operators are likely to leverage their powerful position to become the aggregator of choice for DTC players which puts them in a position to potentially replace lost PayTV margin with DTC revenue (driven by spifs, revenue shares, advertising)

2) **ROKU (SELL), AMZN (BUY), GOOG (HOLD).** Firestick, Chromecast, and (at least through 2019) ROKU have existing subscribers and a head start on the distributors (Comcast has not even secured Disney+ for its free Flex yet although CHTR has secured but has yet to roll out a Flex like product). As consumers migrate to DTC there will be demand for these services, but the problem is that CMCSA/CHTR/ATUS (and eventually T/VZ) appear increasingly likely to recognize the value and the revenue potential of being an DTC aggregator for their data customers. As a result, in 2020 we expect way more competition and these players are likely to have way more leverage with DTC operators. The fact that ROKU is worth $20B would seem to speak to the upside opportunity of being the aggregator of choice but they simply do not have the leverage to maintain that position (which is why we have a SELL on the name) = we anticipate major ROKU stock underperformance in ’20 (see below)

3) **NFLX (BUY).** We think NFLX wins out and rides the end of traditional PayTV wave for years given it is a must have for most households but the risk is that this gets ugly competitively through ’20, although this is arguably priced in the stock after the recent share price pullback. Our view is that as investors recognize over the next 6 months that NFLX will not only survive but thrive on the end of PayTV, the stock should walk up a wall of worries. We also think the story will become increasingly more focused on international growth than on domestic growth, and that by ’21 financial valuation multiples can come into play as better support.

4) **DISCA (N/R).** Incredibly tough backdrop but cheap enough with attractive enough properties that could trigger a bid from a larger player looking for scale –someone like CMCSA comes to mind here. We think there is optionality around their recent DTC efforts in food, which we uphold as a great example of what traditional media companies SHOULD be doing (rather than just placing linear content online).
5) **TTD (BUY, Michael Levine)**. The largest independent DSP with the most significant share around CTV. As OTT takes off, the revenue opportunity for CTV spend will too and media companies will be highly attracted to the higher CPMs that targeted programmatic advertising can offer. TTD should benefit accordingly, given their leadership position around Connected TV.

6) **Online GOOG/FB/TWTR/SNAP (covered by Michael Levine).** In an environment where DTC is helping drive the “break” in linear TV, we see upside to our growth estimates for FB and GOOG revenues. We are forecasting $16Bn in incremental top-line for the pair in 2020, which is the same YoY growth they should see in 2019. As highlighted earlier, a 5% move out of the TV bucket to online represents $3Bn… and we would expect these two giants to split the lion’s share of that figure.

As cord cutting continues to accelerate, the 18-34 audience, which is already an evasive one to reach, will play well into SNAP’s hands. We think investors will be surprised by how well they perform through the tough comps in 2020 as DTC pressures mount.

Finally, although TWTR has had product issues arise in 2H, we suspect it will benefit in 2020 from the Olympics and the elections. TWTR announced on 10.30.19 that they will not be accepting political ads, but we think investors are missing that in our view the benefit will be more likely from increased mDAU usage rather than overt political spend. (Recall that FB said political spending is less than 50bps on their earnings call).

7) **IS DIS A WINNING OR A LOSING STOCK GOING FORWARD?** Disney is the definition of a company in transition as they have the best chance of being as successful as NFLX but it comes at the expense of likely helping to torch their core PayTV business where again we estimate they generate $20 a month in high margin fees before advertising and a DTC subscriber business is a dramatically more difficult business than PayTV, where they could lever sports and antiquated retransmission regulations to force through massive price increases (and chuckle as cable/satellite companies took all the blame).

**STOCK LOSERS:**

Anyone mostly reliant on the core PayTV business including:

1) **TV broadcasters** (SBGI, NXST, GTN).

2) **SAT TV** operators (DISH (HOLD), AT&T) although DISH obviously has a potential substantial wireless opportunity and silver lining on DTC and the decline in traditional PayTV is it likely accelerates what is probably an inevitable merger of DISH/DTV which would create a PayTV monopoly in perhaps 10-15M households,

3) **Traditional media players: CBS/VIA, DIS, AMCX, AT&T, LGF, FOXA.** Spiralling content costs, accelerating PayTV subscriber losses, questionable or non-existent DTC strategies are major, unaddressed overhangs on their outlooks. The decision by industry behemoth Disney to potentially take a material hit to core results to insure
success of Disney+/Hulu has major implications on the remaining media industry players. Specifically on Disney, in our view (as mentioned above) the jury is still out on whether the destruction in PayTV can be offset by Disney+/Hulu but media players are getting squeezed on all sides with only content creation arms to outsiders as an offset. In the end falling PayTV subscribers, rising content costs, DTC transition issues make it very difficult to be favourable on the space other than around potential deals. Further 2nd tier premium networks Showtime (CBS/VIA), Starz/Encore (LGF), EPIX (MGM/LGF/Viacom), outlook is particularly tough in a DTC environment as they simply do not appear to have the scale to compete with their best hope to be purchased for someone looking for library content/scale.

4) ROKU 2020. As mentioned, we absolutely view ROKU as an initial winner as they are a platform company in a world of expanding DTC players (which should result in accelerated subscribers and ARPU). However, the problem is ROKU is sitting on a nearly ~$20B EV (presumably highlighting the value of the DTC aggregator relationship), there is massive competition on the short term (‘20) horizon emerging as this customer relationship is too important for distributors to ignore and they have tremendous leverage to secure better deals that will put ROKU at a disadvantage (around guide searchability, revenue splits, available content, lack of ability to bundle with dominant data). The other important dynamic fueling distributor competition is the move to cable cloud based services/guides, which is driving major declines in in-home device costs (see Comcast’s move to a free X1/Flex box). ROKU bulls hope that ROKU being increasingly built into low end TV’s taking market share ignore the basic fact that ROKU built in to a TV does not mean a consumer will actually utilize it if properly incented by a cable player.

5) Regional Sports Programmers: MSGN, SBGI. Falling PayTV and fixed sports costs that are contracted to rise often 5+% annually make these names the best pureplay on the continued implosion in PayTV.

6) Movie Theatres: AMC, CNK, CGX, IMAX. Massive investment in often long form, movie like content, ever cheaper and larger TV’s, and the move to watching content on devices at a significantly lower cost than movie tickets seem like a tenuous backdrop...

7) Telcos: AT&T, VZ, CTL, FTR. Going exclusively DTC drives consumer data usage through the roof and that, in turn, will likely to drive consumers to the best available data platforms (which happen to be offered by cable companies). Telcos still have 20M+ fixed data subscribers with copper in a portion of their network and our view is that DTC and the associated growth in broadband usage will accelerate telco data losses to cable. While a S/TMUS deal is net net a positive for T and VZ as it reduces competition and they can take advantage of subscriber dislocation around the S/TMUS deal transition, our view is that cable is likely to ultimately lead an effort that will turn U.S. wireless into something more akin to European ugliness.
Appendix: Important Disclosures

Analyst Certification
I, Jeffrey D. Wlodarczak, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject company and their securities. I further certify that I have not received and will not receive direct or indirect compensation related to specific recommendations or views contained in this research report.

Legal Disclaimers
Pivotal Research Group LLC is an independent equity research company and is neither a broker dealer nor offers investment banking services. Pivotal Research Group LLC is not a market maker for any securities, does not hold any securities positions, and does not seek compensation for investment banking services. The analyst preparing this report does not own any securities of the subject company and does not receive any compensation directly or indirectly from investment banking services.

Stock Ratings
Pivotal Research Group LLC assigns one of three ratings based on an expectation of absolute total return (price change plus dividends) over a twelve month time frame. The ratings are based on the following criteria:

BUY: The security is expected to have an absolute return in excess of 15%.

HOLD: The security is expected to have an absolute return of between plus and minus 15%.

SELL: The security is expected to have an absolute return less than minus 15%.

Ratings Distribution
Pivotal Research LLC currently provides research coverage of 35 companies, of which 69% are rated BUY, 29% are rated HOLD, and 3% are rated SELL. Our company does not offer investment banking services. This data is accurate as-of 11/2/19.

Price Chart and Target Price History
Other Disclaimers
Information contained in this report has been prepared from sources that are believed to be reliable and accurate but are not guaranteed by us and do not represent a complete summary or statement of all available data. Additional information is available upon request. Furthermore, information and opinions expressed are subject to change without notice and we are under no obligation to inform you of such change.
This report has been prepared solely for our institutional clients. Ratings and target prices do not take into account the particular investment objectives, financial and/or tax situation, or needs of individual investors. Investment decisions should take into account all available information, not just that which is contained in this report. Furthermore, nothing contained in this report should be considered an offer or solicitation by Pivotal Research Group LLC to buy or sell any securities or other financial instruments. Past performance is not indicative of future performance and estimates of future performance contained in this report are based on assumptions that may not be realized.

Material in this report, except that which is supplied by third parties, is Copyright ©2019, by Pivotal Research LLC. All rights reserved. No portion may be reproduced, sold, or redistributed in any form without express written consent of Pivotal Research Group LLC.

Commission Sharing Arrangements
Pivotal Research Group LLC has commission sharing arrangements (CSA) with numerous broker-dealers. Please contact Jeff Shelton at 212-514-4681 for further information.

Additional Information Available Upon Request