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Needham Insights

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Entertainment & Internet

Martin's Meditations

The Future of TV

The focus of our research coverage is the changing economics of content, both online and offline. This report calculates the economic upside and risks for the incumbent TV ecosystem as well as the nascent online premium video ecosystem that seeks to replace it. It also highlights key datapoints that impact valuations and looks around the corner at what's next.

Key conclusions quantified in this report:

1. Unbundling dwarfs any other risk to the TV ecosystem, as we calculate that ~50% of total TV ecosystem revenue (about \$70 billion) would evaporate and fewer than 20 channels would survive in an a la carte world where consumers are required to bear 100% of the cost of the channel. Today, advertisers bear ~50% of TV content costs.
2. A sports tier would be a partial unbundling of today's TV ecosystem, driving \$13 billion of lost revenue annually, we calculate.
3. Video on Demand (VOD) represents \$10 billion of annual advertising revenue upside, if VOD viewing with full commercial loads replaces DVR viewing (where most commercials are skipped) over time.
4. We calculate that TV advertising upside from Internet advertisers is \$5 billion (6% of 2012 TV ad revenue) annually by 2015, driven by growing competition among Internet companies on desktop and mobile devices.
5. We think TV Everywhere has the best chance of elongating TV subscription lengths, potentially adding \$4 billion per year to subscription revenue.



The primary investment implications from this work include:

1. Consolidation of Incumbents. Competition is hurting margins. Premium online video creators will spend ~\$750 million in 2013 and TV content companies will spend ~\$45 billion, up \$1.5 billion over 2012 levels, by our estimates. We believe this margin pressure drives consolidation because there are economies of scale in both content and distribution. Of the content companies we cover, we expect Scripps Networks Interactive, Discovery Communications, CBS and Viacom to be the most likely to be sold whereas the most likely buyers are Disney, Time Warner and 21st Century Fox.
2. Digital Content Acquisitions. We expect offline content companies to acquire and invest in proven digital content channels and studios, as evidenced by DreamWorks acquisition of AwesomenessTV and Discovery's acquisition of Revision3. Appendix 1 includes our favorite private companies in this space.

Our stock recommendations from this work are 21st Century Fox and Yahoo!.

Executive Summary

Key Questions Addressed in This Report:

1. Why was annual TV advertising revenue \$77 billion while the online video ecosystem was only \$4 billion of revenue in 2012, after 7 years of YouTube in the marketplace?
2. Digital disruption has cost the music and newspaper ecosystems 55-60% of their total revenue. The TV ecosystem reported \$150 billion of total revenue in 2012. Why is TV revenue still growing?

We believe that there are several major differences between the premium online video ecosystem and the TV ecosystem that provide answers to these questions: 1) industry structure and economic splits; 2) specialization; 3) discovery; 4) bundling; and 5) pre-funding, as summarized below:

1. **Bundling Economics.** The TV ecosystem is bundles built on top of bundles. We calculate that bundling adds 100% to annual TV ecosystem revenue. Online premium video is the most unbundled form of content, because each show is on-demand, so no show helps any other show.
2. **The TV Ecosystem** generally splits revenue 50%/50%, between content and distribution plus content typically keeps about 80% of advertising revenue in their programming. By contrast, the enormous power disparity in premium online video drives poor economics, with typical splits of 30% to content creators and 70% to the platform (i.e., YouTube). This slows content investment and innovation.
3. **Prepayment.** For a distribution ecosystem to be healthy it must have compelling content. Because 70-90% of programming generally turns out to be B or C (non-hits) titles, if only hits are paid for, about 80% of programming makes zero money and content investment collapses. The TV ecosystem's "upfront market" guarantees 70-80% of total revenue for the broadcasters plus about 25% of total cable network revenue. In addition, most cable networks garner about 50% of their total annual revenue from guaranteed monthly payments from cable, satellite and telco companies under 3-5-year contracts (i.e., long-term visibility), implying that 70-80% of their budgets are guaranteed before new programming airs. Since advertising is the dominant model for online video, there is no revenue associated with content unless it is viewed. By implication, B and C titles have no revenue associated with them and therefore the turnover of online content creation companies is high.
4. **Content Spending.** We estimate that total spending in online premium content will reach approximately \$750 million in 2013. We estimate that the *increase* in TV ecosystem spending will hit \$1.5 billion and that total TV spending will reach \$45 billion in 2013. These numbers suggest margin pressure and the fact that spending on internet content isn't catching up to TV.
5. **Discovery.** In TV and film, marketing and advertising costs often add 40% to the costs incurred to produce content. Online, the most prevalent forms of discovery are sharing and recommendation engines. For example, we believe YouTube grants limit marketing spending to less than 10% of total costs.

What's Next?

Looking around the corner, we believe that the following trends have the largest potential economic consequences, in order of importance:

1. Rise of mobile viewing—The rapid shift toward viewing on mobile devices implies that the length of premium digital content must shorten, since approximately 86% of videos viewed on mobile devices in 1Q13 were less than 5 minutes long;
2. Proliferation of distribution competitors;
3. Crowdfunding; and
4. The value of hit content rises.

Compare and Contrast the Premium Online Video Ecosystem vs. TV

Our analysis begins with two questions:

1. Why was annual TV advertising revenue \$77 billion (Nielsen) while the online video ecosystem was only \$4 billion (eMarketer) of revenue in 2012, after 7 years of YouTube in the marketplace?
2. Digital disruption has cost the music and newspaper ecosystems 55-60% of their total revenue. The TV ecosystem reported \$150 billion of total revenue in 2012. Why is TV revenue still growing?

Distribution and Content are complementary networks. Each is worth more as the other improves. This section highlights the most interesting (to us) similarities and differences between the online premium video ecosystem and the TV ecosystem, which include:

1. Industry Structure & Economic Splits;
2. Specialization;
3. Solving the Discovery Problem;
4. Bundling Economics;
5. Pre-Funding Content;
6. Investment in Content; and
7. Adaptation.

1. Industry Structure & Economic Splits

To us, one of the most important valuation differences between the premium video online ecosystem versus the TV ecosystem is distribution choices and economic splits.

TV

The TV ecosystem has many enormous content creators negotiating with many enormous distributors. Every deal is different. No one agrees on anything. Every contract is long term, and every company is negotiating to pursue its own objectives. Academic research demonstrates that diversity maximizes economics. The fact that no company pursues exactly the same strategy implies that best practices get discovered faster and copied. The result is a robust, resilient, economic system which is ideally suited for an uncertain environment. Examples of strategic diversity on the distribution side include:

- **Comcast**, with its impressive X1 and X2 user interfaces and extensive VOD and TV Everywhere rights, is focusing on maximizing the value of the bundle and improving the consumer experience. It owns NBC/Universal and therefore has a unique content plus distribution perspective within the TV ecosystem.
- **TWC** has started 2 regional sports networks in LA, one that airs the Lakers and one that airs the Dodgers. It has also been adding to its cable footprint, buying Insight Communication's 750,000 customers in 2012.
- **Cablevision** is suing its content partner Viacom to try to force them to unbundle so CVC can buy the 3 channels it wants and not carry Viacom's other channels.
- **DirecTV** is investing in original content and may buy Hulu. For example, DirecTV introduced its first original "Rogue," and ordered 10 episodes of "Full Circle" for the fall of 2013.
- **DISH** has the broadest strategic palate, which includes sponsoring the Hopper (which allows consumers to skip commercials), buying Blockbuster, and bidding on wireless spectrum.

- **ATT** has a 51% share of the broadband markets where U-verse is available, and generated \$170 per month of average ARPU from U-verse subscribers in 1Q13, suggesting that its focus is primarily marketing and tactical.
- **Verizon** is rolling out FiOS more broadly, thereby adding to its video and high-speed modem footprint, and today has approximately 5 million TV subscribers. In addition, it is trying to link its monthly payments to content companies to a channel's viewing, as measured by VZ's set-top boxes.

Online

The online business model for content is essentially 100% advertising. Although Hulu, AOL, Yahoo and others distribute premium video content on the web, YouTube is the predominant online global video distribution platform; innovative content creators have few other ad-driven choices at scale. In text, if Google makes a change in its search algorithm, content that used to appear on page one can suddenly appear on page three and lose 90% of their revenue. The same can occur at YouTube, with rankings, promotions, and economic terms dictated by YouTube and driven solely by its strategic objectives. The power imbalance is extreme between content and distribution, and digital economic terms reflect this.

Economic Implications

Although every deal is different, industry structure drives economics. For example:

- **Online.** The enormous power disparity in online video drives poor economic splits for video creators, with 70% often going to YouTube and 30% to the content creator. We note that these splits are the opposite of iTunes and Kindle payouts to premium content, where the power relationships are more equal.
- **TV.** The TV ecosystem generally splits revenue 50%/50%. That is, content companies generally get about 50% of subscription revenue, despite much higher distribution costs in the old world (physical plant, customer service, etc.), plus TV content keeps about 80% of the advertising revenue within their content. These splits drive greater content investment, which in turn makes distribution more valuable.

2. Specialization

Another important distinction between the premium video online ecosystem versus the TV ecosystem is specialization.

Online

Google runs a global Internet platform. One of its products, and not its primary profit driver, is YouTube. YouTube competes for resources with all the other divisions of Google. Hulu is worse off, navigating conflicts between three broadcasters who agree on little, and who own virtually all of Hulu's equity. Yahoo and AOL, two of the largest premium video creators on the Internet, handle both distribution and content and think of video as a recent product extension, rather than their core business. Netflix is predominantly a deep-library distributor, producing a handful of high-quality shows each year. Amazon is predominantly eCommerce.

TV

The TV ecosystem is built on specialization.

- **Distribution.** Every cable company and satellite company built their networks specifically for TV. Their physical networks are maximized for TV. There are three entrenched competitors in each market (cable + 2 satellite competitors) that built their business from scratch by delivering TV content to consumers. Only VZ and ATT came to TV as a product addition. The primary

focus of TV distribution companies is generally to keep costs low and utilization rates high, to service and interact with customers, and to add new products that maximize revenue from their physical plant. These goals are quite different from content companies.

- **Content.** Content companies often have more than 100 employees in research who specialize in pouring through Nielsen data and running focus groups to help create content that appeals to a targeted set of viewers. (By contrast, TV distribution companies typically have fewer than a dozen employees in research.) Content companies often have “studio lots” and focus primarily on creating a culture that nurtures creative teams. They are good at managing creative people, meaning that cost controls are secondary. As a general rule, the average wage is about 30% higher and the number of employees 50% lower than distribution companies. Content companies focus on global markets while TV distribution is typically U.S.-only.

3. Solving the Problem of Discovery

A third key difference between the premium video online ecosystem and the TV ecosystem is how they solve the problem of discovery. Both TV and the Internet are cluttered environments. There are hundreds of TV channels and thousands of online video channels.

TV

The TV ecosystem has lived with growing competition for 50 years and believes in zealous marketing and promotion across all media platforms. TV does not typically take ads for a competitor’s TV programming so marketing dollars are spent more broadly across outdoor, magazines, online, etc. “Asking consumers to navigate without any help from marketing is a fool’s errand” Subway’s chief marketing officer has said. Marketing costs often add 40% to content creation costs, by our estimate. For example, we estimate that NBC spent \$5 million on billboards, magazines, and its owned TV channels to launch “Revolution” last fall, which was a good investment, as “Revolution” went on to become the #1 drama of the 2012 season. The prior season, NBC spent \$4 million (our estimate) to advertise “The Playboy Club,” a show it canceled within 4 weeks. Marketing spending only buys viewer trial, not repeat viewing.

Online

The most prevalent forms of discovery in the online world are sharing and recommendation engines. Because audiences are often younger online, they have more time to browse the Internet looking for cool videos to send to their friends. Often, online video platforms won’t take a side, preferring not to spend marketing dollars elevating one channel or program over another. *It would be ironic if it turns out that the reason marketing and advertising expenditures are so low for online content companies is that they don’t believe in the power of advertising, despite the fact that they have ad-driven business models.*

4. Bundling Economics

We have written extensively about the economic upside from bundling. (Please see our report, entitled *Pricing Strategies in a Digital World*, dated March 8, 2011.) Most media businesses are built upon the notion of bundling and, so far, unbundling appears to destroy approximately 55-60% of revenue and market capitalization of the industry. Datapoints include:

- **Music.** Piracy and iTunes unbundled the music album so consumers could buy only the 2 songs they wanted for \$0.99 each, rather than the album (a bundle of A, B and C content) for \$10. Global music sales were \$16.5 billion in 2012, down 57% from their peak of \$38 billion in 1999.
- **Newspapers** were a bundle of editorial content plus retail, real estate and help wanted ads. Internet competitors like Craigslist and Monster.com took monetization away from newspapers first, and then the Internet enabled competition between incumbent

newspapers and new Internet entrants such as the Huffington Post, which lowered readership and limited pricing power. U.S. newspaper revenue was \$35 billion in 2012, down 57% from its peak of \$80 billion in 2000, and advertising revenue fell to \$20 billion in 2012, down 70% from its peak of \$65 billion in 2000, according to the Newspaper Association of America.

TV

The TV ecosystem is so economically robust in part because it is bundles built on top of bundles:

- Individual TV shows are rolled up into TV channels.
- TV channels are tethered together by owners such as Viacom and Time Warner and sold to cable/satellite/telco distributors.
- The cable/telco/satellite companies lash together many content companies' bundles of channels and typically offer three choices (i.e., tiers of service) to consumers.
- The cable and telcos bundle voice, video and data together into "double-play" and "triple-play" bundles.

There are sound economic reasons behind TV's heavily bundling:

- **Attribution.** Bundles have pricing power and "stickiness" because each person in the household can attribute value to different channels in the bundle. I may feel that Bravo, A&E, History Channel and Food Network justify the \$70/month fee while my husband attributes more value to the sports channels. In each case, the price/value relationship is intact, but predicated on different channels for each person in the household.
- **Hits.** TV is a hit-driven business, but no content creator produces only hits. In fact, we estimate that 70-90% of annual production expense is not hits. To survive, a content ecosystem must be able to monetize the B and C titles at some level. By putting these shows on a channel overnight or putting them on lesser channels and then aggregating their viewers to sell to advertisers, this non-hit content can earn more than zero. Consumer choice is maximized by delivering all content, anchored by hit content.
- **Discovery.** Clutter is value-destructive. Research has shown that hits create a halo-effect because they drive trial of the shows before and after the hit. We calculate that proper scheduling of a channel (i.e., a programming line-up that holds the audience longer) can add 20% to the revenue of a channel.
- **Advertising.** A TV drama is typically about 46 minutes of content bundled into a 60-minute programming block that includes 14 minutes of TV commercials. This advertising revenue stream subsidizes the programming costs so consumers pay about 50% less to cable/telco/satellite companies than the full cost of the programming for most channels.
- **Long-Tail.** The average household receives more than 200 channels and, on average, watches 12-14 each month. Our research shows that virtually every household watches several "long-tail" channels that would not survive in an a la carte world.
- **Convenience.** Churn falls with each new piece added to the bundle because it adds inconvenience and price risk when the consumer is faced with replacing all the component parts.

Online

Online video is the most unbundled form of video content. Online premium video is the extreme of a la carte because each show is viewed separately. A key economic problem with this form of a la carte is that after the consumer watches a video, it takes an action to watch the next show. This heightens abandonment, since typical viewers have several demands on their time. This call to action reminds viewers of the 20 other things they should be doing with the next 20 minutes. This shortens average viewing lengths and limits ad revenue upside.

5. Pre-Funding Content

For a distribution ecosystem to be healthy, it must have compelling content that resonates with audiences. To have compelling content, the entire slate must be paid for before the programming is created. Because 70-90% of programming generally turns out to be B or C (non-hits) titles, if only hits are paid for, about 80% of programming makes zero money and content investment collapses.

TV

The TV ecosystem's "upfront market" guarantees 70-80% of total revenue for the broadcasters plus about 25% of cable network revenue about 3 months before the September network season begins. In addition, most cable networks garner about 50% of their total annual revenue from guaranteed monthly payments from cable, satellite and telco companies under 3-5-year contracts (i.e., long-term visibility), implying that 70-80% of their budgets are guaranteed before new programming airs.

Online

Since advertising is the dominant model for online video, there is no revenue associated with content unless it is viewed. By implication, B and C titles have no revenue associated with them. Because it is impossible to only make hit content, the ecosystem cycles through hits each year but companies can't survive year after year. This exacerbates discovery by consumers and disperses talent rather than creating hubs of creative folks that push the envelope on new forms of content. Each year a different raft of entrepreneurs have hits and they re-learn the same lessons of the prior year's hit entrepreneurs, making it difficult for the ecosystem to move forward.

6. Similarities—Investments in Content

There are a couple of important similarities between the two ecosystems, including ever higher investments in copyright ownership.

Online

The Internet's goal is to create a premium video business online. Today, investment in premium online video is growing faster than user-generated content. We estimate that production budgets for online premium content will reach approximately \$750 million in 2013. This nascent parallel ecosystem is being funded primarily by YouTube, Hulu, Netflix, AOL and Yahoo. At the "Digital NewFronts" in April 2013, Hulu, Yahoo, YouTube, AOL, etc. introduced 100 new premium series made for "Internet-first" distribution. The economics and investments include:

- YouTube spent \$100 million as "grants" for premium YouTube channels in 2012, plus another \$250 million in 2013. In addition, it spent \$200 million marketing (mostly online) these premium channels. (Source: Google.)
- Hulu spent approximately \$500 million to make online premium-video content in 2012. Since CEO Jason Kilar is now gone and press reports are chronicling the sale of Hulu, we expect Hulu's original productions to be under \$100 million in 2013. Hulu reported that that its revenue grew 60% to \$420 million in 2011 and grew 65% to \$695 million in 2012.

Although Hulu loses money, its losses would be much worse if Hulu did not get favorable licensing terms from ABC, Fox, and NBC because they are Hulu's equity owners. Hulu stated that it reached 4 million Hulu Plus subscribers in 2012 and continues to resurrect canceled broadcast shows such as "All My Children" and "One Life to Live."

- **AOL-On** created 14 "AOL-On" premium web video channels in 2012, spending \$35 million. In 2013, AOL added 15 new original web series for \$50 million (our estimate). AOL promotes its shows online and in taxi cabs and often builds its programs around online celebrities that can promote their shows to their fans directly via Twitter and Facebook.
- **Yahoo** Yahoo's primary video strategy is to partner with the offline world. In 2012, Yahoo announced joint ventures with ABC News for news, NBC Sports for sports and CBS for entertainment programming. In April 2013, Yahoo announced two new exclusive distribution deals for all Saturday Night Live (SNL) episodes, plus World Wrestling Entertainment, Inc. (WWE) episodes. In addition, Yahoo spent about \$50 million to produce and distribute original premium series in 2012 centered around women, men and comedy. We estimate that funding will rise 25% in 2013 to fund projects such as the one with actor Tom Hanks to produce a web series called "Electric City."
- **Netflix** spent \$200 million in 2012 to fund original premium video programming, including \$100 million with Kevin Spacey for "House of Cards." Since then, Netflix has produced new "Arrested Development" episodes and has given DreamWorks Animation an order for 300 hours of kids programming. We estimate that Netflix will spend \$250 million on original content in 2013. The day Netflix reported it reached 27 million subscribers, its share price rose >40%.
- **Amazon** had been licensing premium offline content non-exclusively, but recently licensed the popular BBC show "Downton Abbey" with exclusive rights for all recent episodes plus the older years as they roll off their current Netflix agreement. It also put up 14 "pilots" that viewers voted on and Amazon is funding production costs of the "winner." We estimate that Amazon will spend \$30 million on original content in 2013.

TV

Based on the upfront presentations in May 2013, we estimate that most TV channels will take 100-200 basis points of margin compression in order to fund copyright ownership. In total, we estimate that investment in TV content by the companies we cover will be \$45 billion in 2013, up \$1.5 billion vs. 2012.

- At a conference, a Starz executive estimated that nearly 140 scripted dramas were currently being made for the 2013-2014 network season.
- We estimate that 70 channels ordered scripted series for the 2013-2014 season.
- We estimate that each of the four broadcasters (ABC, CBS, NBC and Fox) will spend \$3-4 billion to program their networks in 2013.
- We note that a recurring theme on the December earnings calls for the large television content producers was higher 2013 budgets to create programming. For example, on the TWX 4Q12 earnings call, the CEO stated that TNT and TBS will air original episodes year round and will increase the number of original episodes on those 2 networks by more than 40% in 2013.
- We note that, at \$1.5 billion, the dollar *increase* for the TV ecosystem is 2x larger than the *total spending* for online premium video content (at \$750 million) in 2013, implying that online is falling ever farther behind TV content creation.

7. Similarities—Adaptation

Another similarity between the two ecosystems is that they both adapt. Their time frames are different. That is, online is faster and TV is slower, but they are both adaptive over time.

Online

Online competitors have proven themselves resourceful, adaptive, creative and persistent. In order to survive online in such a cluttered universe, the skill sets of premium online video creators must be long and impressive. We have met with dozens of executives involved in the premium YouTube channels and they are an impressive lot. As a group, they are hard working, visionary, creative, talented, and undercapitalized. Understanding their fan base (i.e., audience) is their core competence, followed by adaptability. Many of these entrepreneurs have loyal super-fans, and their content centers around a cult of personality (i.e., their brand) rather than a series. We wonder whether this is a scalable strategy and, given the PR disasters of Paula Deen and Martha Stewart, whether it is a prudent strategy to build a new ecosystem upon.

TV

Research shows that new platforms, especially mobile, reach viewers in ways that TV can not. TV content companies are following consumers as they move to online and mobile platforms. As usual, each company in the TV ecosystem has its own strategy and trials. Examples include:

- **Fox** has launched three online incubator channels, with the prospect that successful content can migrate to Fox's cable or broadcast channel, as its value to audiences is proven at each step.
- **Discovery** launched TestTube in May 2013. TestTube is an online video network, with 15 new original series available for free targeted at young, male viewers that care about science and adventure. TestTube combines Revision3's (purchased by DISCA in 2012 for about \$30 million) YouTube's youth culture with Discovery's traditional TV content and talent. We note that Discovery is the only major TV company that has not adopted TV Everywhere, instead putting several of its TV series on its owned websites and creating extensions of its premium story lines such as for TLC's reality show "Long Island Medium."
- **Time Warner** led a \$36 million investment round in YouTube network Maker Studios in December 2012.
- **DreamWorks Animation SKG** paid \$33 million for YouTube teen network AwesomenessTV in May 2013, and in June signed a deal to create 300 hours of original kids programming for Netflix.
- **NBC** picked up for its E! cable channel the show "Burning Love," a Yahoo web series that spoofs dating shows, after it reported 11 million online viewers in its first season.
- **Bertelsmann** led a \$6.5 million round of investment in online video network StyleHaul in March 2013.

Investment Conclusions

We began with the question: Why was annual TV advertising revenue \$77 billion (Nielsen) while the online video ecosystem advertising was only \$4 billion in 2012? We think the answer hinges on the differences described above, including:

1. **Industry Structure** of TV has many competitors of approximately equal power negotiating multi-year deals. This maximizes investment in both content and distribution and periodically, at contract end dates, re-allocates capital based on shifting power balances.

2. **Specialization** implies that everyone is pulling on the same oar. Content and distribution are complementary networks, and all players are incented to make their piece better. The cultures and pay scales at content vs. distribution companies are radically different, and this maximizes profits across the ecosystem.
3. **Discovery** is valuable in a crowded marketplace. Content companies take on the economic burden of discovery while distribution companies take on the expense of servicing 112 million customer households.
4. **Bundling** is good for economics for a myriad of reasons, and bigger bundles typically drive higher revenue.
5. **Prepaying** for an entire content slate regardless of demand builds robust narrowcasted video choices over time.

These distinctions have protected the economics of the TV ecosystem in the past. What about the future?

Looking Around the Corner: What's Next?

We project that the Internet will keep sending waves of innovation at the TV ecosystem (since the stakes are \$150 billion of revenue annually) until they create a hole in the dike. So what happens next? Where do we see the biggest risks of disruption to the TV ecosystem by the new Internet competitors?

1. What's Next? Rise of Mobile Video Viewing

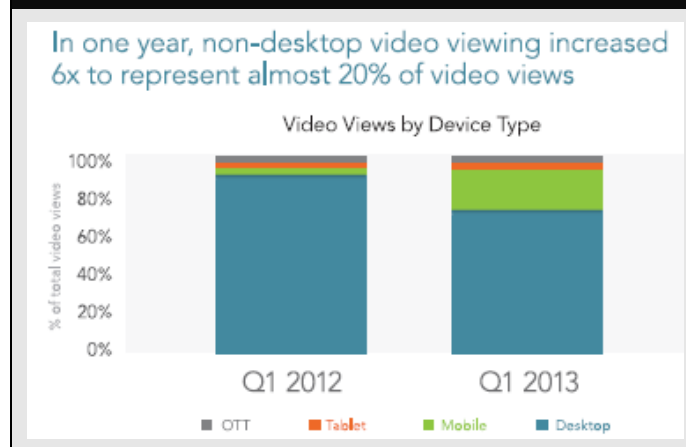
We believe that the rapid rise of video viewing over mobile devices has the highest likelihood of creating a parallel ecosystem that, over time, could disrupt the TV ecosystem. Importantly, mobile also threatens the nascent premium digital video content incumbents.

We expect mobile (both tablet and smartphone) video to continue to grow rapidly, both in terms of demand and economics. How big could it be, and how fast? We have four sources of data to answer that question, and they all say approximately the same thing:

1. **FreeWheel** publishes the best (in our opinion) online video monetization datasets each quarter. Video viewing on smartphones, tablets, game consoles, etc. is exploding, hitting 19% of total video views in 1Q13, up from 3% in 1Q12. Apple devices (mostly tablets) dominate monetization of video ad views with over 70% of share vs. Android at approximately 23%. Total long-form (20+ minutes) premium video views rose 28% year over year in 1Q13. Video ad revenue grew faster than demand in 1Q13, up 22% year over year, fueled by higher ad loads. Long-form content (20+ minutes) had an average of 9.5 video ads in 1Q13, up from 7.4 in 1Q12, and video ad completion rates are 93% for online videos over 20 minutes long. What's next for video is clear from FreeWheel's 1Q13 data. The future is all about watching video on mobile devices (tablets and smartphones), as illustrated in Figure 1.

Mix of Videos Viewed by Device

Figure 1



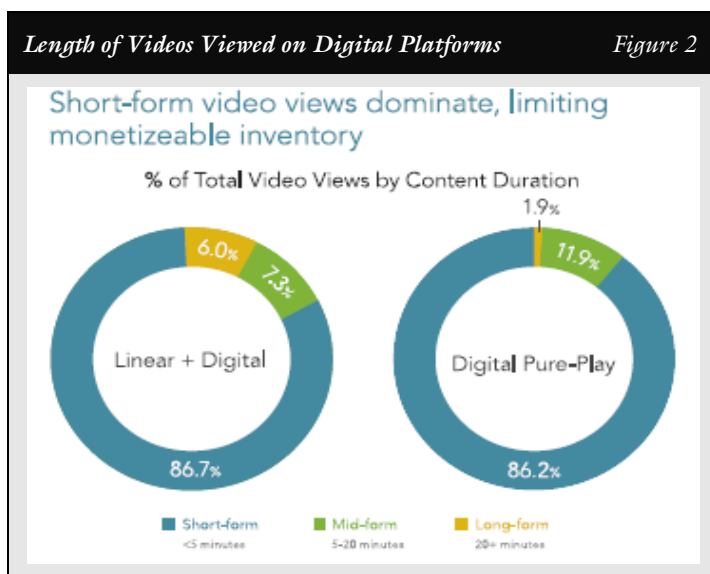
Source: FreeWheel video monetization report, 1Q13.

2. **eMarketer** published a study in January 2013 concluding that time spent watching television rose 1% year over year to 278 minutes/day, followed by 4% year-over-year growth in time spent online (to 173 minutes/day). *Both were dwarfed by the 50% year-over-year growth of time spent on mobile devices (to 82 minutes). Today, mobile is 12% of Americans' media consumption time, triple its share in 2009.*
3. **Cisco** published its Mobile VNI study in February 2013 and concluded that Internet video will be one of the four most important drivers of mobile bandwidth growth over the next 5 years. According to its report, Cisco anticipates that global mobile data traffic will outpace global fixed data traffic by a factor of three, driven by:
 - **More mobile video**—By 2017, mobile video will represent 66% of global mobile data traffic, up from 51% in 2012.
 - **More mobile users**—By 2017, there will be 5.2 billion mobile users globally, up from 4.3 billion in 2012.
 - **More mobile connections**—By 2017, there will be more than 10 billion mobile devices/connections, up from 7 billion total mobile devices in 2012.
 - **Faster mobile speeds**—Average global mobile network speeds will increase seven-fold from 2012 (0.5 Mbps) to 2017 (3.9 Mbps).
4. **The IAB** published a report in December 2012 with the following conclusions about video viewing over mobile devices:
 - 63% occurs in the home;
 - 36% of home viewing occurs when there is another screen in the room;
 - 92% of viewers share the videos they're watching on their phone;
 - A majority of shared videos are either funny clips or music videos; and
 - The biggest beneficiary of mobile viewing has been mobile apps because smartphone owners spend 127 minutes *per day* in mobile apps.

Investment Implications

Our primary economic conclusions related to the shift of video viewing toward mobile devices include:

1. The most important (in our view) implication of the shift toward mobile devices is that the length of premium content will probably shorten. Short form videos (i.e., less than 5 minutes) are the dominant form of videos viewed over mobile devices. In 1Q13, approximately 86% of all videos viewed online were under 5 minutes, as illustrated in Figure 2.



Source: FreeWheel video monetization report, 1Q13.

2. If money follows time, then as consumers shift their viewing to mobile devices (smartphones plus tablets), advertising will shift away from Desktop and TVs and toward the new mobile video ecosystem.
3. Mobile is a highly fragmented space so discovery becomes more difficult and more expensive. That is, on desktop there are 8 to 10 sites that successfully aggregate audiences. However, in the mobile space, no one app aggregates audiences. Desktop traffic is falling for the dominant desktop sites (for example, Yahoo traffic fell 12% in 2012) but this traffic is now spread over hundreds of apps across different mobile devices (Apple, Android, RIM, etc.) making discovery the key economic challenge.

2. What's Next? Paths to the Consumer Proliferate

In media, technology always creates new paths to the consumer over time (i.e., newspapers, magazines, radio, films, broadcast TV, cable TV channels, etc.). This adds competition, which adds costs to incumbents. It also often impacts power relationships and economics, because hit content becomes more valuable to new distribution platforms in order to drive adoption. In the next section, we discuss the new distribution platforms that will most impact the economics of the premium video ecosystem, in our view.

Online: YouTube

What Is It? YouTube is the largest and most innovative online video distribution platform. YouTube was founded in 2005, and Google acquired YouTube in 2006 for \$1.65 billion. Today, YouTube is the dominant online video platform globally, with over 1 billion unique users and 6 billion hours of video streamed each month in 2013. There are thousands of YouTube channels.

Economic Analysis. We estimate that YouTube will reach nearly \$4 billion of gross revenue and \$2.4 billion of net revenue (after traffic acquisition costs) in 2013, of which approximately \$500 million is attributable to ads in premium online video content and the balance is advertising tied to user generated content.

We believe that YouTube has spent approximately \$350 million (excludes marketing) to create premium YouTube channels over the past two years. We believe YouTube often “grants” \$1-5 million per channel. In the music world, this funding would be called “advances against royalties” because 100% of YouTube’s investment must be recouped before the content creator gets any additional revenue. YouTube calls them “grants” and we believe terms often look like this:

- YouTube must recoup 100% of its “grant” before the content creator gets any more revenue share.
- After repaying the YouTube “grant,” the content creator gets about 30% of every advertising dollar generated in their content, scaled by viewership. Higher viewership gets a bigger share of revenue. (We note that this split is backwards from normal Internet splits such as the iTunes store and the Kindle eBook economics where the platform only gets 30% of revenue.)
- Spending limits of YouTube’s “grants” are very precise. Of total “grant” money, 80-90% is required to show up on the screen (i.e., the negative cost). Cost of living, overhead, marketing expenses, travel, etc. all must come out of the remaining 10-20% or the entrepreneur must pay for it out of his own pocket.
- Typically, YouTube signs 1-year deals with each channel, and audits annually.

Our channel checks indicate that YouTube did not renew approximately 60% of the channels they funded in 2012, and renewed no channel which targeted audiences over 25 years old.

Online: Netflix

What Is It? Netflix still mails DVDs back and forth, but its fastest-growing business is streaming the most expensive films and TV shows on Earth over the Internet to computers and TV screens. Netflix reported that it had streamed four billion hours of video in the first three months of 2013, third behind YouTube and Comcast.

Why Does It Matter? We agree with the view that “Netflix matters most” because:

1. **Economics.** We estimate that Netflix paid the companies under our coverage more than \$1 billion in 2012 for licensing rights. What is especially important is that Netflix is a source of funding for deep (i.e., old) library titles, including weak B and C titles, which were earning no money before Netflix.
2. **Changing Consumer Behavior.** Netflix has changed viewing behavior. Increasingly, consumers are choosing “binge viewing” of a single show. That is, they may watch 8 sequential episodes of the same show rather than several different shows on linear TV on any one day. Comcast disclosed that popular binge series include NBC’s “The Office,” HBO’s “Entourage” and Lifetime’s “Army Wives.” In fact, in one month of 2012, the average “Grey’s Anatomy” viewer watched 20 episodes, according to Comcast.

3. **Linear Storytelling.** Netflix is enabling new forms of storytelling. For example, “24” used to be sold in a boxed set at the end of each season. Now consumers can view all episodes on Netflix. “The Good Wife” on CBS was sold directly to Netflix because the storytelling was more linear than typical TV syndication fare. This type of serialized drama was difficult to justify in the past because the \$20 billion syndication market handles stand-alone storytelling by individual episode better than linear multi-episode storytelling.
4. **Production.** Netflix is producing more originals. Netflix’s “House of Cards,” “Hemlock Grove” and “Arrested Development” may be in part responsible for lower ratings for broadcasters in the current network season. In addition, Netflix just announced a deal to buy 300 hours from DreamWorks Animation for original kids TV series.
5. **Funding Source.** Netflix is partially funding Fox TV’s season 3 of “The Killing” in exchange for exclusive streaming rights in the U.S. and Canada beginning three months after the season finale, much faster than the typical 12 month delay. Netflix has the rights to premiere the show in foreign markets, where its data shows that prior episodes had been particularly popular. Another example is the PBS kid’s series “Super Why,” which Netflix partially funded in exchange for exclusive streaming rights.
6. **Data Driven.** Netflix is not renewing content with weak consumer demand, because it has the data to determine what its viewers like most. It has cut back A&E content extensively, and it threatened to cut back on Viacom’s content, prompting Viacom to do an exclusive deal with Amazon instead. To the extent that Netflix only wants to pay for the hit titles in a content owner’s library, this may become value destructive to content owners.

What We Lose Sleep Over:

- We worry that content companies are not charging enough for the revenue risk they are taking. Why does Netflix have a market cap of \$13 billion? The value of a top-notch user interface is approximately \$1 billion, using the Hulu auction as a proxy. Add another \$1 billion for the value of aggregation to consumers. Finally, let’s add another \$1 billion for the genius that is CEO Reed Hastings. Isn’t the remainder \$10 billion of value a transfer of value *from* the content companies *to* Netflix? Doesn’t that mean that content companies are undercharging for their premium content?
- We wonder whether Netflix re-trains consumers to wait for the end of the season and watch all the episodes at once and skipping 14 minutes of commercials per hour, thereby undermining the primary ad revenue stream for content creators.
- We worry that the consumer price/value disparity of \$8/month with no commercials vs. \$70/month with 14-minute commercial loads is too large and *that it encourages cable subscribers to disconnect*. Is Netflix a bundle of the best content on Earth that undermines the pricing power of every other distribution window? We wonder...
- How is Netflix as an ecosystem partner? At the end of the first deal, after collecting extensive data on click-through demand for Viacom’s programming, Netflix tried to unbundle Viacom’s library and buy only the content with high demand (i.e., A titles only). Instead, Viacom walked and did an exclusive deal with Amazon. We believe content owners should be cautious with any distributor that only wants to pay for hits and pay nothing for B and C content. No content company can survive that deal long term.

Online: Hulu

It’s hard to know what Hulu will be in 2014, as the bidding process is ongoing. There are several bidders, each of which has a different strategy. As background, Hulu was launched in 2007, is owned by ABC, NBC and Fox, has four million subscribers today, and offers more than 77,000 full TV episodes from a total of 489 content partners. Hulu’s core business is offering current-season

episodes to consumers via Hulu Plus, an \$8/month subscription services. Subscriptions plus advertising revenue hit \$700 million in 2012, although Hulu is not profitable.

Online: Amazon

Amazon Prime aired 14 pilots for viewers to vote on. It has promised to fund creation of the one that wins. Amazon does not need to pursue an advertising or subscription model. Rather, it can marry content to commerce, giving it a unique competitive position. To date, our channel checks suggest that Amazon has been more measured in its entry into premium content. Watching how Amazon innovates should be one of the most interesting datapoints of 2014.

Online: Apple

Apple's iTunes store is the largest online revenue generator in the pay-per-play space for film and TV. In June 2013, Apple reported that iTunes users have downloaded over 1 billion TV episodes and 380 million movies to date, and that iTunes users are currently purchasing over 800,000 TV episodes and over 350,000 movies per day on a global basis.

Physical: Google Fiber

What Is It? Google is currently rolling out fiber that enables a broadband connection 100 times faster than its competitor Time Warner Cable in Kansas City and Olathe, KS, and has announced that it will enter Austin, TX, next. We estimate that Google will pay \$50 million to pass about 150,000 households in Kansas City, and a nationwide rollout would cost Google more than \$150 billion. Google Fiber costs consumers \$120/month for TV plus high-speed Internet and \$70/month for a 1 Gbps (i.e., super fast) Internet connection. Google Fiber also offers slow Internet connectivity for \$300, with no monthly fee.

Strategic Imperatives. What is Google trying to accomplish with Google Fiber? Only Google knows for sure, but we would posit several potential strategic objectives:

- **Relationships.** Google fiber forces the content companies to open a dialog and negotiate with Google over content rights. Many content companies had shunned Google ever since its heavy-handed approach to Hollywood, early on.
- **Data Collection.** The Kansas City experiment allows Google to collect network data about residential broadband networks from the field, which it cannot get from cable companies or telcos.
- **Learning.** Google can test video insertion technology, disparate types of content viewing over TV vs. high-speed modems, and any other video experiments it's interested in.
- **Public Policy.** Google may be positioning itself as the knight in shining armor that puts "consumers-first" with fast broadband connectivity that encourages cable companies and telcos to raise speeds and lower prices.

Physical: Intel

What Is It? Intel has announced that it will launch a virtual cable company (called a MVPD for multichannel video programming distributor) by delivering cable bundle content over Internet Protocol via a set-top box sold in retail stores. Key competitive advantages, according to press reports, are that Intel will have a cool interactive user-interface, a wider assortment of cable bundle choices, and a combination of live TV plus DVR-like playback capability.

Challenges. We foresee several challenges for Intel:

- Intel is the fourth alternative (i.e., cable, satellite, telcos, Intel) in many parts of the U.S., and 40 years late to the market. Inertia in consumer businesses is a powerful barrier to entry.
- Forcing consumers to go to a retail store and buy the Intel box will slow adoption, in our view. For example, in 6 years, Roku just sold its 5 millionth box (4 million are active today), and Roku's price point is *under \$100 with no monthly fee*, and it brings unique content like Netflix and Hulu to the TV screen.
- Intel does not have consumer-facing brands or relationships. Intel must buy TV advertising (expensive) to build a consumer brand.
- Customer service in a consumer-facing business is difficult and expensive, especially as the fourth entrant (i.e., cable, satellite, telcos, Intel). We note that in many small markets in the U.S., 50% of cable subscribers still walk into the cable office and pay their bill in cash each month. In these markets, the biggest driver of churn is how much they like the receptionist sitting at the desk on the day they pay.
- The business is built on volume discounts. The satellite companies used to pay the most for programming when they began and now they pay less than many cable companies because they have more subscribers. Intel will have to earn their discounts, just like cable, satellite and telcos did. Until Intel reaches scale, it will pay a 30-50% premium for the content channels it distributes, by our calculations. Why? Because a content creator isn't interested in getting less money from a new entrant. Multichannel video is 85% penetrated so the only place for a new entrant to take a subscriber is from an incumbent distributor. Content owners only want to aid that shift if they make more money from the new entrant than the incumbent it replaces.

Physical: Game Consoles

According to the Entertainment Software Association (ESA), gaming consoles represent a competitive platform in the home for TV delivery. Their data shows:

- 51% of U.S. households own a dedicated game console, and those that own at least one own an average of two;
- 58% of Americans play video games;
- Consumers spent a total of \$20 billion on content, hardware and accessories in 2012 with purchases of content (games, mobile apps, subscriptions, social networking games, etc.) representing \$8 billion (40%) of this amount; and
- Xbox is launching an original series called "Halo" from Steven Spielberg.

Investment Conclusions

We believe technology always creates new paths to the consumer, over time. This has several important implications for content vs. distribution economics:

1. With high predictability, there are periodic business-to-business revenue shifts toward hit content creators because hit content is a key differentiator (i.e., drives adoption) for new distribution platforms. Although content creators generally prefer non-exclusive distribution deals, new platforms are willing to pay enormous premiums for exclusivity, adding to the pricing power of hit (i.e., differentiated) content as new platforms vie for superiority.
2. Distribution becomes more commoditized and must invest to find a new competitive edge. Late entrants face daunting IRRs because they must steal their consumers away from one of three or four incumbents that has been in the market for decades.
3. Advertising revenue falls because fractured, narrowcasted audiences become ubiquitous and substitutable and have declining pricing power.

4. Reach becomes more rare and, therefore, commands a rising premium price point for advertisers.

3. What's Next? Crowdfunding

What Is It? The two largest Crowdfunding sites are Kickstarter and Indiegogo. From their websites:

- Kickstarter funds films, games, music, art, fashion, design and technology. Since its launch in 2009, 4.3 million people have pledged \$679 million to fund 44,000 creative projects. Project creators set a funding goal and deadline. Funding on Kickstarter is all-or-nothing. That is, projects must reach their funding goals to receive *any* money. To date, 44% of projects have reached their funding goals.
- Indiegogo has a more global feel. Project creators keep 100% ownership of their campaign and creators keep any money they raise, regardless of whether their goals are hit. Indiegogo only gets paid after money is raised.

Success Metrics. So far, Crowdfunding has generated two Oscar-winning movies called “Inocente” and “Curfew,” and a best-selling graphic novel about zombies called “FUBAR: Empire of the Rising Dead.”

The highest amount of money raised through Kickstarter was \$10.2 million for the Pebble Smart Watch, a customizable watch that allows wearers to receive texts and other notifications on their wrists. For TV and film, Kickstarter raised \$5.7 million for a movie based on the Kristen Bell TV series “Veronica Mars” and \$3.1 million for a Zach Braff film entitled “Wish I Was Here.”

Economics. This form of funding mirrors charitable donations. That is, backers are not investors: They receive no cut of any profits. Sometimes they get perks. For example, in a new \$500,000 movie campaign by James Franco, he included dinner with himself and his production team so long as the funding contribution is \$10,000 or more.

Kickstarter has stated that it raised \$274 million in 2012, and through April 2013 nearly \$200 million. We believe that Kickstarter gets about 5% of funds successfully raised, and the credit card companies get an additional 5%.

Indiegogo has stated that its campaigns raised 20% more in 2012 than 2011.

Investment Conclusions

Crowdfunding is a good idea for premium content, but probably has size limitations. Brands created on old-economy platforms (e.g., James Franco, “Veronica Mars,” etc.) probably have the highest likelihood of success on these platforms, and they probably need this source of funding the least. We believe there are inherent limitations to any business model that doesn’t offer attractive returns on investment. Since Crowdfunding is structured as a charitable donation, we expect it to hit a ceiling and no longer grow.

4. What's Next? The Value of Hit Content Rises

On the Internet, hit videos reach global audiences, as evidenced by the 1.3 billion views of PSY's "Gangnam Style" video. Large audiences become more valuable as audiences fragment, because they become rarer.

What's different about entertainment content from other types of content is that it is social. One of the objectives of consuming video content is to talk about, share and debate its merits. The influence of hit videos is broad and global, including its ability to change vocabulary, fashion, norms and culture. Viewers can join nearly any conversation (a higher IRR) if they have allocated their time and money to consuming hit video content. This implies that hits will continue to garner excess returns vs. niche content.

Data shows that economics have proven to be more concentrated on digital platforms than in the analog world because:

- Hits are shared more, driving more consumption, which creates a positive feedback loop. With ubiquitous information, it's easy to determine whether you are reading or listening or watching the best available. Social networks, search engines, customer reviews, recommendation engines, etc. all push consumers toward the best product (super-hits) available.
- Entertainment content is *social* and users can join more conversations (a higher IRR) if they allocate time and money to consuming hit content. They find more value in reading, watching and listening to the same content that other people do. Therefore, hits reinforce themselves.
- Because the marginal cost of creating the next copy is low in the digital world, the profit margins of hits are large. This makes suppliers want to pay more for the option to create "hit" content.

There is excellent academic work supporting the real-world observation that hit content commands an ever larger share of profits as audiences fragment. (Please see our report entitled, *Content's Shifting Economics*, dated December 2, 2010.)

TV Ecosystem—Biggest Economic Upsides and Risks

Turning now to the bulk of the market cap at risk, the next section highlights what we view as the biggest valuation upside and downside drivers for the TV ecosystem over the next three years.

What's at Stake?

The future of the TV ecosystem has important implications for market capitalization, economics, consumers, and employment, as evidenced by the following datapoints:

- Market Cap. The public market capitalization of companies in the TV ecosystem is over \$400 billion, according to Bloomberg.
- Economics. In 2013, the TV ecosystem will report total revenue of approximately \$142 billion, about 47% (\$67 billion) from advertising and 53% (\$75 billion) from subscription fees paid to cable, telco and satellite companies, according to PriceWaterhouseCoopers.
- Consumers. Over 100 million households subscribe for a multi-channel TV bundle, representing approximately 90% of the entire U.S. population, according to Nielsen. In most markets, cable, telco and satellite all compete for viewers.
- Employment. We calculate that there are more than 1 million employees in the public TV ecosystem companies alone, not counting private companies.

Revenue Mix

The U.S. TV ecosystem has two primary sources of revenue: subscription revenue and advertising revenue.

- **Subscription.** PriceWaterhouseCoopers (PWC) estimates that the TV subscriptions revenue in the U.S. was approximately \$74 billion in 2012, and they predict it will reach \$83 billion by 2017. PWC projects that the total number of multichannel subscriber households will increase from 102 million at December 31, 2012 to 108 million at December 31, 2017, comprised of 1 million fewer cable households (from 57 million in 2012 to 56 million in 2017), 3 million extra satellite households (from 34.6 million to 37.3 million) and 4 million more IPTV households (from 10 million to 14 million).
- **Advertising.** U.S. TV market generated \$76.5 billion in ad spending in 2012, a 6.5% increase, including the Olympics and Presidential elections, according to Nielsen. Nearly 40% of total TV ad dollars were spent in prime time, with dramas the highest paid genre at \$7.8 billion, followed by reality TV at \$5.6 billion, followed by comedies at \$2.7 billion, according to Nielsen.

Economic Upside

We calculate that the largest sources of upside to the TV ecosystem include:

1. VOD at \$10 billion of annual revenue upside;
2. Internet advertisers at \$5 billion of annual revenue upside; and
3. TV Everywhere at \$4 billion of annual revenue upside.

Economic Downside

The biggest downside risk to economics, dwarfing all others, is unbundling. Either unbundling monetization from content, or content from content (i.e., a sports tier), destroys up to 50% of total TV ecosystem revenue because a la carte forces consumers to bear 100% of the cost of the channel, whereas today advertisers bear approximately 50% of TV content costs.

VOD: Upside to TV Economics

We wonder if the markets are accurately valuing the viewing shift away from DVR usage to video on demand (VOD) usage. DVR penetration in the U.S. was 46% at December 31, 2012, according to Nielsen. DVR households fast forward through an average of 70% of commercials, according to CBS research. Because advertisers only pay for commercials viewed during the first 3 days, content creators do *not* receive 70% of the ad revenue for an average hour of DVR-played back programming during the first 3 days. (They receive zero ad revenue after the first 3 days in every case.)

Economic Analysis: We believe that content companies that aggressively roll out VOD titles create incremental value in 2 ways:

- **Advertising Revenue:** Fast-forwarding is generally disabled on VOD so advertisers pay for the full 14-minute commercial load. That is, every time a VOD view replaces a DVR view within the first 3 days, the economics are 70% better for the content provider. Starting with day 4, content companies are (and should be) generating incremental ad revenue by selling updated ads to digital advertisers. ABC has stated that two-thirds of VOD views of its shows happen on day 4 or after, and we expect this incremental revenue stream to grow because digital CPMs are typically 30% higher than TV CPMs.

- **Pricing Power:** Adding value to the bundle through VOD services allows consumers to watch shows *when* they want to. This should add pricing power to the TV ecosystem because there is value in aggregation and the simplicity of “one-stop-shopping.”

Consumer Adoption: VOD has been around for more than a decade, but was mostly used for movie rentals, children’s shows and music videos. In recent years, cable companies have been adding prime-time programming. Because Nielsen now measures VOD views in the same way it measures DVR viewing. (i.e., live + 3 days), content companies are more aggressively adopting VOD. Advantages of VOD include that it is already hooked up to television sets via set-top boxes and no extra user name or passwords are required. Most VOD content is free to consumers and, generally, VOD has at least the most recent season of a TV show. VOD datapoints include:

- In May 2013, *The NY Times* reported that VOD views of ABC’s shows were up 32% year over year and that VOD now accounts for 3% of the prime-time audience that ABC sells to advertisers. We estimate that Fox’s “The Following” and ABC’s “Scandal” now generate 100,000-300,000 incremental audience each week through VOD.
- Comcast announced that it delivered 400 million views per month and 2.4 billion VOD hours watched (up 14% year over year) in 2012, and that it now offers 36,000 titles on VOD over the TV; 270,000 online at Xfinity.com; and 20,000 TV shows and movies on the iPad, iPhone and iPod touch through the Xfinity app. *If every one of these 2.4 billion VOD views in 2012 became a substitute for a DVR view, this would add \$10 billion of extra annual revenue to the TV ecosystem*, by our calculations.
- If all 400 million views per month were replacements for DVR viewing within the first 3 days after live airing, this would imply \$5 billion of extra advertising revenue monthly, equating to \$60 billion annually.
- Top VOD content in 2012 was A&E’s “Duck Dynasty,” HBO’s “Girls” and NBC’s “Revolution.” The most-viewed movies were “21 Jump Street,” “The Hunger Games” and “Ted.” As of March 2013, Comcast had 60 networks capable of dynamic ad insertion.
- For transactional VOD movies, Comcast’s share of the \$1.3 billion market declined from 29% in 2011 to 28% last year as telcos gained share, according to NPD Group.

Investment Conclusions: Implications for Netflix?

Netflix streamed approximately 1 billion hours per month in 2012. Over time, the two revenue stream model for VOD suggests that it may garner a higher quality library than Netflix’s single revenue model. That is, VOD adoption raises the question of whether, with only one revenue stream (i.e., subscription), Netflix can compete with VOD because programmers receive two revenue streams for content they sell into VOD. Over time, programmers may decide to sell only remnant content to Netflix (i.e., only content that generates zero revenue from VOD).

Internet Advertisers: Upside to TV Economics

The Internet is a cluttered place. Infinite content makes discovery difficult. Consumer facing Internet companies are increasingly using TV to create brands that cut through the clutter. In addition, Internet companies pay higher prices for television advertising because they typically do *not* purchase ad time in the upfront market and are therefore subject to scatter prices (i.e., higher prices and no audience guarantees).

Economic Analysis. The largest 100 Advertisers spent approximately \$105 billion on U.S. advertising in 2012 (about flat for the past several years), representing 42% of total U.S. ad spending and 67% of U.S. TV ad spending (or \$52 billion), according to *AdAge*. *AdAge* noted that ad spending by Internet and technology companies reported the highest ad-spending growth

among the top 100 in 2012, up 14% year over year. Samsung Electronics spent 58% more ad dollars in 2012 to support its mobile efforts against Apple. Amazon delivered the second-highest growth, up 46% year over year to \$1 billion, in order to promote the Kindle and its consumer-facing brand image as a low-cost source for nearly anything. Google hit \$1 billion of annual advertising spending in 2011, according to *AdAge*.

Economic Analysis. Datapoints relating to Internet advertisers include:

- The largest 100 advertisers accounted for 67% (about \$52 billion) of U.S. TV revenue in 2012, according to *AdAge*.
- In 2012, Amazon, Apple, Expedia, Google, and Progressive Insurance were each among the 100 largest advertisers in the U.S., according to *AdAge*. Each of these consumer-facing Internet companies uses TV aggressively.
- In 2012, Amazon reported the second-highest growth in U.S. advertising spending, up 47% year over year, reaching \$1.1 billion, followed by IAC, up 43% year over year to \$547 million, and Apple's global ad budget hit nearly \$1 billion, according to *AdAge*.
- In 2011, Google reported the third-highest growth in U.S. advertising spending, up 61% year over year to \$1 billion, followed by Amazon, up 60% year over year to \$770 million, followed by Apple, up 50% to \$632 million in the U.S., according to *AdAge*.
- There are several examples of rising TV spending levels by Internet companies. Many Internet companies advertise on the Superbowl, at \$3.5 million per 30-second spot. TripAdvisor has announced a new \$40 million offline ad campaign, its first spending ever on TV, and Zillow is a constant presence on the Home and Garden channel.

Calculation of Revenue Upside. Cyclically, U.S. advertising growth is gated by economic strength. Structurally, growth in U.S. advertising is tied to the level of competition. As competition increases, companies advertise more in order to differentiate themselves from competitors.

The Internet has brought structurally higher levels of competition to the U.S. economy. Whereas Internet companies used to compete with incumbents only, the rise of mobile competitors and the drift of established Internet companies into adjacent verticals drive ever higher TV advertising demand.

We think this is one area of TV ad growth that Wall Street may be underestimating in its macro models. With growing competition among Internet companies, we calculate that the TV advertising upside from Internet advertisers is \$5 billion (6% of total ad revenue) annually by 2015, calculated as 10 Internet advertisers (up from 5 in 2012) spending an average of \$500 million each in 2015.

TV Everywhere: Upside to TV Economics

What Is It? TV Everywhere is a technology that is being paid for by the U.S. distribution companies that gives every member of the household the ability to watch their favorite TV channels on any mobile device, inside and outside of the home. Customers must input an “authentication” code to prove they are a cable, satellite or telco subscriber in good standing. After that, they can access any TV channel on laptops, tablets and smartphones, anywhere in the U.S. Examples of channels that have fully adopted TV Everywhere include TBS, TNT, HBO.Go, Showtime, Fox News, ESPN, MTV, CNBC and A&E.

Economic Implications. We believe TV Everywhere adds to the price/value relationship of the bundle. We believe that the TV ecosystem is taking a 10-year view with this product, because this solution is directly responsive to demands by the youngest members of each U.S. household. We believe that the true economic upside of the extra investment in TV Everywhere today will come when today's 12-18-year-old establishes his/her own household. We estimate that the value of every "saved" 24-year-old that subscribes to a cable, telco or satellite TV service when he/she forms his/her first independent household is approximately \$40,000 of revenue to the TV ecosystem over their lifetime (calculated as 50 years of TV subscription fees times \$70/month). *If TV Everywhere helps "save" 5% of current multichannel households that would have otherwise defected, TV Everywhere would "save" \$4.2 billion for each year that it elongates TV ecosystem subscription (calculated at 100 million multi-channel households x 5% x \$70/month).*

Investment Implications

Services that add value to the bundle (like TV Everywhere) add value to the TV ecosystem, in our view. More generally, we believe that ecosystems that are "bundling up" add value over time. So far, TV ecosystem participants have generally been disciplined about protecting the value of the bundle. We believe that TV ecosystem participants should try to add services that allow incumbents to "bundle up" (such as "TV Everywhere").

Biggest Risk to TV Economics: Unbundling

Despite calls for unbundling because it would give consumers more choices, our math concludes that approximately 50% of total TV ecosystem revenue would evaporate and fewer than 20 channels would survive because a la carte forces consumers to bear 100% of the cost of the channel, whereas today TV advertisers bear 50% of the cost. Our conclusions are based on the following analytical building blocks:

1. In 2012, the TV ecosystem generated total revenue of approximately \$150 billion, about \$77 billion from advertising (Nielsen) and \$74 billion from subscription fees (PriceWaterhouseCoopers) paid to cable, telco and satellite operators.
2. HBO, the first cable channel, has always been a 100% subscriber-based revenue model. Today we estimate that approximately 30 million households pay about \$14/month (HBO keeps 50%, or \$7/month) representing approximately \$5.0 billion per year paid by viewers to receive arguably the best content on television. HBO's revenue is \$2.5 billion annually, paid for 100% by consumers, but 70% of cable households don't get the benefit of HBO's awesome programming because they can't (or won't) afford it.
3. By contrast, TBS, which was the second cable channel and the first ad-supported cable channel, generates about \$1.5 billion of revenue from subscription fees *plus* \$2 billion from advertising revenue (our estimates). We estimate that TBS charges cable/telco/satellite companies about \$1.20/month and they mark it up 35% and charge consumers approximately \$1.60, which is about 90% below HBO's monthly charge. TBS's total revenue is \$3.5 billion annually (40% higher than HBO's) of which less than half is paid for by consumers. Advertisers subsidize TBS's expensive programming, including sports and original series, and more than 100 million households (about 300 million people) have the option to watch TBS at any time of the day.
4. More generally, most entertainment cable channels generate about 50% of their revenue from advertising and 50% from subscription payments. The reason there are subscriber payments at all is that there is zero ad revenue until a channel reaches at least 25 million homes. Any channel with less than a 25% penetration of U.S. households (and recall that HBO—the best of the best—only has 30% penetration) would probably not survive in an a la carte world.

Investment Implications

Our calculations suggest that if the TV bundle starts to degrade, \$400 million of market capitalization will turn into \$200 million over 10 years, based on the datapoints from music and newspapers. In addition, our math suggests that approximately 20 channels would survive the unbundling of the TV ecosystem. A datapoint supporting this conclusion is that only 4 broadcast channels (ABC, CBS, Fox and NBC) existed before the second revenue stream of subscription payments facilitated the development of hundreds of cable networks. Additionally, today only three major subscription-only channels (HBO, Showtime, Starz/Encore) survive in a world that supports hundreds of dual revenue stream cable channels.

More Risks of Unbundling

Threats to the economics of the TV ecosystem relate to forms of unbundling:

- Monetization unbundling; and
- Content unbundling.

Monetization Unbundling: Aereo

Aereo picks up the free over-the-air TV signals of local television stations (including ABC, CBS, Fox and NBC), and streams them to phones and computers without paying the station owners approximately \$2.36 billion in retransmission fees (2012 SNL Kagan estimate). So far, all legal challenges have been decided in Aereo's favor.

Fox, CBS and Univision have already threatened to take their signals off the free airwaves, essentially turning them into cable channels, if the courts uphold Aereo's right to compete. Even if Aereo wins in court, we think the primary beneficiary of a positive ruling would not be Aereo but rather the incumbent cable, satellite, and telcos that would stop paying \$3 billion of retransmission fees and simply roll out a similar technology to Aereo to capture the broadcast signals prior to distributing them to households.

Monetization Unbundling: Hopper

DISH's Hopper skips commercials and therefore unbundles monetization from TV content. According to the DISH website, "the Hopper's 'Auto-Hop' feature automatically skips commercials in DVR-recorded prime time shows with the push of a button."

Monetization Unbundling: DVRs

Nielsen reports that 46% of homes had a DVR at December 31, 2012, up 9% year over year. Viewers typically skip 70% of commercials when watching content on a DVR. If viewing is within the first three days, this can be a significant negative for the content creator's profits.

Nielsen data suggests that the higher the household income, the more likely it is to have a DVR. Nearly 70% of homes with incomes \$100,000 or more have a DVR, while 60% have one in the \$75,000-100,000 range. Time-shifted viewing is growing in all income segments. In fact, the daily average rose from 21 minutes to 25 among the lowest income segment (\$30,000-50,000), the highest growth for any group.

Content Unbundling: A Sports Tier

Content unbundling is as powerful a negative to economics as monetization unbundling. For example, there is much talk about a new Sport Tier because approximately 50% of total subscriber fees paid per month by consumers are related to sports channels, even though these channels

account for less than 25% of total viewing (Nielsen). This implies that sports are getting “overpaid” by consumers by two-fold.

Sports channel fees are being driven by escalating TV license fees for professional sports. With the launch of FoxSports 1, which will compete with ESPN for national sports rights for the first time, we expect sports rights fees paid to leagues to accelerate (i.e., get worse) over the next 24 months. The revenue mix of the largest sports channels is included in Figure 3.

Figure 3

Sports Channels' Revenue Mix							
Costs of Sports in the Bundle							
	<u>Monthly</u> <u>Sub Fees</u> <u>(\$)</u>	<u>Implied</u> <u>Annual Sub</u> <u>Revenue for</u> <u>12 Months</u>	<u>Households</u> <u>Reached (\$mm)</u>	<u>Estimated Total</u> <u>Sub Revenue/</u> <u>Year (\$mm)</u>	<u>Ad Revenue/</u> <u>Year</u>	<u>Total</u> <u>Revenue</u>	<u>Sub Fees/</u> <u>Total Rev</u>
ESPN Channels	\$6.00	\$72	100.0	\$7,200	\$3,000	\$10,200	71%
Yes Network	\$3.20	\$38	12.2	\$468	\$73	\$542	86%
Comcast SportsNet Washington	\$4.35	\$52	4.4	\$230	\$36	\$266	86%
Fox Sport North	\$4.25	\$51	8.0	\$408	\$45	\$453	90%
DirectTV RSN-Pittsburgh	\$3.50	\$42	8.0	\$336	\$40	\$376	89%
TWC RSN-Los Angeles	\$3.30	\$40	6.2	\$246	\$25	\$271	91%
MSG	\$3.50	\$42	8.1	\$340	\$66	\$407	84%
Fox Sport Southwest	\$4.00	\$48	8.3	\$398	\$45	\$444	90%
SportsNet New York	\$3.00	\$36	8.9	\$320	\$40	\$361	89%
Total Sports Economics	\$35.10			\$9,947	\$3,371	\$13,318	
Average Video Cost per Month	\$70.00						
Sports/Total Video Cost	50%						

Source: Needham research, SNL Kagan, MediaPost, Wikipedia, sportsbusinessdaily, dslreports.

The Math of a Sport Tier

Because sports channels get paid 2x its ratings, this represents an “unfair tax” on the 50 million households that don’t watch much sports. Households on a fixed income who don’t watch sports but feel forced to pay for them are especially vocal in Washington DC, raising the risk that sports becomes unbundled. We calculate the math of a sports tier as follows:

- ESPN gets about \$6/month (our estimate) from 100 million homes, or about \$7.2 billion annually in subscriber fees. We estimate that approximately 20 million households are heavy sports viewers and 80 million households are casual sports viewers. If ESPN was put on a sports tier, its cost would need to triple to re-achieve \$7.2 billion of revenue, assuming 33 million households paid \$18/month for the ESPN group of channels. As illustrated in Figure 3, ESPN is the only sports channel that generates meaningful advertising revenue, with 30% of its total revenue coming from advertising. If the number of households taking ESPN fell below 25 million, ESPN would lose \$3 billion of ad revenue and be forced to raise consumer fees by an extra \$8/month to retain \$10.2 billion of total revenue.
- For the regional sports networks, sub fees represent 86-90% of total revenue today, so there isn’t meaningful ad revenue at risk. However, they would need to double or triple sub fees from \$3-4/month, depending on consumer demand. Ironically, consumers’ bitterness about the rising cost of the bundle is being driven largely by these regional sports channels that have virtually no advertising revenue, which is the situation that every other channel would face if the bundle falls apart.
- If sports leave the bundle, we estimate that many of the 20 million households that are heavy sports viewers today would disconnect the remaining entertainment bundle, thereby further pressuring ecosystem profits.

Economics. *We believe a sports tier would cost the TV ecosystem \$13 billion of annual revenue, comprised of \$3 billion in lower advertising plus \$10 billion in lower subscription revenue.* Since the largest public content companies are valued at 2-3x revenue, this implies \$26-39 billion of market capitalization downside risk. We calculate this as follows:

- As shown in Figure 3, we estimate that sports commands \$9.9 billion of subscriber revenue plus \$3.4 billion of ad revenue today.
- We believe that only 20 million “super-fan” homes would pay \$30/month for ESPN’s group of channels. If 20 million homes pay \$30/month, this is equivalent to 100 million households paying \$6/month today. Therefore, we would expect demand for ESPN to fall below the critical 25 million subscriber threshold required to generate advertising revenue, implying \$3 billion of lost ad revenue to the sports (and TV) ecosystem.
- We believe that the 20 million households that are “super-sports households” would disconnect the additional \$40/month for the entertainment bundle, implying a loss of approximately \$10 billion in subscriber revenue to the TV ecosystem.

Investment Implications

In total, we calculate that a sports tier would lower revenue to the TV ecosystem by \$13 billion, comprised of \$10 billion lower sub fees plus \$3 billion lower ad revenue. What’s the answer? These are complicated questions, but our answer is to find a negotiated solution that allows the bundle to grow, not shrink. A key skill set of every participant in the TV ecosystem is negotiating skills. The rights deals signed today can fill a room with paper. We think the best solution to this hard problem is to find a negotiated compromise that allows both content and distribution to win and the bundle to stay intact, or grow. We can find no math where unbundling is the best economic answer.

Another Risk to TV Ecosystem: The Nascent Online TV Ecosystem

There is a growing stream of funds being invested in innovative content creators that are trying to crack the code on how to participate in the TV Ecosystem’s core business. There is a nascent parallel premium-video online ecosystem being created today, and we are optimistic about its success potential. Positives include:

- It is creating short-form premium videos targeted at smartphones that are difficult to monetize, and therefore being largely ignored by incumbents. At the same time, it is rapidly taking viewing share of young people (most desirable) away from the TV dial. We believe that this path to disruption has a far better chance of working against the incumbent TV ecosystem than any of the distribution technologies solutions introduced to date, because it enters through the side door of mobile programming, and is therefore not perceived as a direct threat to the current TV ecosystem.
- If money follows time, then as consumers shift their viewing to mobile devices, both smartphones and tablets, this suggests advertising share shifts away from TV and toward the new premium-video online ecosystem.
- The offline content producers are largely ignoring this nascent ecosystem. We feel like incumbent content producers are fighting over the 0-2% viewing growth pie rather than the 50% viewing growth pie represented by mobile devices. Higher offline content budgets fighting over 0-2% viewing growth is driving margin pressure in 2013.

We are optimistic about the ability of the nascent premium-video online ecosystem to take share from the TV ecosystem over time, although we would highlight the following hard problems that they need solve in order to maximize their economic upside:

- **Commoditization.** The text-based Internet has infinite advertising inventory which limits pricing power. Also, the Internet commoditizes fractured audiences. That is, there are 5 ways for advertisers to reach women 18-34 that drive Lincolns, so there is little pricing power for ad inventory. Although there is more demand for premium video today than supply, the rapid investment in premium-video online may create the same pricing problems that face the text-based Internet world today.
- **Inefficiency of Small Size.** As audiences fracture due to infinite choices (social networks, gaming, chat, blogs, news, sports, search, etc.), audiences fall to tens of thousands online.
 - Because advertising spending is very concentrated in the U.S. with the largest 100 advertisers accounting for 67% of total U.S. TV advertising (source: *AdAge*), these largest of advertisers must reach the broadest possible swath of potential purchasers. This is mission-critical when they introduce new products, because they must create awareness that a new product exists.
 - Re-aggregating fractured audiences back into millions of ad impressions has two challenges: 1) it is cumbersome; and 2) there is a risk that an ad reaches the same person 20 times and other people not at all.
- **Limits to Engagement.** Online audiences are often fickle and fast. Eight million hits on a website are *not* of equal value to a TV show with a rating of 8, because each TV ratings point represents the average millions of viewers that *watched the entire show* (30-60 minutes). Premium TV and film content typically has much longer engagement times, which maximizes its monetization potential (i.e., typically 14 minutes per hour of commercials). There is a 93% completion rate on video over 20 minutes long when viewed online.
- Must have “currency” third-party measurement for advertisers.
- We believe that online content creators must spend marketing dollars to promote their new shows at 2-3x today’s level in order to create “hits.”

Stock Picks

Our top stock picks from this work are 21st Century Fox and Yahoo!

21st Century Fox (FOXA, Buy)

Our top pick from the offline content companies we cover related to this work is FOXA. FOXA was created on Monday, July 1, when NewsCorp split into two pieces. FOXA contains the TV and film assets of the old NewsCorp, and none of the controversial print assets. We recommend FOXA because:

1. We estimate that Disney (DIS, Hold) has built ESPN into a \$60 billion asset over the past 17 years. With the announced launch of FoxSports 1, we believe that investors in FOXA, with its broadcaster and regional sports networks that give it a competitive advantage in bidding for sports rights, have the opportunity to participate in the next ESPN-type growth in value, this time under the FOXA umbrella. FOXA’s management team has an established track record of building Fox News into a \$20 billion asset over 17 years, despite being the third entrant into the news genre, as well as Fox broadcast network as the fourth entrant. FOXA will be the first true competitor to ESPN’s national sports franchise, based on its mix of assets, and we project that a portion of ESPN’s \$60 billion value will cede to FOXA over time, just as CNN and MSNBC’s have ceded value to Fox News.

2. Multiple Expansion Potential:
 - a. FOXA is now a global pure-play content company. With new distribution platforms proliferating and without the capital intensity of a print business, FOXA's EV/EBITDA multiple should be able to expand by 1-2 turns. Every EBITDA multiple point of expansion adds \$3.50/share (10% upside) to FOXA's share price, by our calculation.
 - b. We expect FOXA to be one of the fastest growers in the content space. FOXA's PEG ratio is 1.3, well below the 1.5-1.7 for most of its peers. At an industry average PEG ratio of 1.6x, FOXA would trade at \$35/share.
3. We believe FOXA has lower risk than old NWSA because: 1) The phone hacking and police payments headlines in the U.K. are not associated with FOXA (although they have indemnified new-NWSA); 2) fewer fundamental questions linked to the newspaper businesses; 3) less cyclical revenue streams as advertising is only 30% of FOXA revenue; and 4) a large cash position, an underlevered balance sheet, and strong FCF characteristics.
4. Catalysts include: 1) FOXA has announced that it will hold an investor day in Los Angeles on August 8; 2) FoxSports 1 should launch in August 2013; and 3) FOXA should be more aggressive acquirers of its shares now that the split is completed.
5. Our estimates for FOXA include FY14 revenue of \$30.6 billion and EPS of \$1.47. Our 12-month target price of \$36 is based on a 10-year DCF, using a WACC of 9.6% and a long-term nominal GDP growth rate of 1%.

Risks to our target price include an economic slowdown, margin pressures associated with sports license fees increases, succession issues, and weak TV ratings at Fox's broadcast station.

Yahoo! (YHOO, Buy)

Based on this work, our top pick from the online content companies we cover is YHOO, owing to:

- One of largest creator of premium video content on the Web;
- A sum-of-the-parts analysis suggests that YHOO is undervalued;
- Aggressive share repurchases;
- Solid turnaround momentum in the core business; and
- A Board highly aligned with public shareholders.

Premium Video Stats. YHOO has more than doubled its original video programming and become one of the Web's largest premium video publishers, according to its press releases. YHOO now produces more than 50 programs a year, ranging from short daily programs to major live events. In May 2013, YHOO's video sites ranked eighth (behind Google Sites, Facebook, AOL, VEVO, NDN, Microsoft Sites and Viacom Digital) and had 43.6 million unique viewers at an average of 72.7 minutes per viewer and a total of 342.4 million viewing sessions, according to comScore. We note that YHOO's May 2013 ranking was down from March 2013, where it ranked 4th (behind Google Sites, Facebook, and VEVO) with 50.3 million unique visitors averaging 59.1 minutes per viewer and a total of 371.7 million viewing sessions.

New Video Content. To date, YHOO's focus has been primarily original women's lifestyle shows and original comedy programming. In fall of 2013, YHOO will make all episodes of its new shows available at once in a "binge-viewing" format. According to YHOO press reports, its new shows for fall 2013 include:

- Comedy: "Tiny Commando"—Ed Helms creates and stars in an action-packed series following a four-inch-tall private investigator who uses his extensive fleet of vehicles to fight crime.

- Comedy: “We Need Help”—Creators, producers and stars Cheryl Hines and Rachael Harris exploit their shared personal assistant.
- Reality: “Losing Your Virginity with John Stamos”—John Stamos interviews celebrities about their first sexual experiences.
- Reality: “Fashion Recipe”—Celebrity stylist Brett Alan Nelson demonstrates ways to get the most from one particular article of clothing.
- Reality: “Cinema & Spice”—Julianna Strickland and Natasha Feldman explore food and film while teaching viewers new cooking skills and decorating ideas.
- Reality: “Grill Girls”—Chef Megan Mitchell shares her grilling secrets and tips for everything from steaks, to peaches and pizza.

Video Monetization. YHOO is creating custom video ad solutions that allow advertisers to choose among YHOO’s 18 premium video channels to target a specific audience. YHOO says it tries to “weave brands into the creative canvas” through video advertising products such as:

- Yahoo! Stream Ads, a performance-based native video advertisement embedded in the personalized content stream on the Yahoo! Homepage;
- Billboard, a video ad unit positioned at the top of the Yahoo! homepage; and
- Yahoo! created 18 new category-specific channels that maximize targeting for advertisers (these have pricing power).

We believe that YHOO often commands cost per thousands (CPMs) on its digital video units of \$30, about 35% above typical broadcast network CPMs of \$22. These high video CPMs are driving growth in YHOO’s display ad business.

Yahoo! Math. Yahoo owns 20% of Alibaba in China, including demand registration rights, if Alibaba does an IPO. Recent press reports suggest Alibaba may come public in 4Q13 at a \$70 billion valuation, representing about \$10/YHOO share, on an after-tax basis. Yahoo also owns 35% of the public company called Yahoo Japan, which, as of last week’s trading levels, is worth another \$7/Yahoo share, after tax. By implication, the core business is being valued at \$8/share, which is about 10x pro forma adjusted FY14 EPS, which looks too inexpensive to us. We have a Buy rating and a \$31 target price on YHOO.

Risks to our target price include an economic slowdown, an advertising recession, commoditization of video ad inventory, YHOO’s talent drain, acquisition ROIs, and Alibaba IPO terms and timing.



\$ and shares in millions, except where noted & per share data

													7/9/2013	
	Ticker	Rating	Market Cap (\$B)	Break-even DCF	EV (\$B)	EV/ '14 Sales	EV/ '14 EBITDA	2014 P/E	'13-'14 EPS Growth	PEG Ratio	Target Price	Current Price	Target/ Current	
Online Content														
1	AOL, Inc.	AOL	BUY	\$3.00	0%	\$3	1.4	7.2	16.3	49%	0.3	\$46	\$37.50	23%
2	Bankrate, Inc.	RATE	BUY	\$1.50	11%	\$2	3.3	11.3	22.2	-6%	-3.6	\$20	\$14.72	36%
3	Demand Media, Inc.	DMD	HOLD	\$0.60	-1%	\$1	1.3	5.1	14.2	26%	0.5	NA	\$6.59	
4	Facebook	FB	BUY	\$64.60	7%	\$55	7.9	14.7	41.8	14%	3	\$33	\$25.48	30%
5	Pandora Media	P	BUY	\$3.50	47%	\$4	5.9	430.2	364.7	NM	NM	\$20	\$19.65	2%
6	TripAdvisor, Inc.	TRIP	BUY	\$8.80	7%	\$9	7.6	17.1	28.2	14%	2	\$75	\$62.74	20%
7	Yahoo!	YHOO	BUY	\$27.90	-1%	\$10	2.2	5.4	17.2	10%	1.7	\$31	\$26.67	16%
Offline Content														
8	CBS	CBS	BUY	\$31.30	6%	\$40	2.7	10.7	16.3	3%	5	\$48	\$51.29	-6%
9	Discovery Communications	DISCA	HOLD	\$28.70	4%	\$32	5.3	11.6	19.4	28%	0.7	NA	\$81.91	
10	Disney	DIS	HOLD	\$115.20	7%	\$127	2.6	9.7	17.4	10%	1.7	NA	\$64.94	
11	Madison Square Garden	MSG	BUY	\$4.80	10%	\$5	3.2	15.2	31.5	22%	1.4	\$70	\$61.50	14%
12	21st Century Fox	FOXA	BUY	\$69.30	5%	\$77	2.5	10.7	20	4%	4.8	\$36	\$30.09	20%
13	Scripps Networks Interactive	SNI	BUY	\$9.90	4%	\$11	4	9	16.3	17%	0.9	\$74	\$70.82	4%
14	Time Warner Inc	TWX	HOLD	\$54.50	4%	\$74	2.4	9.1	14.5	16%	0.9	NA	\$61.28	
15	Viacom	VIAB	BUY	\$31.80	3%	\$41	2.8	9.1	12.8	14%	0.9	\$63	\$69.08	-9%
Content-Adjacent Value Drivers														
16	Nielsen Company BV	NLSN	HOLD	\$13.00	7%	\$20	3.3	11.3	25.1	5%	5.2	NA	\$34.23	
17	Synacor	SYNC	HOLD	\$0.10	13%	\$0	0.8	11.1	58.2	-81%	-0.7	NA	\$3.09	
18	Time Warner Cable	TWC	BUY	\$33.40	3%	\$56	2.5	6.5	14.8	14%	1	\$115	\$114.06	1%
Income Statement				Balance Sheet				FCF Data			Dividends			
	Revenue 2014E	EBITDA 2014E	EPS 2014E	Net Debt	Net Debt/ OIBDA	Debt Rating	WACC	FCF	FCF/ Share	FCF Yield	Dividend/ Share	Div. Yield	Disclosures	
1	AOL, Inc.	\$2,392	\$455	\$2.30	(\$468)	-1	BBB-	10%	\$365	\$4.57	12%	\$0.00	NA	B
2	Bankrate, Inc.	\$506	\$148	\$0.66	\$105	0.7	B	12%	\$44	\$0.43	3%	\$0.00	NA	B
3	Demand Media, Inc.	\$465	\$126	\$0.47	(\$109)	-0.9	B	11%	\$80	\$0.87	13%	\$0.00	NA	B
4	Facebook	\$7,003	\$3,750	\$0.61	(\$9,472)	-2.5	BBB	11%	\$2,538	\$1.00	4%	\$0.00	NA	B, G
5	Pandora Media	\$623	\$9	\$0.05	(\$75)	-8.9	BBB-	10%	\$23	\$0.13	1%	\$0.00	NA	B
6	TripAdvisor, Inc.	\$1,160	\$514	\$2.22	(\$36)	-0.1	BBB-	10%	\$424	\$3.03	5%	\$0.00	NA	B, G
7	Yahoo!	\$4,724	\$1,799	\$1.55	(\$5,395)	-3	A-	10%	\$856	\$0.82	3%	\$0.00	NA	B, G
8	CBS	\$14,506	\$3,689	\$3.14	\$7,408	2	BBB-	10%	\$2,595	\$4.25	8%	\$0.48	0.90%	B
9	Discovery Communications	\$6,105	\$2,779	\$4.22	\$4,119	1.5	BBB	9%	\$1,778	\$5.08	6%	\$0.00	NA	B, G
10	Disney	\$47,966	\$13,075	\$3.74	\$12,985	1	A	9%	\$5,797	\$3.27	5%	\$0.75	1.20%	B
11	Madison Square Garden	\$1,518	\$323	\$1.95	(\$233)	-0.7	BBB-	9%	(\$88)	(\$1.13)	-2%	\$0.00	NA	B, G
12	21st Century Fox	\$30,631	\$7,208	\$1.47	\$12,512	1.7	BBB+	10%	\$3,717	\$1.58	5%	\$0.17	0.60%	B, G
13	Scripps Networks Interactive	\$2,683	\$1,200	\$4.36	\$1,013	0.8	BBB+	9%	\$687	\$4.91	7%	\$0.60	0.80%	B
14	Time Warner Inc	\$31,191	\$8,182	\$4.24	\$16,948	2.1	BBB	9%	\$2,857	\$3.21	5%	\$1.15	1.90%	B
15	Viacom	\$14,493	\$4,459	\$5.41	\$7,673	1.7	BBB+	9%	\$2,964	\$6.44	9%	\$1.10	1.60%	B, G
16	Nielsen Company BV	\$5,957	\$1,737	\$2.15	\$6,087	3.5	BBB-	10%	\$772	\$2.03	6%	\$0.64	1.90%	B
17	Synacor	\$130	\$10	\$0.05	(\$40)	-4.1	B	11%	\$1	\$0.02	1%	\$0.00	NA	B, G
18	Time Warner Cable	\$23,217	\$8,626	\$7.72	\$23,553	2.7	BBB	10%	\$2,930	\$10.00	9%	\$2.60	2.30%	B

Source: Needham research, company documents, FirstCall, Yahoo Finance.

Appendix 1

We recommend investors pay special attention to the following private online video companies.

	<p>Adap.tv is the video advertising platform of choice for the world's largest brands, agencies, publishers and ad networks. A unified, programmatic platform that provides buyers and sellers with automated tools to plan, buy and measure across linear TV and online video, Adap.tv is transforming the way video advertising is bought and sold. Headquartered in San Mateo, CA, Adap.tv has U.S. offices in Chicago, Los Angeles and New York, and international offices in Australia, India and London. Adap.tv is a privately held company backed by Bessemer Venture Partners, Gemini Israel Funds, Redpoint Ventures and Spark Capital.</p>
	<p>Aereo's innovative remote (cloud-based) antenna/DVR technology makes watching television simple and user-friendly. Using Aereo's technology, consumers can pause, rewind and fast-forward any program that they are watching live, or save a program for future viewing. Aereo works on "smart" devices from tablets to phones to laptop computers. Aereo is supported on iPad, iPhone, iPod Touch, Chrome, Internet Explorer 9, Firefox, Safari, Opera, AppleTV and Roku devices. Android support is expected later in 2013.</p>
	<p>Alloy Digital boasts the critical assets for a multi-platform, next-generation media company targeting the highly coveted, early adopter 12-34-year-old demographic. Its proprietary digital media network has ranked top in its category for more than three consecutive years, according to comScore, and attracts more than 90 million consumers each month with reach to over 57% of P12-34 Internet users. Alloy Digital holds its position as offering a top-10 video network which delivers several hundred million monthly streams and includes award-winning Smosh, the #1 YouTube channel, as well as Shut Up! Cartoons. The network has attracted over 30 million followers combined across its dedicated social media profiles.</p>
	<p>Big Frame works with the biggest YouTube influencers to create and market video content. Big Frame is a leading media company in the YouTube entertainment space, building sustainable media brands around YouTube's most influential channels, and connecting advertisers with their highly engaged audiences. YouTube's best channels partner with Big Frame to build professional careers by growing their audiences and unlocking lucrative partnerships with advertisers. The biggest advertisers in the most competitive industries work with Big Frame to reach active, engaged and demographically focused audiences. Its satisfied advertisers include Chevrolet, The Home Depot, Sony, Virgin, Levis, Fox and many more.</p>
	<p>Blip is a digital media company that develops, produces and distributes quality original web content. At Blip.com, across the web and on mobile apps, viewers discover, watch and share the best in original web series. Blip attracts highly engaged audiences passionate about their favorite shows, from comedy and drama to tech and lifestyle. With the launch of original production arm Blip Studios and partnerships with YouTube, Yahoo! Screen, AOL and Xbox, Blip serves as an entertainment destination and a portal across the web. Since launching in 2005, Blip has evolved into the largest independently owned and operated digital video platform in the world and attracts hundreds of millions of views per month.</p>

	<p>Break Media is a leading creator, publisher and distributor of digital entertainment content, including video, editorial and games. Its properties include the largest humor site online, Break, as well as Made Man, Game Front, Holy Taco, Screen Junkies, Cage Potato, All Left Turns, Chickipedia, and Tu Vez. The Break Media Creative Lab is an in-house production studio creating original videos that range from award-winning branded entertainment to celebrity-driven web shorts to viral one-offs. The Break Media Network represents hundreds of publishers as one of the largest video advertising networks online, reaching more than 200 million consumers each month.</p>
	<p>With more than 70 million monthly unique viewers, BrightRoll is the world's largest and most trusted video ad network and the leading provider of digital video advertising services. The BrightRoll Network has access to billions of video impressions per month enabling advertisers to execute smart digital video campaigns across a massive pool of web and mobile video inventory. BrightRoll's proprietary buying technology, combined with its full site disclosure, detailed performance reports and flexible targeting provide brands and agencies with the reach, frequency and scalability needed to achieve their campaign goals. BrightRoll is headquartered in San Francisco, CA.</p>
	<p>Established in 2007, DECA is a leading digital media and entertainment company. DECA creates high-quality video and operates a network of premium video channels. Its purpose is to make women feel connected and inspired. DECA owns DECA Studios, Kin Community and a portfolio of brands, including Kin Community Originals, Momversation.com and The Lizzie Bennet Diaries. Headquartered in Santa Monica, CA, DECA is funded by Mayfield Fund, General Catalyst Partners, Rustic Canyon Partners and Atomico.</p>
	<p>Delivery Agent is the market leader in turning TV viewers into revenue-generating customers for the world's largest brands and media companies. Its proprietary technology allows viewers to engage with and transact directly from advertisements and television shows through web, mobile and advanced television applications. Delivery Agent has enabled over 700,000 hours of programming and advertisements resulting in over 200 million engagements and 10 million transactions. It is deployed and maintains long-term partnerships with NBC, FOX, CBS, HBO, Showtime, Pepsi, Visa, Comcast, Cablevision, AT&T, Verizon, Samsung and LG, among others.</p>
	<p>FreeWheel gives enterprise-level media companies the infrastructure they need to create scaled, profitable content businesses in the new media landscape. Founded and led by a team of executives from the world's leading technology companies, FreeWheel's solutions have armed its customers with the technology and services they need to manage advertising and operations across a multiplicity of devices. The company was founded in 2007 and is privately held, with offices in Silicon Valley, New York, London, and Beijing. FreeWheel is funded by Steamboat Ventures, Turner Broadcasting System, DIRECTV, Battery Ventures, and Foundation Capital.</p>

	<p>Fullscreen is a next-generation media company building a global network of YouTube channels with content creators and brands. The Fullscreen network generates over 1 billion monthly video views and reaches over 90 million subscribers, making Fullscreen a Top 5 YouTube Partner. Fullscreen was founded in January 2011 by CEO George Strompolos, the co-creator and co-founder of the YouTube Partner Program. Fullscreen is headquartered in Culver City, CA.</p>
	<p>Machinima is the next generation of video entertainment for gamers, providing comprehensive gaming-focused programming to the hard-to-reach 18-to-34-year-old male demographic. Its growing global reach blankets over 190 million unique gamers. This network is constantly tuned-in and engaged, viewing an excess of 2.1 billion videos in May 2013. Machinima's properties are found across the largest global distribution platforms, including YouTube, Facebook, Twitter, iOS, Android, and the Xbox 360. In addition to producing expansive and high-quality editorial content, Machinima boasts a suite of applications, tools and technologies that motivate and engage its audience. It builds communities around and in between game launches and DLC releases, distributing "official" videos and producing custom content, creating the world's most powerful and enthusiastic gamer network.</p>
	<p>Maker Studios is a next-generation, talent first media company home to many of online video's top digital stars and content, including KassemG, The Game Station, Nice Peter's "Epic Rap Battles of History," the Shaytards, Andrea's Choice, The Yogscast, Snoop Lion, The Gregory Brothers, Mike Tompkins and celebrity actress/comedian LisaNova, among many others. Maker is the only network to offer partners development, production, promotion, distribution, sales, and marketing services. Maker Studios is headquartered in Los Angeles, CA.</p>
	<p>Ooyala is a leader in online video management, publishing, analytics and monetization. Its integrated suite of technologies and services give content owners the power to expand audiences, and deep insights that drive increased revenue from video. Ooyala serves hundreds of global media companies and consumer brands. Ooyala was founded in Mountain View, CA, in 2007 by Bismarck Lepe, Sean Knapp, and Belsasar Lepe. Ooyala's corporate headquarters are supported by global offices and sales reps in New York City, Los Angeles, London, France, Spain, the Middle East, Japan, Australia, Brazil and Mexico.</p>
	<p>Roku, located in Saratoga, CA, was founded in 2002 by Anthony Wood, the inventor of the digital video recorder. The market leader in streaming entertainment devices for TV with millions of units sold, Roku has always believed that anything you want to watch, listen to and enjoy should simply be there on your TV, whenever you want it. Roku streaming players are renowned for their simplicity, variety of entertainment choices, and exceptional value. "Roku" means "six" in Japanese, a reference to the six companies Wood has launched.</p>

	<p>Shazam connects more than 350 million people, in more than 200 countries and 33 languages to music, TV shows and ads they love. Every month another 10 million people embrace Shazam, making it the world's leading media engagement company. Since its founding in 2002, Shazam has become one of the world's most recognized mobile consumer brands and one of the Top Ten most downloaded apps on iTunes App Store. Shazam is also a companion app, bringing together people and entertainment in a variety of ways. Shows and advertisements that include the company's on-air prompt connect viewers to exclusive information and special offers on their favorite products. Shazam is headquartered in London, with U.S. offices in Menlo Park, New York, Chicago, Los Angeles and San Diego.</p>
	<p>TubeMogul is the leader in programmatic brand marketing. The world's largest brands and agencies centralize their video advertising on TubeMogul's enterprise platform. Created specifically for brand marketers, TubeMogul's platform enables the execution of scalable digital video campaigns, while providing the measurability and accountability marketers demand. Founded in 2006, TubeMogul is based in Emeryville, CA, with offices in New York, London, Tokyo, Singapore, Sydney, Toronto, Chicago, Detroit, Austin and Los Angeles.</p>
	<p>VEVO is the world's leading all-premium music, video and entertainment platform, available in the U.S., Australia, Brazil, Canada, France, Ireland, Italy, New Zealand, Spain and the U.K. through VEVO.com, the mobile web, mobile and tablet apps (iPhone, iPad, Android, Windows Phone, BlackBerry Playbook), Connected Television (Xbox, Roku) and user embeddable video players.</p>
	<p>Vubiquity is the leading global provider of multiplatform video services, helping to bring the most innovative, advanced video services into consumers' homes and onto their connected devices. Vubiquity aims to help our customers more easily and quickly meet consumers' evolving demands and monetize opportunity, everywhere it exists and anywhere it emerges. Vubiquity offers the industry's most complete portfolio of multiplatform video services, including TV Everywhere, VOD, linear television delivery, advanced advertising and data analytics. Vubiquity gets its customers to market faster, at a lower cost, and with greater extensibility and flexibility than they could realize on their own.</p>
	<p>YuMe is a leading independent provider of digital video brand advertising solutions. Its proprietary data-science-driven technologies and large audience footprint drive inventory monetization and enable advertisers to reach targeted, brand receptive audiences across a wide range of Internet-connected devices. YuMe's technology platform simplifies the complexities associated with delivering effective digital video advertising campaigns in today's highly fragmented market. YuMe is headquartered in Redwood City, CA, with European headquarters in London and nine additional offices worldwide. The company is backed by Accel Partners, BV Capital, DAG Ventures, Intel Capital, Khosla Ventures, Menlo Ventures, Samsung Ventures, Translink Capital and WestSummit Capital.</p>

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I, Laura Martin, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject company (ies) and its (their) securities. I also certify that I have not been, am not, and will not be receiving direct or indirect compensation in exchange for expressing the specific recommendation(s) in this report.

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Cisco Systems	CSCO	25.16	Hold	B, G
Dell	DELL	13.36	Hold	B, G
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IAC/InterActiveCorp	IACI	48.91	Buy	B, G
Intel	INTC	23.13	Hold	B, C, D, G, J

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Buy	62	22
Hold	32	6
Underperform	1	0
Rating Suspended	0	0
Restricted	0	0
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