The Future of Advertising

Rise of the Machines

- **Digital to dominate, but targeted linear TV emerging**: In this report, we lay out our long term structural view on global advertising. We argue that digital platforms will continue to dominate spending, with the expansion of the "Internet of Things" and advancements in machine learning driving a near-doubling of market share. However, we also believe new targeted ad platforms being developed in the US, including the recently-launched Open AP, will help (i) move linear TV into the "sweet spot" of ad product positioning; (ii) drive a step-up in trend growth for US TV advertising; (iii) provide a template for similar developments internationally; and (iv) potentially act as a catalyst for more vertical M&A.

- A >$100bn revenue opportunity for targeted TV: We believe Open AP and similar targeted linear TV products open up a >$100bn revenue opportunity for TV networks, driven by share gains from "below-the-line" marketing spend. We argue this means US TV advertising revenues will accelerate from the 2% pa seen in 2014-16 to 5%-7% pa 2017-2030, not slow down as investors currently expect. We argue it will also act as a catalyst for vertical M&A given the value of combining (i) the ability to create video content with (ii) access to granular data on how, who, when and where it is being consumed, and (iii) the infrastructure and skills involved in bundling and selling advertising.

- **Global CMO survey**: Our work is based on a proprietary CMO survey of close to 100 advertisers with aggregate marketing spend of $21bn; and direct interviews with executives at ad agencies, advertisers, digital platforms and TV networks around the globe. We found (i) high and growing advertiser appetite to switch from traditional media (particularly print) into digital, (particularly social media and online video); (ii) very low current usage of targeted linear TV inventory; (iii) limited likely impact from the recent controversy about ad placement on YouTube; but (iv) widespread concern about digital ROI, ad fraud, viewability, and transparency. Concerns about digital suggest there could be a positive advertiser response to targeting innovations by the TV industry, in our view.

- **VIAB is our strongest call**: Our strongest stock call is VIAB, where we upgrade our TP to $55 (from $50), and highlight "Blue Sky" upside to $80. We also highlight CBS and FOXA have high exposure to US TV advertising, and we see "Blue Sky" valuation upside to $91-$108 and $41-$47 respectively. We also argue that the targeted TV advertising opportunity adds to the rationale for (i) FOXA to acquire CMCSA's 30% stake in Hulu, if it becomes available, subject to valuation and appropriate programming supply agreements; (ii) T's acquisition of TWX; and (ii) an acquisition of NFLX by a wide range of ad-funded TV or digital platforms.
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Summary of stock coverage

Figure 1: Credit Suisse stock coverage: Media & Entertainment, Cable & Satellite

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<th>Market Price</th>
<th>Target Price</th>
<th>Market Cap</th>
<th>Net Debt</th>
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<th>EV/Sales</th>
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<th>P/E</th>
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<tr>
<td>The Walt Disney Company O</td>
<td>$114</td>
<td>$125</td>
<td>$181,742</td>
<td>$16,754</td>
<td>$202,463</td>
<td>3.4x</td>
<td>3.2x</td>
<td>11.6x</td>
<td>10.8x</td>
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<td>Time Warner Inc. O</td>
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<td>$108</td>
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<td>$22,800</td>
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<td>3.3x</td>
<td>3.1x</td>
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<td>21st Century Fox O</td>
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<td>$37</td>
<td>$56,173</td>
<td>$15,383</td>
<td>$73,329</td>
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<td>Viacom O</td>
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<td>$11,857</td>
<td>$28,982</td>
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<td>CBS O</td>
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<td>$7,623</td>
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<td>Interpublic Group O</td>
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<td>Omnicom N</td>
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<td>$23,248</td>
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<td>Comcast O</td>
<td>$38</td>
<td>$41</td>
<td>$182,280</td>
<td>$57,745</td>
<td>$243,702</td>
<td>2.9x</td>
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<td>National CineMedia N</td>
<td>$12</td>
<td>$12</td>
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<td>IMAX Corp N</td>
<td>$31</td>
<td>$33</td>
<td>$2,117</td>
<td>($177)</td>
<td>$2,004</td>
<td>4.8x</td>
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<td>13.9x</td>
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<td>AMC Entertainment Holdings U</td>
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<td>30.3x</td>
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<td>Cinermark Holdings, Inc N</td>
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<td>$38</td>
<td>$5,316</td>
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<td>2.2x</td>
<td>2.1x</td>
<td>9.2x</td>
<td>8.7x</td>
<td>20.0x</td>
<td>18.5x</td>
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<td>Regal Entertainment Group U</td>
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<td>$2,094</td>
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<th>US Media, Cable &amp; Satellite</th>
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<td>20.2x</td>
<td>17.7x</td>
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Note: Prices as of 4/24/2017; IPG & OMC valuations are based on Average Net Debt of last 4 reported quarters; estimates are calendarized and adjusted for differing fiscal years.

Source: Thomson Reuters, Company data, Credit Suisse estimates

Figure 2: Media/Cable: EV/IC vs CFROI

Note: CFROI is calculated excluding goodwill and intangibles

Source: Credit Suisse HOLT, Company data, Credit Suisse estimates

Figure 3: Media/Cable: Economic Profit vs EV

Note: Economic Profit is calculated excluding goodwill and intangibles

Source: Credit Suisse HOLT, Company data, Credit Suisse estimates

Figure 4: US Media vs S&P 500 & global ad agencies

Source: Thomson Reuters, Credit Suisse estimates

Figure 5: US Media vs S&P 500 composite YTD

Source: Thomson Reuters, Credit Suisse estimates
Key charts

Figure 6: Innovation from digital platforms has shifted the *basis of competition* for advertising products – from simple reach to relevance and engagement.

![Diagram showing the evolution of advertising mediums and their primary basis of competition over time.](image)

- **Primary basis of competition:** Reach → Engagement → Relevance → Price
- **Time period:**
  - 1920-1950
  - 1950-2000
  - 2000-2030
  - Beyond 2030
- **Incumbent medium:**
  - Print
  - Radio, TV
  - TV, Digital
  - Digital, TV
- **Innovator medium:**
  - Radio
  - TV
  - Digital
  - Digital
- **Innovation barriers:**
  - Ability to deliver audio message
  - Ability to deliver audio/video message
  - Ability to deliver relevant message
  - Ability to deliver message at lowest price
- **Technology catalysts:**
  - Spectrum use for radio
  - 1) Spectrum use for TV
  - 2) Cable infrastructure
  - 1) Internet infrastructure
  - 2) Digital media platforms
  - 3) Video delivery over IP
  - 4) IoT
  - 1) Ubiquitous Internet infrastructure
  - 2) Ubiquitous digital platforms
  - 3) Ubiquitous video over IP
  - 4) Ubiquitous IoT

Source: Credit Suisse Research, adapted from *The Innovator's Dilemma* (Boston, Harvard Business Review Press, 1997)

Figure 7: Digital advertising is already in the "sweet spot" of *performance* for advertisers. Targeted linear advertising is moving TV in its direction.

![Diagram illustrating the evolution of advertising mediums and their reach and relevance.](image)

- **Reach:**
  - Broad reach, narrow targeting
  - Highly targeted, broad reach
- **Relevance:**
  - Narrow reach, narrow targeting
  - Highly targeted, narrow reach

Note: Digital advertising includes display, online video, search, social on both desktop and mobile platforms. Size of bubbles denotes estimated time spent by medium.

Source: eMarketer, Credit Suisse Research
Figure 8: Open AP allows advertisers to define audiences for ad buys across Fox, Turner and Viacom networks, representing c40% of US TV viewing

Source: Credit Suisse Research

Figure 9: By allowing advertisers to target messages on narrower groups, targeted linear platforms can materially reduce ad loads

Note: Illustrative example. GRP = gross ratings point. 1 GRP = 1% of TV households watching at the time of broadcast
Source: Credit Suisse Research, Nielsen
Figure 10: By 2030, we see US marketing spend split between "brand building" and "call to action" campaigns, with just under 60% spent on digital platforms and 35% on TV, vs 32% and 36% in 2016

Source: Credit Suisse Research

Figure 11: US marketing mix 2016

Figure 12: US marketing mix 2030

Note: BB = "Brand Building" marketing; CTA = "Call to Action" marketing
Source: ZenithOptimedia, Credit Suisse Research
Looking at the marketing dollars your firm spent on social media campaigns (e.g. on Facebook, Instagram, Twitter, Snapchat, etc.) over the last 2 years, do you believe the ROI (return on investment) was higher or lower than the ROI on traditional media campaigns (e.g. on TV, radio, outdoor, newspapers, etc.)?

Source: Credit Suisse proprietary survey

"Looking at your DIGITAL ADVERTISING BUDGET across all your territories today, please stipulate your level of concern (if any) about the following issues?"

Source: Credit Suisse proprietary survey

"ROI on social media vs ROI on traditional media"
Figure 19: Feedback from our CMO survey suggests global advertising budgets will grow by an aggregate 3.7% in 2017

Question: "Looking at your TOTAL ADVERTISING BUDGET in 2017 vs 2016 in your LARGEST TERRITORIES, by approximately how much do you expect it to grow / decline?" Source: Credit Suisse proprietary survey

Figure 20: YouTube ad placement issues – only 8% of respondents say they plan to reduce spend, 31% say they expect the platform to expand safeguards

Question: "It has recently been widely publicized that some advertising on YouTube has been displayed adjacent to extremist or offensive content. If you advertise on YouTube, how will this impact your future spending on the platform? SELECT AS MANY AS APPLICABLE" Source: Credit Suisse proprietary survey

Figure 21: The overwhelming majority of our US respondents intend to increase spend on digital...

Question: "Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?" Source: Credit Suisse proprietary surveys

Figure 22: …and reduce spend on traditional media, particularly print

Question: "Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?" Source: Credit Suisse proprietary surveys

Figure 23: 5% pa domestic ad growth lifts "Blue Sky" valuations for VIAB, CBS & FOXA by 36%-61%

Note: Analysis calculates future stock price using assumed P/E multiple and 2030 EPS forecast, then discounts back to PV at 8% discount rate. 2030 EPS forecasts are based on CS 2017 estimates for domestic advertising and 5% domestic advertising growth from 2018-30, with all other revenues growing at CS 2017-20E segment CAGRs. Analysis assumes 1% annual share buyback after 2020, 10bps baseline net margin expansion, and a net margin on domestic advertising growth of 33%. Prices as of 04/24/17. Source: Company data, Credit Suisse estimates

Figure 24: …and by 54%-88% if we assume 7% pa domestic ad growth

Note: Analysis calculates future stock price using assumed P/E multiple and 2030 EPS forecast, then discounts back to PV at 8% discount rate. 2030 EPS forecasts are based on CS 2017 estimates for domestic advertising and 5% domestic advertising growth from 2018-30, with all other revenues growing at CS 2017-20E segment CAGRs. Analysis assumes 1% annual share buyback after 2020, 10bps baseline net margin expansion, and a net margin on domestic advertising growth of 33%. Prices as of 04/24/17. Source: Company data, Credit Suisse estimates
Executive Summary

- Over $500bn is spent annually on global advertising, and at least twice that figure on "below-the-line" marketing. And yet there is remarkably little investor consensus on how this will be allocated between the myriad of existing and emerging platforms in the long term. In this report, we lay out our vision for how secular trends in consumption, and technological change, will shape the marketing mix between now and 2030.

- To inform our thinking, we conducted a proprietary CMO survey of close to 100 global advertisers with aggregate marketing spend of $21bn, and directly interviewed market participants at ad agencies, advertisers, digital platforms and TV networks. Our report is necessarily weighted to developments in the US market, where we believe important innovations are under way, but includes work from CS analysts covering media owners and agencies across the globe.

Our conclusions

- Advertising is in the third phase of its development in the post-1922 era, in which the relevance of the advertising message is the primary basis of competition between platforms, replacing reach. Digital platforms are intrinsically better able to deliver relevant advertising and, as they grow in size, are on a near-inexorable path to take share from all parts of marketing budgets.

- It also clear that the performance of digital advertising continues to improve at a rapid pace. We highlight two secular trends which will drive further improvements in performance over the next 10-15 years, namely (i) the expansion of the "Internet of Things" (wearables, connected homes, connected cars, smart appliances, smart bottles, connected clothing), which will allow advertisers to refine target audiences and deliver messages to consumers in new ways; and (ii) advancements in machine learning, which will allow platforms, advertisers and agencies to analyze the explosion of data from both current sources and from IoT, with the aim of further improving the relevance of advertising messages.

- The feedback from our CMO survey supports the view that digital advertising will continue to capture share of marketing expenditure. Overwhelming net balances of our respondents told us they expect to shift advertising spend to digital platforms over the next 5 years, with social media and online video the biggest beneficiaries; and told us they expect to move spend away from traditional platforms, with print and TV the most notable sources of funds. [See Section 2]

- Our survey does highlight some potential "yellow flags" for digital advertising, with respondents citing elevated concern about (i) viewability of online video ads; (ii) ad fraud; (iii) the use of ad blocking software; and (iv) the lack of transparency in the media supply chain. Moreover, despite planning to spend more on digital platforms, advertisers also have surprisingly mixed views on how effective digital marketing spend actually is: only half of our respondents told us they believe their social media and online video campaigns over the last two years have delivered higher ROI's than traditional media campaigns. We argue the combination of these factors, if not addressed by digital platforms, represents a meaningful risk to growth in digital advertising spending in the coming years. [See Section 2]

- Heightened concern about digital advertising comes at a time when the performance of TV advertising is on the cusp of materially improving. For example, 21st Century Fox, Turner and Viacom recently announced the launch of a new advertising platform, called Open AP, which allows advertisers to use their own (first party) data, and data from third parties, to define narrow target audiences for ad buys across the networks of all three partners. The target audiences could be "heavy detergent users" or "truck
owners whose lease is about to expire” rather than Nielsen definitions, which might be “men aged 18-34” or “women aged 55+”. The platform will be managed by Accenture, with campaign results validated and reported back to the agency/advertising client. Each of the partner networks will use Open AP alongside proprietary inventory optimisation systems (AIM for Fox, Ignite for Turner and Vantage for Viacom) to significantly improve the efficiency of their linear inventory. Our understanding is over the long term the partners could use Open AP and their inventory optimisation tools to reduce ad loads from an average 15 minutes per hour to as low as 2-5 minutes per hour – this highlights the scope for targeted linear TV advertising to win share of marketing spend, but also to substantially improve the user experience and potentially also win back share of viewing from non-ad funded SVOD platforms like Netflix and Amazon. [See Section 1.5]

- Beyond targeted linear with Open AP, and a similar product from Comcast, the US TV industry is also improving its ability to deliver fully addressable advertising on IP-delivered “virtual” MVPDs. DISH's Sling has led the way since early 2015, but we expect DirecTV NOW, Hulu's live streaming service and YouTube TV to significantly expand the volume of video advertising inventory which combines the engagement of video with the targeting of digital. This will eventually add another tailwind to the US TV industry's market share over time, in our view.

- So we argue that emerging technological advances by the TV industry put it in a strong position to compete for share of marketing spend. In that context, we lay out our vision for US advertising in 2030, which crystallizes our views of how competition between advertising platforms will play out between now and the end of the next decade. The key elements of our view are:
  - We assume marketing spend will grow 3.5% pa 2017-2030, broadly in line with the 3.2% pa growth in 1995-2016.
  - We assume marketing spend will be split into two broad buckets: (i) investment in "brand building", which seeks to create an affinity between the brand and consumers; and (ii) investment in "calls to action", which seeks to convert affinity into a sale. We assume the mix between the two types of marketing spending will be the same as it is today, i.e. 35% in brand building and 65% in calls to action.
  - We believe the current distinction between "media" spend (TV, digital, print, radio, outdoor and cinema) and "below-the-line" marketing spend (price promotions, PR, sponsorship, direct mail and telephone marketing) will blur. We believe proliferation of IoT devices and the development of machine learning will enable media platforms – both digital and targeted TV – to take share from below-the-line spending. We highlight that of the $414bn spent on marketing in the US in 2016, 54% ($223bn) was spent on below-the-line items with the balance ($191bn) spent on media.
  - We expect only modest changes to brand building expenditure, but much bigger changes in "call to action" spending. We estimate 44% of US marketing expenditure in 2016 was in this category, including price promotions, direct mail and telephone marketing. We expect the proportion spent on price promotions will remain unchanged in 2030 (at 19%), but that spending on direct mail and telephone marketing will migrate to digital platforms and targeted TV. We argue that advertisers will be able to use machine learning of data generated from connected devices to analyze consumers’ habits, preferences, location and purchase patterns, to learn which advertising messages might work best and to deliver them on digital and targeted TV platforms wherever consumers may be. For this reason, we think digital and targeted TV platforms will become substitutes for direct mail and telephone marketing, and expect virtually all of today's investment in these two items ($106bn) to migrate to digital and targeted TV by 2030.
In other words, we see a >$100bn opportunity for digital and targeted TV platforms to capture marketing budget share by the end of the next decade. Overall, we believe advertisers will deploy their "call to action" spending to either (i) highlight where or how to purchase a product via a connected device – which could be a connected car, a connected screen, a wearable, a connected home appliance or connected clothing; or to (ii) offer a price discount. We argue that call to action spending on print, radio, outdoor and cinema will be virtually entirely squeezed out.

We therefore see marketing expenditure on digital platforms continuing to grow strongly, but argue that TV advertising growth can accelerate, given its future ability to gain share of call to action spending. We believe digital can grow 11%-13% pa 2017-2030; and TV can grow 5%-7% pa over the same period. For us, this is a critical investment conclusion of our analysis – that TV advertising's trend growth rate can improve from recent experience (2% pa over the last three years) and significantly exceed industry forecasts for the near future (around -1% pa 2017-2019 according to ZenithOptimedia and Magna Global).

Advertising is an inherently local business, so we expect the experience in markets around the world to differ widely. However, we believe digital platforms will dominate "call to action" marketing spend globally, so for us the key issue for investors in TV networks outside the US will be the pace of innovation in data-driven TV buying platforms – regions which develop Open AP-equivalents will be well positioned to capture below-the-line marketing spend and accelerate their trend growth rates, while regions which don’t innovate risk having the "call to action" component of their current advertising revenue cannibalised over time, in our view. [See Section 1.8]

We see limited impact on trend growth rates and margins for the global advertising agency holding companies from the significant shifts in media mix over the next 10-15 years. We note agencies have faced well over 100 years of change in how their clients invest marketing dollars, and yet have delivered remarkably stable top line growth, margins and cash returns on investment. This reflects their media-agnostic advisory role with clients which, in an increasingly complex platform landscape, is unlikely to change. It is clear there are important questions to be answered about the transparency of the digital media buying value chain, but ultimately we expect ad agencies to remain "the cockroaches of advertising" (to quote the esteemed Rishad Tobaccowala, Strategy and Growth Officer at Publicis). [See Section 3.4]

In Europe, our analysts Matthew Walker (+44 20 7888 2622) and Sophie Bell (+44 20 7883 1488) expect little slowdown in digital advertising, despite concerns around ad blocking, transparency, ad fraud and viewability. This is because (i) our CMO survey suggests most marketers still believe ROI is higher on digital in Europe vs traditional media; (ii) audiences continue to increase on digital media and decline on linear TV and other traditional media; (iii) agencies still push their clients towards digital (which happens to have higher margins); (iv) digital advertising may improve after the push from P&G for the industry to address advertiser concerns. [See Section 3 & Section 4]
Stock calls

Four investment implications flow from our analysis:

- First, digital platforms will continue to grow strongly, and we forecast their share of advertising spend will expand to close to 60% by 2030. The structural advantage of being able to deliver relevant messages at scale will remain at the core of their share gains, in our view, and investment in connected device platforms and machine learning capabilities will help them build on this advantage. This is constructive for our positive views on Google (OP, TP $1,100) and Facebook (OP, TP $175).

- Second, while a positive structural view on digital platforms is hardly anti-consensual, we believe our view on TV networks is. We believe the development of Open AP, and other targeted linear TV advertising platforms, will mean trend growth for US TV advertising will accelerate to 5%-7% pa 2017-2030 from 2% in 2014-2016, not slow down as many investors currently expect. This suggests US Media companies with the highest exposure to domestic TV advertising have substantial “Blue Sky” valuation upside. As we highlight in Figure 25 to Figure 27, using 5%-7% pa growth rates for domestic advertising would take “Blue Sky” valuations of Viacom to $69-$80; of CBS to $91-$108; and of FOXA to $41-$47. In a separate report, we raise our Viacom TP to $55 (from $50), and reiterate our OP rating.

- Third, we argue that vertically integrated networks/distributors will be in a stronger position to capture a disproportionate share of the >$100bn revenue opportunity we have identified for targeted TV advertising. This is because their ability to refine audience targeting will be enhanced by ownership of data across wireline, wireless and WiFi networks, which will provide individual addresses, locations and data usage, and eventually data on usage of connected appliances, wearables, connected home control services and connected cars. We argue Comcast (OP, TP $41) is likely to be in the strongest position to benefit from this, given it has had several years to develop ways for NCBU and Comcast Cable to work together in this area. We would also argue that the targeted advertising opportunity is also a largely overlooked benefit of the AT&T (NR)/Time Warner (OP, TP $107.5) transaction, which we expect could deliver substantial long term benefits.

- Finally, if a >$100bn revenue opportunity exists in targeted advertising long term, we see this as a catalyst for M&A to create vertically integrated networks/distributors. In simple terms, combining (i) the ability to create video content with (ii) access to granular data on how, who, when and where it is being consumed, and (iii) the infrastructure and skills involved in bundling and selling advertising, will all become increasingly valuable in the coming decade. We would therefore regard positively any possible future decision by 21st Century Fox or Disney to buy out Comcast’s 30% stake in Hulu, should the latter choose to sell when the terms of the DoJ Consent Decree in relation to the NBCU transaction expire. We also note recent public comments by Verizon’s CEO (see here) about the merits of acquiring a media company, including Disney (OP, TP $125) or CBS (OP, TP $75) – in the light of our analysis, while we see neither as likely, we would argue that the targeted advertising opportunity would add to the industrial logic of those transactions. Finally, we would highlight that the treasure trove of data being collected by Netflix (N, TP $149) on video consumption would be hugely valuable for any advertising-funded media owner, whether traditional or digital, and should also play a part in any M&A analysis relating to that company.
Figure 25: Large cap US Media exposure to domestic advertising and "Blue Sky" valuation upside if domestic advertising 2018-2030 accelerates to 7%

<table>
<thead>
<tr>
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<td>2%</td>
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<td>15.0x</td>
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<td>5%</td>
<td>1%</td>
<td>2%</td>
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<td>1%</td>
<td>2%</td>
<td>7%</td>
<td>$19.64</td>
<td>17.0x</td>
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</table>

Note: Analysis calculates future stock price using assumed P/E multiple and 2030 EPS forecast, then discounts back to PV at 8% discount rate. 2030 EPS forecasts are based on CS 2017 estimates for domestic advertising and 5% domestic advertising growth from 2018-30, with all other revenues growing at CS 2017-20E segment CAGRs. Analysis assumes 1% annual share buyback after 2020, 10bps baseline net margin expansion, and a net margin on domestic advertising growth of 33%. Prices as of 04/24/17.

Source: Company data, Magna Global, Credit Suisse estimates

Figure 26: Blue Sky valuation upside for large cap US Media if domestic advertising 2018-2030 = 5%

Note: Analysis calculates future stock price using assumed P/E multiple and 2030 EPS forecast, discounted back. 2030 EPS forecasts are based on CS 2017 estimates for domestic advertising and 5% domestic advertising growth from 2018-30, with all other revenues growing at CS 2017-20E segment CAGRs. Analysis assumes 1% annual share buyback after 2020, 10bps baseline net margin expansion, and a net margin on domestic advertising growth of 33%. Prices as of 04/24/17.

Source: Company data, Credit Suisse estimates

Figure 27: Blue Sky valuation upside for large cap US Media if domestic advertising 2018-2030 = 7%

Note: Analysis calculates future stock price using assumed P/E multiple and 2030 EPS forecast, discounted back. 2030 EPS forecasts are based on CS 2017 estimates for domestic advertising and 7% domestic advertising growth from 2018-30, with all other revenues growing at CS 2017-20E segment CAGRs. Analysis assumes 1% annual share buyback after 2020, 10bps baseline net margin expansion, and a net margin on domestic advertising growth of 33%. Prices as of 04/24/17.

Source: Company data, Credit Suisse estimates
1. US advertising

1.1 The life cycle of advertising

The dominant share of advertising growth currently enjoyed by digital platforms mirrors the growth phases of previous “disruptive” media – radio and television. The first radio ad aired in the US in 1922 – its unique offering to advertisers (audio) drove its share of advertising spend from zero to 20% over the next c.20 years, as we show in Figure 29. The advent of television advertising then provided advertisers with the ability to deliver messages to consumers with video and audio, offering superior utility versus competing media which, as we show in Figure 30, drove TV’s share of advertising spend from zero to 25% in c.35 years (1949-1984). Finally, digital platforms provided advertisers with the ability to deliver messages to targeted groups of consumers in a way that traditional media could not, which has driven its share of advertising spend from zero to 20% in c.20 years (1995-2016), as we show in Figure 31.

These changes in media mix illustrate what the buyers of advertising products (i.e. advertisers) value at any given time – in other words they map out the “life cycle” of advertising. In various phases, the industry has seen disruptive mediums emerge which offer a unique way for advertisers to either reach consumers or to communicate their messages. During TV advertising’s growth phase (1949-1984), it grew by 14% pa and took around half of all the growth in the industry overall – this was because advertisers valued consumers’ engagement with advertising messages which used both audio and video. During this period, the largest medium (print) still grew, albeit at slower rates than in the past.

Interestingly, as we show in Figure 36 and Figure 37, during the current growth phase of digital advertising (1995-2016), growth in absolute dollar revenues for the “disruptive” medium is nearly double the dollar growth in the whole market – in other words, digital advertising is both cannibalising existing products but also bringing in new investment to the media mix. This is an important issue, which we address this issue in more detail in Section 1.3.

Figure 28: US print advertising since 1935: share has been declining throughout…

Figure 29: US radio advertising since 1935: a growth medium 1935-1944, until challenged by TV…

Note: Shows medium’s share as % of total advertising spend, i.e. excluding various below-the-line categories including direct mail, telemarketing, PR, event sponsorship and directories. Source: US Census Bureau, Zenith Optimedia, Thomson Reuters, Credit Suisse Research
Figure 30: US TV advertising since 1935: a growth medium 1949-1984, broadly stable since 1984.

Note: Shows medium's share as % of total advertising spend, i.e. excluding various below-the-line categories including direct mail, telemarketing, PR, event sponsorship and directories.
Source: US Census Bureau, Zenith Optimedia, Thomson Reuters, Credit Suisse Research.

Figure 31: US Internet advertising: the fastest growth for any medium for 100 years.

Note: Shows medium's share as % of total advertising spend, i.e. excluding various below-the-line categories including direct mail, telemarketing, PR, event sponsorship and directories.
Source: US Census Bureau, Zenith Optimedia, Thomson Reuters, Credit Suisse Research.

Figure 32: 1935-1949: print was the major growth medium, but Radio was the emerging medium expanding the advertising pie.

Source: US Census Bureau, Zenith Optimedia, Thomson Reuters, Credit Suisse Research.

Figure 33: …and generating ~8% CAGR in revenues over that period.

Source: US Census Bureau, Zenith Optimedia, Thomson Reuters, Credit Suisse Research.

Figure 34: 1949-1984: TV was the growth medium, taking around half overall growth in advertising...

Source: US Census Bureau, Zenith Optimedia, Thomson Reuters, Credit Suisse Research.

Figure 35: …and delivering a 14% CAGR in revenues over that period.

Source: US Census Bureau, Zenith Optimedia, Thomson Reuters, Credit Suisse Research.
1.2 The future of advertising: the age of relevance

The purpose of advertising is to create desire for a product or service, and thereby to generate either an immediate sale, or brand value for a sale in the future. For this reason, most advertisers split their marketing spend into two broad functional categories, which we term "brand building" and "call to action". The first builds awareness of a product's features, qualities and values, and seeks to create a connection or affinity between the product and the consumer; while the second attempts to convert product affinity into a reason to purchase, by highlighting its price or value proposition, or by providing information about how or where to buy it.

By way of context, we show in Figure 39 the 2016 split of marketing spend in the US. We would argue that just over 50% of the $190bn spent on media was for "brand building", and just over 80% the $220bn spent on marketing services was for "calls to action".

Figure 38: The purpose of advertising is to create desire for a product or service, and to generate either a sale now or brand value for a sale in future
Figure 39: In the US, $190bn is spent on media – just over half which is for "brand building" – and $230bn is spent on marketing services – over 80% of which is for "calls to action".

To analyse how advertising may evolve in future, we use our own interpretation of the widely-read work done on industry disruption by Professor Clayton Christensen in *The Innovator's Dilemma* (Boston: Harvard Business Review Press, 1997). We believe the framework offers useful insights into a broad range of media businesses, including advertising, which we would summarise as follows:

- As we show in Figure 40, the *basis of competition* for advertising products has changed over time. Suppliers (i.e. media owners) have evolved from competing on the basis of just reach (1920-1950), when platforms simply offering access to the greatest number of consumers won share; to *engagement* (1950-2000), when access to consumers had become ubiquitous and communicating with an engaging message with audio and video became the primary driver of share gains. Since 2000, we have been in a period when *relevance* is the primary basis of competition, i.e. that targeting consumers with a tailored/targeted message is the primary differentiator between platforms.

- This is because as consumers become increasingly connected to IP networks, via consumption of connected media (TV, social networks) and via the devices we use (wearables, cars, appliances), "reach" – in the traditional sense of having access to consumers – is becoming ubiquitous. We argue this means we are in a period when *relevance* is the primary basis of competition, i.e. that targeting consumers with a tailored/targeted message is the primary differentiator between platforms.

- As we show in Figure 42, digital advertising – including search, social, online video and display – is rapidly improving its *performance* for advertisers. With relevance its natural strength from inception, it has steadily added reach so that today it has a formidable combination of both. Moreover, digital advertising's reach and relevance continue to improve, so if left unchecked, the medium in aggregate could at some point in the future surpass the overall performance of TV. Obviously digital's share of adspend is already ahead of TV's in some markets globally, but we highlight in Figure 42 the possibility that it could become a credible *substitute* for TV at some point if TV does not itself move to the right in our chart, i.e. improve the relevance (or targeting) of its messages.
In that context, we argue the advances being made in the US TV industry to introduce much closer targeting of video advertising are incredibly important for the future development of advertising in the US. This is because, if successful, targeted video advertising could shift TV advertising to the right in our reach/relevance matrix in Figure 41 – which would position it to win market share; and if unsuccessful, could leave TV advertising vulnerable to losing share to digital.

In particular we highlight the new Open AP platform, recently launched by partners 21st Century Fox, Turner and Viacom, which will offer advertisers the opportunity to buy targeted demographics (for example "heavy detergent users") as opposed to broad gender/age categories (for example "men aged 18-34"). We cover Open AP in more detail in Section 1.5, but it is clear that the platform could substantially improve the "performance" (using the Christensen definition) of TV advertising and move the medium into the upper right corner of our reach/relevance matrix.

**Figure 40: Innovation from digital platforms has shifted the basis of competition for advertising products – from simple reach to relevance and engagement**

Source: Credit Suisse Research, adapted from *The Innovator's Dilemma* (Boston, Harvard Business Review Press, 1997)
Figure 41: Digital advertising is already in the "sweet spot" of performance for advertisers. Linear TV has reach and limited targeting, but is innovating.

Note: Digital advertising includes display, online video, search, social on both desktop and mobile platforms. Size of bubbles denotes estimated time spent by medium.
Source: eMarketer, Credit Suisse Research

Figure 42: Digital advertising started by satisfying the performance required at the low end of the market, but its rapid improvement could see it overtake TV

Note: "Performance" measures what advertisers demand from advertising products, i.e. a mix of reach, relevance, engagement and value for money, which may vary by advertiser and evolve over time. Digital advertising includes display, online video, search, and social.
Source: Credit Suisse Research, adapted from The Innovator's Dilemma, Clayton Christensen (Boston: Harvard Business Review Press, 1997)
1.3 The pattern of digital advertising growth

The two largest digital platforms, Facebook and Google, are dominating the growth of advertising spending globally. As we show in Figure 43, growth in advertising revenues on the two platforms combined in 2016 constituted more than 100% of the growth in all advertising on every medium in the world, and now represent 20% of total global advertising spend. As we show in Figure 45, this implies that all non-digital advertising globally has declined for two years in a row.

We argue the driver of this dominance is Facebook and Google's ability to deliver relevant advertising to their users at scale. Both deliver relevance with user data on habits, preferences, location or search terms, and as we show in Figure 47 and Figure 48, both reach and time spent are very high for both platforms, which provides advertisers with the scale they desire.

Feedback from our proprietary survey of advertisers (CMOs and marketing directors at close to global advertisers with aggregate advertising spending of $21bn) suggests the directional shift in advertising to social and online search is set to continue. As we show in Figure 49 and Figure 50, large "net balances" of respondents indicated they plan to increase investment over the next five years, with the net balance calculated by deducting the percentage of respondents planning to reduce spending from the percentage planning to increase it. The full results of our CMO survey are shown in Section 2.

Figure 43: FB & GOOGL share of global ad growth has risen from 24% in 2010 to >100% in 2016...

Source: Company data, Zenith Optimedia, Credit Suisse estimates

Figure 44: ...and total ad revenues from both platforms now represents 20% of global advertising

Source: Company data, Zenith Optimedia, Credit Suisse estimates

Figure 45: Non-digital advertising growth has been slowing since 2011 and was negative for 2015/16

Source: Company data, Zenith Optimedia, Credit Suisse estimates

Figure 46: Aggregate digital advertising growth in 2016 ex-Facebook and Google was just 5%

Source: Company data, Zenith Optimedia, Credit Suisse estimates
1.4 Six challenges for digital advertising

Although advertising expenditure on digital platforms continues to dominate industry growth, it is also clear there is meaningful advertiser concern about a range of issues, which we would summarise as follows:

- **Viewability**: comScore estimates that 40% of video ads on digital platforms are not viewable by the user, and often have the sound switched off.

- **Ad fraud**: comScore estimates that 6% of online video impressions were generated by invalid, or fraudulent, traffic.

- **Ad blocking**: the growing use of ad blocking software suggests consumers are dissatisfied with the user experience of digital ads.

- **YouTube ad placement**: advertisers are unable to fully control where their messages appear on YouTube, which has become problematic in recent months as some ads have appeared next to violent, extremist videos.

- **Transparency**: There is substantial value leakage in the digital media supply chain, with WARC estimating that up to 60% of all digital media spend is "lost" to ad tech platforms and ad exchanges.
Digital ROI: Many advertisers remain unsure that their marketing investment in digital platforms is generating better returns than traditional media – as we show in Figure 54, 49% of our survey respondents told us they thought the ROI on their social media and online video campaigns over the last two years was the same or lower than that of traditional media campaigns over the same period.

We believe these issues, in aggregate, pose a meaningful risk to future growth in digital advertising – if share gains are being driven by the structurally higher and multi-faceted utility of the medium to advertisers, it would be logical to expect digital platforms to lose share if some elements of this utility declines. Our feedback from advertisers suggests the vast majority expect to continue shifting investment into digital platforms, and is fairly dismissive that YouTube’s recent ad placement issues will have any lasting effect, but we argue that viewability, ad fraud, transparency in the media supply chain and ROI are not trivial issues, and are clear "yellow flags" which we highlight could slow down digital advertising growth if not addressed by digital platforms.

**Figure 51: Ad blocking software users in the US reached 65m in 2016**

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<thead>
<tr>
<th>Year</th>
<th>Users (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>4.5</td>
</tr>
<tr>
<td>2011</td>
<td>6.9</td>
</tr>
<tr>
<td>2012</td>
<td>11.9</td>
</tr>
<tr>
<td>2013</td>
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<td>2016</td>
<td>79.1</td>
</tr>
<tr>
<td>2017</td>
<td>83.5</td>
</tr>
</tbody>
</table>

Source: eMarketer

**Figure 52: …and represented 24% of US internet users in 2016**

<table>
<thead>
<tr>
<th>Year</th>
<th>% of Users</th>
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<tbody>
<tr>
<td>2010</td>
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</tr>
<tr>
<td>2011</td>
<td>3.0%</td>
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</tr>
<tr>
<td>2018</td>
<td>30.1%</td>
</tr>
</tbody>
</table>

Source: eMarketer

**Figure 53: Our surveys over the last year have found meaningful levels of concern about viewability, ad blocking and ad fraud**

Question: "Looking at your DIGITAL ADVERTISING BUDGET across all your territories today, please stipulate your level of concern (if any) about the following issues?"

Viewability standards of display / video ads
- May-16: 36%
- Dec-16: 15%
- Mar-17: 48%

Rising use of ad blocking software
- May-16: 19%
- Dec-16: 22%
- Mar-17: 24%

Ad fraud
- May-16: 31%
- Dec-16: 28%
- Mar-17: 37%

Source: Credit Suisse proprietary surveys

**Figure 45: Only 51% of our respondents said they thought the ROI of social media campaigns was higher than traditional media campaigns**

Question: "Looking at the marketing dollars your firm spent on social media campaigns (e.g. on Facebook, Instagram, Twitter, Snapchat, etc.) over the last 2 years, do you believe the ROI (return on investment) was higher or lower than the ROI on traditional media campaigns (e.g. on TV, radio, outdoor, newspapers, etc.)?"

<table>
<thead>
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<th>Year</th>
<th>ROI higher</th>
<th>ROI the same</th>
<th>ROI lower</th>
</tr>
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<tbody>
<tr>
<td>May-16</td>
<td>36%</td>
<td>26%</td>
<td>48%</td>
</tr>
<tr>
<td>Dec-16</td>
<td>15%</td>
<td>20%</td>
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<tr>
<td>Mar-17</td>
<td>24%</td>
<td>24%</td>
<td>51%</td>
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</table>

Source: Credit Suisse proprietary surveys
Figure 55: Percent of viewable desktop ad impressions in US Q4 2016

Source: comScore

Figure 56: US desktop invalid traffic: display vs video norms, Q4 2016

Source: comScore

Figure 57: The digital media value chain absorbs up to $60 of every $100 spent on advertising

Source: WARC, Credit Suisse Research
1.5 The emergence of targeted linear TV advertising

Against the background of heightened advertiser concern about some aspects of digital advertising, it is notable that over the last 3 years US TV networks have been building their ability to improve the (Christensen) relevance of their advertising products. We regard this as a necessary step, given our analysis that if networks stand still, and do not improve their offering to advertising customers with greater targeting to complement their reach, they risk allowing digital advertising to eventually become a substitute product. The right strategic course of action, in our view, is to push hard to introduce targeting to their proposition and in this context we are encouraged to see significant steps being made by four of the largest network groups: 21st Century Fox, Turner, Viacom and Comcast.

On 7 April, 21st Century Fox, Turner and Viacom launched Open AP, an advertising platform which allows advertisers to use their own (first party) data, and data from third parties, to define narrow target audiences for ad buys across the networks of all three partners. The target audiences could be "heavy detergent users" or "truck owners whose lease is about to expire" rather than Nielsen definitions which might be "men aged 18-34" or "women aged 55+". The platform will be managed by Accenture, with campaign results validated and reported back to the agency/advertising client.

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Question: "It has recently been widely publicized that some advertising on YouTube has been displayed adjacent to extremist or offensive content. If you advertise on YouTube, how will this impact your future spending on the platform? SELECT AS MANY AS APPLICABLE" Source: Credit Suisse proprietary survey

Figure 58: YouTube ad placement issues – 31% of respondents say they expect the platform to expand safeguards; only 8% say they plan to reduce spend

Figure 59: YouTube ad placement issues: for the 8% of respondents who say they plan to reduce spend, only 13% say they will divert to TV

Figure 60: The vast majority of respondents in our latest survey (73%-82%) highlighted concerns about viewability, ad fraud, ad blocking, and transparency

Figure 61: …and expect responses including adoption of MRC viewability standards and greater auditing rights from agencies

Question: "Looking at your DIGITAL ADVERTISING BUDGET across all your territories today, please stipulate your level of concern (if any) about the following issues?" Source: Credit Suisse proprietary survey

Question: "Your answer to the previous question indicated you plan to reduce future spending on YouTube in response to the news that some advertising has been displayed adjacent to extremist or offensive content. Where will that investment go?" Source: Credit Suisse proprietary survey

Question: "You expressed concern about some or all of the issues mentioned in the previous question. What action do you plan to take to address your concerns?" Source: Credit Suisse proprietary survey
Figure 62: Open AP allows advertisers to define audiences for ad buys across Fox, Turner and Viacom networks

Advertiser

Account

Media-agency

Open AP

Define targeted audience e.g. “heavy detergent users” or “people whose auto lease is about to expire”

First/Third party data from client

Fox, Turner, Viacom

Linear inventory optimisation platform e.g. AIM, Ignite, Vantage

Third party data from network

Match targeted audience definition with viewing data samples from MVPDs & third party sources

Live linear feed

DVR

Dynamic ad insertion platform

Serve tailored advertising to targeted audience based on actual viewing data for individual households

Cable

DRS

Telco

Over the Air

IP feed

Source: Credit Suisse Research

Figure 63: By allowing advertisers to target messages on narrower groups, targeted linear platforms can materially reduce network ad loads

Truck manufacturer

Campaign Plan

(Vehicle Launch)

All potential truck buyers

Man aged 34-55

Current truck owners with lease about to expire

Traditional Linear

Buy 200 GRPs – Men aged 34-55

Targeted Linear

Buy 40 GRPs – Current truck owners with lease about to expire

80 GRPs

30 GRPs

10 GRPs

80 GRPs

10 GRPs

10 GRPs

10 GRPs

10 GRPs

10 GRPs

10 GRPs

Note: Illustrative example. GRP = gross ratings point. 1 GRP = 1% of TV households watching at the time of broadcast

Source: Credit Suisse Research, Nielsen
Importantly, each of the partner networks will use Open AP alongside proprietary inventory optimisation systems (AIM for Fox, Ignite for Turner and Vantage for Viacom) to significantly improve the efficiency of their linear inventory. Our understanding is the partners hope to use Open AP and their inventory optimisation tools to reduce ad loads from an average 15 minutes per hour to as low as 2-5 minutes per hour. To be clear, the partners hope to generate the same dollar revenue from networks with 2-5 minutes per hour using Open AP as they do from networks with 15 minutes per hour without Open AP, i.e. a 3x-7.5x improvement in efficiency.

We outline how this works in practice in Figure 63. In this illustrative example, a truck manufacturer might calculate that, in order to achieve a sales goal for a new vehicle launch, 200 male 34-55 GRPs (gross ratings points) need to be purchased on four shows. By contrast, if the same sales goal can be achieved by targeting a much smaller sub-set of potential truck buyers – e.g. current truck owners whose lease will expire in the next 12 months – the same advertiser might only need to purchase 40 GRPs on the same shows. By reducing the wastage inherent in reaching a much broader audience than needed to achieve the advertisers' goal, in this example the network only sells 10% of its available inventory rather than 50% sold in the traditional linear model.

Like the Open AP partners, Comcast has also built its own suite of targeted advertising products over the last three years, which we summarise in Figure 64 below. Comcast's ability to use its own set top box data for both optimising linear inventory on its Audience Targeting Platform, and for dynamically inserting ads, is the most important difference between its products and Open AP's.

Based on our conversations with agencies, advertisers and the Open AP partners, we believe the platform is a model for the industry's future direction. If it (or an equivalent platform) delivers a 3x-7.5x step-up in efficiency, this has profound implications for the future of advertising, which we would summarise as follows:

- By allowing advertisers to target advertising messages on narrower demographic groups, Open AP and Comcast's products add relevance to the already considerable reach of TV advertising. We regard these developments as mirroring advancements being made by digital platforms, which are adding reach to their intrinsically more relevant ad products. In our reach/relevance matrix shown in Figure 41 above, Open AP and Comcast's ATP and NBCU+ are moving the US TV industry into the "sweet spot" of ad product positioning.

- Better targeting suggests that TV should be able to capture a greater share of advertising spending over time. Specifically, we argue that as products from the Open AP partners and from Comcast allow advertisers to deliver targeted messages using linear TV, it will enhance the medium's ability to take share from "call to action" segments of advertisers' marketing budgets. As we highlighted in Figure 39 above, >$100bn is spent in the US alone on direct mail and telephone marketing, from which data-driven/targeted TV would in future be in a good position to take share directly. In simple terms, we believe making linear TV more targeted should accelerate its trend growth rate by enabling it to take share from parts of advertisers' budgets which are currently out of its reach. We further elaborate on this point in Section 1.8 below, where we lay out our long term forecasts for US advertising and marketing spend.

- We would also argue that more efficient use of linear inventory will enable networks to improve the user experience relative to SVOD platforms – there can be no question that 15 minutes per hour of advertising harms the attraction of viewing content on ad-funded networks. If ad loads can be reduced to 2-5 minutes per hour, this could result in renewed growth in viewing minutes over time, in our view.
It is important to note that not every advertiser will necessarily respond to the step-change in efficiency offered by targeted TV advertising by increasing their TV spend. In the illustrative example we show in Figure 65, if an advertiser can generate the same level of sales with one fifth the number of impressions using Open AP, we would argue three scenarios may follow: (i) the network charges a 5x higher price for the impressions delivered and the total amount spent stays the same (Option 1); (ii) the client buys more impressions, which deliver higher sales, but still has room to cut advertising spend (Option 2); or (iii) the client buys significantly more impressions, spending slightly more in aggregate, with the aim of driving materially higher sales (Option 3).

We would argue the response from any given advertiser to the emergence of targeted advertising will depend on the competitive dynamics of its own industry – for example, a retailer facing pricing pressure from Amazon may reduce TV advertising spend in order to reinvest the savings into price promotions, whereas a luxury auto maker may increase TV advertising spend in order to drive higher sales. This means that advertiser mix will be one of the key determinants of how targeted advertising impacts advertising spend over time, and may vary significantly in different territories. In the US, we note that the current mix of advertisers is skewed towards Autos, Financial and Pharma (which we argue have low pricing pressure and may therefore increase ad spend if efficiency improves); and very low penetration of advertisers from Personal Care, Retail, Food and Clothing, where pricing pressure is higher.

**Figure 64: Comcast's suite of targeted advertising products**

Source: AdWeek, Credit Suisse Research
Figure 65: In this illustrative example, the impact of a 5x improvement in efficiency will depend on the type of advertiser. A retailer under price pressure from Amazon may reduce spending to reinvest in price promotions (Option 2); whereas a luxury auto manufacturer may increase spending to drive higher sales (Option 3).

Source: Credit Suisse Research

Figure 66: The US TV advertising market has very low penetration of advertisers from the Personal Care, Retail, Food and Clothing industries...

Source: Group M Ad Categories Handbook (2015 data), Credit Suisse estimates

Figure 67: ...and relatively high penetration of advertisers from Autos, Financials and Pharma

Source: Group M Ad Categories Handbook (2015 data), Credit Suisse estimates
Figure 68: We highlight close to $170bn of marketing spend in the US which could be vulnerable to a share shift to digital, targeted TV and/or sales promotions

Source: ZenithOptimedia, Credit Suisse Research

1.6 Are eyeballs shifting away from linear TV?

Our thesis is that the emergence of data-driven TV advertising will allow the medium to enhance the attractiveness of its product, better defend its current market share and potentially also capture share from areas of clients’ marketing budgets for which it cannot currently compete.

However, it is important to highlight that while TV appears set to improve its relevance, it must not lose its reach, i.e. viewing of content on ad-funded networks must not decline materially over time. For this reason, tracking consumption of programming of these networks on all platforms is critical – and unfortunately the US industry has no accepted industry-wide standard for measuring this.

Nielsen data, which we show in Figure 69 and Figure 70, shows that total minutes consumed of all linear networks declined for three consecutive years by a cumulative 5%. This includes live linear TV viewing and DVR viewing within 7 days of broadcast, but excludes viewing on smartphones, tablets, desktops, smart TVs and any linear viewing outside the 7 day window.

Nielsen’s forthcoming Total Content Ratings service aims to fix these measurement limitations by adding TV viewing on non-linear devices such as smartphones, tablets, and smart TVs, in addition to extending the DVR window to 35 days from the current 7 day period. Early tests have demonstrated average ratings increases of 10%, with increases for specific shows rising above 50%. CBS has released preliminary Total Content Ratings for its network, which saw an average lift of 15% just from extending the DVR window to 35 days from the current 7 day period, implying a higher increase once non-linear devices (smartphone, desktop, etc.) are included.

The launch of Nielsen’s Total Content Ratings system has been delayed due to recent concerns from network executives, and although some agencies and media companies have early access to the data there is currently no firm date for a public launch. Once Nielsen launches the product, we expect it will greatly benefit the targeted advertising efforts of media companies by providing a complete picture of TV viewership to potential advertisers and better segmentation of the available audience.
Some alternative estimates for viewing of linear TV shows are available. Notably, as we show in Figure 75, Symphony Advanced Media estimates that 20%-50% of viewing of some popular network shows takes place on smart TVs, connected devices, tablets and smartphones – which if extrapolated, obviously suggests total viewing for linear networks is almost certainly growing, not shrinking.

Figure 69: Average Household TV Minutes per Day reached 487 minutes in 2016...

Figure 70: …down modestly vs 2015

Figure 71: Digital ad spend share is still at a big discount to its time spent share....

Figure 72: …while total time spent on all media is growing modestly

Figure 73: 84% of total linear TV viewing in the US is live, and 75% of prime time viewing

Figure 74: 90% of sports viewing in the US is live, vs just 71% of drama
Figure 75: Cross-platform analysis of viewing of certain major shows in the US suggests up to 50% of total viewing is occurring outside the "C7" window, i.e. beyond seven days from first broadcast.

Source: Symphony Advanced Media

1.7 IoT and machine learning: the next frontier

We argue that the advertising industry is in a phase of development where advertising products offered by media owners advertisers compete on the basis of their relevance to consumers. We see two developments accelerating this trend: (i) the Internet of Things, which will multiply the number of devices giving advertisers direct access to consumers, and (ii) advancements in machine learning, which will allow advertisers to use the data gathered from IoT and other connected devices to better target advertising messages.

Wearable health trackers, connected cars, connected home control devices and connected appliances will all provide advertisers with a step-change in options for "call to action" marketing in two ways. First, their usage will provide new platforms through which consumers can be reached. For example, a fast food advertiser will be able to reach a potential customer in their connected car with an offer as they approach a drive-thru restaurant, or an organic juice brand will be able to display a reminder of their nutritional benefits on the connected refrigerator of a health-conscious single woman whose juice supply is running low.

Perhaps more importantly, connected devices will also provide valuable data on the purchase habits, movements and location of consumers which can inform all "call to action" marketing, not just that delivered on the connected devices themselves. For example, the combination of data from a consumer's connected car (regular trips to a surf-friendly beach) and wearable device (time spent in the sea) when combined, may strongly suggest they are a keen surfer or swimmer. That data would be valuable to a surf-wear retailer, but also potentially to a movie studio looking to market a new release with a surfer as a lead character or a record label looking to release the album of an artist with a large number of fans who are also surfers.
We therefore envisage IoT being an integral part of marketing plans in future. The data gathered from smart home appliances and smart packaged goods (like Diageo’s connected whiskey bottles) could be used to formulate targets audiences for long-form “brand building” messages on a connected TV. Short-form reminders of brand values, offers, discounts and other consumer interactions on connected appliances and wearables could form the core part of "call to action" marketing plans for the same campaign.

Moreover, advancements in machine learning will allow advertisers to analyze the data "exhaust" from connected devices to target "call to action" marketing more effectively. Given the volume of mostly unstructured data, the value of algorithms which can identify patterns in data from wearables and connected appliances to target marketing messages will obviously grow, in our view.

These developments further underline the importance of direct access to consumers via platforms on which they spend time, as ownership of usage data will provide opportunities to deliver more efficiently-targeted advertising. For traditional TV networks, for example, we would argue that NBCU’s vertical integration with Comcast’s cable distribution business is the most obvious example of how this advantage may work in practice. We would also highlight that enhanced targeted advertising opportunities will also be one by-product of AT&T’s acquisition of Time Warner. However, we would also emphasise that investments being made by Google and Facebook in connected home control, self-driving/connected cars, VR headsets and in machine learning, will give them increasing proprietary access to consumer data, which will allow them to deliver superior targeting and therefore more relevant "call to action" marketing in the coming 10-15 years. For this reasons, we believe these digital platforms are likely to continue to dominate the growth of global advertising for the foreseeable future, as we outline in the next section.

**Figure 76: Connected Device Ownership**

<table>
<thead>
<tr>
<th>Connected Device Ownership</th>
<th>50%</th>
<th>45%</th>
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<th>25%</th>
<th>20%</th>
<th>15%</th>
<th>10%</th>
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<tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
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<td>17%</td>
<td>16%</td>
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<td></td>
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<td>Smart watch</td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
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<td>Internet-enabled appliances</td>
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<td></td>
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<tr>
<td>VR headsets</td>
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Source: IAB

**Figure 77: Connected Device Purchase Interest**

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<th>15%</th>
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<tr>
<td>Wearable health tracker</td>
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<td>37%</td>
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<td>Internet-enabled home control devices/systems</td>
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<td>Internet-enabled appliances</td>
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<td>VR headsets</td>
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<td>Smart glasses</td>
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Source: IAB

**Figure 78: Demographic mix of IoT device owners**

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<td>Connected Device Owner</td>
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<td>41%</td>
<td>18%</td>
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Source: IAB

**Figure 79: Characteristics of IoT device owners**

<table>
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<th>Characteristics of IoT Device Owners</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
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<tr>
<td>Excited About Tech</td>
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<td>Tech Junkie</td>
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<tr>
<td>Tech Savvy</td>
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</tr>
</tbody>
</table>

Source: IAB
Figure 80: Employment/education/family information of IoT device owners

Source: IAB

Figure 81: 55% of IoT device owners are willing to receive ads in exchange for extra features

Source: IAB

Figure 82: 44% of IoT device owners are willing to see ads in exchange for coupons/discount codes

Source: IAB

Figure 83: Top 3 Connected Device Attributes

Source: IAB

Figure 84: Owners of most connected devices tend to be college educated male parents between the ages of 18-34 with above average income who tend to say they are willing to receive ads

Source: IAB
1.8 US advertising in 2030

We crystallize our thoughts on how "brand building" and "call to action" marketing will be allocated to the various platform options by 2030 in Figure 85 and Figure 86 below. We would highlight the following about these forecasts:

- We assume marketing spend will grow 3.5% pa 2017-2030, broadly in line with the 3.2% pa growth in 1995-2016, and versus 6.6% pa in the much longer 1935-2016 period we have tracked.

- We assume marketing spend will be split into two broad buckets: (i) investment in "brand building", which seeks to create an affinity between the brand and consumers; and (ii) investment in "calls to action", which seeks to convert affinity into a sale. We assume the mix between the two types of marketing spending will be the same as it is today, i.e. 35% in brand building and 65% in calls to action.

- We believe the current distinction between "media" spend (TV, digital, print, radio, outdoor and cinema) and "below-the-line" marketing spend (price promotions, PR, sponsorship, direct mail and telephone marketing) will blur. We believe proliferation of IoT devices and the development of machine learning will enable media platforms – both digital and targeted TV – to take share from below-the-line spending. We highlight that of the $414bn spent on marketing in the US in 2016, 54% ($223bn) was spent on below-the-line items with the balance ($191bn) spent on media.

- We expect modest changes to brand building expenditure, with investment shifting out of print and radio into digital, TV, PR and sponsorship. We expect growth in the latter two (often forgotten) items will outpace the 3.5% pa growth in overall marketing spend growth. We argue that the shift out of print will be driven by declining consumption; and the shift out of radio will be driven by the growth of substitute a product, i.e. ad-funded music streaming platforms.

- We expect much bigger changes in marketing mix, however, to come in call to action spending. We estimate 44% of US marketing expenditure in 2016 was in this category, including price promotions, direct mail and telephone marketing. We expect the proportion spent on price promotions will remain unchanged in 2030 (at 19%), but that spending on direct mail and telephone marketing will migrate to digital platforms and targeted TV. We argue that advertisers will be able to use machine learning of data generated from connected devices to analyze consumers’ habits, preferences, location and purchase patterns, to learn which advertising messages might work best and to deliver them on digital and targeted TV platforms wherever consumers may be. For this reason, we think digital and targeted TV platforms will become substitutes for direct mail and telephone marketing, and expect virtually all of today's investment in these two items ($106bn) to migrate to digital and targeted TV by 2030.

- In other words, we see a >$100bn opportunity for digital and targeted TV platforms to capture marketing budget share by the end of the next decade. Overall, we believe advertisers will deploy their call to action spending to either (i) highlight where or how to purchase a product via a connected device – which could be a connected car, a connected screen, a wearable, a connected home appliance or connected clothing; or to (ii) offer a short term price discount. We argue that call to action spending on print, radio, outdoor and cinema will be virtually entirely squeezed out.

- We therefore see marketing expenditure on digital platforms continuing to grow strongly, but argue that TV advertising growth can accelerate, given its future ability to gain share of call to action spending. We believe digital can grow 11%-13% pa 2017-2030; and TV can grow 5%-7% pa over the same period. For us, this is a critical investment conclusion of our analysis – that TV advertising's trend growth rate can improve from recent experience (2% pa over the last three years) and significantly exceed industry forecasts for the near future (around -1% pa 2016-2019 according to ZenithOptimedia and Magna Global).
Figure 85: US marketing spend in 2030

Marketing Spend $670bn

Brand Building $234bn

Interruptive

Non-Interruptive

Digital

Non-Digital

Other

Video

Sports

Entertainment

TV $98bn

Digital $35bn

Magazines $3bn

Radio $3bn

Outdoor $13bn

Cinema $1bn

Source: Credit Suisse Research

Figure 86: The US marketing mix 2016 vs 2030

2016 Marketing Spend $414bn

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<thead>
<tr>
<th></th>
<th>2016 Total</th>
<th>Share</th>
<th>2016 Total</th>
<th>Share</th>
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<tbody>
<tr>
<td>TV</td>
<td>$55bn</td>
<td>13%</td>
<td>$14bn</td>
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</tr>
<tr>
<td>Digital</td>
<td>$6bn</td>
<td>1%</td>
<td>$1bn</td>
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<td>Newspapers</td>
<td>$15bn</td>
<td>4%</td>
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<td>Magazines</td>
<td>$2bn</td>
<td>0.4%</td>
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<td>Radio</td>
<td>$3bn</td>
<td>0.4%</td>
<td>$1bn</td>
<td>0.2%</td>
</tr>
<tr>
<td>Outdoor</td>
<td>$3bn</td>
<td>0.7%</td>
<td>$1bn</td>
<td>0.2%</td>
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<tr>
<td>Cinema</td>
<td>$1bn</td>
<td>0.2%</td>
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<td>Sponsorship</td>
<td>$3bn</td>
<td>8%</td>
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<td>1%</td>
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<tr>
<td>PR</td>
<td>$9bn</td>
<td>1%</td>
<td>$1bn</td>
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</table>

231 $414bn 34% $273bn 66% $670bn

2030 Marketing Spend $670bn

<table>
<thead>
<tr>
<th></th>
<th>2016 Total</th>
<th>Share</th>
<th>2016 Total</th>
<th>Share</th>
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</thead>
<tbody>
<tr>
<td>TV</td>
<td>$98bn</td>
<td>15%</td>
<td>$71bn</td>
<td>11%</td>
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<tr>
<td>Digital</td>
<td>$35bn</td>
<td>5%</td>
<td>$22bn</td>
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<td>Newspapers</td>
<td>$3bn</td>
<td>1%</td>
<td>$1bn</td>
<td>0%</td>
</tr>
<tr>
<td>Magazines</td>
<td>$3bn</td>
<td>1%</td>
<td>$1bn</td>
<td>0%</td>
</tr>
<tr>
<td>Radio</td>
<td>$3bn</td>
<td>0%</td>
<td>$1bn</td>
<td>0%</td>
</tr>
<tr>
<td>Outdoor</td>
<td>$13bn</td>
<td>2%</td>
<td>$1bn</td>
<td>0%</td>
</tr>
<tr>
<td>Cinema</td>
<td>$1bn</td>
<td>0%</td>
<td>$1bn</td>
<td>0%</td>
</tr>
<tr>
<td>Sponsorship</td>
<td>$65bn</td>
<td>9%</td>
<td>$125bn</td>
<td>19%</td>
</tr>
<tr>
<td>PR</td>
<td>$17bn</td>
<td>3%</td>
<td>$125bn</td>
<td>19%</td>
</tr>
</tbody>
</table>

234bn 35% $435bn 65% $670bn 3.5%

Source: ZenithOptimedia, Credit Suisse Research

The Future of Advertising
Figure 87: US marketing mix 2016

Figure 88: US marketing mix 2030

Figure 89: US advertising 1935-2030

Figure 90: Cumulative change in US advertising expenditure 2016-2030

Figure 91: US Internet advertising: the fastest growth for any medium for 100 years

Figure 92: US TV advertising since 1935: a growth medium 1949-1984, broadly stable since

Note: BB = "Brand Building" marketing; CTA = "Call to Action" marketing
Source: ZenithOptimedia, Credit Suisse Research

The Future of Advertising
Figure 93: US print advertising since 1935: share has been declining throughout...

Figure 94: US radio advertising since 1935: a growth medium 1935-1944, until challenged by TV...

Figure 95: US outdoor advertising: a small and volatile medium throughout

Note: Shows medium's share as % of total advertising spend, i.e. excluding various below-the-line categories including direct mail, telemarketing, PR, event sponsorship and directories
Source: US Census Bureau, Zenith Optimedia, Thomson Reuters, Credit Suisse Research

1.9 Implications for US stocks

Our thesis in this report is that advertising is in a period of its development in which the relevance of the advertising message is the primary basis of competition between platforms. Digital platforms are intrinsically better able to deliver relevant advertising and, as they grow in size, are on a near-inexorable path to take share from all parts of marketing budgets.

We also argue that the performance of digital advertising continues to improve at a rapid pace, and we highlight two technological changes that will drive this over the next decade: (i) the expansion of the "Internet of Things" (connected homes, connected cars, connected appliances, wearables), which will allow advertisers to refine target audiences and deliver messages to consumers in new ways; and (ii) advancements in machine learning, which will allow platforms, advertisers and agencies to analyze the explosion of data from both current sources and from IoT, with the aim of further improving the relevance of advertising messages.

We also argue that US TV networks are developing potentially game-changing improvements in their ability to deliver targeted advertising on linear inventory, and eventually fully addressable advertising on "virtual" MVPDs, which we believe will put them in a strong position to compete with digital platforms, sustain share of overall advertising spend and to grow advertising revenues both faster than we have seen in recent years and faster than investors currently expect.
Four investment implications flow from our analysis:

- First, digital platforms should continue to grow strongly, and we forecast their share of advertising spend will expand to close to 60% by 2030. The structural advantage of being able to deliver relevant messages at scale will remain at the core of their share gains, in our view, and investment in connected device platforms and machine learning capabilities will help them build on this advantage. This is constructive for our positive views on Google (OP, TP $1,100) and Facebook (OP, TP $175).

- Second, while a positive structural view on digital platforms is hardly anti-consensual, we believe our view on TV networks is. We believe the development of Open AP, and other targeted linear TV advertising platforms, will mean trend growth for US TV advertising will accelerate to 5%-7% pa 2017-2030 from 2% in 2014-2016, not slow down as many investors currently expect. This suggests US Media companies with the highest exposure to domestic TV advertising have substantial "Blue Sky" valuation upside. As we highlight in Figure 96 to Figure 98, using 5%-7% pa growth rates for domestic advertising would take "Blue Sky" valuations of Viacom to $69-$80; of CBS to $91-$108; and of FOXA to $41-$47. In a separate report, we raise our Viacom TP to $55 (from $50), and reiterate our OP rating.

- Third, we argue that vertically integrated networks/distributors will be in a stronger position to capture a disproportionate share of the >$100bn revenue opportunity we have identified for targeted TV advertising. This is because their ability to refine audience targeting will be enhanced by ownership of data across wireline, wireless and WiFi networks, which will provide individual addresses, locations and data usage, and eventually data on usage of connected appliances, wearables, connected home control services and connected cars. We argue Comcast (OP, TP $41) is likely in the strongest position to benefit from this, given it has had several years to develop ways for NCBU and Comcast Cable to work together in this area. We would also argue that the targeted advertising opportunity is also a largely overlooked benefit of the AT&T (NR)/Time Warner (OP, TP $107.5) transaction, which we expect could deliver material long term benefits.

- Finally, if a >$100bn revenue opportunity exists in targeted advertising long term, we see this as a catalyst for M&A to create vertically integrated networks/distributors. In simple terms, combining (i) the ability to create video content with (ii) access to granular data on how, who, when and where it is being consumed, and (iii) the skills and relationships involved in bundling and selling advertising, will all become increasingly valuable in the coming decade. We would therefore regard positively any possible future decision by 21st Century Fox or Disney to buy out Comcast's 30% stake in Hulu, should the latter choose to sell when the terms of the DoJ Consent Decree in relation to the NBCU transaction expire. We also note recent public comments by Verizon's CEO (see here) about the merits of acquiring a media company, including Disney (OP, TP $125) or CBS (OP, TP $75)—in the light of our analysis, we would argue that the targeted advertising opportunity adds to the industrial logic of those transactions. Finally, we would highlight that the treasure trove of data being collected by Netflix (N, TP $149) on video consumption would be hugely valuable for any advertising-funded media owner, whether traditional or digital, and should also play a part in any M&A analysis relating to that company.
Figure 96: Large cap US Media exposure to domestic advertising and valuation upside if domestic advertising 2018-2030 = 7%

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td>DIS</td>
<td>0</td>
<td>$181,729</td>
<td>$8,419m</td>
<td>15%</td>
<td>1%</td>
<td>$17.79</td>
<td>20.0x</td>
<td>$355.75</td>
<td>$140.63</td>
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<td>CMCSA</td>
<td>0</td>
<td>$182,280</td>
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<td>16%</td>
<td>2%</td>
<td>$6.44</td>
<td>20.0x</td>
<td>$128.89</td>
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<tr>
<td>FOXA</td>
<td>U</td>
<td>$56,173</td>
<td>$7,751m</td>
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<td>2%</td>
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<tr>
<td>DISCA</td>
<td>U</td>
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<td>$2.970m</td>
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<td>7%</td>
<td>$6.73</td>
<td>14.0x</td>
<td>$94.23</td>
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<tr>
<td>CBS</td>
<td>0</td>
<td>$27,680</td>
<td>$6,288m</td>
<td>48%</td>
<td>5%</td>
<td>$9.53</td>
<td>15.5x</td>
<td>$322.66</td>
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<td>CMCSA</td>
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<td>7%</td>
<td>$19.64</td>
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<td>$110.21</td>
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<tr>
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<td>$47,892m</td>
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<td>0% **</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* not disclosed, based on Magna total TV advertising growth; ** not disclosed, based on Magna cable TV advertising growth; *** based on Magna total TV advertising growth

Note: Analysis calculates future stock price using assumed P/E multiple and 2030 EPS forecast, discounted back. 2030 EPS forecasts are based on CSe 2017 estimates for domestic advertising and 7% domestic advertising growth from 2018-30, with all other revenues growing at CSe 2017-20E segment CAGRs. Analysis assumes 1% annual share buyback after 2020, 10bps baseline net margin expansion, and a net margin on domestic advertising growth of 33%. Prices as of 04/24/17.

Source: Company data, Magna Global, Credit Suisse estimates

Figure 97: Blue Sky valuation upside for large cap US Media if domestic advertising 2018-2030 = 5%

Note: Analysis calculates future stock price using assumed P/E multiple and 2030 EPS forecast, discounted back. 2030 EPS forecasts are based on CSe 2017 estimates for domestic advertising and 5% domestic advertising growth from 2018-30, with all other revenues growing at CSe 2017-20E segment CAGRs. Analysis assumes 1% annual share buyback after 2020, 10bps baseline net margin expansion, and a net margin on domestic advertising growth of 33%. Prices as of 04/24/17.

Source: Company data, Credit Suisse estimates

Figure 98: Blue Sky valuation upside for large cap US Media if domestic advertising 2018-2030 = 7%

Note: Analysis calculates future stock price using assumed P/E multiple and 2030 EPS forecast, discounted back. 2030 EPS forecasts are based on CSe 2017 estimates for domestic advertising and 7% domestic advertising growth from 2018-30, with all other revenues growing at CSe 2017-20E segment CAGRs. Analysis assumes 1% annual share buyback after 2020, 10bps baseline net margin expansion, and a net margin on domestic advertising growth of 33%. Prices as of 04/24/17.

Source: Company data, Credit Suisse estimates

Figure 99: US Media: advertising exposure

Source: Company data, Credit Suisse estimates

Figure 100: US Media: advertising mix

Source: Company data, Credit Suisse estimates
Figure 101: US Media: revenues by segment

Figure 102: US Media: EBITDA by segment

Source: Company data, Credit Suisse estimates
## Figure 103: Large cap US Media consolidated income statement

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
<th>Revenue by Segment</th>
<th>Operating Costs</th>
<th>OIBDA</th>
<th>OIBDA by Segment</th>
<th>Margins (%)</th>
<th>Advertising Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>($m)</td>
<td></td>
<td>($m) Dec.</td>
<td>($)</td>
<td>($m) Dec.</td>
<td>(%)</td>
<td>($m) Dec.</td>
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<td>$148,345</td>
<td>$151,152</td>
<td>$160,644</td>
<td>$168,432</td>
<td>$174,923</td>
<td>$179,614</td>
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<td>$151,152</td>
<td>$160,644</td>
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<td>$179,614</td>
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<td>$168,432</td>
<td>$174,923</td>
<td>$179,614</td>
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<td>($m) Dec.</td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td>$174,923</td>
<td>$179,614</td>
<td>$189,053</td>
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<td>$199,787</td>
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<td>2014</td>
<td></td>
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<td>$189,053</td>
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<td></td>
<td>$201,638</td>
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<td>($m) Dec.</td>
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<tr>
<td>y/y % chg</td>
<td>TV Networks</td>
<td>7%</td>
<td>6%</td>
<td>6%</td>
<td>7%</td>
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<td>4%</td>
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<tr>
<td></td>
<td>Movie Studios</td>
<td>1%</td>
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<td>5%</td>
<td>3%</td>
<td>-1%</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>Parks</td>
<td>12%</td>
<td>8%</td>
<td>14%</td>
<td>10%</td>
<td>9%</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>Consumer Products</td>
<td>18%</td>
<td>-3%</td>
<td>17%</td>
<td>16%</td>
<td>19%</td>
<td>-15%</td>
</tr>
<tr>
<td></td>
<td>Other/Eliminations</td>
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<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5%</td>
<td>2%</td>
<td>6%</td>
<td>5%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>y/y % chg</td>
<td>Operating Costs</td>
<td>2%</td>
<td>1%</td>
<td>5%</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>OIBDA</td>
<td>$30,557</td>
<td>$34,863</td>
<td>$36,467</td>
<td>$40,783</td>
<td>$43,984</td>
<td>$46,979</td>
<td>$47,747</td>
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<tr>
<td>OIBDA by Segment</td>
<td>TV Networks</td>
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<td>$4,722</td>
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<td></td>
<td>TV Networks</td>
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<td>$5,839</td>
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<td>Total</td>
<td>$30,557</td>
<td>$34,863</td>
<td>$36,467</td>
<td>$40,783</td>
<td>$43,984</td>
<td>$46,979</td>
</tr>
<tr>
<td>Margins (%)</td>
<td>TV Networks</td>
<td>31%</td>
<td>33%</td>
<td>33%</td>
<td>32%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
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<td>Filmed Entertainment</td>
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<td>11%</td>
<td>11%</td>
<td>13%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>Parks</td>
<td>26%</td>
<td>26%</td>
<td>27%</td>
<td>29%</td>
<td>31%</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>Consumer Products</td>
<td>16%</td>
<td>15%</td>
<td>20%</td>
<td>25%</td>
<td>29%</td>
<td>30%</td>
</tr>
<tr>
<td></td>
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<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
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<td></td>
<td>Total Margin</td>
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<td>24%</td>
<td>24%</td>
<td>25%</td>
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<td>27%</td>
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<tr>
<td>Operating Income</td>
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<td>$35,777</td>
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<td>$42,383</td>
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<td>Margin (%)</td>
<td>20%</td>
<td>21%</td>
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<td>24%</td>
<td>24%</td>
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<td>Advertising Revenue</td>
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<td>International Cable</td>
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<td>Total Advertising</td>
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<td>$44,403</td>
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<td>1%</td>
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<td></td>
<td>Total International Cable</td>
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<td>3%</td>
<td>21%</td>
<td>16%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>Total Broadcast</td>
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<td>2%</td>
<td>-2%</td>
<td>3%</td>
</tr>
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<td>3%</td>
<td>1%</td>
<td>2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Advertising as a % of Media Revenue</td>
<td>29%</td>
<td>28%</td>
<td>29%</td>
<td>28%</td>
<td>27%</td>
<td>26%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Note: Includes reported results and Credit Suisse estimates where company is covered, and consensus estimates where not covered. Companies included are Disney, Time Warner, Viacom, 21st Century Fox, Comcast, CBS, Dreamworks (Not Rated), Lionsgate (Not Rated) and Discovery Communications.

Source: Company data, Thomson Reuters, Credit Suisse estimates
2. Credit Suisse Global CMO Survey

2.1 Summary & Key Charts

Our survey drew responses from 97 marketing professionals from advertisers in every large industry category in North America, Latin America, Europe, and Asia. We summarize the main conclusions as follow.

- On a global basis, a strong net balance of our respondents (44%) expect to increase their total marketing budgets in 2017 vs 2016, by an aggregate 3.6%. An equally strong net balance of 52% expects to increase advertising budgets in 2017, by an aggregate 3.7%. On a regional basis, domestically, a net balance of 54% expects to increase advertising budgets in 2017, by an aggregate 4.1%. Asia is expected to see the most rapid growth as a net balance of 75% expects to increase advertising budgets by an aggregate 5.3%, whereas Europe is expected to have the least growth with a net balance of 32% expect to increase advertising budgets by an aggregate 2.2%.

- Globally, strong net balances of our respondents (55%-83%) expect to increase the proportion of their total advertising spending on digital media – online video, social media, search, and other online over the next 5 years. However, our respondents also highlighted significant concern about viewability (82%); ad fraud (73%); ad blocking (82%); and transparency (79%). A net balance of 16% expects to reduce linear TV spending over the same period; while even larger net balances (21%-23%) expect to reduce spending on newspapers and magazines. Therefore, the shift in advertising spending away from traditional media to digital media will continue, with print taking the biggest losses. Domestically, the mix of advertising budget is expected to change in a similar fashion.

- Within digital advertising spending, the vast majority of respondents (73%-82%) highlighted concerns about viewability, ad fraud, ad blocking and transparency. The majority of respondents says they "require platforms to adopt MRC viewability standards" (52%) and "require agencies to allow auditing of all transactions carried out on their behalf" (50%). Regarding the recent issue on YouTube, 31% of respondents say they "do not advertise on YouTube", another 31% says they "expect YouTube to expand safeguards to prevent the recent issue from happening in the future", and only 8% says they "will reduce future spending in response to this news".

- 45% of respondents cited "Return on investment" as the most important driver of advertising spend. A net balance of 25% said they believe social media delivers a higher ROI than traditional media; and a small net balance (16%) said they believe streaming video delivers a higher ROI than traditional media.

- 54% of domestic respondents and 50% of global respondents say none of their current TV advertising budget is spent on targeted TV advertising. In two years from now, the proportion of advertisers that continues to spend none of their TV budget on targeted TV advertising is expected to decline slightly to 42% domestically and 41% globally. Over the same time period, an aggregate 22% of TV advertising budget is expected to move from TV to online video both domestically and globally.
**The Future of Advertising**

*Figure 104: Global marketing budget is expected to grow by an aggregate 3.6%*

- Decline by 10%: 4%
- Decline by 5% to 10%: 5%
- Decline by less than 5%: 6%
- Stay the same: 25%
- Grow by less than 5%: 13%
- Grow by 5% to 10%: 19%
- Grow more than 10%: 26%

**Figure 105: Global advertising budget is expected to grow by an aggregate 3.7%**

- Asia: 5.3%
- USA: 4.1%
- Global: 3.7%
- UK: 3.7%
- LatAm: 3.7%
- Europe: 2.2%
- Germany: 0.2%

**Question:** "Looking at your TOTAL MARKETING BUDGET in 2017 vs 2016, by approximately how much do you expect it to grow / decline?"

Source: Credit Suisse proprietary survey

**Figure 106: A net balance of 69% of respondents expect to grow online spend in USA**

- Online video: +82%
- Social media: +79%
- Search: +63%
- Other online: +51%
- Other: +3%
- Outdoor: -8%
- Radio: -9%
- Cinema: -15%
- Linear TV: -18%
- Magazines: -19%
- Newspapers: -19%

**Question:** "Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?"

Source: Credit Suisse proprietary survey

**Figure 107: A net balance of 73% of respondents expect to grow online spend on a global basis**

- Social media: +83%
- Online video: +82%
- Search: +71%
- Other online: +55%
- Other: +5%
- Cinema: -7%
- Radio: -4%
- Outdoor: -13%
- Linear TV: -16%
- Magazines: -21%
- Newspapers: -23%

**Question:** "Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?"

Source: Credit Suisse proprietary survey

**Figure 108: Globally, our respondents expect to move an aggregate 22% of budget from TV to online video**

- Germany: -23%
- Asia: -15%
- Europe: -13%
- LatAm: -11%
- UK: -7%

**Question:** "Looking at your TV ADVERTISING BUDGET in your LARGEST TERRITORIES in two years from now, what proportion do you expect to move from traditional linear TV networks to online video?"

Source: Credit Suisse proprietary survey

**Figure 109: Approximately 1/3 of our respondents have high concerns over digital advertising**

- Viewability standards of display / video ads: 19%
- Ad fraud: 27%
- Rising use of ad blocking software: 19%
- Lack of transparency in the media supply chain: 21%

**Question:** "Looking at your DIGITAL ADVERTISING BUDGET across all your territories today, please stipulate your level of concern (if any) about the following issues?"

Source: Credit Suisse proprietary survey
2.2 Time series with historical results

Figure 110: Advertising’s share of total marketing budget increased from 47% to 51%

Figure 111: Expectations on growth/decline in total marketing budgets remains broadly unchanged

Question: “Approximately what proportion of your TOTAL MARKETING BUDGET in 2017 do you expect to spend on advertising and what proportion on promotions?”
Source: Credit Suisse proprietary survey

Question: “Looking at your TOTAL MARKETING BUDGET in 2017 vs 2016, by approximately how much do you expect it to grow / decline?”
Source: Credit Suisse proprietary survey

Figure 112: Expectations on total advertising budget stays unchanged in USA...

Figure 113: …and also on a Global basis

Question: “Looking at your TOTAL ADVERTISING BUDGET in 2017 vs 2016 in your LARGEST TERRITORIES, by approximately how much do you expect it to grow / decline?”
Source: Credit Suisse proprietary survey

Question: “Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?”
Source: Credit Suisse proprietary survey
Figure 116: Directional change in mix of advertising budget (Global)

Question: “Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?”
Source: Credit Suisse proprietary survey

Figure 117: Directional change in mix of advertising budget (Global)

Question: “Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?”
Source: Credit Suisse proprietary survey

Figure 118: Advertisers are increasingly concerned about viewability and ad blocking

Question: “Looking at your DIGITAL ADVERTISING BUDGET across all your territories today, please stipulate your level of concern (if any) about the following issues?”
Source: Credit Suisse proprietary survey

Figure 119: ROI on social media vs ROI on traditional media

Question: “Looking at the marketing dollars your firm spent on social media campaigns (e.g. on Facebook, Instagram, Twitter, Snapchat, etc.) over the last 2 years, do you believe the ROI (return on investment) was higher or lower than the ROI on traditional media campaigns (e.g. on TV, radio, outdoor, newspapers, etc.)?”
Source: Credit Suisse proprietary survey

Figure 120: ROI on streaming video vs ROI on traditional media

Question: “Looking at the marketing dollars your firm spent on streaming video (e.g. on YouTube, Facebook, Hulu, and other sources) over the last 2 years, do you believe the ROI was higher or lower than the ROI on traditional media campaigns (e.g. on TV, radio, outdoor, newspapers, etc.)?”
Source: Credit Suisse proprietary survey
2.3 Full Results

Figure 121: Our survey’s results were skewed toward Marketing Directors, but 14% were CMOs

Figure 122: Total marketing budgets of our respondents cover the spectrum of large to small

Figure 123: 50% of our respondents are final decision makers in marketing budget allocation

Figure 124: All major industry categories are covered in our survey

Figure 125: Our survey covers all major territories…

Figure 126: …and has respondents that spend majority of their budget in each major territory

Table 1:

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing Director</td>
<td>38%</td>
</tr>
<tr>
<td>Marketing Manager</td>
<td>7%</td>
</tr>
<tr>
<td>Chief Marketing Officer</td>
<td>15%</td>
</tr>
<tr>
<td>Marketing Executive</td>
<td>21%</td>
</tr>
<tr>
<td>Brand Manager</td>
<td>2%</td>
</tr>
</tbody>
</table>

Table 2:

<table>
<thead>
<tr>
<th>Budget Size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $50m</td>
<td>40%</td>
</tr>
<tr>
<td>$50m-$250m</td>
<td>26%</td>
</tr>
<tr>
<td>$251m-$500m</td>
<td>13%</td>
</tr>
<tr>
<td>Over $500m</td>
<td>21%</td>
</tr>
</tbody>
</table>

Table 3:

<table>
<thead>
<tr>
<th>Knowledgeable about marketing budget</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>18%</td>
</tr>
<tr>
<td>No</td>
<td>82%</td>
</tr>
</tbody>
</table>

Table 4:

<table>
<thead>
<tr>
<th>Part of a committee</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>50%</td>
</tr>
<tr>
<td>No</td>
<td>50%</td>
</tr>
</tbody>
</table>

Table 5:

<table>
<thead>
<tr>
<th>Final decision maker</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>50%</td>
</tr>
<tr>
<td>No</td>
<td>50%</td>
</tr>
</tbody>
</table>

Table 6:

<table>
<thead>
<tr>
<th>Which of the following best describes your role in marketing budget allocation at your organization?</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledgeable about marketing budget</td>
<td>18%</td>
</tr>
<tr>
<td>Part of a committee</td>
<td>32%</td>
</tr>
<tr>
<td>Final decision maker</td>
<td>50%</td>
</tr>
</tbody>
</table>

Table 7:

<table>
<thead>
<tr>
<th>In which broad industry group does your company operate?</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>14%</td>
</tr>
<tr>
<td>Other (Please specify)</td>
<td>12%</td>
</tr>
<tr>
<td>Pharma</td>
<td>6%</td>
</tr>
<tr>
<td>Retail</td>
<td>6%</td>
</tr>
<tr>
<td>Food</td>
<td>5%</td>
</tr>
<tr>
<td>Finance</td>
<td>4%</td>
</tr>
<tr>
<td>Communications</td>
<td>4%</td>
</tr>
<tr>
<td>Miscellaneous Services</td>
<td>3%</td>
</tr>
<tr>
<td>Household Equipment</td>
<td>2%</td>
</tr>
<tr>
<td>Personal Care</td>
<td>1%</td>
</tr>
<tr>
<td>Auto</td>
<td>3%</td>
</tr>
<tr>
<td>Travel</td>
<td>1%</td>
</tr>
<tr>
<td>Alcohol</td>
<td>1%</td>
</tr>
<tr>
<td>Clothing</td>
<td>1%</td>
</tr>
<tr>
<td>Soft Drinks</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 8:

<table>
<thead>
<tr>
<th>In which territory (ies) do you spend your MARKETING budget?</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>2%</td>
</tr>
<tr>
<td>Canada</td>
<td>4%</td>
</tr>
<tr>
<td>Mexico</td>
<td>8%</td>
</tr>
<tr>
<td>UK</td>
<td>10%</td>
</tr>
<tr>
<td>Germany</td>
<td>14%</td>
</tr>
<tr>
<td>India</td>
<td>18%</td>
</tr>
<tr>
<td>Japan</td>
<td>20%</td>
</tr>
<tr>
<td>China</td>
<td>24%</td>
</tr>
<tr>
<td>Russia</td>
<td>28%</td>
</tr>
<tr>
<td>South Korea</td>
<td>32%</td>
</tr>
<tr>
<td>Argentina</td>
<td>36%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>40%</td>
</tr>
</tbody>
</table>

Table 9:

<table>
<thead>
<tr>
<th>In which of the following territories, do you spend the majority of your MARKETING budget?</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>2%</td>
</tr>
<tr>
<td>Canada</td>
<td>4%</td>
</tr>
<tr>
<td>Mexico</td>
<td>8%</td>
</tr>
<tr>
<td>UK</td>
<td>10%</td>
</tr>
<tr>
<td>Germany</td>
<td>14%</td>
</tr>
<tr>
<td>India</td>
<td>18%</td>
</tr>
<tr>
<td>Japan</td>
<td>20%</td>
</tr>
<tr>
<td>China</td>
<td>24%</td>
</tr>
<tr>
<td>Russia</td>
<td>28%</td>
</tr>
<tr>
<td>South Korea</td>
<td>32%</td>
</tr>
<tr>
<td>Argentina</td>
<td>36%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>40%</td>
</tr>
</tbody>
</table>

Question: “What is your job title?”
Source: Credit Suisse proprietary survey

Question: “In 2016, what was the approximate size of your company’s total marketing budget?”
Source: Credit Suisse proprietary survey

Question: “Which of the following best describes your role in marketing budget allocation at your organization?”
Source: Credit Suisse proprietary survey

Question: “In which broad industry group does your company operate?”
Source: Credit Suisse proprietary survey

Question: “In which territory (ies) do you spend your MARKETING budget?”
Source: Credit Suisse proprietary survey

Question: “In which of the following territories, do you spend the majority of your MARKETING budget?”
Source: Credit Suisse proprietary survey
Figure 127: A strong net balance (44%) expects to increase total marketing budgets in 2017 by an aggregate of 3.6%

Question: "Looking at your TOTAL MARKETING BUDGET in 2017 vs 2016, by approximately how much do you expect it to grow / decline?"
Source: Credit Suisse proprietary survey

Figure 128: A strong net balance (54%) expects to increase total advertising budgets in 2017 by an aggregate of 4.1% (USA)

Question: "Looking at your TOTAL ADVERTISING BUDGET in 2017 vs 2016 in your LARGEST TERRITORIES, by approximately how much do you expect it to grow / decline?"
Source: Credit Suisse proprietary survey

Figure 129: A strong net balance (47%) expects to increase total advertising budgets in 2017 by an aggregate of 3.7% (UK)

Question: "Looking at your TOTAL ADVERTISING BUDGET in 2017 vs 2016 in your LARGEST TERRITORIES, by approximately how much do you expect it to grow / decline?"
Source: Credit Suisse proprietary survey

Figure 130: A small net balance (17%) expects to increase total advertising budgets in 2017 by an aggregate of 0.2% (Germany)

Question: "Looking at your TOTAL ADVERTISING BUDGET in 2017 vs 2016 in your LARGEST TERRITORIES, by approximately how much do you expect it to grow / decline?"
Source: Credit Suisse proprietary survey

Figure 131: A large net balance (32%) expects to increase total advertising budgets in 2017 by an aggregate of 2.2% (Europe)

Question: "Looking at your TOTAL ADVERTISING BUDGET in 2017 vs 2016 in your LARGEST TERRITORIES, by approximately how much do you expect it to grow / decline?"
Source: Credit Suisse proprietary survey

Figure 132: A strong net balance (54%) expects to increase total advertising budgets in 2017 by an aggregate of 3.7% (LatAm)

Question: "Looking at your TOTAL ADVERTISING BUDGET in 2017 vs 2016 in your LARGEST TERRITORIES, by approximately how much do you expect it to grow / decline?"
Source: Credit Suisse proprietary survey
Figure 133: A strong net balance (75%) expects to increase total advertising budgets in 2017 by an aggregate of 5.3% (Asia)

Figure 134: A strong net balance (52%) expects to increase total advertising budgets in 2017 by an aggregate of 3.7% (Global)

Figure 135: Asia is expected to see the most rapid aggregate advertising budget growth of 5.3%, whereas Europe is expected to see the least

Figure 136: A strong net balance (69%) expects to grow online spend; a large net balance (19%) expects to shrink print spend (USA)

Figure 137: A strong balance (82%) expects to grow online spend; a large net balance (17%) expects to shrink print spend (UK)

Figure 138: A strong net balance (60%) expects to grow online spend; a large net balance (25%) expects to shrink TV spend (Germany)

Question: "Looking at your TOTAL ADVERTISING BUDGET in 2017 vs 2016 in your LARGEST TERRITORIES, by approximately how much do you expect it to grow / decline?" Source: Credit Suisse proprietary survey

Question: "Looking at your TOTAL ADVERTISING BUDGET in 2017 vs 2016 in your LARGEST TERRITORIES, by approximately how much do you expect it to grow / decline?" Source: Credit Suisse proprietary survey

Question: "Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?" Source: Credit Suisse proprietary survey

Question: "Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?" Source: Credit Suisse proprietary survey
Figure 139: A strong net balance (75%) expects to grow online spend; a large net balance (25%) expects to shrink print spend (Europe)

<table>
<thead>
<tr>
<th>Media Type</th>
<th>Europe Net Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Media</td>
<td>84%</td>
</tr>
<tr>
<td>Online video</td>
<td>79%</td>
</tr>
<tr>
<td>Search</td>
<td>71%</td>
</tr>
<tr>
<td>Other online</td>
<td>68%</td>
</tr>
<tr>
<td>Cinema</td>
<td>-3%</td>
</tr>
<tr>
<td>Radio</td>
<td>-5%</td>
</tr>
<tr>
<td>Linear TV</td>
<td>-11%</td>
</tr>
<tr>
<td>Outdoor</td>
<td>-16%</td>
</tr>
<tr>
<td>Newspapers</td>
<td>-24%</td>
</tr>
<tr>
<td>Magazines</td>
<td>-26%</td>
</tr>
<tr>
<td>Other</td>
<td>-20%</td>
</tr>
</tbody>
</table>

Question: "Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?"  
Source: Credit Suisse proprietary survey

Figure 140: A strong net balance (71%) expects to grow online spend; a large net balance (31%) expects to shrink TV spend (LatAm)

<table>
<thead>
<tr>
<th>Media Type</th>
<th>LatAm Net Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Media</td>
<td>85%</td>
</tr>
<tr>
<td>Online video</td>
<td>77%</td>
</tr>
<tr>
<td>Search</td>
<td>69%</td>
</tr>
<tr>
<td>Other online</td>
<td>44%</td>
</tr>
<tr>
<td>Cinema</td>
<td>-15%</td>
</tr>
<tr>
<td>Radio</td>
<td>-23%</td>
</tr>
<tr>
<td>Outdoor</td>
<td>-23%</td>
</tr>
<tr>
<td>Newspapers</td>
<td>-31%</td>
</tr>
<tr>
<td>Magazines</td>
<td>-31%</td>
</tr>
<tr>
<td>Other</td>
<td>-40%</td>
</tr>
</tbody>
</table>

Question: "Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?"  
Source: Credit Suisse proprietary survey

Figure 141: A strong net balance (77%) expects to grow online spend; a large net balance (25%) expects to shrink print spend (Asia)

<table>
<thead>
<tr>
<th>Media Type</th>
<th>Asia Net Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search</td>
<td>88%</td>
</tr>
<tr>
<td>Social Media</td>
<td>88%</td>
</tr>
<tr>
<td>Online video</td>
<td>88%</td>
</tr>
<tr>
<td>Other online</td>
<td>46%</td>
</tr>
<tr>
<td>Cinema</td>
<td>-6%</td>
</tr>
<tr>
<td>Other</td>
<td>-6%</td>
</tr>
<tr>
<td>Radio</td>
<td>-6%</td>
</tr>
<tr>
<td>Outdoor</td>
<td>-6%</td>
</tr>
<tr>
<td>Newspapers</td>
<td>-25%</td>
</tr>
<tr>
<td>Magazines</td>
<td>-25%</td>
</tr>
<tr>
<td>Linear TV</td>
<td>-25%</td>
</tr>
</tbody>
</table>

Question: "Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?"  
Source: Credit Suisse proprietary survey

Figure 142: A strong net balance (73%) expects to grow online spend; a large net balance of (22%) expects to shrink print spend (Global)

<table>
<thead>
<tr>
<th>Media Type</th>
<th>Global Net Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search</td>
<td>83%</td>
</tr>
<tr>
<td>Social Media</td>
<td>83%</td>
</tr>
<tr>
<td>Online video</td>
<td>88%</td>
</tr>
<tr>
<td>Other online</td>
<td>4%</td>
</tr>
<tr>
<td>Cinema</td>
<td>-8%</td>
</tr>
<tr>
<td>Radio</td>
<td>-13%</td>
</tr>
<tr>
<td>Outdoor</td>
<td>-16%</td>
</tr>
<tr>
<td>Newspapers</td>
<td>-21%</td>
</tr>
<tr>
<td>Magazines</td>
<td>-23%</td>
</tr>
<tr>
<td>Other</td>
<td>-31%</td>
</tr>
</tbody>
</table>

Question: "Directionally over the next 5 years, how do you expect the mix of your ADVERTISING BUDGET to change?"  
Source: Credit Suisse proprietary survey

Figure 143: 45% of respondents cited "Return on investment" as the most important driver of advertising spend

<table>
<thead>
<tr>
<th>Driver</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on investment</td>
<td>45%</td>
</tr>
<tr>
<td>Ability to target consumers more precisely</td>
<td>27%</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>21%</td>
</tr>
<tr>
<td>Value for money</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
</tr>
<tr>
<td>Ability to buy programmatically</td>
<td>1%</td>
</tr>
</tbody>
</table>

Question: "What will be the most important driver of the shift in the mix of your advertising spending on media over the next 5 years?"  
Source: Credit Suisse proprietary survey

Figure 144: YouTube ad placement issues – 31% of respondents say they expect the platform to expand safeguards; only 8% say they plan to reduce spend

<table>
<thead>
<tr>
<th>Issue</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not advertise on YouTube</td>
<td>31%</td>
</tr>
<tr>
<td>Advertise on YouTube will not impact future spending in response to this news</td>
<td>8%</td>
</tr>
<tr>
<td>Advertise on YouTube, this news will not impact future spending</td>
<td>12%</td>
</tr>
<tr>
<td>Advertise on YouTube, this news will impact future spending</td>
<td>26%</td>
</tr>
<tr>
<td>Advertise on YouTube expect to prevent this from happening in the future</td>
<td>31%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
</tr>
</tbody>
</table>

Question: "It has recently been widely publicized that some advertising on YouTube has been displayed adjacent to extremist or offensive content. If you advertise on YouTube, how will this impact your future spending on the platform? SELECT AS MANY AS APPLICABLE"  
Source: Credit Suisse proprietary survey
Figure 145: YouTube ad placement issues: for the 8% of respondents who say they plan to reduce spend, only 13% say they will divert investment to TV

Figure 146: The vast majority of respondents (73%-82%) highlighted concerns about viewability, ad fraud, ad blocking, and transparency

Figure 147: Majority of respondents says they would "require platforms to adopt MRC viewability standards" and "require agencies to allow auditing of all transactions carried out on their behalf"

Figure 148: 64% of respondents says less than 50% of their digital advertising budget is traded programmatically

Question: "Your answer to the previous question indicated you plan to reduce future spending on YouTube in response to the news that some advertising has been displayed adjacent to extremist or offensive content. Where will that investment go?"
Source: Credit Suisse proprietary survey

Question: "Looking at your DIGITAL ADVERTISING BUDGET across all your territories today, please stipulate your level of concern (if any) about the following issues?"
Source: Credit Suisse proprietary survey

Question: "You expressed concern about some or all of the issues mentioned in the previous question. What action do you plan to take to address your concerns?"
Source: Credit Suisse proprietary survey

Question: "Looking at your DIGITAL ADVERTISING BUDGET across all your territories today, approximately what proportion is traded programmatically?"
Source: Credit Suisse proprietary survey
Figure 149: 41% of respondents says less than 50% of their overall programmatic budget is traded in a transparent way.

Figure 150: 86% of respondents says less than 50% of their overall programmatic budget is traded in a non-transparent way.

Figure 151: On a global basis, 50% of respondents allocate 0% of their current TV budget on targeted TV advertising.

Figure 152: ...in two years from now, 41% of respondents expect to allocate 0% of their TV budget on targeted TV advertising.

Question: "Looking at your OVERALL PROGRAMMATIC BUDGET across all your territories today, approximately what proportion is traded in a transparent way?"
Source: Credit Suisse proprietary survey

Question: "Looking at your OVERALL PROGRAMMATIC BUDGET across all your territories today, approximately what proportion is traded in a non-transparent way (i.e. via Xaxis, Accuen, etc.)?"
Source: Credit Suisse proprietary survey

Question: "Looking at your TV ADVERTISING BUDGET today in your LARGEST TERRITORIES, approximately what proportion is spent on targeted TV advertising?"
Source: Credit Suisse proprietary survey

Question: "Looking at your TV ADVERTISING BUDGET in your LARGEST TERRITORIES in two years from now, approximately what proportion do you expect to spend on targeted TV advertising?"
Source: Credit Suisse proprietary survey
Figure 153: 60% of respondents expect to move investment from TV to online video over the next two years, by an aggregate 22% (USA)

Figure 154: 47% of respondents expect to move investment from TV to online video over the next two years, by an aggregate 16% (UK)

Figure 155: 58% of respondents expect to move investment from TV to online video over the next two years, by an aggregate 27% (Germany)

Figure 156: 63% of respondents expect to move investment from TV to online video over the next two years, by an aggregate 21% (Europe)

Question: “Looking at your TV ADVERTISING BUDGET in your LARGEST TERRITORIES in two years from now, what proportion do you expect to move from traditional linear TV networks to online video?”

Source: Credit Suisse proprietary survey
Figure 157: 85% of respondents expect to move investment from TV to online video over the next two years, by an aggregate 16% (LatAm)

Figure 158: 62% of respondents expect to move investment from TV to online video over the next two years, by an aggregate 22% (Asia)

Figure 159: 64% of respondents expect to move investment from TV to online video over the next two years, by an aggregate 22% (Global)

Figure 160: Our respondents expect to move an aggregate 21%-22% of investment from TV to online video in USA, Asia, and Europe

Question: “Looking at your TV ADVERTISING BUDGET in your LARGEST TERRITORIES in two years from now, what proportion do you expect to move from traditional linear TV networks to online video?”

Source: Credit Suisse proprietary survey
Figure 161: Only 51% of respondents believe their recent social media campaigns delivered a higher ROI than traditional media campaigns...

Question: "Looking at the marketing dollars your firm spent on social media campaigns (e.g. on Facebook, Instagram, Twitter, Snapchat, etc.) over the last 2 years, do you believe the ROI (return on investment) was higher or lower than the ROI on traditional media campaigns (e.g. on TV, radio, outdoor, newspapers, etc.)?"  
Source: Credit Suisse proprietary survey

Figure 162: ...and only 43% of respondents believe streaming video campaigns delivered a higher ROI than traditional media campaigns...

Question: "Looking at the marketing dollars your firm spent on streaming video (e.g. on YouTube, Facebook, Hulu, and other sources) over the last 2 years, do you believe the ROI was higher or lower than the ROI on traditional media campaigns (e.g. on TV, radio, outdoor, newspapers, etc.)?"  
Source: Credit Suisse proprietary survey

Figure 163: ...and only 33% of respondents believe social media campaigns delivered a higher ROI than other digital campaigns...

Question: "Do you also believe the ROI was higher or lower than other digital campaigns (e.g. on digital display, online video etc.)?"  
Source: Credit Suisse proprietary survey
3. European Advertising

3.1 Summary

In Europe, we expect little slowdown in the digital "juggernaut" especially for Google and Facebook. This is despite concerns around ad blocking, transparency, ad fraud and viewability. This is because a) our CMO survey suggests most marketers still believe ROI is higher on digital vs traditional media b) audiences continue to increase on digital media and decline on linear TV and other traditional media c) agencies still push their clients towards digital (which happens to have higher margins) d) digital advertising may improve after the push from P&G for Media Ratings Council viewability standards, third party measurement for the “walled gardens”, agency transparency and the work of TAG and JICWEBS to cut ad fraud and provide better more acceptable advertising.

For TV advertising we expect it will at best hold share, helped by the impact of targeted TV advertising. We expect linear TV ad share to decline. While we expect targeted TV to be additive, to take share from other media and to benefit from the shift of “call to action” below the line spend on telemarketing and direct mail we do not expect the overall impact to be as substantial as in the US. Our sensitivity for the UK suggests TV would modestly increase share over the total above and below the line marketing budget (from 10.5% to 11.0) compared to the gain forecast in the US (16.5% to 25%). The working assumption here is that only 20% of the telemarketing and direct mail spend migrates to TV and 80% to digital media. This is largely a function of the following factors:

- Targeted advertising of the type developed by AdSmart (dynamic ad-insertion) will not be widespread across the whole of Europe for some time. Sky leads the way in the UK and will do in Italy and Germany, but it needs more large network broadcasters to join this project and provide additional inventory, even in the UK.

- There is some progress in TV measurement across platforms. For example the Dovetail Fusion initiative in the UK from BARB (run by Kantar Media) will measure TV consumption across both TV and other devices such as smartphones. It is due to launch in H1 2018 and will effectively update the TV buying currency. However, there is nothing in Europe which resembles the Open-AP platform in the US at this point.

- Europe remains a fragmented market with TV split along national lines which limits the progress of targeted TV across the whole continent.

- In Europe as a whole addressable pay TV penetration is significantly lower than the US (c.55% vs 87%) which provides some limits on the amount of the population contributing data via set top boxes having TVs which are capable of being “AdSmarted”. ProSiebenSat1 has discussed addressable TV being available from 2018 onwards in Germany using Personally Identifiable Information (PII) but this could need homes to buy new TVs which will delay widespread implementation.

- Regulation in Europe is likely to be far tougher and more protective of the consumer than in the US. This may inhibit targeting both on TV and online. The “EU regulation concerning the respect for private life and the protection of personal data in electronic communications” requires explicit opt-in for tracking and will allow opt-out at anytime. It applies to all platforms including OTT and mobile as well as the machine to machine Internet of Things environment. It also applies to metadata. Warnings and restrictions are likely for personalised location-based tracking and promotions.

- In terms of stock conclusions ITV (OP TP 240p) could benefit from TV becoming more measurable across platforms and targeted TV over time. However it has not yet made any of its inventory available for targeted advertising or set up an Open AP-type platform with other broadcasters. If TV broadcasters begin to be seen as strong beneficiaries of targeted TV then ITV’s strategic value could increase and could
become a target for larger operators seeking vertical integration. Sky (Neutral, TP 1075p) is the clearest beneficiary of targeted TV advertising in Europe, but since this is likely to remain a small portion (<5%) of its overall revenue and is subject to an offer from FOX we make no changes to our view at this time. WPP (OP TP 1920p) will likely benefit from our CMO survey showing that movement of advertising to digital will continue, as will the growth of programmatic as a way of trading advertising. Agencies are also likely to maintain a strong position as cross media advisors, buyers and content creators even in the event of a Google/Facebook duopoly in digital (which is arguably already the case in Western developed markets). With that said it faces some short and medium term challenges in terms of account losses and (like other agencies) pressure on digital media buying in the US due to transparency concerns.

3.2 Sky and AdSmart

3.2.1 Sky: the leading provider of targeted TV advertising solutions

The AdSmart platform was launched in the UK in January 2014. This was around the same time Comcast launched targeted TV advertising through its X1 platform in its footprint in the US. This came after a successful 6 month AdSmart trial beginning in H1 2013.

The technology behind the service took several years to develop and is not easily replicable. At launch the service had 40 brands, with 25% being new to TV or Sky and now over 940 advertisers have used the service of which 74% were new to TV or to Sky which shows how the business has expanded the addressable market for its inventory.

Sky remains the only provider of targeted TV advertising at significant scale in Europe, the second largest being Liberty Media. The AdSmart service will be rolled out to other European territories within the next 12 months including Italy and Germany.

Figure 164: Sky AdSmart roll-out

Source: Company data

3.2.2 The size of AdSmart: successful after just two years

AdSmart now has a run rate net revenue of GBP60m which is approximately 11% of Sky's UK FY2016 advertising revenue (GBP524m) and 1.5% of the total UK TV market. We estimate it is still growing 20-30%. Since launch the business has generated over GBP100m.
The business is designed not to take share from other TV channels, but really to take share from internet, direct response media, local and regional media including press and regional TV.

**Figure 166: AdSmart has been quite successful in taking share from other media**

Across the whole group including Ireland, Germany and Austria, Italy and the UK, AdSmart can address a higher total addressable market than TV alone. In the UK Sky Media has a 30% market share and while this can grow gains are harder to come by, whereas AdSmart allows the business to tap into press and digital media. Of the total European market Sky's market share of 3% allows more room for growth.
3.2.3 How AdSmart works

Sky has a panel of 500,000 homes in each of its territories which give access to market leading data and is 100x larger than the standard industry panels such as BARB in the UK. Sky is able to combine this very granular data with data from third parties. Sky has access to data on the affluence, gender, location, postcode, viewing preferences, purchasing decisions and intentions of its subscribers.

The technology sends library of adverts via satellite to the set top box. It selects which adverts match a household’s profile and then inserts them into a live ad break. The adverts are selected based on the household's postcode together with publicly available data from companies such as Experian.

Sky uses a small portion of advertising inventory from its own channels as well as other channels that it represents from a sales perspective (Discovery, Fox and National Geographic. It also sells for Channel 5 (owned by Viacom), but has not yet struck deals with ITV or Channel 4. This might be because it could take a long time for technical integration or because ITV and others have regional sales which might be impacted.

AdSmart does many of its advertising deals direct but also collects money from agencies such as GroupM. AdSmart has invested in its own regional and local sales forces to better explain the advantages to advertisers. It to some extent competes with platforms offering programmatic solutions such as Xaxis and resists selling its valuable inventory to these platforms. The targeting ability of AdSmart is such that it is able to command a price premium to regular TV inventory of c.8x on average. As volume grows we would expect this premium to decline slightly.
3.2.4 Privacy

AdSmart does not provide customer names and addresses to advertisers. The data is anonymized. Sky customers were provided with a chance to opt out in 2011 when they were informed of AdSmart by letter. Sky states customers can opt out at any time online or by phone.

3.2.5 Wider Sky advertising ambitions

AdSmart sits within Sky’s wider advertising ambitions. This is based on expectations for growth in all territories, including the ad share in Italy (6%) and Germany (2%). This is partly this is based on 1) price and audience convergence and 2) on growing inventory; and 3) the growth of AdSmart

- Growing subscribers/viewers
- Launching new channels
- Extending reach of existing channels
- Representing more third party channels
On our estimates Sky does not quite reach the GBP1bn target in 2020 but is close at c. GBP950m. This is because we are cautious on the UK due to Brexit. We assume -4% decline in 2017 and 2018 before modest recovery thereafter. We are more bullish on the growth in Italy and Germany for Sky.

### 3.2.6 Sky might find partners to push targeted TV forwards

The Telegraph reported that Sky and Virgin Media would reach an agreement to push targeted TV in the UK ("Sky and Virgin Media in talks over targeted TV advertising tie-up". 17th April 2017). This partnership, the Telegraph reports, would extend the household reach of AdSmart by adding c.4m homes and see Virgin Media take a revenue share of the advertising distributed. Sky Media would handle advertising sales.
Liberty Global is rolling out a targeted TV solution to its markets. At the Future of TV Advertising Forum in 2016 John Paul, MD, Advanced Advertising and Data, said that Liberty Global’s in-house solution would go live in Belgium via Telenet in early 2017, partnering with the broadcaster SBS. Unlike Sky and in the US, Liberty Global does not own its own advertising inventory (with the exception of Latam). The broadcasters do the selling own the inventory but Liberty has the enabler role with its data and access to set-top boxes. Liberty Global had at YE 2016 25m customers, 10m mobile subscribers and 50m RGUs in Europe, Latin America and the Caribbean, covering over 30 countries.
3.3 A view on the future of TV from WPP

We interviewed Rob Norman, Chief Digital Officer at Group M and Chairman of Group M North America and asked three deceptively simple questions:

- Will TV advertising share significantly decline?
- What impact could targeted TV have?
- What impact would a Facebook/Google duopoly have on advertising agencies?

The answers are as follows:

3.3.1 Linear TV share will decline modestly

Rob’s view is that TV will be reasonably robust based on both reach and relevance. The average TV viewing is still c.4 hours per day in the US market (not including SVOD services). This compares to c.11 minutes per day for magazines. Magazines have declined but are still punching above the weight the time spent on magazines might suggest, so even if TV viewing falls it will still be a powerful medium with both reach and engagement. Nevertheless there will likely be a modest decline in linear share over the next few years as audiences continue to shift to digital media.

3.3.2 Targeted TV will keep overall TV advertising share likely flat

Targeted TV is in its infancy so it is still too soon to make any firm predictions. However the efforts of Sky and Comcast so far look promising and the Open AP initiative is a further step forward. This will help TV provide a higher value to the advertising break even if overall advertising minutes go down, due to the ability to target. What will be critical for targeted TV will be a) whether it can genuinely attract the long tail of advertisers which currently use Facebook and Google (Rob estimates only 30% of Google and Facebook’s customers use TV currently) in which case targeted TV could actually grow TV advertising share, and b) how quickly and comprehensively the TV eco-system co-operates on data sharing and targeting. The likes of Fox and Disney need to co-operate extensively with the cable and satellite companies on this project.

3.3.3 Ad agencies will still be fine even if there is a Google/Facebook duopoly

- Even sophisticated digital only companies which buy search direct from Google still use WPP for planning and buying other media including digital media. WPP also provides visibility on emerging channels such as Snap.
- Advertisers will still need visibility across media and categories and across the globe which only an agency could give.
- Advertisers would still need independent advice.
- Advertisers are still likely to be able to obtain better prices by banding together through an agency buying point than going direct.
- Creative services are still not likely to become a core competency for Facebook and Google.

We would observe that agencies arguably already face an effective duopoly from Facebook and Google.
3.4 A view from Europe: little to slow the digital juggernaut; TV to slowly decline

3.4.1 Digital to continue to gain share, TV to lose share

Judging by both our own CMO survey and our consultation with global industry experts the shift of spending into digital media is unlikely to abate and TV advertising is likely to lose share over the medium and longer term. Both the survey and the industry experts suggest that targetted TV and on-demand TV advertising, while helping, are unlikely to make up entirely for the shift of spending away from TV to digital.

Our time series for the CMO survey shows that globally the anticipated mix is increasingly turning away from linear TV to digital media. The propensity for switching to search and social media is increasing. This is despite rising concern about viewability of digital ads and about ad blocking software. Concerns about ad fraud have slightly declined according to our survey even though this is a persistent problem not found on traditional media.

3.4.2 In many cases TV has better ROI but advertisers believe digital has better ROI

Among others the media advisory and auditing firm Ebiquity has argued that for many advertisers digital has been over-invested and better ROI can be delivered by TV which has a better price/coverage ratio. They argue that although audiences have moved to digital, audiences on TV have not declined very significantly. They are not alone. In December 2016 the Coca-Cola CMO stated that the ROI for Coke TV advertising was 70% better than digital (USD 2.13 vs USD 1.26 for every 1 USD spent) ("Coke CMO defends TV", Ad Age 9th December 2016)

3.4.3 Agencies may be pushing their clients to digital partly due to higher margins

It may also be that one of the powerful reasons advertisers spend so much money on digital (the UK now spends 50% of all advertising on digital) is that advertising agencies have strongly pushed their clients to digital. As well as audience growth on digital, some industry experts believe agency margins on digital buying and planning can reach 30-50% due to the complexity and the lack of transparency. This compares to traditional media buying margins of c.20%.

Despite this evidence on the superiority of TV ROI, a majority of the CMOs in our survey believe the opposite. They believe ROI on social media and streaming video is better than traditional media. This belief, whether inspired by their own modelling or by their advertising agencies is certainly fueling digital advertising growth.
3.4.4 The controversy over YouTube is unlikely to slow online video spending

The recent controversy which began in the UK with a series of articles in the Times, highlighting brands being placed next to inflammatory material on YouTube is unlikely to inflict much permanent damage to spending on online video or programmatic advertising. Our survey shows just 8% of respondents saying they will reduce spending in the future. We expect this will be short-lived until Google put in place further preventative measures in place, as they have committed to do. Given the huge amount of content being uploaded to YouTube daily it is unlikely brands can ever be completely protected. However, some programmatic platforms do offer higher protection than others, even if this comes at a cost. It is noticeable that in the majority of countries almost all the money taken off YouTube has not been re-deployed on TV.

Figure 176: YouTube controversy likely to be short-lived

Question: “It has recently been widely publicized that some advertising on YouTube has been displayed adjacent to extremist or offensive content. If you advertise on YouTube, how will this impact your future spending on the platform? SELECT AS MANY AS APPLICABLE”

Source: Credit Suisse proprietary survey
3.4.5 Improvements in measurability could drive further digital investment

P&G’s CMO Marc Pritchard has led the way in arguing that advertisers should “clean up the media supply-chain”, saying, “We have a media supply chain that is murky at best and fraudulent at worst. We need to clean it up, and invest the time and money we save into better advertising to drive growth” (Source: “P&G issues call to arms to ad industry over antiquated media buying,” Marketing Week, 20th January 2017). He has said that P&G will be taking the following action:

- Working with TAG (Trustworthy Accountability Group) to prevent ad fraud (We note TAG in the US and JICWEBS (Joint Industry Committee for Web Standards) in UK have allied to tackle ad fraud of which there is an estimated USD 8.2bn in the US alone).
- Adopting the MRC (Media Ratings Council) standard on viewability of ads
- Adopting MRC accredited third party verification for digital adverts (especially for the “walled gardens” such as Google and Facebook.
- Obtaining fully transparent advertising agency contracts

(Source: “P&G issues call to arms to ad industry over antiquated media buying,” Marketing Week, 20th January 2017)

If others follow then this is likely to transform the advertising industry for the better. In our view improved transparency and measurement could cause some advertisers to re-assess their views on ROI, but in the long run a clearer picture and more trust in digital measurement is actually likely to accelerate digital investment and not impede it. This is the case even if such things as the MRC standard on video viewability (2 continuous seconds with at least 50% of the video in view) (Source: MRC Mobile Viewable Ad Impression Measurement Guidelines Final Version – June 28, 2016) seem to set a low bar. It is an initial step to consistency and comparability.

Figure 177: Majority of respondents says they would "require platforms to adopt MRC viewability standards" and "require agencies to allow auditing of all transactions carried out on your behalf"

<table>
<thead>
<tr>
<th>Action</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Require digital platforms to adopt MRC (Media Rating Council) viewability standards</td>
<td>52%</td>
</tr>
<tr>
<td>Require digital platforms to adopt other viewability standards (please explain below)</td>
<td>18%</td>
</tr>
<tr>
<td>Require digital platforms to be accredited by the Trustworthy Accountability Group (please explain below)</td>
<td>38%</td>
</tr>
<tr>
<td>Require digital platforms to adopt other anti-fraud standards (please explain below)</td>
<td>22%</td>
</tr>
<tr>
<td>Require agencies to use funds for media payment only</td>
<td>25%</td>
</tr>
<tr>
<td>Require agencies to disclose and return all rebates</td>
<td>42%</td>
</tr>
<tr>
<td>Require agencies to allow auditing of all transactions carried out on your behalf</td>
<td>50%</td>
</tr>
<tr>
<td>Other (please specify):</td>
<td>7%</td>
</tr>
</tbody>
</table>

Question: “You expressed concern about some or all of the issues mentioned in the previous question. What action do you plan to take to address your concerns?”

Source: Credit Suisse proprietary survey
3.4.6 No common understanding or measurement of ROI, but digital can have a strong impact on brand lift as well as direct response/purchases

One consistent theme we heard from our consultation with industry experts and media auditing companies and industry bodies was that there was no common definition or consistent understanding of ROI especially on social media. In most cases cross platform attribution models were deemed not yet strong enough to be able to tell how effective marketing spend really was. The plethora of metrics and the lack of consistency across platforms such as Snap, Facebook and Google made such attribution very difficult.

With that said a study by the IAB has found that digital had a strong impact on brand awareness for products traditionally deemed to work better on TV, namely autos and FMCG.

**Figure 178: Digital had a strong impact on a major auto model launch**

![Digital had a strong impact on a major auto model launch](Source: IAB Cross-Media Ad Effectiveness Study January 2017)

- Digital has strong impact, considering that ad campaigns typically spend more on traditional media

**Figure 179: Digital + TV worked best for FMCG**

![Digital + TV worked best for FMCG](Source: IAB Cross-Media Ad Effectiveness Study January 2017)

- Digital has strongest single-source impact on purchase intent
- Digital has strong impact, considering that ad campaigns typically spend more on traditional media

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*Attribution analysis quantified the role of individual media channels in generating lifts in brand metrics. Individual media channels include TV, Digital (Desktop and Mobile Web), and all possible combinations.*
3.4.7 TV continues to lose share

In the meantime linear TV is continuing to lose advertising share, even including advertising sold on OTT (Netflix and Amazon do not yet take advertising on their video services, which is one of their attractions for consumers).

In the UK linear viewing (including catch-up) has declined by 4% since 2010 to 230 minutes per day, still above the c.217 minutes in 2006, but on a steady downward trend.

**Figure 180: Linear TV (inc OTT) is losing ad share**

![Linear TV Share Graph]

Source: IAB (respondents using TV, digital video, advanced TV and mobile)

**Figure 181: The trend away from TV is consistent across all industry sectors**

<table>
<thead>
<tr>
<th>Sector</th>
<th>2016 Allocation</th>
<th>% Change from 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advertising</td>
<td>29%</td>
<td>-19%</td>
</tr>
<tr>
<td>Health &amp; Beauty</td>
<td>33%</td>
<td>-19%</td>
</tr>
<tr>
<td>Food &amp; Beverage</td>
<td>29%</td>
<td>-15%</td>
</tr>
<tr>
<td>Household Goods</td>
<td>28%</td>
<td>-18%</td>
</tr>
<tr>
<td>Financial Services</td>
<td>25%</td>
<td>-4%</td>
</tr>
<tr>
<td>Retail</td>
<td>35%</td>
<td>-10%</td>
</tr>
<tr>
<td>Telecom</td>
<td>31%</td>
<td>-16%</td>
</tr>
<tr>
<td>Broadcast/Cable/OTT TV</td>
<td>29%</td>
<td>-19%</td>
</tr>
<tr>
<td>Digital Video (not including Mobile Video)</td>
<td>30%</td>
<td>7%</td>
</tr>
<tr>
<td>Advanced TV</td>
<td>18%</td>
<td>NC</td>
</tr>
<tr>
<td>Mobile</td>
<td>21%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Source: IAB (respondents using TV, digital video, advanced TV and mobile) (NB figures circled signify notable difference)

The UK shows this trend clearly and the latest IAB figures (just published in April 2017) contain some key insights.

- Digital advertising was up 17.3% to GBP 10.3bn
- TV was GBP 3.992bn was up 1.3% (according to Zenith)
- Mobile grew 51% to GBP 3.87bn. This was an increase of GBP1.2bn, representing 99% of all growth in digital. Mobile is now 38% of digital vs 0% in 2008.
- Mobile is split 50/50 between search and display
- All Search is still growing fast, up 15%
- Mobile search was up 54% but traditional search grew less than 1%.
- Display was up 26% driven by content, native and in-feed (+28%) and online video (+56%). Banners were down 8%. 

The Future of Advertising
The most relevant stats from a TV vs digital point of view are the relatively low share of online video taken by the traditional broadcasters which includes ITV, Channel 4 and Sky. This was only c.GBP200m which was 18% of online video and 33% of the GBP603m spent on pre and post roll adverts. This was little changed from the 32% in 2015. The bulk of the non-broadcaster VOD is actually taken by YouTube. This suggests YouTube is twice as large in revenue terms for online video as all of the traditional broadcasters put together.

Figure 182: Non-broadcaster VOD is 67% of pre-post roll

Source: IAB

The good news was that pre and post roll grew by 55%, faster than the growth of 43% for outstream and social video. However, while pre and post roll is dominant on tablets, outstream and social is dominant on mobile. This suggests that over time broadcaster VOD may become a smaller force as mobile continues to grow.

Finally, while 60-70% of digital display advertising is already traded programmatically in the UK, the IAB expects this to rise to 80-90% by 2019. This is despite all the issues and lack of transparency with the trading of digital media.

Figure 184: UK programmatic is expected to be the way in which 80-90% of digital display is traded by 2019

Source: IAB
3.5 Impact on ad agencies

Given our view that advertising will continue to shift at pace to digital platforms and gradually away from TV our view on how this will impact the ad agencies is as follows:

- Agencies will still have a pivotal role in media buying and planning even if there was a duopoly in digital between Google and Facebook.

- First, one could argue there is already an effective duopoly in digital between Facebook and Google (c77% of global digital advertising excluding China and Russia) and the agencies are if not thriving, doing a little bit better than merely surviving.

- Clients would need agencies for 3 reasons 1) for guidance in a cross platform, cross media world where they would need to understand how advertising was priced and how it worked together across the media, 2) to seek efficiencies from banding together to create a media buying pool to negotiate against media owners and 3) coming up with creative content which is not a core skill for Facebook or Google despite some creative hires.

- The clean-up of the digital media supply chain and the imposition of more transparent contracts is likely to be painful for the agencies, with Publicis, Omnicom and WPP being the most sizeable in digital media buying. The size of the impact of this on margins is unclear (in our initiation on Publicis and WPP we suggested a 20% elimination of sales/profit in US digital buying could have a c.mid single digit impact on group profitability). It could mitigated by a) the agencies finding ways of making money not ruled-out by the new contracts (they are resourceful) and b) pricing up their services to a level where they can make a reasonable margin without resorting to non-transparent practices. The latter is the course suggested by P&G, however, in a period of low growth and low inflation and pressure on FMCG companies and others through zero-based budgeting and with intense competition for organic growth between agencies (and consultants) this may be quite difficult.

Figure 185: Comparison of media buying revenues between agencies

Source: WPP, Company data

- The wild-card for the agencies is the potential extension of the production investigation by the DOJ into US media buying. This could accelerate the unwinding of non-transparent practices. For the avoidance of doubt all of the agencies have rejected the findings of the ANA report and contend they have not engaged in any of the practices described in the report.
3.6 The future of the European FTA broadcaster

Targeted advertising on free-to-air (FTA) TV is still in the nascent stages in Europe, with Sky's AdSmart platform offering the only real potential to specifically target consumers via dynamic ad insertion on Sky's channels. Currently marketers and media buyers in Europe view targeted TV as interesting, but too niche to comprise a significant part of advertising budgets short term.

Currently none of the major FTA broadcasters in Europe have made a significant investment into targeted linear TV. As such it is challenging to assess which broadcasters might be structurally best placed long term if targeted TV presents a credible alternative to the targeting available with online media. In addition lower pay TV penetration in Europe on average relative to the US presents a barrier to the ability of targeted TV to become widespread in Europe. However, we believe that as consumer eyeballs fragment over an increasing number of platforms/media marketers will seek more and more targeted solutions to reach their customers and as such FTA broadcasters that are able to improve the targeting of their inventory would be best placed to defend against online advertising.

Currently the USP of the main channels of the European broadcasters (ITV, TF1, Telecinco, A3, ProSieben, Sat.1, RTL etc.) is the broad mass market reach at a relatively cheap price relative to other media. Though we think that marketers would welcome any enhanced targeting capabilities on the TV networks, we believe they would likely be sensitive to the pricing premium of targeted products relative to the value over more broad based regional/demographic targeting.

In our view the broadcasters that will be in the best position are those which operate within markets where TV still offers significant value to marketers vs other media and history. In our view the best example of this would be Mediaset España and Atresmedia in Spain where TV pricing is still -30% below peak and viewing on linear channels remains robust.

In addition vertically integrated broadcasters like ITV will be partially protected from upstream disruption by its studios business. This affords ITV greater control over the content on its network but also presents a structural opportunity from the rising demand for high quality drama and formats.

Figure 186: Spanish TV advertising is significantly below peak

![Figure 186: Spanish TV advertising is significantly below peak](image)

Note: UK converted at 0.89€/£; Source: ZenithOptimedia, Credit Suisse research.

Figure 187: Germany has the lowest % of spend in TV

![Figure 187: Germany has the lowest % of spend in TV](image)

Source: ZenithOptimedia, Credit Suisse research
3.6.1 UK time spend vs ad share

In the UK time spent watching TV is expected to decline by -2% per annum 2016 to 2018, representing a 3ppt decline in share of time spent with all media from 33% in 2016. This is slightly lower than time spent in the US (34% in 2016). Total time spent consuming media is expected to increase +1% CAGR, driven by increasing time on digital media. During the same time period TV share of advertising spend is expected to fall by -1.5ppt from 23.4% in 2016. As such by 2018 there will still be a significant disconnect between time spent watching TV and advertising spend. On the same metric, Digital and Print appear to be overearning on advertising spend. However, engagement with media is also an important consideration for marketers and perceived lower engagement with radio has historically limited investment in the media.
25 April 2017

The Future of Advertising

Figure 192: UK - Share of time spent 2016

Figure 193: UK - Share of time spent 2018

Source: emarketer, Credit Suisse research

Figure 194: Consumer media engagement index

Source: Newspapers Canada, Credit Suisse research

Figure 195: Consumer advertising engagement index

Source: Newspapers Canada, Credit Suisse research

Figure 196: Revenue from online free TV advertising has grown 40% over the past 5 years

Source: Ofcom communications market report 2016, Credit Suisse research

Figure 197: Minutes of video content viewed in the UK 2015-2030E

Source: Thinkbox, Credit Suisse estimates beyond 2015
3.6.2 UK advertising in 2030

We are more cautious on the potential for growth in targeted TV advertising in the UK than in the US due to the lower pay TV penetration in the US as well as the limited development of targeted FTA inventory currently available relative to the US.

We put together forecasts for the UK media and marketing spend in 2030 broadly in line with the assumptions made for the US forecasts.

- We assume marketing spend will grow 4% pa 2017-2030, taking the total sum allocated by advertisers on advertising and marketing to $65bn. This is slower than the 6% growth in 1980-2016 (assuming below the line marketing spend has remained constant as a % of total marketing budgets).

- We assume marketing spend will be split into the same two broad buckets ("brand building" and "call to action" as in the US market above and assume the mix between the two types of marketing spending will be the same as in the US, i.e. c.35% in brand building and c.65% in calls to action.

- In aggregate, we expect TV and digital platforms will account for 59% of all marketing spend on brand building in 2030, with a further 32% on sponsorship and PR. We see brand building expenditure on Print, Radio, Outdoor and Cinema combined declining to 9% in 2030, from 22% in 2016.

- We assume that most of the spend on Direct Mail and Telemarketing will migrate to digital platforms – causing below the line call to action spend to fall to 23% of total budgets from 45% in 2016. This migration of Direct Mail and Telemarketing spend essentially creates a £15bn opportunity (the implied valued of the fall in share from 45% in 2016 to 23% in 2030) for other digital platforms, of which TV will be one in our view. We assume the shift of spend into targeted TV will be slower in the UK than in the US. From 2020 we assume that 20% of all spend shifted from below the line "call to action" spend to media spend will move into targeted TV, with the remainder shifting into internet spending.

- We assume call to action spending on traditional media will decline substantially by 2030, expecting 65% of call to action spending being captured on TV and Digital in 2030, vs 30% in 2016.

- In total, we forecast that Digital, as defined today, will grow by 10% CAGR 2017-2030, and TV will increase by 4% pa over the same period.
3.6.3 ITV sensitivity

As an illustrative example if we assume that beyond 2020 ITV advertising grows in line with our scenario above for the UK TV advertising market with modest EBITDA margin expansion to 35% by 2025 from 30% in 2016 the potential impact on ITV’s share price is +3% upside. This puts our illustrative expectation of ITV’s 2025 EPS (30.3p) on a 13.5x P/E multiple (current 2017E) and discounts the value back at 8% to a PV of 223.5p.

While we believe this scenario is a useful starting point for assessing the potential changes impacting ITV, we refrain from drawing concrete conclusions from this analysis given the significant level of uncertainty surrounding our forecasts. In addition this scenario assumes +4.5% Studios EBITA CAGR 2016-2025 and flat Studios margin over the same time period which could prove conservative. However, we do believe that in the current landscape the ability of targeted TV to defend against growth in online advertising spend will be greater and have a commensurately more positive impact on US media companies than in Europe.

Figure 199: Illustrative example of the impact of targeted advertising on ITV

<table>
<thead>
<tr>
<th>Company</th>
<th>Market Cap</th>
<th>Domestic TV advertising revenue % of total</th>
<th>Domestic advertising CAGR 2011-2016</th>
<th>Bull case trend growth</th>
<th>EPS 2025</th>
<th>2017E P/E</th>
<th>Stock 2025</th>
<th>PV @ 8%</th>
<th>% upside</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITV</td>
<td>£8,715m</td>
<td>54.6%</td>
<td>2.0%</td>
<td>4.80%</td>
<td>30.6p</td>
<td>13.5x</td>
<td>413.8p</td>
<td>223.5p</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Company data, Credit Suisse estimates
Figure 200: UK media spend split 2016

Source: Zenith Optimedia

Figure 201: UK media spend split 2030E

Source: Zenith Optimedia, Credit Suisse estimates

Figure 202: UK total media spend £m

Source: Credit Suisse estimates, Zenith Optimedia

Figure 203: UK TV media spend £m

Source: Credit Suisse estimates, Zenith Optimedia

Figure 204: UK internet media spend £m

Source: Credit Suisse estimates, Zenith Optimedia

Figure 205: UK cinema media spend £m

Source: Credit Suisse estimates, Zenith Optimedia
3.6.4 Potential for upstream disruption

Overall we believe that increasing competition for content from OTT platforms presents a risk for FTA broadcasters due to rising content costs which may put pressure on margins. However, on sports rights we think that the risk of upstream disruption to European FTA broadcasters from OTT platforms is lower than in the US due to the protected nature of key European sports events. In the UK this regulation prevents the exclusive broadcast of sports events deemed to be of high national importance on broadcasters other than the 4 PSBs. Typically European FTA broadcasters do not spend a significant amount on sports rights that do not fall into these protected categories. As such any OTT platform is unlikely to compete for the same sports rights as European FTA broadcasters as it would be unable to gain exclusivity without a change in regulation.

3.6.5 Feedback from European media buyers

When asked about the threat of online advertising taking share from TV, media buyers in Europe generally believe that TV still presents good value to clients relative to other media, and do not expect any major changes for at least 18 months (note this has been the case for at least the last 3 years of running our European advertising survey). While buyers state that the ability to target audiences is key, they do not expect a significant shift in the way TV inventory is sold in the medium term.
UK

Sky AdSmart launched at the start of 2014 but buyers believe that the limited number of public successful campaigns makes it hard to justify the significant pricing premium vs traditional TV inventory, particularly for advertisers with a broader, general target audience. In addition, lower pay TV penetration in the UK (68%) may present a greater barrier to targeted TV than in the US. Buyers state that for marketers with very specific regional/demographic requirements AdSmart can work well and expect the use of AdSmart to increase as Sky expands over third party channels.

Advertisers are concerned about the placement of ads next to inappropriate content on online platforms but buyers believe any impact will be very short lived as they expect YouTube to develop a solution. Buyers believe one consequence could be an increase in the use of third party verification companies, which may increase pricing slightly for online video, though again they do not expect this to have a material impact on the growth in online advertising.

One key focus of advertisers in the UK is attribution of sales (i.e. which advert/media drove the consumer to purchase), though accurate data and trends are hard to obtain.

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**Figure 210: UK advertising intensity**

Source: Credit Suisse estimates, ZenithOptimedia

**Figure 211: UK ad spend 2001-2016: Shift of spend out of print into online, TV slightly down**

Source: Credit Suisse estimates, ZenithOptimedia

**Figure 212: Retail is the largest category in the UK**

Source: Company data, Credit Suisse estimates

**Figure 213: The internet is the largest sector in the UK with over 50% share of the total ad market**

Source: Credit Suisse estimates, ZenithOptimedia
Spain

In Spain buyers continue to expect the market to be dominated by Mediaset España and Atresmedia. Both broadcasters are beginning to highlight improved targeting through data from Kantar which is providing better targeting for their inventory. In addition Spanish media buyers expect Movistar to develop a platform similar to Sky’s AdSmart in order to better target TV inventory, though as with the UK this is expected to be niche in the short to medium term.

In their view buyers do not expect Mediaset España and Atresmedia to significantly alter the proposition to clients short term and believe that TV is still cheap relative to other media and vs history which will support investment as long as viewing remains robust.
Figure 218: FMCG was nearly 40% of the Spanish ad market in 2016

Source: Company data, Credit Suisse estimates

Figure 219: Spanish advertising market 2016

Source: Credit Suisse estimates, ZenithOptimedia

Figure 220: Spanish total advertising spend 1980-2016

Source: ZenithOptimedia

Figure 221: Spanish TV ad spend 1980-2016

Source: ZenithOptimedia

Figure 222: TV share of Spanish ad spend

Source: Credit Suisse estimates, ZenithOptimedia

Figure 223: Spanish PMI new orders index is stable, well above 50

Source: Thomson Reuters Datastream
Germany

Sky Ad smart is not due to reach Germany until 2018, and as in other European countries addressable TV is currently not a priority for FTA broadcasters. Currently buyers are relaxed about the threat of online advertisers believing that TV ad spend is supported by the significant proportion of spend in print. Some very small clients are cutting TV spend but this is not a significant trend. However, media buyers believe that audience share losses at ProSieben and RTL’s core channels could be problematic as competition from smaller DTT channels rises.

ProSieben has begun to develop HbbTV-enabled (Hybrid broadcast broadband TV) addressable TV formats. Currently targeting is limited to broad location based options but the roll out of HbbTV 2.0 will enable more granular targeting based on household members and internet activity on other devices in the home. This platform will require users to opt in before their TV sets will be available for targeted advertising. ProSieben expect this technology to be available in 5m households by 2018.

Figure 224: Development of multiple targeting options for addressable TV ads

Figure 225: German advertising intensity

Figure 226: German advertising spend 2001-2016

Source: ProSiebenSat.1 company presentation

Source: Credit Suisse estimates, Thomson Reuters Datastream, ZenithOptimedia

Source: Credit Suisse estimates, ZenithOptimedia
Figure 227: German TV market categories

Source: Company data

Figure 228: German advertising market 2016

Source: Credit Suisse estimates, ZenithOptimedia

Figure 229: German total advertising spend 1980-2016

Source: ZenithOptimedia

Figure 230: German TV ad spend 1980-2016

Source: ZenithOptimedia

Figure 231: TV share of German ad spend

Source: Credit Suisse estimates, ZenithOptimedia

Figure 232: German PMI new orders index has remained solid and stable well over 50

Source: Markit
Italy

In Italy, as in the UK, buyers have not seen a huge impact from the launch of AdSmart at the end of 2016 but believe that it has the potential to be interesting for certain clients. According to media buyers currently the level of targeting on AdSmart in Italy is less granular than in the UK, though they expect this to improve as the platform grows. Buyers believe that it could be useful for attracting a marketer that was currently not using TV due to lack of targeting but was unlikely to result in a significant migration of spend from traditional TV. Currently investment in online video advertising is in addition to traditional TV ad spend, rather than as a substitution.

Figure 233: Italy advertising intensity

Figure 234: TV share of Italian ad spend

Source: Credit Suisse estimates, Thomson Reuters Datastream, ZenithOptimedia

Figure 235: Italy PMI new orders index has recovered in recent months

Source: Markit

Figure 236: Italian ad spend 2001-2016: Internet has grown strongly, largely at the expense of print

Source: Credit Suisse estimates, ZenithOptimedia

Figure 237: Food is the largest category in Italian TV advertising

Source: Company data, Credit Suisse estimates

Figure 238: TV still accounted for almost half the ad market in Italy in 2016

Source: Credit Suisse estimates, ZenithOptimedia
France

French media buyers do not believe that online media presents a threat to traditional TV. In their view the biggest threat to TV is the fragmentation of audiences over more DTT channels. Buyers did not have a strong view on the potential for targeted TV but highlighted that marketers are increasingly looking for targeted solutions.

Figure 241: French advertising intensity

Source: Credit Suisse estimates, ZenithOptimedia, Thomson Reuters Datastream

France PMI new orders have improved since the start of 2016 but are only just over 50

Source: Markit

Figure 244: France advertising spend 2001-2016: TV has remained broadly stable

Source: Credit Suisse estimates, ZenithOptimedia
Figure 245: France TV advertising categories

Figure 246: French advertising market 2016

Figure 247: French total advertising spend 1980-2016

Figure 248: French TV ad spend 1980-2016

Source: Company data, Credit Suisse estimates

Source: Credit Suisse estimates, ZenithOptimedia

Source: ZenithOptimedia
4. Australian advertising

4.1 Australian Media – key trends

Australian advertising revenue has been experiencing steady growth in the last few years (+3.8% in 2016 according to Zenith Advertising Expenditure Report) and CS forecasts 3.5% growth in 2017F.

Like the majority of developed markets the growth is being driven by online, with newspaper and TV share of spend declining.

Online accounted for 47% of total Australian advertising spend in 2016. TV's share of spend was down to 26% in 2016 (vs 35% at peak in 2002-2004).

4.2 TV advertising spend continues to decline

TV advertising growth over the last 2-3 years has been weaker in Australia than in markets such as the US and UK. Australian FTA TV advertising fell 4.2% in 2016 and CS forecasts -1.5% in 2017F.

Revenue from online catch-up is growing rapidly, but remains a small percentage of total spend. AVOD (advertising video on demand) revenue made up just under 2% of total Australian TV advertising revenue in 2H16 and grew by 48% in the period (source: THINK TV).
4.3 TV viewing under structural pressure

The decline in TV advertising spend is reflective of a structural decline in TV audiences. Total TV viewing (live and as live) fell 3.8% in 2016, which was a similar rate of decline to 2015 (excluding online catch up).

Online catch up currently only accounts for a small proportion of total viewing (1-2% according to Oztam), but can materially boost audiences for individual programs.

![Figure 253: Australian TV audience growth (vs pcp)](image1)

![Figure 254: Australian TV audience growth (vs pcp)](image2)

Source: Oztam

4.4 Programmatic buying and targeting can help offset structural pressures

The Australian FTA TV industry has been relatively slow to move to digital booking/trading platforms for TV inventory. However, all the networks are now investing in this area and we believe that improvements in programmatic buying and audience targeting will help the TV industry to offset some of the structural pressures from declining linear audiences.

Pay TV operator Foxtel is the most advanced in terms of digital booking and inventory management. Foxtel's sales arm, MCN (Multichannel Networks), adopted the Landmark system a number of years ago and has been building its programmatic buying and targeting capability. It recently launched the Videology front end interface which enables advertisers to programmatically buy linear TV inventory across up to 50 targeted audience segments. Audience segments are created using data from IP connected Foxtel set top boxes and combined with third party purchase data from independent analytics provider Quantium (aggregated to a segment level to ensure data privacy).

Free to air operator TEN has combined with Foxtel to sell its inventory across the MCN platform. This means that over 40% of the Australian commercial TV audience can now be bought programmatically over a single platform.

MCN has said that programmatic TV represents around 10% of all campaigns traded on Foxtel, with the expectation that the number will grow to 25% over the next three years.

The other FTA operators in Australia, (Seven and Nine) are at earlier stages of introducing their own programmatic trading and targeting platforms. Ultimately we expect the entire industry in Australia to move to a single industry wide platform in order to making buying TV as easy and as effective as possible.

It is important to note that the relatively low level of pay TV penetration in Australia (c30% of households) means that the ability to provide deep levels of audience targeting is limited, as most viewing does not take place over a set top box. We expect targeting ability to improve as the proportion of viewing on connected devices grows over time.
4.5 Investment view – NEC the top pick

The Australian TV sector is a difficult investment proposition for most investors due to its relatively small size in term of market capitalization and negative structural trends around audience and advertising revenue.

We expect FTA TV advertising to continue to decline due to lower linear viewing. We expect growth in catch up viewing and improved audience targeting to help to limit the rate of decline.

Nine Entertainment (NEC, Outperform, A$1.50 target price) is our top pick in the sector as we believe that there is potential upside to market share due to the financial and funding difficulties facing the No3 player, TEN Network (TEN). NEC also owns a 50% share in the Stan streaming service. See report Australian FTA TV sector - Changing channels for more details.

Figure 255: Australian TV sector

<table>
<thead>
<tr>
<th>Media</th>
<th>Price</th>
<th>Mkt Cap</th>
<th>Target price / Rating</th>
<th>P/E FY17F</th>
<th>P/E FY18F</th>
<th>P/E FY19F</th>
<th>EV/EBITDA FY17F</th>
<th>EV/EBITDA FY18F</th>
<th>EV/EBITDA FY19F</th>
<th>Yield FY17F</th>
<th>Yield FY18F</th>
<th>Yield FY19F</th>
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<td>$1.26</td>
<td>1,098</td>
<td>OUTPERFORM $1.50</td>
<td>11.9x</td>
<td>11.5x</td>
<td>12.0x</td>
<td>7.3x</td>
<td>7.2x</td>
<td>7.6x</td>
<td>6.7%</td>
<td>7.4%</td>
<td></td>
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<td>1,078</td>
<td>NEUTRAL $0.81</td>
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<td>6.8x</td>
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<td>5.9x</td>
<td>5.5x</td>
<td>5.6%</td>
<td>7.0%</td>
<td></td>
</tr>
<tr>
<td>TEN</td>
<td>$0.56</td>
<td>203</td>
<td>NEUTRAL $0.55</td>
<td>-4.9x</td>
<td>-5.5x</td>
<td>-4.0x</td>
<td>-11.1x</td>
<td>-16.3x</td>
<td>-9.6x</td>
<td>0.0%</td>
<td>0.0%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Company data, Credit Suisse estimates
Appendix: Ad Spend Mix by Country

Figure 256: TV share of adspend (USA)

Source: Zenith Optimedia

Figure 257: Internet share of adspend (USA)

Source: Zenith Optimedia

Figure 258: Print share of adspend (USA)

Source: Zenith Optimedia

Figure 259: Mix of advertising 2016 (USA)

Source: Zenith Optimedia

Figure 260: Advertising trend 1995-2016 (USA)

Source: Zenith Optimedia

Figure 261: TV adspend vs Internet adspend (USA)

Source: Zenith Optimedia
Figure 262: TV share of adspend (UK)

Source: Zenith Optimedia

Figure 263: Internet share of adspend (UK)

Source: Zenith Optimedia

Figure 264: Print share of adspend (UK)

Source: Zenith Optimedia

Figure 265: Mix of advertising 2016 (UK)

Source: Zenith Optimedia

Figure 266: Advertising trend 2000-2016 (UK)

Source: Zenith Optimedia

Figure 267: TV adspend vs Internet adspend (UK)

Source: Zenith Optimedia
Figure 268: TV share of adspend (Germany)

Source: Zenith Optimedia

Figure 269: Internet share of adspend (Germany)

Source: Zenith Optimedia

Figure 270: Print share of adspend (Germany)

Source: Zenith Optimedia

Figure 271: Mix of advertising 2016 (Germany)

Source: Zenith Optimedia

Figure 272: Advertising trend 2000-2016 (Germany)

Source: Zenith Optimedia

Figure 273: TV adspend vs Internet adspend (Germany)

Source: Zenith Optimedia
Figure 274: TV share of adspend (France)

Source: Zenith Optimedia

Figure 275: Internet share of adspend (France)

Source: Zenith Optimedia

Figure 276: Print share of adspend (France)

Source: Zenith Optimedia

Figure 277: Mix of advertising 2016 (France)

Source: Zenith Optimedia

Figure 278: Advertising trend 2000-2016 (France)

Source: Zenith Optimedia

Figure 279: TV adspend vs Internet adspend (France)

Source: Zenith Optimedia
Figure 286: TV share of adspend (Sweden)

Source: Zenith Optimedia

Figure 287: Internet share of adspend (Sweden)

Source: Zenith Optimedia

Figure 288: Print share of adspend (Sweden)

Source: Zenith Optimedia

Figure 289: Mix of advertising 2016 (Sweden)

Source: Zenith Optimedia

Figure 290: Advertising trend 2000-2016 (Sweden)

Source: Zenith Optimedia

Figure 291: TV adspend vs Internet adspend (Sweden)

Source: Zenith Optimedia
Figure 298: TV share of adspend (Brazil)

Source: Zenith Optimedia

Figure 299: Internet share of adspend (Brazil)

Source: Zenith Optimedia

Figure 300: Print share of adspend (Brazil)

Source: Zenith Optimedia

Figure 301: Mix of advertising 2016 (Brazil)

Source: Zenith Optimedia

Figure 302: Advertising trend 2000-2016 (Brazil)

Source: Zenith Optimedia

Figure 303: TV adspend vs Internet adspend (Brazil)

Source: Zenith Optimedia
Figure 310: TV share of adspend (Mexico)

Source: Zenith Optimedia

Figure 311: Internet share of adspend (Mexico)

Source: Zenith Optimedia

Figure 312: Print share of adspend (Mexico)

Source: Zenith Optimedia

Figure 313: Mix of advertising 2016 (Mexico)

Source: Zenith Optimedia

Figure 314: Advertising trend 2000-2016 (Mexico)

Source: Zenith Optimedia

Figure 315: TV adspend vs Internet adspend (Mexico)

Source: Zenith Optimedia
Figure 316: TV share of adspend (China)

Figure 317: Internet share of adspend (China)

Figure 318: Print share of adspend (China)

Figure 319: Mix of advertising 2016 (China)

Figure 320: Advertising trend 2000-2016 (China)

Figure 321: TV adspend vs Internet adspend (China)
Figure 322: TV share of adspend (Japan)

Source: Zenith Optimedia

Figure 323: Internet share of adspend (Japan)

Source: Zenith Optimedia

Figure 324: Print share of adspend (Japan)

Source: Zenith Optimedia

Figure 325: Mix of advertising 2016 (Japan)

Source: Zenith Optimedia

Figure 326: Advertising trend 2000-2016 (Japan)

Source: Zenith Optimedia

Figure 327: TV adspend vs Internet adspend (Japan)

Source: Zenith Optimedia
**Figure 334: TV share of adspend (India)**

Source: Zenith Optimedia

**Figure 335: Internet share of adspend (India)**

Source: Zenith Optimedia

**Figure 336: Print share of adspend (India)**

Source: Zenith Optimedia

**Figure 337: Mix of advertising 2016 (India)**

Source: Zenith Optimedia

**Figure 338: Advertising trend 2000-2016 (India)**

Source: Zenith Optimedia

**Figure 339: TV adspend vs Internet adspend (India)**

Source: Zenith Optimedia
**Figure 346: UK Digital Usage 2017, % of population**

<table>
<thead>
<tr>
<th>Digital Users</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
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Source: eMarketer, Credit Suisse Research

**Figure 347: % of EU Populations by age group**

<table>
<thead>
<tr>
<th>EU 28 countries</th>
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<th>25-49</th>
<th>50+</th>
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<tbody>
<tr>
<td>Germany</td>
<td>11.3%</td>
<td>10.8%</td>
<td>11.9%</td>
</tr>
<tr>
<td>France</td>
<td>9.8%</td>
<td>14.1%</td>
<td>9.5%</td>
</tr>
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<td>Italy</td>
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<td>Sweden</td>
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<tr>
<td>UK</td>
<td>15.0%</td>
<td>16.5%</td>
<td>10.0%</td>
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</table>

Source: Ebiquity, Credit Suisse Research

**Figure 348: Revenue per $ invested**

<table>
<thead>
<tr>
<th>Medium</th>
<th>TV</th>
<th>Print</th>
<th>Video</th>
<th>Radio</th>
<th>OOH</th>
<th>Online display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue per $ invested</td>
<td>$1.74</td>
<td>$0.79</td>
<td>$0.72</td>
<td>$0.71</td>
<td>$0.62</td>
<td>$0.41</td>
</tr>
</tbody>
</table>

Source: ReThink TV Marketing Forum 2016, Credit Suisse Research

**Figure 349: Average retention rate**

<table>
<thead>
<tr>
<th>Medium</th>
<th>TV</th>
<th>Print</th>
<th>Video</th>
<th>Radio</th>
<th>OOH</th>
<th>Online display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average retention rate</td>
<td>65%</td>
<td>28%</td>
<td>23%</td>
<td>22%</td>
<td>19%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Source: ReThink TV Marketing Forum 2016, Credit Suisse Research

**Figure 350: Device penetration among UK internet users, Aug 2016**

<table>
<thead>
<tr>
<th>Device</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
<th>80%</th>
<th>90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desktop/laptop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Smartphone</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Tablet</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smart TV</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Video game console</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Portable media player</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streaming media service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feature phone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ereader</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wearables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Wearables</td>
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</tr>
</tbody>
</table>

Source: eMarketer, Credit Suisse Research
### Figure 351: Current and upcoming "virtual" MVPD services in the United States

<table>
<thead>
<tr>
<th>vMVPD Services</th>
<th>Hulu (vMVPD)</th>
<th>YouTube TV</th>
<th>Sling TV</th>
<th>DirecTV Now</th>
<th>PlayStation Vue</th>
<th>Apple TV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Co.</td>
<td>FOXA, DIS, CMCSA, TWX</td>
<td>Google</td>
<td>DISH Network</td>
<td>AT&amp;T</td>
<td>Sony</td>
<td>Apple</td>
</tr>
<tr>
<td>Advertising</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Price (monthly subscription)</td>
<td>&lt;$40/month</td>
<td>$35/month</td>
<td>$20/month for Orange, $25/month for Blue, $40/month for combined</td>
<td>$35/month (introductory price), than $70/month for 100 channel package, Other packages are $35 for 87 channels, and $50 for 89 channels</td>
<td>$40-$75/month</td>
<td>$30-$40/month (CSi)</td>
</tr>
<tr>
<td>Subscribers</td>
<td>N/A</td>
<td>N/A</td>
<td>1.5m (CSi)</td>
<td>200k+</td>
<td>100k+</td>
<td>N/A</td>
</tr>
<tr>
<td>Gross margin (CSi)</td>
<td>5% ($2 per subscriber)</td>
<td>5% ($2 per subscriber)</td>
<td>11%/$2 per subscriber for Orange, 11%/$3 for Blue, 18%/$7 for combined</td>
<td>-3% (-$1 per subscriber on 67-channel package)</td>
<td>16% ($5 per subscriber)</td>
<td>N/A</td>
</tr>
<tr>
<td>Simultaneous users</td>
<td>2 users</td>
<td>6 users</td>
<td>1 user on Orange, 3 on Blue</td>
<td>2 users</td>
<td>1 user</td>
<td>TBA</td>
</tr>
<tr>
<td>Differentiating factors</td>
<td>Only vMVPD with all major sports networks, SVOD service and original content included ($8 value), cloud DVR</td>
<td>Six simultaneous streams, cloud DVR, includes YouTube Red, integrates YouTube videos</td>
<td>Lowest price-point ($20 for Sling Orange), first to market, multiple add-on packs increase variety</td>
<td>Best value for money ($35/month intro price for 100 channels)</td>
<td>Uses PlayStation console</td>
<td>TBA</td>
</tr>
<tr>
<td>Network groups included</td>
<td>Disney, Fox, CBS, Turner, A&amp;E (NBC pending)</td>
<td>Disney, Fox, CBS, NBC (no Turner networks), YouTube Red content</td>
<td>All network groups except CBS, Broadcast networks only available in select markets.</td>
<td>All network groups except CBS, Broadcast networks only available in select markets. $5 for HBO.</td>
<td>All network groups except Viacom, Broadcast networks only available in select markets.</td>
<td>TBA</td>
</tr>
<tr>
<td>Amount of Content</td>
<td>40+ channels, deep VOD library, SVOD service and original content included</td>
<td>40 channels, with access to all of YouTube</td>
<td>30 channels in Sling Orange, 45 channels in Sling Blue, 50 channels in Sling combined</td>
<td>70-120 channels, VOD library</td>
<td>Most channels and networks except Viacom</td>
<td>TBA</td>
</tr>
<tr>
<td>Platforms</td>
<td>iOS, Android, Roku, FireTV, Chromecast, Set Top Boxes, Desktop, game consoles</td>
<td>iOS, Android, Roku, FireTV, Chromecast, Set Top Boxes, Desktop, game consoles</td>
<td>iOS, Android, Roku, FireTV, Chromecast, Set Top Boxes, Desktop, game consoles</td>
<td>iOS, Android, Roku, FireTV, Chromecast, Set Top Boxes, Desktop, game consoles</td>
<td>PlayStation 3 &amp; 4, iOS, Android</td>
<td>iOS Devices, Set Top Boxes</td>
</tr>
</tbody>
</table>

Source: Company data, SNL Kagan, Credit Suisse estimates
Companies Mentioned (Price as of 24-Apr-2017)

21st Century Fox Inc. (FOXA.OQ, $30.35)
AMC Entertainment Holdings (AMC.N, $30.7)
AT&T (T.N, $40.02)
Accenture Plc (ACN.N, $119.36)
Alphabet (GOOGL.OQ, $878.93)
Amazon com Inc. (AMZN.OQ, $907.41)
Apple Inc (AAPL.OQ, $143.64
Atresmedia (A3M.MC, €11.37)
CBS Corporation (CBS.N, $65.95)
Cinemark Holdings, Inc (CNK.N, $43.68)
Coca Cola bo (COKE.OQ, $209.1)
Comcast Corporation Inc. (CMCSA.OQ, $38.01)
DISH Network Corporation (DISH.OQ, $60.34)
Dentsu (4324.T, ¥6,270)
Discovery Communications (DISCA.OQ, $29.4)
Ebiquity (EBQ.L, 116.0p)
Facebook Inc. (FB.OQ, $145.47)
Havas (HAVA.PA, $8.37)
IMAX Corp (IMAX.N, $31.15)
ITV (ITV.L, 219.2p)
InterActiveCorp (IAC.OQ, $79.14)
Interpublic Group (IPG.N, $24.64)
Liberty Global (LBTYA.OQ, $34.78)
Liberty Media (FWONA.OQ, $33.06)
Lions Gate Ent (LGFa.N, $25.88)
Manchester United Plc (MANU.N, $16.05)
Mediaset Espana (RTLS.MC, €12.325)
Microsoft (MSFT.OQ, $67.53)
National CineMedia (NCMI.OQ, $12.37)
Netflix, Inc. (NFLX.OQ, $143.83)
New York Times (NYT.N, $14.85)
News Corporation (NWS.AX, $17.66)
Nielsen Holdings (NLSN.N, $41.59)
Nine Entertainment (NEX.AX, $1.215)
Omnichannel Group. Inc. (OMC.N, $83.25)
ProSieben (PSMGn.DE, €40.005)
Procter Gamble (PG.BA, $275.25)
Publicis Groupe SA (PUBP.PA, €66.64)
RTL (RTL.DE, €75.5)
Regal Entertainment Group (RGC.N, $22.06)
Scripps Net Int (SNI.OQ, $75.49)
Seven West Media (SWM.AX, $0.75)
Sky Plc (SKYB.L, $85.0p)
Snap Inc. (SNAP.N, $21.2)
TF1 (TFFP.PA, €11.105)
Tegna (TGN.A.N, $25.57)
Telefonica (TEF.MC, €10.485)
Telenet (TNET.BR, €55.86)
Ten Network Holdings (TEN.AX, $0.45)
The Walt Disney Company (DIS.N, $113.7)
Time Warner Inc. (TWX.N, $99.96)
Twitter (TWTR.N, $14.71)
Verizon Communications Inc (VZ.N, $47.05)
Viacom Inc. (VIAB.OQ, $42.75)
WP (WPP.L, 1719.0p)
Yahoo Inc. (YHOO.OQ, $48.15)

Disclosure Appendix

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Underperform (U) : The stock’s total return is expected to underperform the relevant benchmark* over the next 12 months.

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<table>
<thead>
<tr>
<th>Rating</th>
<th>Versus universe (%)</th>
<th>Of which banking clients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outperform/Buy*</td>
<td>45%</td>
<td>(64% banking clients)</td>
</tr>
<tr>
<td>Neutral/Hold</td>
<td>39%</td>
<td>(61% banking clients)</td>
</tr>
<tr>
<td>Underperform/Sell*</td>
<td>14%</td>
<td>(54% banking clients)</td>
</tr>
<tr>
<td>Restricted</td>
<td>2%</td>
<td></td>
</tr>
</tbody>
</table>

*For purposes of the NYSE and FINRA ratings distribution disclosure requirements, our stock ratings of Outperform, Neutral, and Underperform most closely correspond to Buy, Hold, and Sell, respectively; however, the meanings are not the same, as our stock ratings are determined on a relative basis. (Please refer to definitions above.) An investor’s decision to buy or sell a security should be based on investment objectives, current holdings, and other individual factors.

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