TV’s NPV

Content’s Migration to Digital Platforms

In 2009, the TV ecosystem generated approximately $140 billion of revenue and had about $330 billion of public market capitalization. What is the Net Present Value (NPV) of the television ecosystem in the digital age?

We believe that the biggest economic threat to the NPV of the TV ecosystem comes from “unbundling” risk. Today, about 100 million U.S. households pay an average of $70 per month for about 300 video channels. If premium TV content creators allow their programs to become available individually on the Internet (a la carte), this “unbundling of content” threatens the value of the TV ecosystem in three primary ways:

> Subscription revenue would decline by about 15-20%, according to our proprietary survey of 200 TV viewers.

> Advertising revenue would fall by about 75%, as there are about 16 minutes of advertising per hour on TV compared with 4 minutes per hour on the web. Pricing is similar on both devices.

> Disintermediation adds costs. If content companies deliver content directly to consumers, they must incur customer service costs, which we estimate at $50 per customer per year, or $5 billion nationally.

We recommend that television content creators treat their primary monetization platform as the TV because it is the engine that aggregates mass audiences, solidifies programming brands, drives discovery of their next potential “hit,” creates a viewer base that can then be monetized (distributed) over more fragmented platforms like the Internet, saves incremental customer service expenses, and represents an additional revenue stream that Internet-only content creators will never have.

We recommend that investors purchase triple-play-focused cable companies like Time Warner Cable (TWC, Buy) because they are largely indifferent about where viewers watch content in the home. TWC can raise the price of the modem and lower the price of the TV bundle if consumers increasingly watch premium TV content on their computer.
Other Reports by Laura Martin

Advertising Wars – Who Wins?  
April 2, 2010

1. To date, audience has de-coupled from monetization on the Internet with 15% of time but only 8% of advertising dollars spent on the web. A purchase funnel framework lends insights into monetization shifts and suggests structural barriers that weaken the link between audience and money in the digital age.

2. A purchase funnel framework concludes that television (broadcast and cable) appears to be the least threatened by digital advertising alternatives because TV achieves completely different advertising goals than digital platforms. Out of Home also appears largely immune to digital disintermediation, as it offers saturation of awareness within a specific geographic area.

3. Internet advertising spending meets certain advertiser goals better than any other medium, but sequential entrants appear to take share from prior Internet advertising alternatives. Social Networks achieve two-way dialog that can deepen a customer’s relationship with a brand, but it is unclear whether advertising growth (if achieved) on these platforms will grow the pie, take advertising dollars away from old media silos, or displace predecessor digital advertising alternatives.

Music’s Emerging Economics  
March 2, 2010

1. We believe that the music “ecosystem” is the best unit of analysis by which to judge the emerging economics of the music business because live performance revenue plus unmeasured long-tail music revenue may be larger than dissipating physical music sales.

2. Music value destruction was primarily owing to the transition from purchasing albums to “pay for hits only” on iTunes by consumers, in our view. By implication, re-bundling through subscription services holds out the promise of re-linking economics to growing music demand.

3. We suggest that theft is a proxy for incremental music demand. Adding together “paid-for” plus “stolen” music implies that consumer demand for music has more than doubled since 2003. Linking monetization to healthy consumer demand fundamentals is far easier than growing revenue when consumer demand is falling.

Subscription Revenue Analysis

We completed a proprietary survey of 200 TV viewers, which suggests that fees to TV content creators would fall by about 15-20% if TV content was offered unbundled on the web. The detailed results of this study are included in Appendix A, while a summary is included in Figure 1.

The Bundle

In Pay TV (cable, satellite, U-Verse, FiOS) bundles, consumers typically pay for more than 300 channels and they, on average, watch 8-12 channels. Multichannel video penetration is 87% of U.S. households, so revenue growth must be driven by more spending by existing subscribers. TV viewing levels have never been higher, hitting 141 hours per month in 4Q09, according to A.C. Nielsen. The biggest economic risk to the TV ecosystem is unbundling, in our view. For example, Hulu.com and TV.com offer premium TV content via single episodes on-demand on the Internet, thereby “unbundling” these shows from their linear cable channels and pay TV tiers.

Findings

Consumers say they want to watch content on their computer on-demand but so far have indicated little desire to pay for this privilege. If programmers were willing to sell viewers the programming from their TV channels on-demand on the computer for $0.10-1.00 per month, is that additive to content company economics or not? We paid for a proprietary study to answer this question. Results include:

➢ **40-65% of TV viewers assert that they would pay zero for each channel**, regardless of the broad appeal of that channel. Different folks would pay zero for different channels, depending on demographics.

➢ Of the folks that say they would pay something, **about 50% say they would pay $2 per month or less**. About 10% of TV viewers say they would be willing to pay >$10 for each channel, but this economic value can not be captured in an a la carte world because the content owner can not set a price of $10 without risking that 90% of viewers wouldn’t pay that much. The channel would most likely set a price of $1-2 per month, so the premium customer retains the $8 of incremental value. A bundled offering captures these $10-15 per month value perceptions because even if each individual values different channels at $10 per month, so long as there are 8-12 of those channels in the bundle of 300, they feel like it is a good deal to pay $70 per month. Figure 1 summarizes our study findings. Appendix A includes additional details from this study.

### Proprietary Study – Summary Findings

<table>
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<tr>
<th>Owner</th>
<th>TV Station</th>
<th>% of TV Viewers Who Say They Would Pay Zero</th>
<th>% of TV Viewers Who Say They Would Pay Something (&quot;Payors&quot;)</th>
<th>Of &quot;Payors&quot; % Who Say They Would Pay $2/Month or Less</th>
<th>Of &quot;Payors&quot; % Who Say They Would Pay $10/Month or More</th>
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<tbody>
<tr>
<td>DIS</td>
<td>ABC Broadcast Network</td>
<td>38%</td>
<td>62%</td>
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<tr>
<td>NWSA</td>
<td>Fox Broadcast Network</td>
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<td>59%</td>
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<td>11%</td>
</tr>
<tr>
<td>DIS</td>
<td>ESPN</td>
<td>48%</td>
<td>52%</td>
<td>57%</td>
<td>16%</td>
</tr>
<tr>
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<td>Comedy Central</td>
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<td>61%</td>
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</tr>
<tr>
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<td>35%</td>
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<tr>
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<td>44%</td>
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<tr>
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<td>Nickelodeon</td>
<td>58%</td>
<td>42%</td>
<td>51%</td>
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</tr>
<tr>
<td><strong>Averages</strong></td>
<td></td>
<td><strong>51%</strong></td>
<td><strong>49%</strong></td>
<td><strong>53%</strong></td>
<td><strong>14%</strong></td>
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</tbody>
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Source: Needham & Co., LLC.
At Stake

Total subscription revenue paid to TV programmers was approximately $70 billion in 2009. Cable network programmers typically generate about 50% of their total revenue from subscription revenue plus 50% from advertising revenue. If the same content becomes available over the Internet for free or at discounted rates, there is no reason to expect consumers (or pay TV companies) to continue to pay a premium for it on the TV, especially as the TV and the computer converge in the home.

Quantifying Subscription Revenue Risk

In Appendix B, we use the results of our proprietary study to calculate how much subscription revenue Viacom (VIAB, Buy), NewsCorp (NWSA, Buy) and Disney (DIS, Hold) would lose to their empires if content follows consumer demand to a la carte pricing on the web. The short answer is 15-20% lower subscription revenue overall. The more interesting observation is that the loss of revenue comes from falling reach, not lower payments per channel. For example, today A&E gets paid about $0.20 per month (our estimate) times 99 million multichannel-video households. In an a la carte world, A&E may well get more per viewer (our study shows that about one-third of TV viewers say they would pay $0.50 per month for A&E), but it gets zero from two-thirds of U.S. households. We make this calculation across all channels within the empires of DIS, NWSA and VIAB in Appendix B, and the results suggest subscription revenue would decline by about 15-20% in an a la carte world for each of them. Figure 2 includes our calculations for Viacom.

Diversity Risk

Unbundling of the TV bundle would most immediately impact the small ethnic-minority channels and foreign language channels. The bundle supports a broad diversity of niche programming services that would not survive in an a la carte world because none of these specialty channels would get enough people subscribing to them to survive.
**Charging Consumers Online: Datapoints So Far**

Can we estimate what each U.S. household would pay for a la carte pricing? We think the number of personal video recorder (PVR) households may give us a guidepost. In 4Q09, average TV viewing per user hit 141 hours per month (according to A.C. Nielsen), making it the most densely used mass media. Despite that, only 30% of households paid an average of $5-10 per month to time shift programming on the TV, according to Magna Global. We wonder if this statistic suggests an economic cap on the value of “time-shifted TV” (which is what on-demand viewing over a computer is).

Press reports are that Hulu may begin charging $10 per month to viewers who want to watch more than the most recent five episodes of current shows. Charging for premium TV content on the web makes good economic sense to us, as consumers should *not* be retrained that premium TV content is cheaper on the Internet because: 1) it is more convenient on the computer (on-demand, not linear); 2) easier to navigate; and 3) available portably via laptop. Maintaining a consistent price/value ratio across all distribution platforms maximizes ecosystem economics and should be a key goal of all ecosystem participants.

**Advertising Revenue Analysis**

**The Numbers**

The value destruction from loss of advertising revenue in an a la carte world is easier to calculate and scarier. To illustrate, if a viewer is willing to pay for A&E on the web, chances are that she previously watched A&E on the TV. Even if she spends as much time watching A&E on her computer (doubtful) as on the TV, advertising revenue would fall 75% per hour viewed because the advertising load on the computer is 4 minutes compared with 16 minutes of advertising per hour of TV. We don’t think viewers will ever be comfortable with as much advertising on the PC as the TV. Today, advertising CPMs (cost per thousands) for premium video content is about the same on the two devices, computer and TV, so pricing power doesn’t help close the gap.

**Option Value**

Further value destruction for the content channel occurs because promotion and lead-in value for their next new “hit” are lost. That is, when folks watch TV, it’s a lean back experience. They often see promotions for the next show, watch some of that show out of inertia, and discover a new storyline that occasionally results in loyalty. This promotion value represents an option on creating viewing and advertising revenue from the next new show. In an on-demand online world, discovery and promotion become difficult and expensive for the programmer because shows are called up one at a time, there is more choice, attention spans are shorter, and viewing is often multi-tasked (shared).

**Discovery**

Great shows can get found and viewed in the TV bundle because it’s cheap and easy to try new shows. If *Mad Men* becomes the rage in the press, it’s a relatively easy task to find AMC on the dial and try the show once in a bundled environment, even if you’ve never watched anything on AMC before. The Internet has the benefit of availability but the clutter and distractions make it much more difficult for excellence to be ferreted out among the dross. Also, the lean forward attitude that pervades the web shortsens attention spans for any content viewed on the computer, resulting in less “thousands” in a CPM-priced world.
Fractured Audiences
In 2009, the largest 10 advertisers represented about one-third and the largest 100 about 60% of total U.S. advertising spending, according to *Ad Age*. Disaggregating audience is highly value destructive to the largest advertisers. Advertisers must reach potential purchasers, either a mass audience or millions of targeted people across the U.S. most likely to purchase their product. As the audience fractures to the infinite choices on the Internet (social networks, gaming, chat, blogs, news, sports, search, etc.), audiences fall to hundreds of thousands. Re-aggregating this world back to millions is cumbersome and can be counterproductive if an ad reaches the same person 20 times.

Value of Reach Rises
As a corollary, in a fragmenting world, large audiences control a larger percent of the economics because they are harder to achieve (rarer) while demand for reach has not fallen:

- The Top 10 TV shows today garner a record share of ad revenue because they deliver a huge (14-20 million per week) audience.
- 2009 was the worst ad recession in 30 years, with advertising down 15-30% across all ad-driven media silos; however, the Super Bowl and Oscars achieved flat ad prices.
- Aggregated audiences are valuable even on the web. For example, Yahoo homepage CPM (cost per thousand) is about $25 vs. approximately $0.50 for run-of-schedule Internet space.

The Long Tail Is Short
The long tail has proved difficult to monetize. For example, we believe that Rhapsody (an online music service) has about 300,000 artists available on its service. Of these, the top 200 artists make millions, the next 4,800 make around $250,000 per year, the next 5,000 make around $50,000 per year and the remaining 290,000 make less than $1,000 per year. We believe that every artist is listened to by somebody at least once a month. The long tail represents the needs of niche groups of consumers, which went unmet when cable and satellite distribution and/or shelf space was finite. The computer brings infinite choice and little pricing power or monetization opportunities because there is often someone willing to do it for “free.”

Measurement
Online usage and wireless devices do not get measured by A.C. Nielsen in C+3 (live + next 3-day) ratings, whereas DVR usage does get measured. Because cost per thousand viewers is the predominant payment method on the TV, this measurement differential hurts content economics. A.C. Nielsen does not measure other devices, so as content companies push viewing off of the TV platform toward mobile devices or the PC, they lose measured audience and undermine advertiser perception of TV viewing.

Viewer Angst
We believe that Internet audiences will never put up with as many commercials as there are on TV. There is enormous viewer dissatisfaction with commercials on the web, because it is perceived as invasive. With infinite choice merely a click away, they can do something else rather than watch a commercial.
Valuation Destruction of Disintermediation

Often, disintermediating a player in a value chain allows the remaining players to garner a part of their profit margin. However, it is our view that the opposite is true in the TV value chain. We believe that disintermediating the distributors in the TV value chain is value destructive to the content companies for several reasons.

Extra Costs
Today, the content companies stick to what they do best: create great stories. They share profits with distributors who play the bad guy, demanding price increases and handling all customer complaints, one household at a time. If content companies migrate to platforms that necessitate more direct interaction with viewers, they add costs and aggravation. Interacting with the public is thankless and exists in a world of vicious chat rooms and blog posts. Distribution partners provide content companies the valuable service of listening to nearly 100 million households whine about price increases.

As content companies begin to use the PC to distribute their content to a national audience, they will be required to hire customer service folks or subcontract out to third parties (additional costs) that, in the extreme, can handle 114 million households. These costs will be added to the TV ecosystem because no cable, satellite or telco can fire their customer service people in the near term as these costs are added by the content companies.

Can we quantify the costs? We can try. We estimate that of TWC’s 47,000 total employees, about one-third, or 16,000, are in customer service. At $21 per hour (including benefits), that aggregates to about $650 million annually, or $50 per TWC subscriber per year. TWC only services 12.6 million subscribers, so if the content companies needed to service all 100 million subscribing households over time, that would add $5 billion to their collective expenses annually.

Modem Option
If content companies move their programming to the computer, driving consumers to cancel their TV subscriptions, cable and telco companies may try to increase modem pricing to get back to revenue parity. The best way to justify price increases for the modem is to increase modem speeds. Piracy becomes a bigger threat as modem speeds become faster. It’s better for content creators if pay TV distributors keep speeds slow (less theft) and plan to keep content in the TV bundle as a quid pro quo. Bottom line: this is a war the content companies can’t win. The more aggressively the content creators try to disintermediate the distribution companies, the more aggressively the distributors will increase modem speeds (moving their profit margins from TV to PC), enabling viewers to steal TV content on the PC.

Cultures Differ
The great people skills that are required to manage and motivate human capital in team businesses over many years (content companies) are value destructive in a business where every penny counts (like distribution businesses). Also, pay disparities are large. If content companies want to be more directly interacting with consumers one at a time on the computer, they will find they have employees making millions of dollars to create content in the same office space with other employees making $15 per hour in a customer service center—this is fodder for revolutions (or sitcoms).
Why Risk $330 Billion of Market Capitalization?

About 45% of total TV viewing in 2009 was of the four broadcast networks. Three of these post their content for free on Hulu.com (maybe $10 per month soon), often within three days after live airing when the networks could get giant advertising revenue if viewed on the TV. Separately, much of CBS and Viacom’s programming is available on their own websites for free—mostly after the three-day window (less destructive to ad revenue).

If the potential economic value destruction is so clear, why is any TV content producer moving away from the protection of the TV platform’s bundled pricing power onto the Internet platform where there is a culture of free?

Game theory helps us frame an answer. In the classic prisoner’s dilemma (analogous here), if all stand mute, all go free. If any one player rats out the others, the confessor goes free and all others go to jail. If more than one confesses, they all go to jail. Even with two players, typically at least one confesses, which is an illogical outcome. They should both stand mute. Additional players make it more likely that players perceive that at least one will confess and this drives them to confess lest one goes free unfairly.

In this case, if any one content channel puts their content on the PC and no one else does, it doesn’t undermine the price/value relationship of the bundle on the TV and the channel on the web garners extra advertising revenue. This annoys the more disciplined TV programmers, and they are incented to join him on the “free” side of the wall and garner the extra ad revenue and viewers. Eventually, there is a tipping point where enough value has transitioned to the web that consumers stop paying the $70 per month price for the 300 channels over the TV.

This threat accelerates as TV and PC converge. In January 2010, more than 25% of TVs purchased in the U.S. had Internet capability, according to iSuppli. We expect this to be >80% in five years. The convergence of these two devices will push consumers to choose the cheapest content on either device, which will put downward price pressure on the other device. Navigation on the web is easier with a mouse and, if allowed, we would expect viewers to call up programming on the PC to watch on their big-screen HDTV.

What About Piracy?

One argument for putting content on the Internet for free is because people will steal it if you don’t. Several comments:

1. **Logic**—The logic of “I’m having trouble getting paid for my content, so let me give it away for free” probably drives Wall Street to allocate capital to other industries.

2. **Math**—Owing to sluggish broadband (modem) speeds, we estimate that less than 5% of TV content is being stolen today. Even if 25% was ultimately stolen, why isn’t price tiering (charging the 75% who will pay) a better economic strategy than giving 100% away for free?

3. **Legal Risk**—If content companies force consumers to break the law and make it inconvenient for them to steal your premium content, not to mention serious virus risk, this should slow downward price deterioration. However, if you lead audiences from the high-margin platform (TV) to the 0% margin platform (PC), valuation multiples should compress faster.

4. **Substitutability**—There is no user-generated content that is a true substitute for long-form premium TV content. Therefore, premium TV content can only be cannibalized by itself (e.g., Hulu). This is an important distinction from music. Content companies need to protect their pricing power if they want to ensure funding for their next new series.
Prior Media Silo Experiences: Migration to Digital Platforms

So far, each media industry that has tried to transition to digital platforms has watched its revenue slide and its enterprise value evaporate. We note that more than 80% of the market capitalization of the newspaper and music industry value chains have been destroyed as those industries have transitioned to digital platforms, not to mention yellow pages. We compare and contrast music and newspapers to video below.

Music
Music economics were destroyed through unbundling, in our view. Consumers used to purchase 10 songs in an album form (bundle) vs. online, where they buy hits one at a time. The music industry desperately did not want to unbundle, but was forced to as consumers stole songs (free) until iTunes arrived, charging $0.99 for each song purchased. In music, when consumers are allowed to buy only the songs they want via iTunes, they pay a slight premium for the songs they want, but they only buy about 20% of the songs they did previously when bundled in an album format, thereby generating about 75% less revenue than in the bundle. Music revenue fell as unbundling via iTunes took effect globally. Value destruction occurred despite rapid growth of mobile revenue streams offshore. Music is in the seventh inning of this unbundling nightmare, whereas video is in the first inning.

What's Different About Video?
There are no perfect substitutes for premium TV content on the web. That is, when Disney (DIS, Hold) NBC (GE, Not Rated) CBS (CBS, Buy) and Fox (NWS, Buy) put their programming onto the PC, there is no perfect substitute threatening their value if they don’t. User-generated content is not a close substitute to content that costs billions of dollars a year to make. By implication, Hulu.com destroys value of the TV platform by moving its premium content toward a platform where consumers have a culture of free and monetizing via Internet advertising has no pricing power owing to excess inventory.

Newspapers
Newspapers were forced to move online because craigslist, monster.com and other online classified listings are near-perfect substitutes (or superior to) a newspaper’s classified listings. This undermined a key monetization engine of newspapers, classified advertising. Online subscription revenue was undermined by the best newspapers giving away for free their premium content that subscribers had been paying for, undermining the consumer’s perception of product value and creating free perfect (or better) substitutes. When The New York Times (the industry leader) gave away its excellent content online for free, this undermined any other newspaper’s ability to charge for content online.

What’s Different About Video?
Again, in this case there is no disruptor except the premium content creators themselves. They can cheapen the perception of their own product but no other programming is substitutable. Their competitive advantage is the platform they are on already: the TV. As they transition to the Internet, they come onto a platform with no barrier to entry at all. Under the theory that two revenue streams are better than one, any channel on the TV should keep that and add any potential revenue from the PC. This represents extra revenue vs. new entrants on web-only platforms.
Recommendations

Today, consumers are living in a fool’s paradise. They have the best of both worlds available on the computer: professionally produced high-quality content (CBS alone spends >$3 billion per year) delivered over the Internet paid for by old business models, plus huge amounts of free user-generated content. Diverse, niche and high-quality expensive content are at risk of disappearing if the content companies continue to migrate their content to the Internet.

We believe that the large content companies are in the best strategic position to grow revenue in the Internet age. Our key (and most obvious) recommendation is that content companies should increase the size of their bundle by adding online audiences to their existing TV platform, thereby increasing the value of their aggregation vis-à-vis online-only competitors. There are low barriers to entry on the web and owing to the highly fragmented audiences on the web, the Internet will probably not be a platform that can consistently create monetizable hits that move to other platforms for ancillary revenue. The TV platform can achieve this goal. Therefore, content companies with a TV platform option should fiercely protect this competitive weapon. Economically, the TV is the dog and the PC is the tail. A healthy TV platform puts content creators that have access to that platform ever further ahead of increasingly fragmenting audiences on the Internet, because it represents an additional revenue stream that Internet-only participants do not have.

Separately, to preserve profit growth, content companies should treat the Internet as an integral part of a distribution ecosystem. No one distribution platform should be massively more valuable than any others or it destroys the monetary value of the others. For example, in our view, Hulu.com offering premium TV content for free to consumers is NPV negative to the ecosystem because it delivers too much value (i.e., on-demand programs at a price of zero) vis-à-vis other distribution windows.

We believe long-term business model health will be achieved by:

**Advertising Monetization Plan (50% of TV Ecosystem Revenue)**
1. Retain non-substitutable advertiser tactical position because advertising is the key monetization puzzle piece for premium TV content.
2. Create competitive advantage for advertising dollars by adding online audiences to their existing TV audience, which no new entrant can achieve. This retains competitive advantage over the onslaught of low-entry-barrier online programming competitors. Any new entrant can do cool stuff on the web, backed by VC money. None of them have the $70 billion TV profit platform to fund their ideas. It is critical to increase viewing, not simply move it from the TV to the PC.
3. Maintain option value of being a fast follower of innovative new online content, but always add these eyeballs to TV eyeballs to meet high-value-added (non-substitutable) advertiser objectives.

**Consumer Monetization Plan (50% of TV Ecosystem Revenue)**
1. Maintain bundle at all costs and, over time, add value to the bundle and charge for this. Add new screens to the bundle and new services, etc. Build everything onto the current bundle so it gets bigger over time.
2. Increase video value for customers over time and charge for new value services delivered.

There are several concrete examples in the real world that achieve these objectives:

**TV Everywhere**
We like the “TV Everywhere” idea, as it meets many of these economic objectives that we believe should be paramount. TV Everywhere is an authentication system whereby premium shows (TV, movies, etc.) are available online so long as the viewer can prove (“authenticate”) that he/she is a pay-TV subscriber. That is, the password is free to consumers so long as they pay a monthly
multichannel video subscription to any satellite, telco or cable company. This solution protects the bundle and adds convenience to consumers through “Authentication” or “Entitlement.” This solution is great because: 1) it protects the bundles economics and diversity of channel offerings; 2) it adds convenience to consumers, which should increase TV viewing, which increases ratings; 3) it prevents competitors from having a cheaper solution, since it’s a free service; and 4) this solution does not undermine the consumer’s perception of the value of professional content by giving consumers free (or low cost) access on the web vs. paying $70 per month on the TV.

**TV.com**
CBS is not part of Hulu.com. CBS puts its CBS TV video stream over its own portal, TV.com. CBS’s goal is to be revenue indifferent regardless of which platform it airs (TV or web) because CBS wants to aggregate all its viewers and sell them to advertisers at the same network CPM of $25 regardless of where it was watched. This concept of aggregating eyeballs for advertisers regardless of platform is especially potent outside the three-day window when Nielsen stops measuring TV viewing audience. Then eyeballs on the web (younger and richer) represent extra money for the content creator. We like the idea of adding online viewers to TV viewers and selling them to advertisers at the network CPM of $25.

**Windowing**
Windowing has been used extensively in the film industry to maximize revenue. The highest paying window typically gets an exclusive period of 30-90 days. Later windows pay less for the content because it’s no longer new. The Internet is the lowest paying window and therefore should come last. The Internet is a great idea for all catalog product as that is 100% incremental revenue because it is largely unavailable for monetization today.

**iTunes**
Apple is selling movies and TV programs for a fee in the iTunes store, just as it has done with music. We’re not as excited about iTunes for TV because it unbundles to the program level, thereby destroying the value of the bundle.

**How Do We Make Money? We Recommend Time Warner Cable (TWC, Buy)**

**Investment Positives**
Our Buy rating and $65 target price is based on the following analytical building blocks:

1. **Hedged.** We believe that cable companies with triple-play bundles are the most protected from decisions the content creators make about where to make their content available and for how much. If the content appears on the web for free, we would expect cable operators like TWC to stop paying for it, lowering programming expenses, which today are more than 40% of costs. Cable companies can raise the price of the modem and lower the price of the TV bundle if the content companies increasingly make their content available to consumers via the Internet platform.

2. **FCF Growth.** Capex at TWC has fallen from 23% of sales in FY06 to 18% in FY09. We expect further declines in capex as a proportion of sales over time, which should drive strong FCF growth.

3. **Commercial Is a Revenue Driver.** TWC’s commercial revenue was approximately $915 million (5% of total revenues) in 2009, representing 10% penetration of the market opportunity by our estimate. We believe that TWC can achieve 20% top-line growth in commercial in 2010 and 2011. We expect rapid growth in the provision of back haul services over its (fast) fiber backbone to wireless cell sites. Commercial services have higher margins than residential because pricing is higher on the same products and businesses typically need phone and broadband, which carry richer gross margins than video.
4. **Earnings Potential.** Single-digit top-line growth coupled with operating leverage should result in 15-20% annual EPS growth over the next few years and the potential to deliver an upside earnings surprise in FY11 vs. consensus. A recovery in high-margin advertising revenue and scale benefits in phone and broadband should offset video margin pressure, in our view.

5. **Competition Stable.** Telco’s fiber rollouts are slowing and, increasingly, customers are finishing up their first year of promotional Telco pricing, thereby giving TWC a chance to regain them as customers. TWC has highlighted more win-backs in recent quarters, and we expect this trend to continue into 2011 as competition stabilizes. A stabilizing competitive environment suggests rising pricing power through 2011.

6. **Return of Capital.** We believe that most of TWC’s high (10%) FCF yield will be repatriated to shareholders. TWC pays a quarterly dividend of $0.40, representing a 3.1% yield. The cash dividend payout of $570 million represents an FCF payout ratio of about 40%. We expect TWC to maintain leverage at around 3.25x (current level). EBITDA growth and excess cash after dividend payments should be nearly $2 billion, enough to repurchase about 10% of the market cap every year.

7. **Size Matters.** Cable is a business where scale matters. At ~13 million subscribers, TWC is the second-largest cable operator in the U.S., which facilitates strategic partnerships for new product development and gives it technology and cost advantages (e.g., lower programming costs).

8. **Marginal ROICs Drive Growth.** TWC’s new revenue streams have higher marginal returns on capital than its core video business, implying rising ROICs over time. We estimate that incremental returns on capital for the new services (high-speed data, digital voice, HD-DVRs, PPV, etc.) range from 20% to 50%.

9. **Industry Structure Drives Profit Growth.** The cable business was founded by visionary entrepreneurs, many of whom are still in the business. This focuses cable management teams on equity appreciation and drives cooperation among the largest multiple system operators (MSOs), which creates competitive advantage vis-à-vis competitors. There is a culture of sharing product information, best practices, consumer demand data, and of collaboratively splitting costs of R&D (i.e., cable labs), litigation and lobbying.

10. **Tax Shield.** TWC shelters $330 million of cash taxes every year for the next 11 years (ending in 2021), owing to the step-up in tax basis associated with the Adelphia acquisition. This shifts value from taxes to shareholders. Structurally, the capital intensity and financial leverage of TWC’s business implies minimal cash taxes and nearly tax-free equity appreciation long term.

11. **Churn Falling.** Bundled products help retain subscribers against competitive incursions. Churn falls and TWC is winning back basic cable subscribers when it can offer HSD and VoIP in a three-product bundle as many subscribers prefer to have one provider for all products.

12. **Competitive Advantage.** Cable was built community by community, so pricing and bundling decisions are designed to maximize profits on a market-by-market basis. Telco and DBS can’t match this local targeting.

13. **Single Class of Stock.** TWC only has one class of shares, so its public shareholders do not have fewer votes than other shareholder classes.

14. **Management.** Glenn Britt, CEO, has been in the cable business for decades and is well regarded by both his cable peers and Wall Street.

15. **Other Investment Positives:**
   - New home construction (cable’s installed base) should begin to grow in late 2010 and drive revenue growth throughout 2011;
   - Attractive yield (3.1% yield vs. 1.7% S&P 500 average);
   - High quality, liquid stock;
   - Pure play cable company (i.e., no content assets); and
   - A cyclically depressed valuation of only 5.7x 2010E EBITDA.
**Risks to our Target Price**

1. **Consumer Fragmentation.** The new digital platforms are reorienting consumers’ perception of the value of content. The Internet is retraining consumers that everything over the Internet (including content) should be free. Growing competition for audience time exacerbates this economic downdraft, as the Internet offers more leisure choices (video games, social networks, etc.).

2. **Telcos.** The competitive landscape is becoming more challenging. Telcos and satellite represent deep-pocketed, aggressive competitors for subscribers. Verizon (VZ, Not Rated) operates in areas with about 9 million of TWC’s homes passed, and AT&T (T, Not Rated) operates in areas with about 18 million of TWC’s homes passed. To date, TWC has found that RBOC video penetration slows after an initial rush at launch. Generally, U-verse (AT&T) garners a quick 5% share, thereafter moving slowly toward 10% share of video subs. VZ’s FiOS garners a quick 10% share, thereafter moving slowly toward 20% share of video subs. At September 30, 2009, VZ plus AT&T offered advanced video services in 27% of TWC footprint, up from 24% in 2Q09 and 22% in 1Q09.

3. **Slowing Growth.** Multichannel video is saturated. Of the approximate 114 million television households in the U.S., about 87% are currently multichannel video subscribers. Future growth must come from generating more revenue from the same customers or taking customers away from competitors (implying high subscriber acquisition costs).

4. **Regulation.** Regulators have repeatedly invaded the cable perimeter in an effort to slow cable price increases and facilitate competition. Net neutrality creates risk in the upside potential of investing in Internet infrastructure if the government decides that high-speed Internet access is a right of all citizens and therefore requires price regulation.

5. **Programming costs** at TWC are 40% of total expenses and are rising at 7-9% annually, compared with pricing increases of 3-5% annually, implying margin pressure on the video product over time. Unless TWC can generate incremental margins from HSD and VoIP, corporate margins may fall.

6. **Wireless Strategy.** Although TWC is a Clearwire JV partner, there is no clear wireless strategy and no strategic imperative for wireless as part of the bundle.

**Target Price Calculation**

Our target price of $65 per share, ~20% above current trading levels, is based on a 10-year DCF model. The standard DCF is widely used on Wall Street because it is a rigorous bottom-up valuation of the enterprise based on discounting its long-term cash flows, and it removes the impact of non-cash accounting conventions. Our $65 target price embeds a 10-year OIBDA growth rate of ~2% annually beginning in 2010 and represents a 5.7x multiple of forward year (2011E) OIBDA.
Appendix A: Survey Findings

In March 2010, we completed a proprietary survey with 200 multi-channel video customers answering questions about what they would be willing to pay for individual TV channels on the Internet in an unbundled, on-demand world. Detailed results by channel follow.

**Question asked:**
If you could buy channels separately for viewing on the Internet (assume all content is on-demand, any time), how much would you pay per month for the ABC Broadcast Network’s programming?

**Data Summary:**
Of 200 respondents:
- 38% said they would pay nothing for ABC (76 of 200)
- Of the 62% of respondents who said they would pay something for ABC:
  - 52% said they would be willing to pay $2 or below per month (65 of 124)
  - 11% say would pay $10 or more per month (14 of 124)
  - $3.70 per month is the average price point of those who say they would pay
What would you pay per month?

1  $24
2  $12
3  $12
4  $10
5  $10
6  $10
7  $10
8  $10
9  $10
10 $10
11 $10
12 $10
13 $10
14 $ 8
15 $ 8
16 $ 8
17 $ 7
18 $ 6
19 $ 6
20 $ 5
21 $ 5
22 $ 5
23 $ 5
24 $ 5
25 $ 5
26 $ 5
27 $ 5
28 $ 5
29 $ 5
30 $ 5
31 $ 5
32 $ 5
33 $ 5
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35 $ 5
36 $ 5
37 $ 5
38 $ 5
39 $ 5
40 $ 5
41 $ 5
42 $ 5
43 $ 5
44 $ 5
45 $ 5
46 $ 5
47 $ 5
48 $ 4
49 $ 4
50 $ 3
51 $ 3
52 $ 3
53 $ 3
54 $ 3
55 $ 3
56 $ 3
57 $ 3
58 $ 2
59 $ 2
60 $ 2
61 $ 2
62 $ 2
63 $ 2
64 $ 2
65 $ 2

Question asked:
If you could buy channels separately for viewing on the Internet (assume all content is on-demand, any time), how much would you pay per month for the Fox Broadcast Network's programming?

Data Summary:
Of 200 respondents:
41% said they would pay nothing for Fox (83 of 200)

Of the 59% of respondents who said they would pay something for Fox:
50% said they would be willing to pay $2 or below per month (59 of 117)
11% say would pay $10 or more per month (13 of 117)
$3.81 per month is the average price point of those who say they would pay.
**Question asked:**
If you could buy channels separately for viewing on the Internet (assume all content is on-demand, any time), how much would you pay per month for ESPN's programming?

**Data Summary:**
Of 200 respondents:
- 48% said they would pay nothing for ESPN (95 of 200)
- Of the 52% of respondents who said they would pay something for ESPN:
  - 57% said they would be willing to pay $2 or below per month (60 of 105)
  - 16% say would pay $10 or more per month (17 of 105)
- $4.63 per month is the average price point of those who say they would pay
What would you pay per month?

<table>
<thead>
<tr>
<th>Respondent #</th>
<th>Price/Month</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>$25</td>
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<tr>
<td>2</td>
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<tr>
<td>65</td>
<td>$3</td>
</tr>
</tbody>
</table>

**Question asked:**
If you could buy channels separately for viewing on the Internet (assume all content is on-demand, any time), how much would you pay per month for Comedy Central's programming?

**Data Summary:**
Of 200 respondents:
- 39% said they would pay nothing for Comedy Central (78 of 200)
- Of the 61% of respondents who said they would pay something for Comedy Central:
  - 44% said they would be willing to pay $2 or below per month (54 of 122)
  - 19% said would pay $10 or more per month (23 of 122)
- $4.74 per month is the average price point of those who say they would pay
What would you pay per month?
1 $17
2 $15
3 $15
4 $12
5 $12
6 $10
7 $10
8 $10
9 $10
10 $10
11 $7
12 $5
13 $5
14 $5
15 $5
16 $5
17 $5
18 $5
19 $5
20 $5
21 $5
22 $5
23 $5
24 $5
25 $5
26 $4
27 $4
28 $3
29 $3
30 $3
31 $3
32 $3
33 $2
34 $2
35 $2
36 $2
37 $2
38 $2
39 $2
40 $2
41 $2
42 $2
43 $2
44 $2
45 $2
46 $2
47 $2
48 $2
49 $2
50 $1
51 $1
52 $1
53 $1
54 $1
55 $1
56 $1
57 $1
58 $1
59 $1
60 $1
61 $1
62 $1
63 $1
64 $1

Question asked:
If you could buy channels separately for viewing on the Internet (assume all content is on-demand, any time), how much would you pay per month for Fox News programming?

Data Summary:
Of 200 respondents:
65% said they would pay nothing for Fox News (130 of 200)
Of the 35% of respondents who said they would pay something for Fox News:
53% said they would be willing to pay $2 or below per month (37 of 70)
14% say would pay $10 or more per month (10 of 70)
$4.13 per month is the average price point of those who say they would pay
What would you pay per month?

1 $30
2 $15
3 $15
4 $14
5 $11
6 $10
7 $10
8 $10
9 $10
10 $10
11 $10
12 $10
13 $10
14 $10
15 $8
16 $7
17 $5
18 $5
19 $5
20 $5
21 $5
22 $5
23 $5
24 $5
25 $5
26 $5
27 $5
28 $5
29 $5
30 $5
31 $5
32 $5
33 $5
34 $5
35 $5
36 $5
37 $5
38 $5
39 $5
40 $4
41 $4
42 $4
43 $4
44 $3
45 $3
46 $3
47 $3
48 $3
49 $3
50 $3
51 $2
52 $2
53 $2
54 $2
55 $2
56 $2
57 $2
58 $2
59 $2
60 $2
61 $2
62 $2
63 $1
64 $1
65 $1

**Question asked:**
If you could buy channels separately for viewing on the Internet (assume all content is on-demand, any time), how much would you pay per month for the Disney Channel's programming?

**Data Summary:**
Of 200 respondents:
- 56% said they would pay nothing for Disney Channel (113 of 200)
- Of the 44% of respondents who said they would pay something for Disney Channel:
  - 59% said they would be willing to pay $2 or below per month (51 of 87)
  - 16% say would pay $10 or more per month (14 of 87)
- $4.45 per month is the average price point of those who say they would pay...
### Data Summary:

- **Question asked:**
  If you could buy channels separately for viewing on the Internet (assume all content is on-demand, any time), how much would you pay per month for Nickelodeon’s programming?

- **Of 200 respondents:**
  - 58% said they would pay nothing for Nickelodeon (116 of 200)
  - Of the 42% of respondents who said they would pay something for Nickelodeon:
    - 51% said they would be willing to pay $2 or below per month (43 of 84)
    - 14% say would pay $10 or more per month (12 of 84)
  - $4.08 per month is the average price point of those who say they would pay
**Question asked:**
If you could buy channels separately for viewing on the Internet (assume all content is on-demand, any time), how much would you pay per month for MTV's programming?

**Data Summary:**
Of 200 respondents:
- 65% said they would pay nothing for MTV (129 of 200)
- Of the 35% of respondents who said they would pay something for MTV:
  - 54% said they would be willing to pay $2 or below per month (38 of 71)
  - 13% say would pay $10 or more per month (9 of 71)
- $4.10 per month is the average price point of those who say they would pay...
## Which would you pay >$0.50/month ($6/year) for?

<table>
<thead>
<tr>
<th>Of 200 Respondents:</th>
<th>A&amp;E</th>
<th>History</th>
<th>ABC Family</th>
<th>Soap Net</th>
<th>National Geographic</th>
<th>Fox College Sports</th>
<th>Big Ten Net</th>
<th>Fox Reality</th>
<th>Fuel TV</th>
</tr>
</thead>
<tbody>
<tr>
<td># pay &gt;$0.50/month?</td>
<td>64</td>
<td>98</td>
<td>41</td>
<td>11</td>
<td>78</td>
<td>26</td>
<td>13</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>% pay &gt; $0.50/month</td>
<td>32%</td>
<td>49%</td>
<td>21%</td>
<td>6%</td>
<td>39%</td>
<td>13%</td>
<td>7%</td>
<td>8%</td>
<td>5%</td>
</tr>
</tbody>
</table>

## Which would you pay >$0.25/month ($3/year) for?

<table>
<thead>
<tr>
<th>Of 200 Respondents:</th>
<th>Logo</th>
<th>BET</th>
<th>Spike</th>
<th>TV Land</th>
<th>Nick@ Nite</th>
<th>Teen Nick</th>
<th>Nick Jr.</th>
<th>VH1</th>
<th>MTV2</th>
<th>CMT</th>
</tr>
</thead>
<tbody>
<tr>
<td># pay &gt;$0.25/month?</td>
<td>14</td>
<td>9</td>
<td>52</td>
<td>39</td>
<td>31</td>
<td>18</td>
<td>22</td>
<td>53</td>
<td>30</td>
<td>22</td>
</tr>
<tr>
<td>% pay &gt; $0.25/month</td>
<td>7%</td>
<td>5%</td>
<td>26%</td>
<td>20%</td>
<td>16%</td>
<td>9%</td>
<td>11%</td>
<td>27%</td>
<td>15%</td>
<td>11%</td>
</tr>
</tbody>
</table>
Appendix B: Calculation of Value Destruction from Lower Consumer Payments

NewsCorp

We calculate that about 21% of NWS’s subscriber revenue would disappear if its channels were allowed to be purchased individually online, rather than in the current TV bundle. If NewsCorp unbundled to the individual program level (as Hulu.com does), the economics would presumably be worse than this.

<table>
<thead>
<tr>
<th>Current Economics</th>
<th>Unbundled Economics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>NWS subscriber fees at &quot;bulk rates&quot;*</td>
<td></td>
</tr>
<tr>
<td>1 Fox Broadcast Channel</td>
<td>100</td>
</tr>
<tr>
<td>2 Fox News</td>
<td>97</td>
</tr>
<tr>
<td>3 FX &amp; FX HD National Geographic Channel</td>
<td>95</td>
</tr>
<tr>
<td>4 HD &amp; National Georaphic Big Ten Network HD &amp; SPEED</td>
<td>69</td>
</tr>
<tr>
<td>5 SPEED HD &amp; SPEED</td>
<td>73</td>
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<tr>
<td>6 Network</td>
<td>70</td>
</tr>
<tr>
<td>7 Fox Reality Channel</td>
<td>50</td>
</tr>
<tr>
<td>8 FSN</td>
<td>91</td>
</tr>
<tr>
<td>9 12 O&amp;O regional sports nets</td>
<td>50</td>
</tr>
<tr>
<td>10 FUEL TV</td>
<td>50</td>
</tr>
<tr>
<td>11 Fox Movie Channel</td>
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<tr>
<td>12 FOX Soccer Channel</td>
<td>50</td>
</tr>
<tr>
<td>13 FOX Panamerican Sports</td>
<td>50</td>
</tr>
<tr>
<td>14 FOX College Sports</td>
<td>50</td>
</tr>
</tbody>
</table>

**Fox Sub Revenue/Month** $361 $307

**Change in Subscriber Fees** -15%

* Represents the lowest rate because the distributor is required to carry the channel on the expanded basic tier (100mm households), unless otherwise shown.

Source: Company documents, Needham & Company estimates.
Disney

We calculate that about 22% of Disney’s subscriber revenue would disappear if its channels were allowed to be purchased individually online, rather than in the current TV bundle. If Disney unbundled to the individual program level (as Hulu.com does), the economics would presumably be worse than this.

<table>
<thead>
<tr>
<th></th>
<th>Current Economics</th>
<th>Unbundled Economics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US</td>
<td></td>
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<tr>
<td></td>
<td>Multi-channel HH* (mm)</td>
<td></td>
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<tr>
<td>Current</td>
<td>Bundled Price/Month</td>
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<tr>
<td></td>
<td>Satellite Cable Per Month</td>
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<tr>
<td>Disney subscriber fees at <em>bulk rates</em>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Disney Channel</td>
<td>98 $0.75 $74</td>
<td>44% 100 44 $2.00 $88</td>
</tr>
<tr>
<td>2 Playhouse Disney</td>
<td>50 $0.25 $13</td>
<td>30% 100 30 $0.50 $15</td>
</tr>
<tr>
<td>3 Disney XD-Toon Disney</td>
<td>74 $0.15 $11</td>
<td>15% 100 15 $0.25 $4</td>
</tr>
<tr>
<td>ABC Family - formerly Fox</td>
<td>98 $0.25 $25</td>
<td>21% 100 21 $0.25 $5</td>
</tr>
<tr>
<td>4 Family &amp; The Family Channel</td>
<td>20 $0.25 $25</td>
<td></td>
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<tr>
<td>BVS Entertainment - formerly</td>
<td></td>
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<tr>
<td>5 Saban Entertainment</td>
<td>$0.15 $3</td>
<td>10% 100 10 $0.20 $2</td>
</tr>
<tr>
<td>6 Jetix Europe</td>
<td>50 $0.15 $8</td>
<td>10% 100 10 $0.20 $2</td>
</tr>
<tr>
<td>7 Hungama</td>
<td>20 $0.15 $3</td>
<td>10% 100 10 $0.20 $2</td>
</tr>
<tr>
<td>8 SOAPnet</td>
<td>73 $0.15 $11</td>
<td>6% 100 6 $0.20 $1</td>
</tr>
<tr>
<td>Total Disney Channels</td>
<td>$146</td>
<td>$119</td>
</tr>
</tbody>
</table>

| Lifetime Entertainment Services and A&E Television Networks [joint venture between Disney (37.5%), Hearst Corporation (37.5%) and NBC Universal (25%)] |
|========================================================================================================================================|
| 8 Lifetime                                                              | 99 $0.15 $15 | 30% 100 30 $0.50 $15 |
| 9 Lifetime Movie Network                                               | 72 $0.15 $11 | 10% 100 10 $0.25 $3  |
| 10 Lifetime Real Women                                                | 14 $0.15 $2  | 10% 100 10 $0.25 $3  |
| 11 A&E Network                                                        | 99 $0.20 $20 | 32% 100 32 $0.50 $16 |
| 12 The History Channel                                               | 98 $0.20 $20 | 49% 100 49 $0.50 $25 |
| 13 The Biography Channel                                             | 55 $0.10 $6  | 15% 100 15 $0.25 $4  |
| 14 History International Channel                                      | 54 $0.10 $5  | 10% 100 10 $0.25 $3  |
| 15 Crime & Investigation Network                                      | 20 $0.10 $2  | 10% 100 10 $0.15 $2  |
| Total Lifetime Ent Gp                                                | $80              | $68                |

<table>
<thead>
<tr>
<th>ESPN, Inc. (Disney 80%, Hearst Corporation 20%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ESPN and HD about</td>
</tr>
<tr>
<td>2 ESPN2 and HD $4/mo if these are purchased together</td>
</tr>
<tr>
<td>3 ESPN Classic</td>
</tr>
<tr>
<td>4 ESPNews and HD</td>
</tr>
<tr>
<td>5 ESPN Deportes</td>
</tr>
<tr>
<td>6 ESPNU</td>
</tr>
<tr>
<td>7 ESPN Now</td>
</tr>
<tr>
<td>8 ESPN Plus</td>
</tr>
<tr>
<td>Total ESPN</td>
</tr>
</tbody>
</table>

| Disney Sub Revenue/Month | $676 | $543 |
| Change in Subscriber Fees | -20% |      |

* Represents the lowest rate because the distributor is required to carry the channel on the expanded basic tier (100mm households), unless otherwise shown.

Source: Company documents, Needham & Company estimates.
Viacom

We calculate that about 21% of Viacom’s subscriber revenue would disappear if its channels were allowed to be purchased individually online, rather than in the current TV bundle. If Viacom unbundled to the individual program level (as they do on their captive online sites), the economics would presumably be worse than this.

<table>
<thead>
<tr>
<th>Current Economics</th>
<th>Unbundled Economics</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Multi-</td>
<td>Telcos/</td>
</tr>
<tr>
<td>channel</td>
<td>Satellite/</td>
</tr>
<tr>
<td>HH*</td>
<td>Cable</td>
</tr>
<tr>
<td>Bundled Price/</td>
<td>Pay Per</td>
</tr>
<tr>
<td>Month</td>
<td>Month</td>
</tr>
<tr>
<td></td>
<td>% of</td>
</tr>
<tr>
<td></td>
<td>People</td>
</tr>
<tr>
<td></td>
<td>Who</td>
</tr>
<tr>
<td></td>
<td>Will Pay HH</td>
</tr>
<tr>
<td></td>
<td>Paying HH</td>
</tr>
<tr>
<td></td>
<td>#US HH (mm)</td>
</tr>
<tr>
<td></td>
<td>Weighted Paying HH</td>
</tr>
<tr>
<td></td>
<td>(from survey)</td>
</tr>
<tr>
<td></td>
<td>Unbundled Consumers</td>
</tr>
<tr>
<td></td>
<td>Pay Per Month</td>
</tr>
<tr>
<td>1 Comedy Central</td>
<td>98 $0.30 $29 $61</td>
</tr>
<tr>
<td>2 Nickelodeon</td>
<td>100 $0.30 $30 $42</td>
</tr>
<tr>
<td>3 MTV</td>
<td>99 $0.30 $30 $35</td>
</tr>
<tr>
<td>4 MTV2</td>
<td>77 $0.25 $19 $20</td>
</tr>
<tr>
<td>5 VH1</td>
<td>98 $0.20 $20 $27</td>
</tr>
<tr>
<td>6 VH1 Classic</td>
<td>56 $0.20 $11 $15</td>
</tr>
<tr>
<td>7 BET</td>
<td>90 $0.17 $15 $5</td>
</tr>
<tr>
<td>8 BET J</td>
<td>34 $0.15 $5 $1</td>
</tr>
<tr>
<td>9 Logo</td>
<td>45 $0.15 $7 $7</td>
</tr>
<tr>
<td>10 Spike</td>
<td>99 $0.15 $15 $26</td>
</tr>
<tr>
<td>11 Nick@Nite</td>
<td>100 $0.10 $10 $16</td>
</tr>
<tr>
<td>12 TeenNick</td>
<td>69 $0.10 $7 $9</td>
</tr>
<tr>
<td>13 Nick Jr</td>
<td>71 $0.10 $7 $11</td>
</tr>
<tr>
<td>14 TV Land</td>
<td>97 $0.15 $15 $20</td>
</tr>
<tr>
<td>15 CMT</td>
<td>90 $0.15 $13 $11</td>
</tr>
<tr>
<td>16 Nicktoons</td>
<td>55 $0.15 $8 $10</td>
</tr>
<tr>
<td>17 VIVA</td>
<td>75 $0.15 $11 $10</td>
</tr>
<tr>
<td>18 TMF</td>
<td>10 $0.15 $2 $10</td>
</tr>
<tr>
<td>19 Palladia</td>
<td>20 $0.10 $2 $5</td>
</tr>
</tbody>
</table>

Viacom sub CHG in Subscriber Fees

\[-20\%\]

*Represents the lowest rate because the distributor is required to carry the channel on the expanded basic tier (100mm households), unless otherwise shown.

Source: Company documents, Needham & Company estimates.
Appendix C: Market Cap of TV Ecosystem

CALCULATION OF TV ECOSYSTEM MARKET CAPITALIZATION

<table>
<thead>
<tr>
<th>PUBLIC COMPANY</th>
<th>TICKER</th>
<th>TYPE</th>
<th>MKT CAP ($B) (as of 4/23/10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cablevision</td>
<td>CVC</td>
<td>TV Distribution</td>
<td>$8.0</td>
</tr>
<tr>
<td>CBS</td>
<td>CBS</td>
<td>TV Content Creator</td>
<td>$11.2</td>
</tr>
<tr>
<td>Comcast</td>
<td>CMCSA</td>
<td>TV Distribution</td>
<td>$54.0</td>
</tr>
<tr>
<td>DirecTV</td>
<td>DTV</td>
<td>TV Distribution</td>
<td>$34.4</td>
</tr>
<tr>
<td>Discovery</td>
<td>DISCA</td>
<td>TV Content Creator</td>
<td>$15.8</td>
</tr>
<tr>
<td>Dish Network</td>
<td>DISH</td>
<td>TV Distribution</td>
<td>$10.1</td>
</tr>
<tr>
<td>NEWS Corp</td>
<td>NWS</td>
<td>TV Content Creator</td>
<td>$42.3</td>
</tr>
<tr>
<td>Scripps</td>
<td>SNI</td>
<td>TV Content Creator</td>
<td>$7.5</td>
</tr>
<tr>
<td>Time Warner Cable</td>
<td>TWC</td>
<td>TV Distribution</td>
<td>$19.3</td>
</tr>
<tr>
<td>Time Warner</td>
<td>TWX</td>
<td>TV Content Creator</td>
<td>$38.7</td>
</tr>
<tr>
<td>Viacom</td>
<td>VIA</td>
<td>TV Content Creator</td>
<td>$22.3</td>
</tr>
<tr>
<td>Disney</td>
<td>DIS</td>
<td>TV Content Creator</td>
<td>$71.5</td>
</tr>
<tr>
<td><strong>Total ($B)</strong></td>
<td></td>
<td></td>
<td><strong>$335.2</strong></td>
</tr>
</tbody>
</table>

Source: Yahoo! finance, Needham & Co., LLC.

Appendix D: Calculation of Average Revenue/Household

Selected Multi-Channel Video Home Data

<table>
<thead>
<tr>
<th></th>
<th>$/month</th>
<th>#subs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWC</td>
<td>$69.15</td>
<td>13.00</td>
<td>$ 899</td>
</tr>
<tr>
<td>CMCSA</td>
<td>$64.97</td>
<td>23.80</td>
<td>$1,546</td>
</tr>
<tr>
<td>CVC</td>
<td>$83.46</td>
<td>3.00</td>
<td>$ 250</td>
</tr>
<tr>
<td>CHARTER</td>
<td>$61.49</td>
<td>4.90</td>
<td>$ 301</td>
</tr>
<tr>
<td>MCCC</td>
<td>$60.62</td>
<td>1.30</td>
<td>$ 79</td>
</tr>
<tr>
<td>DIRECTV</td>
<td>$85.62</td>
<td>18.40</td>
<td>$1,575</td>
</tr>
<tr>
<td>DISH</td>
<td>$69.50</td>
<td>13.90</td>
<td>$ 966</td>
</tr>
</tbody>
</table>

**Total** $878.30 $5,617 $71.74

Source: Company documents, Needham & Co., LLC.
ANALYST CERTIFICATION

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.

Companies mentioned in this report under coverage by Needham & Company, LLC:

<table>
<thead>
<tr>
<th>Company</th>
<th>Symbol</th>
<th>Closing Price</th>
<th>4/28/10</th>
<th>Rating</th>
<th>Disclosures</th>
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<tr>
<td>CBS</td>
<td>CBS</td>
<td>$16.08</td>
<td>Buy</td>
<td>B</td>
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<tr>
<td>Mediacom Communications</td>
<td>MCCC</td>
<td>7.04</td>
<td>Buy</td>
<td>B, G</td>
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<tr>
<td>NewsCorp</td>
<td>NWSA</td>
<td>15.56</td>
<td>Buy</td>
<td>B, G</td>
<td></td>
</tr>
<tr>
<td>Time Warner</td>
<td>TWX</td>
<td>33.06</td>
<td>Hold</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Time Warner Cable</td>
<td>TWC</td>
<td>53.13</td>
<td>Buy</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Viacom</td>
<td>VIAB</td>
<td>35.49</td>
<td>Buy</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Walt Disney</td>
<td>DIS</td>
<td>36.29</td>
<td>Hold</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Yahoo!</td>
<td>YHOO</td>
<td>16.75</td>
<td>Hold</td>
<td>B, G</td>
<td></td>
</tr>
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Price, Rating, and Price Target History: Time Warner Cable Inc. (TWC/NYSE) as of 4-28-10

Source: Factset (Prices) / Needham (ratings and target price)
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<table>
<thead>
<tr>
<th>Rating</th>
<th>% of companies under coverage with this rating</th>
<th>% for which investment banking services have been provided for in the past 12 months</th>
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<tr>
<td>Strong Buy</td>
<td>6</td>
<td>9</td>
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<tr>
<td>Buy</td>
<td>58</td>
<td>12</td>
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<tr>
<td>Hold</td>
<td>31</td>
<td>3</td>
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<td>Underperform</td>
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Laura Martin graduated from Stanford in 1980, Harvard Business School in 1983, and she holds a CFA designation. In 1983, Martin joined Drexel Burnham Lambert in investment banking, with a media company focus. In 1991, she moved to the “buy side” at Capital Research & Management as a media analyst, with money management responsibilities for a $500 million media-equity portfolio. Beginning in 1994, she worked on the “sell side” at Credit Suisse First Boston as the senior media analyst publishing research on the largest U.S. entertainment and cable companies. She was nationally ranked by *Institutional Investor* magazine each year between 1999 and 2001. In 2002, Martin moved to Paris to become EVP of Financial Strategy and Investor Relations for Vivendi Universal. In 2004, Martin founded Capital Knowledge, LLC (www.CapKnowledge.com), a financial consulting firm providing expert witness testimony, capital markets advice, and valuation services to senior management teams. In the same year, she founded Media Metrics, LLC publishing equity research on the largest entertainment, cable and internet stocks in the U.S., where she was nationally ranked as “Best of the Independent Research Boutiques” by *Institutional Investor* for many years. In 2009, Martin moved to Needham & Company, LLC, where she continues to publish research on large U.S. entertainment, cable and media companies.