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Industry consolidation: The merger of Charter Communications and Time Warner Cable

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Abstract

The following case study is intended to describe the evolution of the American cable industry and the corporate actions pursued by its operators and sponsors since 1990's. Charter Communications and Time Warner Cable, respectively the fourth- and second-largest cable operators, have been chosen to represent the industry trend of horizontal consolidation. On May 23, 2015, both firms agreed to merge forming New Charter, along with parallel Charter's acquisition of Bright House Networks. Even though the ultimate goal of this case is to analyse the merger transaction, a deep analysis of each company's roots and a description of competition environment and regulation framework are also presented to provide the necessary insights to perceive its drivers.

Being the terms of the merger and business valuation its cornerstone, this case aims to look into the acquirer leveraging up to finance the acquisition of a much larger company, after having been through a reorganization process under Chapter 11 for having too much debt, and a firm that spun-off its operations from its parent company, inheriting its name and management. Therefore, these two corporate actions are also presented in detail.

For his key role on Charter's growth, public exposure, personal wealth, and career accomplishments, as co-founding Microsoft the most noteworthy, a follow-up on the $12 billion investment of Paul Allen in the cable industry is also described.

Keywords: *mergers and acquisitions, consolidation, corporate valuation, bankruptcy, transaction premium*

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Charter Communications and Time Warner Cable

It was a cloudy morning in New York on September 21, 2015 when Sir Christopher Hohn took an Uber ride from JFK airport to the New York Institute of Technology at the heart of Manhattan[1]. Representing the fifth-largest shareholder of Time Warner Cable (TWC) with a 5% beneficial ownership, Chris Hohn flew to New York to attend TWC special shareholders meeting to vote the merger with Charter Communications, and to elect its form of payment.

On 2003, Chris Hohn founded The Children´s Investment Fund Manager (TCI), a London-based long-term-oriented equity hedge fund, managing approximately $10 billion in assets, where he still holds the managing position. He is known for his active investing attitude, purchasing equity stakes in companies and forcing management to make changes to increase share price, backed by long-term committed limited partners. As described by Chris Hohn *"We are the antithesis of the classic hedge fund. We are the opposite. They are hedged, we are long. We take risk. They are short term whereas we are long term. They are passive, and we are engaged. They charge high fees, we charge less."*

On March 6, 2015 when the merger of Comcast and TWC was under regulatory and antitrust revision, TCI almost doubled its equity stake in TWC.

However, Paul Allen's words were still popping up in his mind *"We put too much debt on the company. It took me a while to find the right executive ... but that was later in the game, when we had too much debt"*. On the other hand, John Malone, the merger mastermind, commented *"Thank you, Paul Allen"* referring to his large personal investments in the company and tax loss carry forwards, *"Charter will now be of a size where they can have meaningful VOD offering"*. Should he rely on Malone's words *"The deal will not have major regulatory issues. If I thought we were [facing major hurdles], we wouldn't have done this deal"*?

[1] A hypothetical scenario for the case illustration, although everything else is real, such as events, positions, ownership, and stakeholders. The presence of Chris Hohn at TWC special shareholder meeting is therefore not confirmed

Cable Industry

The American merger-crazed cable industry has been living an era of digital disruption that challenges traditional business models, fierce competition among telecommunication giants, some of them inorganically formed through mergers and acquisitions, and a tight regulation framework. The business model of traditional cable companies like Charter Communications and Time Warner Cable (TWC) has relied in bundling two or more of its core products and services: traditional and advanced video services, high-speed Internet services, and residential voice services. Although with lower weight on revenues, it is also common to supply a range of cloud solutions to business customers. New Internet-based digital over-the-top (OTT) providers, social networks, and telephone companies developing new business segments have enhanced not only competition, but also litigation and legal dispute.

Video

Traditional cable companies offer basic television packages with national and local channels for which customers pay a monthly charge. Additionally, customers have the option to upgrade their subscription adding High-Definition and premium content-specific channels, like music, sports, and commercial-free movies. Usually, these upgrades come with additional services that provide a more comfortable and convenient television experience, such as: Video-on-Demand, which offers the possibility to select a content/event anytime from a pre-selected list; Pay-per-View, that allows customers to pay on a per-event basis; Digital Video Recorder, that adds the option of recording and pausing a live event and watch it later; and a mobile app, which basically supplies a television experience and all these tools on a smartphone. Due to the geographically clustered cable systems driven by its intense capital and licensing requirements, traditional overbuilds are rare, although the risk of market entrance is serious if the right amount of capital is put in place. Therefore, cable operators often do not compete with each other, unless if they start distributing video over the internet to customers outside their region.

The major competitors for cable systems are direct broadcasted satellites (DBS), that allow satellite reception through a dish antenna, and telephone companies through fiber-based networks. Due to video compression and increasing satellite power, DBS have been able to supply standardized nationwide offerings, and thus being able to enjoy synergies and to have lower costs due to inexistent franchising fees. DirectTV, the largest U.S.-based DBS, was acquired by AT&T in July 2015 for $67.1 billion. Concerning telephone companies, AT&T and Verizon have been increasingly adding video solutions to their bundles, hence leveraging existing customer base due to their traditional mobile phone services (**Exhibit 1A** graphs the largest American pay-television providers by subscribers as of June 2015, representing 95% of the market).

A rising set of competitors, like Hulu, Netflix, iTunes (Apple), Prime (Amazon) and YouTube (Alphabet), offer video content through the Internet, some of them free of charge, boosted by the development of gadgets that allow Internet-broadcasting on television and mobile devices. These OTTs are the main drivers of disruption and innovation, not only for traditional cable and telephone companies, but also for regulatory bodies.

According to the American Customer Satisfaction Index (ACSI), which tracks customer satisfaction in a universe of 43 industries, the Subscription Television Service was considered as the second-worst industry by American consumers in 2015 with a score of 63 (National ACSI was 73.4) – Charter Communications also scored 63, and TWC was considered the worst operator with a score of 51.

High-speed Internet

Traditional cable companies supply Internet services through hybrid fiber coaxial cable (HFC) networks, which allows to benefit from its bandwidth capacity, enabling traditional and two-way video and broadband services, signal quality and high service reliability. The HFC networks can either be owned or leased, therefore subject to high capital expenditure, or a fee depending on the amount of IP-based traffic. To reduce Internet connectivity cost, cable companies usually enter into agreements with third-party networks to exchange traffic without a charge. HFC permits download speeds up to 300 Megabytes per second (Mbps), which are monthly charged, with pricing based on pre-agreed speed. In order to meet customer requirements, it is also possible to set a monthly utilization cap, from 5 Gigabyte (Gb) to 30 Gb, which usually comes at lower monthly charge. Charter, for instances, upon completion of its analog-to-digital transmission, offers base download Internet speed of 60 Mbps, and 100 Mbps in certain markets. Included on the Internet package are access to a nationwide network of WiFi hotspots for no additional charge, and software protection features.

Regarding competition, the broadband Internet market is supplied by cable and telephone companies that are starting to add Internet data to their traditional voice bundles. Telephone companies use digital subscriber line (DSL), fiber-to-the-home (FTTH), and wireless broadband services. DSL allows to offer Internet access at greater speed than conventional telephone lines, and it is a direct competitor to high-speed services offered by cable companies due to its reliability and lower cost at lower speeds. As larger telephone companies have invested in FTTH networks in some areas, they provide the same speed as cable companies. Additionally, these companies supply 3G and 4G wireless high-speed Internet services, with 5G and faster services in the pipeline (**Exhibit 1B** graphs the largest American broadband Internet providers by subscribers as of June 2015, representing 94% of the market).

Americans considered the Internet Service Providers as the worst industry in the U.S. in 2015, also scoring 63 in the ACSI – TWC and Charter scored 58 and 57, respectively.

Voice

Fixed residential and commercial voice services are supplied by cable companies using Voice over the Internet Protocol (VoIP) technology to transmit digital voice signals over their networks. Residential voice plans offer unlimited calling to the U.S. and for some foreign countries. TWC, for instances, designed its unlimited-calling voice plan for wired communications to the U.S. and the U.S. territories, Canada, Mexico, China, Hong Kong, India, Norway, and the European Union, for a fixed monthly fee. For the rest of the world, it offered the Global Penny Phone Plan, which allowed customers to communicate for a penny per minute. Just like in video services, basic plans have been upgraded with popular features, such as, a mobile app that enables customers to access their home phone services – receive and place calls, send text messages, and manage voicemail – on a mobile device free of charge over a WiFi or cellular data connection, web portal to customize voice features and to access texting data, and simpler features, like voicemail, call waiting, caller ID, and call forwarding.

For business customers, offerings are more customer-tailored services, but they basically include voice trunking services like Session Initiation Protocol (SIP), thus providing higher capacity, and metropolitan-area Ethernet, which extends customer reach within its metropolitan area and links geographical disperse offices' lines into a large private network.

Competition for voice services come from multiple sources and is considerably high. Although in fixed voice services only telephone companies present direct wireline competition, wireless solutions, other ways to communicate, and innovation brought several different types of competitors. Telephone companies jointly offer wireless and wireline voice solutions to their customers, and therefore they can be seen as direct (fixed voice) and indirect (mobile voice) competitors (**Exhibit 1C** displays the largest American residential fixed voice operators by subscribers as of June 2015).

Other wireless and OTT providers like Vonage, Skype, and magicJack also offer a substitute voice service. Furthermore, new ways to communicate have strengthen competition, like instant messaging (WhatsApp), social networking (Facebook and Twitter), and video conferencing (also Skype), not forgetting also traditional ways like text messaging and e-mail.

The Fixed-Line Telephone Service scored 69 in the ACSI, thus being the fourth-worst industry in U.S. in 2015 – Charter scored 69 and TWC scored 63.

Regulation

Cable operators are aggressively regulated by federal (mainly the Federal Communications Commission), state and regional governments, and it is permanently subject to changes and adaptations. The ultimate goals of cable and communications regulators are to enhance competition and to guarantee that supply is aligned with customers' interests. The Communications Act of 1996 aims to set a more competitive environment by encouraging private investment and innovation so that Americans can be served with high-quality and full-speed services.

Regarding video services, cable companies are subject to "must carry" and "retransmission content" regulations. The first one requires cable systems to carry and broadcast local television stations upon their request. The second one states that popular television stations can prohibit cable carriage, unless a retransmission consent is negotiated. Agreed compensations with popular stations have substantially increased operators' operating costs. Additionally, regulators have limited exclusive service contracts for multiple dwelling units (MDU) complexes, such as schools, universities, condos, and hotels. Also, in communities where FCC perceives no effective competition, rates charged for basic cable service, including installation and equipment, are limited. Another example is related to franchise agreements that cable companies use and rely to operate their systems, which are limited awarded by local franchising authorities and have a limit fee of 5% of revenues. FCC has taken actions to guarantee more favorable terms to new entrants than existing cable operators. Due to the importance of franchise agreements in the business model, if no renewal happens at termination, it can be extremely harmful to existing cable companies.

Related to Internet services, on February 2015, the FCC reclassified Internet services as a telecommunication service, thereby subject to the Title II regulation acts on rates, prices charged to consumers, information security and privacy. As stated by the President of the United States, Barack Obama:

> *"Without strong competition, [broadband] providers can (and do) raise prices, delay investments, and provide sub-par quality of service. When faced with limited or non-existent alternatives, consumers lack negotiating power and are forced to rely on whatever options are available. In these situations, the role of good public policy can and should be to foster competition and increase consumer choice."*

Fran Shammo, Chief Financial Officer at Verizon, took the opposite side:

> *"Title II is an extreme and risky path that will jeopardize our investment and the development of innovation in broadband Internet and related services."*

The Title II reclassification is meant to promote net neutrality and to increase broadband competition.

Mergers and acquisitions

The telecommunication industry has generated several billion-dollar transactions both from strategic and financial sponsors, as opportunities for synergies are evident (**Exhibit 2** presents a list of public telecommunications transactions). Strategic acquirers have relied their growth on acquiring single to multiple cable systems to enhance their cable passings in areas they already operate, and to enter into new uncharted areas where they have no passings. To reduce the effect of overbuilding and to increase penetration ratio, big operators permanently seek the right moment and the right target to create telecom giants, by merging with other national providers. Due to the regulatory condition, alternative ways to consolidate are pursued, such as customer- and system-swap agreements, and join-ventures, which are common on disruptive service lines that require large capital investment and business development.

Charter Communications

Charter Communications is an American cable and multiple-system operator (MSO), with products and services ranging from entertainment to information and telecommunications solutions, serving approximately 6.4 million U.S.-based residential and commercial customers across 28 states (as of June 2015). Often organized in bundles to streamline customer purchasing and to guarantee convenience, services like video (HD Television), Internet and voice are offered on a subscription basis, which are marketed under the brand name Charter Spectrum™. Charter's advertising services are marketed under the Charter Media™ brand.

History

Charter Communications was founded in January 1993 in St. Louis, Missouri through the acquisition of Cencom Cable Associates by three former executives, Howard Wood (former President and CEO), Barry Babcock (former COO) and Jerald Kent (former CFO), after Crown Media acquired Cencom Cable Associates in 1991 for $1 billion.

1993-1998: Growing through acquisitions

Charter's initial strategy was to grow through acquiring small to medium southwestern cable-related business providers, such as telecommunications and video data systems (**Exhibit 3** presents a list of Charter's early acquisitions). Charter paid, on average, between $1,500 and $2,000 per subscriber on these acquisitions, thus raising over $2 billion in equity and debt to fund them. If at the end of 1995 Charter was ranked as the 15th largest U.S.-based MSO, serving 900,000 customers, on February 1997 it passed the 1 million subscribers mark (**Exhibit 4** shows Charter's subscription base acquired per state), and on May 1998 it positioned in the top 10.

1998-1999: "Wired Word" - The rise of Paul Allen, and further consolidation

Following Bill Gates's Microsoft $1 billion investment in Comcast (the fourth-largest U.S.-based MSO) in July 1997, Paul Allen, co-founder of Microsoft, entered the cable business through the acquisitions of Dallas-based Marcus Cable for $2.78 billion in April 1998, and

Charter Communications for $4.46 billion or $3,800 per subscriber in July 1998, paying $2.5 billion in cash for the equity stake and assuming roughly $1.9 billion in debt. The consolidation of the two companies gave him access to 2.4 million subscribers, and made Charter Communications the seventh-largest U.S.-based MSO.

The consolidation strategy and the clustering process continued in 1999 towards the state of California and the Eastern region (**Exhibit 5** presents Charter's acquisitions in 1999).

The rumours about an Initial Public Offering (IPO) for the second half of 1999 were confirmed in March 1999, aiming to raise $2-$3 billion in equity to continue financing pending and future acquisitions, alongside personal investments from Paul Allen. As of July 1999, he had invested personally $11 billion in the cable industry, making his single largest investment ever. It is notorious an increase in the price per subscriber on Charter's acquisitions after Paul Allen started investing in the cable industry, ranging from $2,500 to $4,900.

At the end of July 1999, after the announcement of Bresnan acquisition, Charter filed a prospectus with the SEC proposing a sale of $3.45 billion worth of Class A common stock. By this time, it was managing a subscription base of 6.2 million (pending completion of all transactions), making it the fourth-largest U.S.-based MSO, behind AT&T with 16 million, Time Warner with 12 million, and Comcast with 6.2 million.

1999-2008: A successful IPO and operating as a public company

On November 8, 1999 Charter Communications, Inc. (NASDAQ: CHTR) raised $3.55 billion to partially fund pending and future acquisitions, through an equity sale of 195.55 million shares at a unit price of $19 (target price ranged $17-$19), the nation's second-largest IPO after the $4 billion equity sale of Conoco, Inc. in 1998. Having his Class B common stock the same unit price and 10 times the voting power of the Class A common stock held by public investors, Paul Allen would control 93.6% of the voting power of all Charter's capital stock immediately after the public offer. This controlling power includes membership units purchased from

Charter Communications Holding Company, LLC (sole subsidiary of Charter Communications, Inc. and indirect owner of all operating cable systems and other service subsidiaries) for $750 million at the time of the IPO, plus his stake in Charter Investment, Inc. (**Exhibit 6** displays Charter's ownership and organizational structure after the IPO). Thus, considering beneficial ownership, the IPO meant an equity sale of 34.1% of Charter Communications, Inc., leaving Paul Allen with 55.4% of beneficially ownership.

The 1999 year-end report reveals that Charter was highly levered, being consolidated net debt roughly 9x EBITDA[2]. In addition to Charter's cash-based acquisition strategy, its business operations required heavy capital expenditures, primarily to upgrade, rebuild, and expand its legacy systems, amounting to $1.3 billion in 1999. Furthermore, Charter planned a $5.6 billion two-year capital expenditure plan – $3.1 billion to upgrade its bandwidth capacity and $2.5 billion to systems extensions and development of new products and services – even though its cash flow from operations were only $382.2 million. Nevertheless, the IPO allowed to smooth the cash requirement to fund pending and future acquisitions, partially funded by exchangeable membership units in Charter Communications Holding Company thereafter.

The letter of intent signed with AT&T Broadband, LLC. in the end of 1999, becoming official in February 2001, strengthens the clustering process by swapping non-strategic cable systems, involving several strategical cable system transactions. In fact, the acquisition-crazed strategy during 1999-2002 was replaced by customer-swap agreements and divestitures in non-strategic regions during 2003-2008. The 1999-2002 strategy resulted in an investment of $16.7 billion in acquisitions, giving access to a customer base of more than 4.5 million. Due to high indebtedness, Charter starts to sell cable systems in 2003 to meet the debt service and to repay

[2] As of December 31, 1999, total debt was approximately $11,025 million, cash and cash equivalents $84.30 million, and EBITDA $1,219 million

bank debt (**Exhibit 7** lists Charter's acquisitions in 2000-2008, and **Exhibit 8** summarizes a list of asset sales in 2003-2008).

From 2000 to 2008, consolidated revenues grew from $3,141 million to $6,479 million, net income was negative during all the period – $858 million and $2,451 million, respectively – and EBITDA increased from $1,490 million to $2,319 million. Net debt escalated from $12,930 million to $20,706 million, whereas net interest expense rose from $1,052 million to $1,903 million.

2009: Bankruptcy and Chapter 11

The level of debt in Charter's balance sheet and its disability to generate cash from operations or to issue more debt led one of its subsidiaries, CCH II, LLC. to default on an interest payment on March 16, 2009 regarding its 10.25% senior notes due 2010, which triggered a default of Charter's other obligations under cross-default provisions. The 30-days grace period for the interest payment was not completed, since on March 27 Charter and certain creditors filed petitions for reorganization under Chapter 11 of the U.S. Bankruptcy Code[3].

The Reorganization Plan was submitted on May 7, and confirmed by Bankruptcy Court on November 17, becoming effective on November 30, considered the largest and most complex prearranged bankruptcies ever attempted[4] (**Exhibit 9** illustrates Charter's beneficial ownership before Chapter 11 filings). JPMorgan Chase Bank, N.A., the agent for a syndicate of senior lenders, argued against the reorganization plan, the not change in control, and Charter's ability

[3] Chapter 11 of the United States Bankruptcy Code regulates the reorganization process of a debtor that has failed its financial obligations with creditors. It involves restructuring the balance sheet, mainly the debt and equity structure (if insolvent, previous equity is whipped out). It can be filed by the debtor to protect its assets from creditors looking to liquidate (collateral takeovers), or by its creditors that realize a mismanagement situation or fraudulent activities. In either scenario, a reorganization plan with financial projections is submitted for Bankruptcy Court analysis. The logic behind the Chapter 11 is that company's assets are worth more as an on-going operation than the sum of its parts if sold individually.

[4] "United States Bankruptcy Judge, Honorable" **Peck, James M.** November 17, 2009. *United States Bankruptcy Court Southern District of New York, Chapter 11, Case No. 09-11435*

to emerge from bankruptcy, filing a lawsuit against CCO Holdings and Charter Communications Operating after the drawdown of $250 million from senior credit facilities on November 2008, claiming that management was aware of the event of default.

Total debt was reduced in approximately $8.4 billion, from $21.7 billion to $13.3 billion (total assets increased from $13.9 billion to $16.7 billion), allowing to cut interest expense in roughly $830 million annually (**Exhibit 10** lists Charter's debt structure before Chapter 11 filings). The reorganization plan reduced Paul Allen's beneficial ownership from 49.0% to 7.2% (upon exercise of warrants and all convertible equity securities), and restricted his voting power from 91% to 40% (**Exhibit 11** summarizes the recapitalization plan and settlements).

Apart from the key role of Paul Allen in the process, CCH I, LLC. noteholders were the cornerstone of its success, forgiving more than $4 billion of debt in exchange for new equity, and injecting more than $1.6 billion in cash in the equity rights offering. This group of investors was formed by private equity funds and mutual funds, namely Apollo Management, Franklin Advisers, Oaktree Capital, and Crestview Partners, with beneficial ownership of 31.4%, 18.8%, 17.8%, and 9.8%, respectively. Together, this group had controlling interest of roughly 49%. This has been a common strategy among these asset classes, acquiring depressed low-valued debt securities before filing for bankruptcy under Chapter 11, and then entering in debt-to-equity swap agreements on the reorganization process to come out as equity owners, thus capturing future upside.

2010-2013: Second listing and Liberty Media investment

On 2010, the first full-year after emerging from bankruptcy, Charter improved its operating performance, increasing EBITDA from $2,493 million to $2,599 million, registering an historical positive free cash flow of $710 million, increasing cash from operations in $1,317 million to $1,911 million, and reducing net loss to $237 million. On September 14, 2010 Charter re-listed its Class A common stock on the NASDAQ Stock Market, offering liquidity to stockholders' equity and warrants investment.

On January 18, 2011 Paul Allen converted his 2.2 million high-voting Class B common stock (securities that allowed him to have at least 35% of voting power) into Class A common stock, and two board members previously elected by Paul Allen resigned on the same date, resulting in an effective change of control. During the same year, Charter repurchased $725 million of its Class A common stock, partially sold by Apollo Management and Oaktree Capital under private repurchase agreements.

On February 13, 2012 Thomas Rutledge became President and CEO of Charter. As of February 29, Paul Allen interest in Charter was valued at $480 million, meaning an ownership of 6.49%[5].

On May 1, 2013 Liberty Media Corporation[6] acquired funds' equity stake (Apollo, Oaktree, and Crestview) of Charter for $2,688 million, becoming the single largest shareholder with beneficial ownership of 27.3%[7]. Liberty's Chairman of the Board John Malone, who was appointed to Charter's Board of Directors, explained it as an investment on "*probably the best operating team in the business*". On July 1, Charter acquired Bresnan Broadband Holdings and its subsidiaries from Cablevision for $1,625 million in cash, funded with a $1,500 million term loan (due 2020), which increased its footprint by 375,000 customers.

Time Warner Cable

TWC is the second-largest American cable company only behind Comcast, providing video programming (HD Television and Video-on-Demand), high-speed data (Road Runner™) and voice services (digital phone), to 15.5 million residential and commercial customers along 29

[5] At this date, Paul Allen held 6,847,990 shares of Class A common stock, at end-of-day price of $70.13. SEC 10-K filings for following years do not report any ownership held by him

[6] Liberty Media Corporation spun-off Liberty Broadband Corporation on November 4, 2014, becoming the latter the beneficial owner of Charter

[7] Liberty Media purchased 26,858,577 shares of Class A common stock, and warrants exercisable for 1,083,296 shares of Class A common stock, at a unit price of $95.50 per share

states (as of June 2015). Its technologically advanced well-clustered cable systems locate in five geographic areas – New York, the Carolinas, the Midwest, Southern California, and Texas.

History

The history of TWC dates back to June 1968 when American Television and Communications (ATC) planted the roots of a cable system. In 1973 Warner Communications formed Warner Cable, and Time Inc. integrated its under-performing cable systems into ATC in exchange for 9% ownership in the company, becoming wholly owner in 1978, although ending up selling 18.7% to public stockholders immediately after.

1989-1993: The mergers

In 1989, Time Warner Inc. was formed through the acquisition of Warner Communications and its subsidiaries by Time Inc. for approximately $14 billion – financed by $8.3 billion in long-term debt, and $5.6 billion in equity – after Paramount Communications announced its hostile takeover bid of $10.7 billion. Although under the same ownership and controlling umbrella, since ATC was traded in the stock market, Time Warner and ATC operated as separated entities until 1992, when Time Warner repurchased the ATC's public equity for $1.3 billion in debt notes, and merged it with its existing operations to form TWC. By that time, ATC managed cable systems serving 4.8 million customers. At the end of 1993, the consolidation allowed TWC to become the second-largest MSO, serving 7.2 million cable subscribers in 34 states.

1994-2004: Acquisitions and Advance/Newhouse Partnership

Until 1994 TWC grew largely due to the increase in customers of its own cable systems and the development of geographically-clustered systems through swap agreements and divestitures in non-core regions. However, during the year of 1994 several cable transactions were announced to maintain its customer growth rate (**Exhibit 12** summarizes Time Warner Cable acquisitions for the period 1995-2013).

Moreover, on April 1, 1995 Time Warner Entertainment (TWC parent company) and Advance/Newhouse formed a cable television joint-venture (TWEAN partnership) serving 4.5 million customers to enhance management of certain cable systems, leveraging Time Warner's customer-service facilities. Time Warner Entertainment owned two-thirds and assumed the management of the partnership. Internal growth of existing cable systems combined with the acquisition strategy and the partnership allowed TWC to increase its customer base to 11.7 million at the end of 1995, from 7.4 million at the end of 1994.

Unhappy with Time Warner's partnership management, on December 2002, certain cable systems serving 2.1 million customers, mostly in Florida, were spun-off so that Advance/Newhouse could take the supervision of the day-to-day operations. However, the partnership continued as remaining cable systems were still under the terms of the joint-venture. The new owner of spun-off systems called TWEAN Subsidiary was renamed to Bright House Networks in April 2003. Largely due to this transaction, customer base beneficially owned by TWC decrease to 10.9 million at the end of 2003.

In fact, the acquisition strategy announced in 1994 resulted in only three significant acquisitions. Instead, TWC relied its customer base and passing footprint growth in establishing partnerships and joint-ventures with other major cable operators, such as AT&T, Comcast, and Advance/Newhouse. On 2004 annual report, Time Warner reaffirmed that it planned to expand its cable business through acquisitions.

2006: Transactions with Comcast

On July 31, 2006 TWC and Comcast completed a serious of transactions, including the acquisition of Adelphia Communication's cable systems, the redemption of Comcast's interests in TWC's subsidiaries, and several customer-swap agreements to enhance geographic clusters of subscribers for both companies. For Adelphia's acquisition TWC paid $8.9 billion in cash and $5.5 billion in Class A common stock[8], representing 16% of its capital stock, to Adelphia's creditors given Chapter 11 emerging reorganization plan. Moreover, Comcast acquired remaining cable systems for $3.6 billion in cash, which were mostly used in the swap agreements. Upon closing of these transactions, Time Warner Cable increased its subscription base in 3.2 million (acquired approximately 4 million, and transferred 0.8 million to Comcast) to 14.6 million, being the largest cable operator in New York City and Los Angeles.

Also in 2006 TWC become a participant in a wireless joint venture named SpectrumCo, LLC. along with other cable companies, for which it contributed with $633 million. The venture secured the winning bid on the FCC auction for certain advanced wireless spectrum licenses.

2007-2008: Listing for liquidity and 4G investment

On March 1, 2007 TWC's Class A common stock began trading in the New York Stock Exchange under the symbol "TWC". The offer did not result in any proceeds to TWC, since only the common stock held by Adelphia creditors were listed. Hence, Time Warner, Inc. (TWC's parent company) kept its beneficial ownership of 84%, and voting power of 90.6% resulting from its high-voting Class B common stock (**Exhibit 13** displays TWC's and Time Warner's ownership structure after the listing).

On November 2008, several companies jointly invested $3.2 billion in Clearwire Corporation, a wireless broadband communications company focused on creating the first nationwide fourth-generation wireless network. Along with Intel, Google, Comcast, and Bright House Networks, TWC alone invested $550 million – representing a 4.47% ownership – aiming to provide mobile broadband services to its wholesale and retail customers. On 2009, Clearwire shareholders agreed on a follow-on investment of $1.6 billion, which $103 million were funded by TWC.

At the end of 2008, TWC registered consolidated revenues of $17,200 million, an exceptional net loss of $7,344 million (due to $14,822 million of non-cash impairment to reduce the

[8] 155,913,430 shares of Class A common stock were attributed, at a unit valuation of $35.28

carrying value of its cable franchise rights), EBITDA of $6,186 million, and free cash flow of $1,733 million. Its net debt was $12,279 million, leading to net interest expense of $923 million.

2009-2013: Spin-off and further consolidation

On May 20, 2008 TWC announced a legal and structural separation from its parent company Time Warner, Inc. becoming effective on March 12, 2009. The spin-off involved, in this order, (1) the conversion of Time Warner's 12.43% ownership in TW NY Cable Holding, Inc., a subsidiary of TWC, in 80 million shares of Class A common stock, (2) the distribution of a special dividend to all shareholders holding Class A and Class B common stock of $10.27 per share, resulting in an aggregate amount of $10,856 million, (3) the conversion of all Class A and Class B common stock to TWC's common stock on a 1-for-1 basis, (4) a reverse stock split at a 1-for-3 ratio to reduce the special dividend negative effect on stock price, and (5) the allocation of TWC shares to Time Warner's shareholders on a pro-rata basis (0.083670 TWC share per each Time Warner share owned). Time Warner received $9,253 million from the special dividend as the spin-off proceeds, and allowed it to focus on media content and entertainment business. Jeff Bewkes, Time Warner's President and CEO commented:

> *"This is the right step for Time Warner and Time Warner Cable stockholders. After the transaction, each company will have greater strategic, financial and operational flexibility and will be better positioned to compete. Separating the two companies also will help their management teams focus on realizing the full potential of the respective businesses and will provide investors with greater choice in how they own this portfolio of assets. We're bullish on Time Warner Cable's prospects, but its strategic goals and capital needs are increasingly different from those of our other businesses."*[9]

Glenn Britt TWC's President and CEO added:

> *"In a single transaction, we increase our strategic and financial flexibility, simplify our capital structure, enhance the public float and liquidity of our stock and return substantial capital to our stockholders."*[9]

On March 2010, the Board announced that TWC would begin to distribute a quarterly cash dividend of $0.40 per share, and to pursue a $4 billion share repurchase program, which increased to $8 billion afterwards. The cash dividend increased progressively thereafter, reaching a quarterly cash dividend of $0.75 in 2014, and since its inception the repurchase program resulted in the acquisition of 92.9 million shares for $7,744 million.

From 2011 to 2013, TWC acquired strategic cable systems and cable-related business providers for approximately $4.2 billion (see **Exhibit 12)**, and sold its ownership in SpectrumCo for $1,112 million, resulting in a customer footprint of 15.2 million at the end of 2013.

Charter/TWC

On May 23, 2015 Charter Communications and TWC entered into an agreement to merge all their cable systems into a new public company named New Charter, pending both companies' shareholder voting and regulatory approval. On the day before the agreement, Charter and TWC closed the trading session at $175.33 and $171.18 per share, respectively (**Exhibit 14** summarizes historical financial data for both companies, and **Exhibit 15** lists peers' metrics).

Few weeks before, on March 23, 2015, Charter Communications announced the acquisition of BHN. Both transactions were intended to form a cable giant to compete with the cable leader Comcast. As of August 20, 2015, the day shareholders receive the merger prospectus, Charter and TWC closed session with unit price of $182.74, and TWC $187.62.

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[9] Time Warner Cable, Investor Relation (2008). *Time Warner and Time Warner Cable agree to separation.* [press release]. Retrieved from: http://ir.timewarnercable.com/investor-relations/investor-news/financial-release-details/2008/Time-Warner-and-Time-Warner-Cable-Agree-to-Separation/default.aspx

Bidding war: Comcast and Altice

"It is actually something I have been pursuing for a long time", said Thomas Rutledge upon the merger announcement, and it was indeed a challenging back-and-forth process.

In fact, from July 2013 and January 2014, Charter sent three unsolicited offers to TWC's board. In its last offer on January 14, Charter increased previous bids of $114 and $127 to $132.50 per share, a 10 cents premium of previous day closing price, thus valuing TWC at $61.3 billion (equity value of $37.3 billion). All of them were promptly rejected by the board. TWC CEO Robert Marcus commented, *"Charter's last proposal is a nonstarter"*, adding that TWC was seeking for a proposal of $160 per share, including a $100 in cash.

On the next lane following this negotiation was the largest cable operator Comcast, which ended the bidding race on February 12, 2014 with a winning all-stock offer of $158.82 per share, valuing TWC at $69 billion (equity value of $45.2 billion) or 8.3x 2014 estimated EBITDA. The offer meant a premium of 17.4% to the previous day closing price of $135.31. However, Charter was not giving up on TWC assets, and secured a swap agreement for some of its cable systems. As it would put together the two largest U.S. MSO, FCC and Department of Justice (DOJ) raised competition and innovation issues due to the large size of the combined operator and its large influence on broadband and pay TV, therefore harming public and customers' interests. Knowing that regulatory consent would not be given, on April 24, 2015 both companies mutually agreed to call off the merger and transactions with Charter. On TWC's statement, Marcus stated *"We have always believed that Time Warner Cable is a one-of-a-kind asset. We are strong and getting stronger"*.

No doubt that Rutledge shared the same opinion, as on the exact same day he expressed interest in combining both firms. On May 5, Marcus refused Rutledge's offer of $172.50 per share, to be paid $100 in cash and in 0.387 Charter shares per TWC share, a 21.4% premium from $142.13 previous closing.

When everyone was expecting that a Charter/TWC merger was pending a last round of negotiation, a European multinational cable and telecommunications company entered in the race. On the same day Charter offer was refused, Altice CEO Dexter Goei allegedly showed interest in entering in the U.S. cable market through a transaction with TWC. Although Altice Chairman Patrick Drahi claimed Altice did not bid for TWC, an offer from $180 to $200 per share was on the table (as TWC reports, an NDA was signed with a European telecommunications multinational).

As Charter was aware of a new bidder, on May 16 Charter secured along with its largest shareholders, Liberty Broadband, a commitment of a follow-on equity financing to partially fund the cash consideration of the next bid for TWC, and that they would be willing to rollover their investment in TWC, by exchanging its stake for Charter stock without no cash consideration. Additionally, they stated that Liberty Interactive was willing to accept the same terms on their TWC stock, thus reducing Charter's financing needs. Therefore, on May 18 Charter's board authorized a $190 per share offer, consisting of $100 in cash and 0.485 shares of Charter, to be discussed by TWC Board of Directors on a special meeting on May 21.

On May 20, Altice (allegedly) stated that they would not be able to submit a valid bidding offer until the next TWC board meeting[10]. On the next day, Charter's board met to revise the offer, and authorized an offer of $195.71 per TWC share, based on Charter's stock price of May 20. TWC board accepted the offer and a merger agreement was signed on May 23, being the public announcement set for May 26, where Charter, TWC and BHN announced the New Charter.

[10] Due to the NDA signed between the European company and TWC, and the claim of Altice Chairman of not having bided for TWC, Altice is stated only as a guess of a possible candidate during negotiations. On May 19, Altice announced the acquisition of a 70% in Suddenlink for an enterprise value of $9.1 billion.

Deal terms

Regarding the specifics of the transaction, TWC's shareholders, other than Liberty, were asked to elect the desired compensation mix between cash and stock, with the right to either (A) receive $100 in cash and 0.5409 shares of Charter Class A common stock, or (B) receive $115 in cash and 0.4562 shares of Charter Class A common stock. Upon TWC's stock conversion and merger completion, each Charter Class A common stock would be exchanged by 0.9042 shares of New Charter Class A common stock.

The cash consideration is expected to be financed with proceeds from debt issuance of $23.712 million, a $4,300 million credit facility to fund TWC shareholders choosing option (B), the equity issuance of Liberty, and cash on hand form TWC. Based on the 275.3m shares outstanding (except Liberty), the cash proceeds can either be $27,528m or $31,657m.

Liberty

John Malone, the "cable-cowboy" and beneficially Charter's largest shareholder with 28,838,718 shares, is known for being the mastermind of Charter/TWC merger and its main backer. In fact, represented by Liberty Broadband and Liberty Interactive, Malone not only intends to rollover his current stock in both companies, giving up the right to receive cash for TWC shares, but has also agreed to purchase legacy Charter newly issued shares in a $4.3 billion investment at a per-share price of $176.95. Regarding its stake in TWC - 7,723,357 shares in aggregate – each share would be exchanged into 1.106 shares of Charter Class A common stock. In addition, concerning the BHN acquisition, Liberty has committed to purchase $700 million worth of Charter Class A common stock, for $172.9963 per share.

BHN

BHN is a private cable operator serving video, Internet, and voice services to approximately 2.5 million American customers through the states of Florida, Michigan, Alabama, Indiana, and California. Its acquisition is also a cash and stock settlement, where BHN shareholders will be entitled to receive a cash settlement of $2,014 million, plus 30,992,406 common units in one Charter subsidiary indirectly owning operating subsidiaries, exchangeable anytime into New Charter Class A common stock, and approximately 9.3 million convertible preferred units in the same entity, with a face amount of $2.5 billion and 6% annual dividend.

New Charter

Pending shareholders voting and regulatory approval, the transactions previously described will bring the second-largest U.S.-based cable company, just behind Comcast (**Exhibit 16** displays New Charter estimated footprint). Legacy Charter, TWC and BWH will contribute with 13 million cable passings serving 6.4 million customers, 15.5 million, and 2.5 million customers, respectively. Thus, New Charter will manage approximately 48.0 million passings totalling roughly 24.4 million customers, divided into 17.2 million video customers, 20.1 million high-speed data customers, and 10.0 million voice customers. As of June 2015, Comcast was managing 27.3 million customer relationships.

New Charter is intended to leverage its high-speed and more advanced services and products to TWC and BHN still analog signals, and integrate all customers into Charter Spectrum™ service bundle. Charter has also committed to upgrade acquired systems to provide 60 Mbps base speed.

Consolidation will also cause cost synergies and tax benefits valued at $800 million annually.

Decision

In accordance with his active investing profile, Chris Hohn decided he would vote in person for or against the transactions, and which consideration option TCI would be entitled to receive in the case of voting “for”. Given the structure of the deal, the announced premium will not be guaranteed upon competition of transaction and can be extremely reduced, which can be risky for investors voting for the deal. This is explained by the cash-stock consideration ratio, and the fixed exchange ratios. TWC shareholders would then be exposed to Charter’s price stock variation until the consummation of the merger. Additionally, regulators have shown resilience to approve consolidation from already too big operators. The outcome could be either refusing the deal, or taking up to one year to approve it.

Chris Hohn was also considering other important industry- and company-specific risks that could jeopardize his long-term investment. Even with TCI long-term commitment and a considerable cash consideration, the exposure to Charter's indebtedness increases risk, and Charter has proved it can severely harm shareholders value.

Questions

1. **Describe the context in the cable industry and relate it with the rationale for the transactions.**
2. **Describe the role of debt in cable companies. Are they a good candidate for leverage?**
3. **Evaluate the role of Charter's noteholders during filing for Chapter 11, and compare their investment philosophy to other type of sponsors described throughout the case.**
4. **Why Time Warner Cable spun-off from its parent company? What is the role of the special dividend?**
5. **Provide a valuation on Time Warner Cable (TWC), using multiples and DCF valuation methods.**
6. **In how much did Charter value TWC, and BHN? Present the proceeds for each former shareholder, and provide corporate and beneficial ownership structure upon completion of transactions.**
7. **Describe the merger rationale. What are the risks of the merger?**
8. **Should Chris Hohn accept the transactions? Evaluate both options of payment. How can TCI hedge its equity position at TWC? Analyze the premium evolution.**

Teaching Note

1. As presented in the case, the cable industry is highly regulated and very competitive. Cable operators are challenged by innovative companies, like digital over-the-top providers that offer more convenience to customers, like Netflix's Video on Demand. As stated by John Malone, New Charter will be able to offer meaningful Video on Demand through increasing content supply and negotiate better terms with television studios and national television channels providing specific content. Hence, competition is a driver for the merger.
On the other hand, other traditional suppliers like telephone companies are leveraging their large network and client subscription to enter in paid-television and fixed-voice communications markets. Other industry-specific challenge is operational and pricing restrictions imposed by regulators, extremely concerned with American consumers that have ranked telecommunications industry as one of the worst in service quality and problem resolution duration. In fact, not only regulators impose antitrust restrictions on consolidation attempts, like the Comcast/TWC merger, but they also limit the day-to-day operations, like the franchising fee 5% ceiling that limits big operators to erase smaller competitors by offering better terms, better franchising conditions for new operators and more recurrent licensing issuances for new entrants, and retransmission consent that increases large operators operating costs.). Additionally, Title II reclassification will cut margins due to traffic-based fees.
Plus, large investment requirements to upgrade legacy systems makes consolidation the only way for national operators to survive, since their business model relies on franchising licenses. Therefore, smaller cable operators may outperform bigger peers on penetration ratios due to easier access to licenses, which also makes them an acquisition target to big operators looking for franchising licenses.
2. Cable companies have relied customer growth in cable systems expansions through acquisitions and joint ventures, and systems rebuilds and upgrades, both funded by long-term debt. Debt financing allows for cash on hand proceeds, then used to submit tender offers, improving the negotiation power of the acquirer. Additionally, issuing long-term debt allows for refinancing as market conditions get more advantageous at lower interest rates. However, the case of Charter reveals that highly levered cable companies are subject to debt market conditions and interest rate evolution. At maturity, if debt rollover or new credit facilities to replace old debt are limited, reorganization at Bankruptcy Court might be the only way to go further. Cable companies however, including Charter, have been able to operate under insolvency situation (negative book shareholders value). Moreover, the use of debt by cable companies are related with its equity ownership, since they are typically long-term investors committed to the company (examples of Paul Allen and John Malone). Therefore, it allows equityholders to bear more risk and have more control in operations with lower personal cash investments than if equity-backed. Students must point out that Charter's use of debt is related to operational expansion, due to its historical negative earnings, and use TWC as an example of a profitable company using leverage as a way to reduce financial costs, retain profit, and tax savings through tax shields. Cable companies may look like good candidates for high debt/equity ratio due to their strong asset base. If in the past they were considered as a good candidate due to their strong market position and low competition (thus building natural monopolies, like AT&T), nowadays levering up a cable company has multiple risks. The risks

include: franchising and licensing restrictions that can limit cash flow generation; competition that weakens their ancient leading and defensible market positions; and strong capex requirements to expand, rebuild, and upgrade their systems. Even though there are efficiency and cost saving opportunities by clustering their systems in strategic regions and increase penetration rates in existing passings, its realization strongly depends on competition.

3. In the case of Charter's bankruptcy, private equity and hedge funds noteholders pursued a vulture investing strategy. This has been a common strategy among these asset classes, acquiring distressed low-valued debt securities before filing for bankruptcy under Chapter 11, and then entering in debt-to-equity swap agreements on the reorganization process to come out as equity owners, thus capturing future upside. The big discounts found in the secondary market allow these bankruptcy experts to profit from companies with a cleaner balance sheet and under new management. Usually, these financial sponsors aim to realize short-term returns. The not change in control in Charter after coming out from bankruptcy is up for classroom discussion, as it deviates from the typical Bankruptcy Court resolution. Throughout the case, other type of sponsors with different investment philosophies can be pointed out. Paul Allen and John Malone represent private strategic acquirers that design a personal agenda. Their investments were made in similar ways, as both committed significant personal wealth, both acquired strategic assets to integrate in their systems – Paul Allen paid higher prices per subscriber in his cable systems acquisitions – and both raised substantial amounts of debt to partially finance these acquisitions. Paul Allen's vision of "The Wired World" demonstrates his personal agenda and strong believe in the industry. Strategic sponsors normally look for operational synergies and long-term returns. Chris Hohn represents active investing, even though with an uncommon investment strategy for this type of sponsor. These investors are known for investing in companies lacking intervention at some specific situation, or even at a turnaround situation. They tend to look for short-term profits as the identified situation or event is resolved. Additionally, Altice, and Charter itself, are also seen as strategic acquirers that are looking to, respectively, enter in a new market and to consolidate its position to become more competitive. Therefore, they tend to offer the highest premiums due to their long-term commitment given the nature of the assets acquires (cable systems), and the existence of many sources of synergies.

4. Students are asked to describe a corporate spin-off. Spin-offs can occur from conglomerate discounts, meaning that both firms are worth more individually than combined, or if the parent company has not been able to find buyers that value the subsidiary at a fair valuation. At the case of TWC, it spun-off from Time Warner due to large capital requirements of the cable company. Overall group credit rating was getting affected by its large debt issuances. Moreover, it allows TWC management to have full control over their operations, and Time Warner more time to focus on their core business lines. The spin-off structure allows Time Warner to receive $10,856 million, attributing only shares to their shareholders. This special dividend is meant for tax efficiencies, meaning that Time Warner will then look to ways of returning this value to shareholders in a tax-efficient way.

5. Students must use precedent transactions multiples and trading multiples to perform comparables valuation. Exhibit 2 lists some public M&A transactions in the telecommunications industry. Firstly, students must narrow down to a short-list of presented transactions, therefore not considering: BellSouth, Embarq, and MCI as they occurred in different market conditions and business cycle, and Kabel Deutschland, that despite being a

cable company, it supplies only the European market, therefore subject to a different level of regulation and "operational covenants", and competition environment. Thus, given the median of the transactions and TWC 2014 EBITDA, its implied transaction value is $70,186 million. Students may also calculate the EBITDA as of June 2014, which from TWC 10-Q Quarterly Report was $4,304 million, to calculate LTM EBITDA as of June 2015 of $7,887 million. Its implied transaction value would then be $69,169 million. Using EV/TTM EBITDA from companies except TWC and Charter, and TWC 2014 EBITDA, one derives an enterprise value of $67,145 million. Considering LTM EBITDA as of June 2015, enterprise value would be $66,172 million.

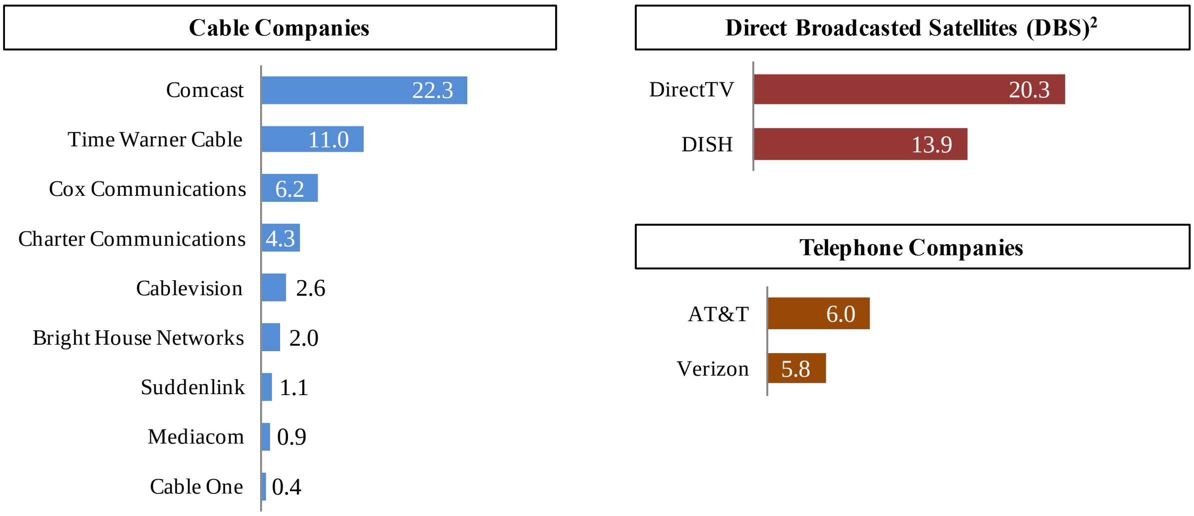
For a Discounted Cash Flow valuation analysis, students must first calculate unlevered free cash flows available to the firm for the five following years, and then discount at the appropriate discount rate. Teaching Note Exhibit 1 provides all valuation steps. Cost of debt is computed using TWC trading interest rates, and target debt/equity ratio is taken from comparables. All information necessary is provided in the case, and students are incentivized to use comparables metric for the calculation of terminal value and TWC unlevered beta. Therefore, TWC equity value is valued at $57,280 million, with an implied enterprise value of $79,568 million.

6. Using solely the information provided in the case, given Charter's price of May 22, 2015 of $175.33, the equity price of TWC offered by Charter ranges from $55,126 million (all option A), and $55,168 million (all option B). Summing net debt as of June 2015, TWC Enterprise Value ranges from $77,698 million (all option A) to $77,740 million (all option B). Students must reach an equity value for BHN of $10,524 million and enterprise value of $10,477 million. Former TWC shareholders, other than Liberty, will receive between $27,525 million in cash and $26,103 million in Legacy Charter's stock (if all vote for option A), and $31,654 million in cash and $22,016 million in stock (if all vote for option B). Liberty will receive $1,498 million in stock. Former BHN owners will receive $2,014 million in cash and $8,507 million in stock. Students must first understand the difference between beneficial ownership and direct ownership, since former BHN shareholders will hold membership units in a New Charter's subsidiary. As they may convert to New Charter Class A common stock, they become direct owners of The New Charter thereafter. Until conversion, they are beneficial owners of the holding company by holding subsidiaries equity. Therefore, former shareholders of Charter, TWC, and BHN, together with Liberty will beneficially own 100% of New Charter. Former Charter shareholders, except Liberty, will hold 24.3%-26.1%, former TWC, except Liberty will own 43.5%-39.4%, former BHN 13.0%-14.0%, and Liberty to own 19.2%-20.6% of New Charter (option A, followed by option B). At the first day of trading, Charter's price is expected to adjust for the parent merger exchange ratio.

7. The merger puts together two national cable operators looking to achieve three main aspects: operational synergies and product quality – TWC provides well clustered cable systems, but with a weak brand recognition among customers, and Charter offers better management skills and services at higher speeds (not surprisingly, Charter Spectrum™ is the brand to be used thereafter); competition strength – larger market position to compete with disruptive players, by integrating Charter's 60 Mbps basic services to all TWC former customers and by investing in product development; and procurement power to negotiate better terms with popular national broadcast operators, and studios providing video content.

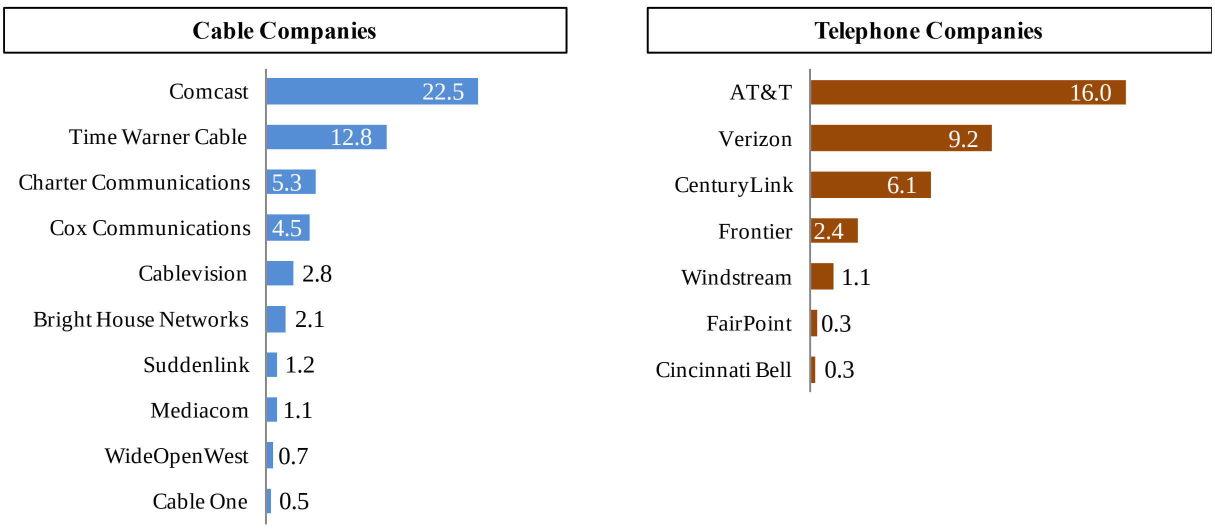
8. At the announcement date, premium offered to TWC shareholders was 13.82% - 13.91%, and as of August 20, the premium offered was 5.98% - 5.73$. Therefore, there is the risk that the spread between announced premium and effective premium will keep decreasing. However, analysing TCI investment philosophy and the valuation of TWC, Chris Hohn should accept the deal. To reduce the premium variation risk, Hohn can go long in a put option with Charter's stock as underlying asset with a strike price of $175.33, with a maturity of one year (given the $2 billion break-up fee if not consummated).

Exhibit 1A American pay-television providers by subscribers[1] (June 2015, in millions)



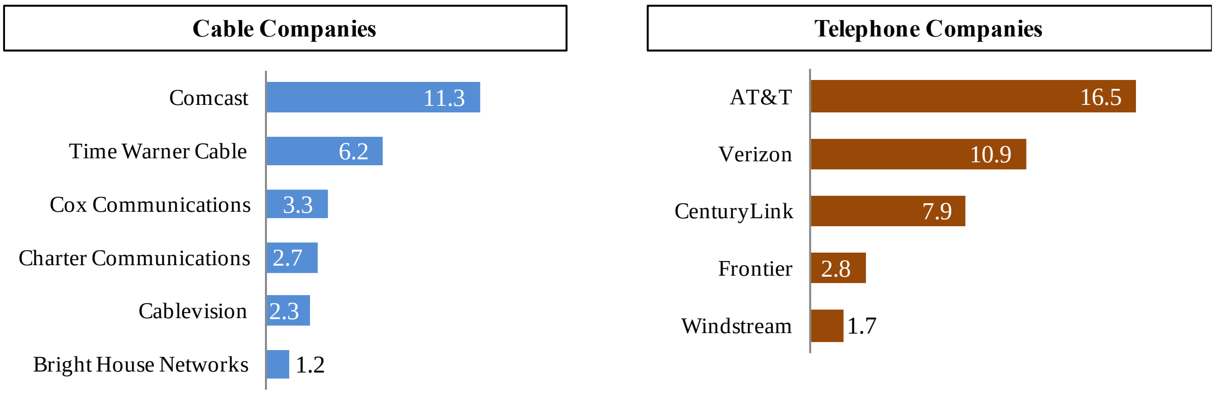
Source: Leichtman Research Group, and Financial Times
[1] Representing 95% of the pay-television market
[2] DirectTV was acquired by AT&T on July 2015, for $67.1 billion, including net debt

Exhibit 1B American broadband Internet providers by subscribers [1] (June 2015, in millions)



Source: Leichtman Research Group, and the Companies
[1] Representing 94% of the broadband market

Exhibit 1C American residential fixed voice providers by subscribers (June 2015[1], in millions)



Source: Leichtman Research Group, and the Companies
[1] Data as of December 2014 for Bright House Networks, and as of September 2014 for Cox Communications, Cablevision, Verizon, CenturyLink, Frontier, and Windstream

Exhibit 2 Precedent M&A public transactions in the telecommunications industry

Date announced	Target	Acquirer	Purchase consideration	Announced Transaction Value	TV/ EBITDA	Announced Premium
Mar-2006	BellSouth	AT&T	Stock	$83,105 million	9.66	19.45%
Mar-2014	DirectTV	AT&T	Cash and stock	$66,669 million	8.38	18.26%
Oct-2012	Sprint Communications	SoftBank Group	Cash	$39,739 million	9.90	42.91%
Apr-2010	Qwest Communications	CenturyLink	Stock	$22,162 million	5.18	12.49%
Sep-2015	Cablevision Systems	Altice	Cash	$17,835 million	9.84	22.28%
Oct-2008	Embarq Corp	CenturyLink	Stock	$12,566 million	4.83	30.76%
Jun-2013	Kabel Deutschland	Vodafone	Cash	$11,186 million	13.08	3.45%
Feb-2005	MCI	Verizon Communications	Cash and stock	$7,541 million	3.84	32.50%
Jun-2014	TW Telecom	Level 3 Communications	Cash and stock	$7,172 million	13.94	23.66%
Jul-2013	Leap Wireless International	AT&T	Cash	$4,060 million	7.52	129.17%
Oct-2010	CommScope	Carlyle Group	Cash	$3,788 million	8.77	37.66%
Jun-2010	Mediacom Communications	Management Group	Cash	$3,624 million	7.18	54.88%
Mar-2014	LIN Media	Media General	Cash and stock	$2,450 million	15.35	27.15%

Source: Bloomberg

Exhibit 3 Charter Communications early acquisitions (1993-1998)

Date	Acquired	States	Transaction Value	Subscribers	Price per subscriber[1]
Feb-1994	McDonald Group (10 small cable systems)	Louisiana, Georgia and Alabama	$200 million	100,000	$2,000
Jun-1994	Crown Media	Connecticut, Kentucky, Missouri, North Carolina and South Carolina	$900 million	630,000[2]	$1,429
Jan-1995	Gaylord Entertainment	California, North Carolina and South Carolina	$370 million	180,000	$2,056
Mid-1995	CableSouth	Alabama	$50 million	29,000	$1,724
Mid-1995	Peachtree Cable Systems	Georgia	$20 million	13,000	$1,538
Mar-1996	WIBV (AM)[3]	St. Louis	1$ - $1.5 million	n.a.	n.a.
Apr-1996	Cencom Cable Associates	n.a.	$211,1 million	100,000	$2,111
Aug-1996	CVI Cable	California	*undisclosed*	67,000	n.a.
Feb-1997	Price Cable of Hickory	North Carolina	*undisclosed*	37,000	n.a.
Aug-1997	KC Cable Associates	California	$150 million	70,000	$2,143
Sep-1997	Sonic Communications	California and Utah	$234 million	117,000	$2,000

Source: Charter SEC filings
[1] Estimation based on transaction value and total subscribers base acquired
[2] Direct acquisition of 270,000 plus assumed management of 360,000 (partially acquired later in April 1996)
[3] Radio station (non-cable operator), cable subscribers base

Exhibit 4 Charter's subscription base acquired until February 1997

Region	Subscribers
St. Louis	230,000
Los Angeles	250,000
Northeast	100,000
Southeast	400,000

Exhibit 5 Charter Communications acquisitions in 1999

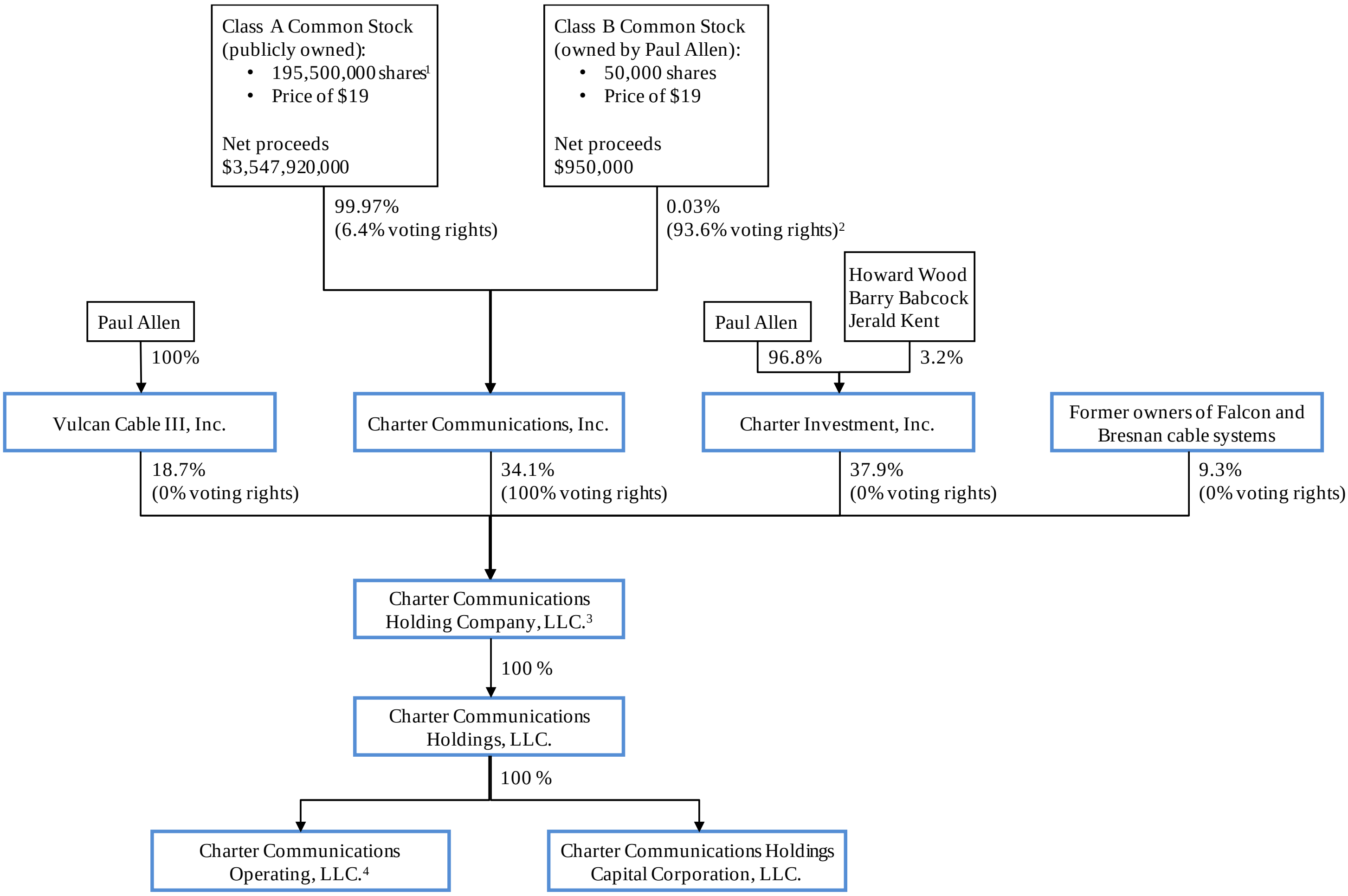
Date	Acquired	States	Transaction Value	Subscribers	Price per subscriber[1]
Jan-1999	American Cable Entertainment	California	$240 million	69,000	$3,478
Jan-1999	InterMedia Capital Partners (cable systems)	South Carolina, Georgia, North Carolina and Tennessee	$1,293 million[2]	278,000	$4,651
Feb-1999	Rifkin Acquisition Partners and InterLink Communications Partners	Florida, Virginia, West Virginia, Illinois, Indiana, New Mexico, Georgia and Tennessee	$1,460 million	463,000	$3,153
Feb-1999	Greater Media Cablevision (cable systems)	Massachusetts	$500 million	176,000	$2,841
Feb-1999	Renaissance Media Group	Louisiana, Mississippi and Tennessee	$459 million	134,000	$3,425
Mar-1999	Helicon Cable Communications	Alabama, Georgia, New Hampshire, North Carolina, West Virginia, South Carolina, Tennessee, Pennsylvania, Louisiana and Vermont	$550 million	171,000	$3,216
May-1999	Avalon Cable TV	Michigan, Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont	$832 million	270,800	$3,072
May-1999	Vista Communications	Georgia	$126 million	26,000	$4,846
May-1999	Falcon Cable TV	California, Missouri, North Carolina, Alabama and Georgia	$3,500 million	977,200	$3,582
Jun-1999	Fanch Communications	West Virginia, Pennsylvania, Michigan, Indiana, Kentucky, Louisiana and Wisconsin	$2,400 million	535,600	$4,481
Jul-1999	Bresnan Communications	Michigan, Minnesota, Wisconsin and Nebraska	$3,078 million	695,800	$4,424
Aug-1999	Cable Satellite of South Miami (cable system)	Florida	$22 million	9,000	$2,444

Source: Charter SEC filings

[1] Estimation based on acquisition cost and total subscribers base acquired

[2] Transaction value considers the swap of Charter's non-strategic cable systems worth $420 million, representing 142,000 customers

Exhibit 6 Charter Communications, Inc. ownership and organizational structure after the IPO (November 1999)



Source: Charter SEC filings

[1] Includes 170,000,000 shares issued upon the closing of the offer, plus an over-allotment option of 25,500,000 shares granted to underwriters, fully exercised

[2] Although one Class B common stock is entitled to only ten votes, Charter's voting rights dictate that Paul Allen benefits from the same ratio for other Charter Communication Holding Company's membership units exchangeable at any time for Class A common stock on a one-for-one basis, held by him or other affiliates

[3] Charter Communications Holding Company is the company that establishes agreements to purchase other cable systems or its parent companies

[4] Charter Communications Operating is a holding company owning all cable systems, including Charter operating companies owned by Charter Investment, Inc. before the public offer

Exhibit 7 Charter Communications acquisitions in 2000-2008

Date	Acquired	States	Transaction Value	Subscribers	Price per subscriber[1]
Jan-2000	Interlake Cablevision Enterprises	Minnesota	$13 million	6,000	$2,166
Apr-2000	Capital Cable	n.a.	$60 million	23,200	$2,586
Apr-2000	Farmington	n.a.	$15 million	5,700	$2,632
Sep-2000	Cablevision of Michigan	Michigan	$171 million	50,700	$3,373
Jun-2001	AT&T Broadband	Missouri, Illinois, Alabama, Nevada, and California	$1,736 million	551,100	$3,150
Aug-2001	Cable USA	Nebraska, Minnesota, and Colorado	$100 million	30,600	$3,268
Feb-2002	High Speed Access Corp.[2]	n.a.	$78 million	n.a.	n.a.
Sep-2002	Enstar Communications Corporation[3]	Illinois	$63 million	28,000	$2,250
Jan-2006	Seren Innovations	Minnesota	$42 million	53,200	$789

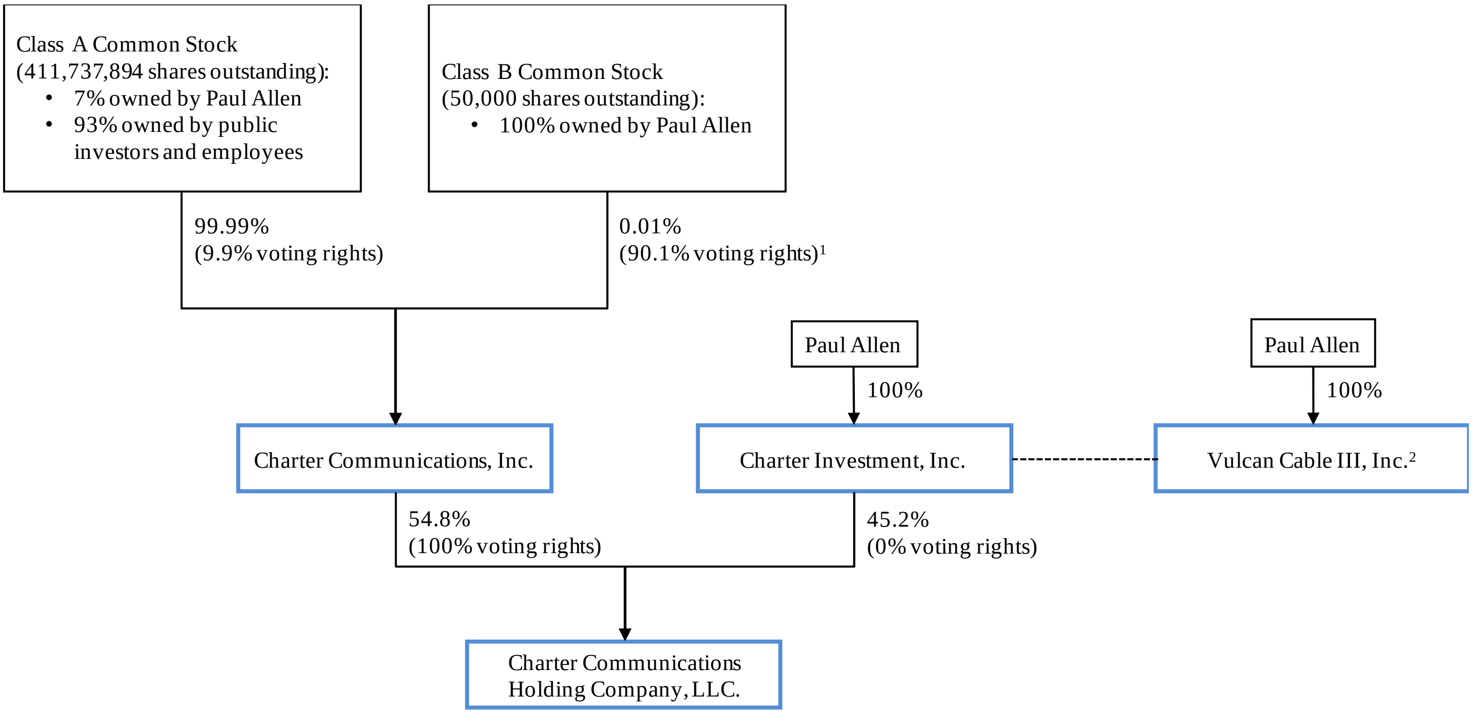
Source: Charter SEC filings
[1] Estimation based on acquisition cost and total subscribers base acquired
[2] Acquisition of contracts and associated assets related to data services, including a customer contact center, a network operations center and provisioning software
[3] On April 2002 Charter acquired 21,600 customers for $48 million, and on September 2002 completed the transaction with more 6,400 customers for $15 million

Exhibit 8 Charter's sale of assets 2003-2008

Date	Buyer	States	Transaction Value	Subscribers	Price per subscriber[1]
Oct-2003	n.a.	Washington	$91 million	25,000	$3,640
Apr-2004	Atlantic Broadband Finance	Florida, Pennsylvania, Maryland, Delaware, West Virginia, and New York	$735 million	351,900	$2,089
Jul-2005	n.a.	Texas, West Virginia, and Nebraska	$37 million	33,000	$1,121
Jul-2006	Cebridge Connections	West Virginia, and Virginia	$971 million[2]	239,700	$2,728
Jul-2006	New Wave Communications	Illinois, and Kentucky		73,300	
Sep-2006	Orange Broadband Holding Company	Nevada, Colorado, New Mexico, and Utah		43,000	

Source: Charter SEC filings
[1] Estimation based on acquisition cost and total subscribers base acquired
[2] Only aggregated data available for the asset sale of 2006

Exhibit 9 Charter Communications, Inc. beneficial ownership as of December 2008



Source: Charter SEC filings

[1] Although one Class B common stock is entitled to only ten votes, Charter's voting rights dictate that Paul Allen benefits from the same ratio for other Charter Communication Holding Company's membership units exchangeable at any time for Class A common stock on a one-for-one basis, held by him or other affiliates

[2] On January 1999, Vulcan Cable III, Inc. merged into Charter Investments, both wholly owned by Paul Allen, being the latter the surviving entity, therefore transferring the 15.5% beneficial ownership in Charter Communications, Inc. represented by membership units in Charter Communications Holding Company, LLC.

Exhibit 10 Debt structure of Charter Communications, Inc. and its subsidiaries as of December 2008

Debt security per issuer	December 31, 2008 Accreted Value ($ million)	Maturity Date
Charter Communications, Inc.		
5.875% convertible senior notes due 2009	3	11/16/09
6.50% convertible senior notes due 2027	373	10/1/27
Charter Communications Holdings, LLC.		
10.000% senior notes due 2009	53	4/1/09
10.750% senior notes due 2009	4	10/1/09
9.625% senior notes due 2009	25	11/15/09
10.250% senior notes due 2010	1	1/15/10
11.750% senior discount notes due 2010	1	1/15/10
11.125% senior notes due 2011	47	1/15/11
13.500% senior discount notes due 2011	60	1/15/11
9.920% senior discount notes due 2011	51	4/1/11
10.000% senior notes due 2011	69	5/15/11
11.750% senior discount notes due 2011	54	5/15/11
12.125% senior discount notes due 2012	75	1/15/12
CCH I Holdings, LLC.		
11.125% senior notes due 2014	151	1/15/14
13.500% senior discount notes due 2014	581	1/15/14
9.920% senior discount notes due 2014	471	4/1/14
10.000% senior notes due 2014	299	5/15/14
11.750% senior discount notes due 2014	815	5/15/14
12.125% senior discount notes due 2015	217	1/15/15
CCH I, LLC.		
11.00% senior notes due 2015	4,072	10/1/15
CCH II, LLC.		
10.250% senior notes due 2010	1,857	9/15/10
10.250% senior notes due 2013	598	10/1/13
CCO Holdings, LLC.		
8.750% senior notes due 2013	796	11/15/13
Credit facility	350	9/6/14
Charter Communications Operating, LLC.		
8.000% senior second-lien notes due 2012	1,100	4/30/12
8 3/8% senior second-lien notes due 2014	770	4/30/14
10.875% senior second-lien notes due 2014	527	9/15/14
Credit facilities	8,246	varies
Total Debt	**21,666**	

Source: Charter SEC filings

Exhibit 11 Charter's Recapitalization Plan

Debt	Claim ($ million)	Treatment
Charter Communications, Inc.		
Convertible senior notes	376	• $25 million in cash • Charter's 5.5 million shares of preferred stock[1]
Charter Communications Holdings, LLC.		
Senior notes and senior discount notes	440	• 1.3 million warrants to purchase shares of new Charter Class A common stock (k=$51.28 per share)
CCH I Holdings, LLC.		
Senior notes and senior discount notes	2,534	• 6.4 million warrants to purchase shares of new Charter Class A common stock (k=$46.86 per share)
CCH I, LLC.		
Senior notes	4,072	• 21.1 million shares of new Class A common stock
CCH II, LLC.		
Senior notes	2,455	• New CCH II, LLC senior notes at $2,092 million[2]
CCO Holdings, LLC.		
8.750% senior notes due 2013	796	• Remained outstanding, valued at $812 million
Credit facility	350	• Remained outstanding, valued at $304 million
Charter Communications Operating, LLC.		
8.000% senior second-lien notes due 2012	1,100	• Remained outstanding, valued at $1,120 million
8 3/8% senior second-lien notes due 2014	770	• Remained outstanding, valued at $779 million
10.875% senior second-lien notes due 2014	527	• Remained outstanding, valued at $601 million
Credit facilities	8,246	• Remained outstanding, valued at $7,614 million
Total Debt	**21,666**	**13,322**

Equity	Previous Beneficial Ownership	Treatment
Charter Communications, Inc.	54.80%	
Class A common stock		• No recovery
Class B common stock		• No recovery
Charter Investment, Inc.[3]	45.20%	
Wholly owned by Paul Allen		• 2.2 million shares of new Class B common stock[4] (35% of voting power of Charter's new capital stock) • 4.7 million warrants to purchase shares of new Charter Class A common stock (k=$19.80 per share) • $85 million principal amount of new CCH II notes, • $195 million in cash
<u>Rights Offering:</u>		
Charter Communications, Inc.		
Class A common stock		• CCH I, LLC. noteholders purchased new Charter Class A common stock for $1,663 million

[1] 15% Pay-in-Kind preferred stock, redeemed for approximately $143 million on April 16, 2010
[2] Minus $85 million of principal amount given to CCH I, LLC. noteholders, then transferred to Paul Allen
[3] Charter Investment, Inc. retained a minority interest of 1% in Charter Communications Holding Company, LCC. fully converted into Charter Class A common stock, becoming fully owned by Charter Communications, Inc.
[4] Equal to 2% of Charter's equity value, convertible into Class A common stock on a one-for-one basis

Exhibit 12 Time Warner Cable acquisitions (1995-2013)

Date	Acquired	States	Transaction Value	Subscribers	Price per subscriber[1]
May-1995	Summit Communications	North Carolina, and Georgia	$533 million[2]	162,000	$3,290
Jul-1995	KBLCOM	Texas, Minnesota, Oregon, California, Florida, and New York	$2,341 million[2]	1,672,000[3]	$2,138
Jan-1996	Cablevision Industries	New York, North Carolina, South Carolina, Florida and California	$2,768 million[2]	1,300,000	$2,129
Jul-2006	Adelphia Communications	California, Ohio, New York, and Texas	$ 14,400 million	4,000,000	$3,600
Apr-2011	NaviSite[4]	n.a.	$307 million	n.a.	n.a.
Nov-2011	NewWave Communications	Kentucky and Tennessee	$259 million	138,000	$1,877
Feb-2012	Insight Communications	Kentucky, Indiana, and Ohio	$3,082 million	1,600,000	$1,926
Dec-2013	DukeNet Communications[5]	North Carolina, and South Carolina	$572 million	n.a.	n.a.

Sources: Time Warner Cable SEC filings

[1] Estimation based on acquisition cost and total subscribers base acquired

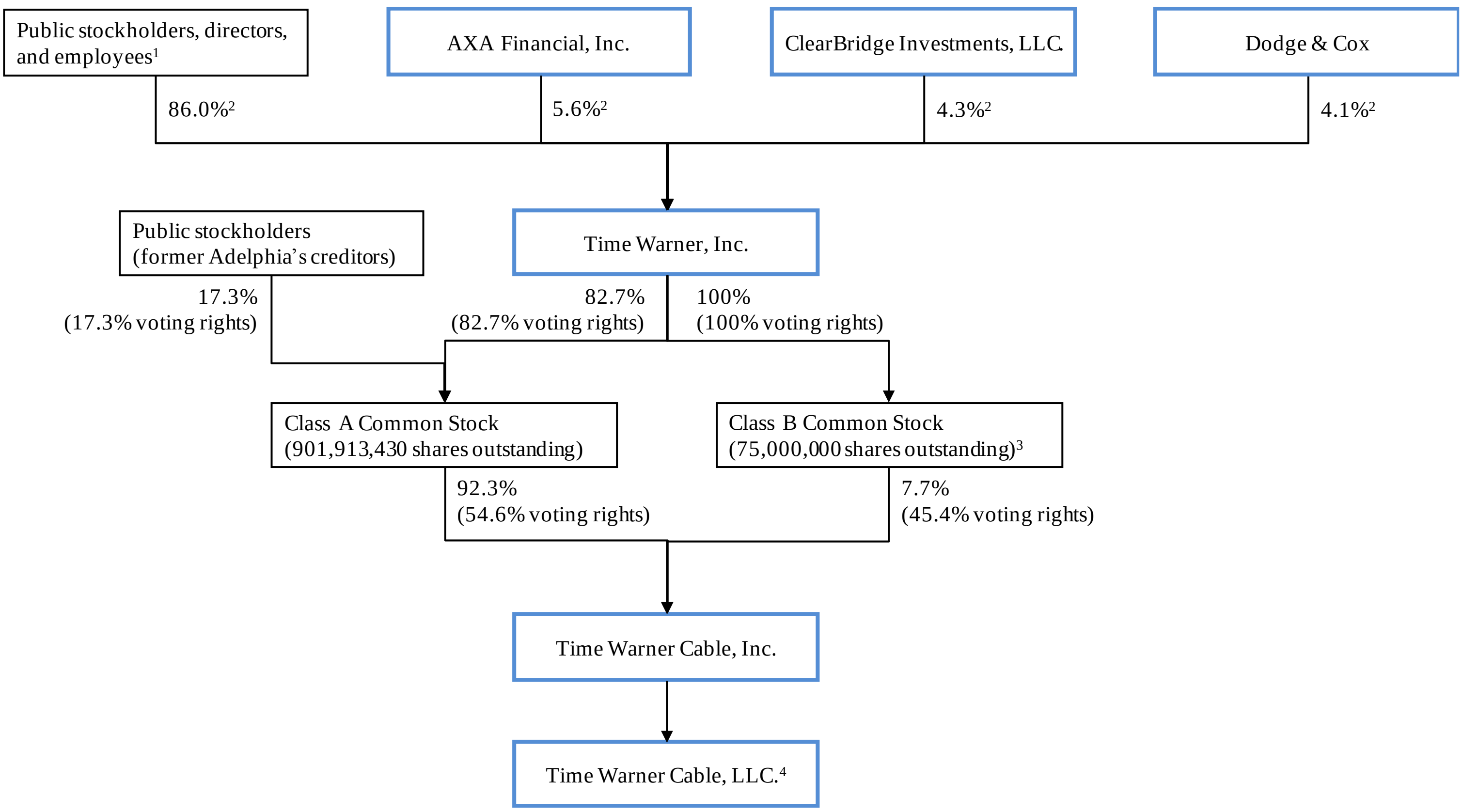
[2] The offers were financed by issuance of common and preferred equity, plus assumed debt as reported on Time Warner, Inc. SEC 10-K form for the year end 1995. Equity value is computed based on shares outstanding and aggregate market value as reported, and price and conversion ratio for preferred stock series

[3] KBLCOM owned cable systems serving 700,000 customers, and a 50% interest in Paragon Communications serving 790,000. Time Warner Cable already owned the other 50%

[4] NaviSite provides a range of managed hosting, cloud, application and messaging services and other related IT and professional services to businesses across a variety of industries

[5] DukeNet was a regional fiber optic network company that provided data and high-capacity bandwidth services to wireless carrier, data center, government and enterprise customers. It added more than 8,700 route miles of fiber optic

Exhibit 13 Time Warner Cable ownership structure upon listing



Sources: Time Warner Cable SEC filings

[1] Includes all public stockholders, directors, and employees with less than 4% beneficial ownership

[2] Axa Financial, Inc. ownership is based on Time Warner's SEC 14A filing of April 2007, since it also held convertible equity securities. An approximation of ownership from other stockholders holding more than 4% is also presented, based on shares outstanding reported on Time Warner's SEC 10-K filing of February 2007, and shares individually owned as of end of first quarter of 2007 listed on Bloomberg

[3] Each share of Class B common stock is entitled to ten votes

[4] Time Warner Cable, LLC. is a holding company that owns directly and indirectly all cable systems beneficially owned by Time Warner

Exhibit 14A Charter Communications consolidated financial data

Consolidated Income Statement *(in millions of USD, except per share data)*	Years Ended December 31, 2012	2013	2014	Six Months Ended June 30, 2015
Revenues	**$7,504**	**$8,155**	**$9,108**	**$4,792**
Cost of Goods Sold	(4,860)	(5,345)	(5,973)	(3,182)
Gross Profit	**$2,644**	**$2,810**	**$3,135**	**$1,610**
Depreciations and Amortizations	(1,713)	(1,854)	(2,102)	(1,042)
Other Operating Expense	(15)	(47)	(62)	(50)
Operating Income	**$916**	**$909**	**$971**	**$518**
Net Interest Expense	(907)	(846)	(911)	(518)
Other non-Operating income	(56)	(112)	(7)	(133)
Pre-tax Income	**($47)**	**($49)**	**$53**	**($133)**
Income Tax Expense	(257)	(120)	(236)	(70)
Net Income	**($304)**	**($169)**	**($183)**	**($203)**
EBITDA	$2,629	$2,763	$3,073	$1,560
EPS	($3.37)	($1.82)	($1.88)	($1.82)
Charter Class A Common Stock 112,027,916				

Consolidated Balance Sheet	**2012**	**2013**	**2014**	**2015**
Assets				
Cash and Cash Equivalents	$7	$21	$3	$30
Accounts and Notes Receivables	$234	$234	$285	$321
Other Short Term Assets	$92	$67	$57	$105
Total Current Assets	**$333**	**$322**	**$345**	**$456**
Property, Plant, and Equipment	$7,206	$7,981	$8,373	$8,244
Franchises and Customer Relationships	$6,711	$7,646	$7,111	$6,984
Goodwill	$953	$1,177	$1,168	$1,168
Total Investment in Cable Properties	**$14,870**	**$16,804**	**$16,652**	**$16,396**
Other Non-Current Assets	**$396**	**$169**	**$7,391**	**$467**
Total Assets	**$15,599**	**$17,295**	**$24,388**	**$17,319**
Liabilities and Shareholders Equity				
Payables and Accruals	$1,224	$1,467	$1,635	$1,636
Total Current Liabilities	**$1,224**	**$1,467**	**$1,635**	**$1,636**
Long Term Debt	$12,808	$14,181	$20,887	$13,896
Other Long Term Liabilities	$1,418	1496	$1,720	$1,818
Total Non-Current Liabilities	**$14,226**	**$15,677**	**$22,607**	**$15,714**
Total Liabilities	**$15,450**	**$17,144**	**$24,242**	**$17,350**
Total Equity	**$149**	**$151**	**$146**	**($31)**
Total Liabilities and Shareholders Equity	**$15,599**	**$17,295**	**$24,388**	**$17,319**

Exhibit 14B Time Warner Cable consolidated financial data

Consolidated Income Statement	Years Ended December 31,			Six Months Ended June 30,
(in millions of USD, except per share data)	**2012**	**2013**	**2014**	**2015**
Revenues	**$21,386**	**$22,120**	**$22,812**	**$11,703**
Cost of Goods Sold	(9,942)	(10,342)	(5,294)	(7,677)
Gross Profit	**$11,444**	**$11,778**	**$17,518**	**$4,026**
Selling, General and Administrative	(3,620)	(3,798)	(2,192)	-
Depreciations and Amortizations	(3,264)	(3,281)	(3,371)	(1,805)
Other Operating Expense	(115)	(119)	(7,323)	(108)
Operating Income	**$4,445**	**$4,580**	**$4,632**	**$2,113**
Net Interest Expense	(1,606)	(1,552)	(1,419)	(698)
Other non-Operating income	497	11	35	137
Pre-tax Income	**$3,336**	**$3,039**	**$3,248**	**$1,552**
Income Tax Expense	(1,177)	(1,085)	(1,217)	(631)
Net Income	**$2,159**	**$1,954**	**$2,031**	**$921**
EBITDA	$7,709	$7,861	$8,003	$3,918
EPS	$6.97	$6.76	$7.21	$3.22
TWC Common Stock 282,974,273				

Consolidated Balance Sheet	**2012**	**2013**	**2014**	**2015**
Assets				
Cash and Cash Equivalents	$3,454	$525	$707	$480
Accounts and Notes Receivables	$883	$954	$949	$1,029
Other Short Term Assets	$540	$665	$383	$565
Total Current Assets	**$4,877**	**$2,144**	**$2,039**	**$2,074**
Property, Plant, and Equipment	$14,742	$15,056	$15,990	$16,604
Franchises and Customer Relationships	$26,652	$26,564	$26,535	$26,305
Goodwill	$2,889	$3,196	$3,137	$3,138
Other Long Term Assets	$649	$1,313	$434	$765
Total Non-Current Assets	**$44,932**	**$46,129**	**$46,096**	**$46,812**
Total Assets	**$49,809**	**$48,273**	**$48,135**	**$48,886**
Liabilities and Shareholders Equity				
Payables and Accruals	$2,210	$2,095	$2,087	$3,835
Short Term Debt	$1,518	$1,767	$1,017	$320
Other Short Term Liabilities	$1,597	$1,364	$1,393	$0
Total Current Liabilities	**$5,325**	**$5,226**	**$4,497**	**$4,155**
Long Term Debt	$25,171	$23,285	$22,604	$22,732
Other Long Term Liabilities	$12,030	$12,815	$13,017	$13,487
Total Non-Current Liabilities	**$37,201**	**$36,100**	**$35,621**	**$36,219**
Total Liabilities	**$42,526**	**$41,326**	**$40,118**	**$40,374**
Total Equity	**$7,283**	**$6,947**	**$8,017**	**$8,512**
Total Liabilities and Shareholders Equity	**$49,809**	**$48,273**	**$48,135**	**$48,886**

Exhibit 15 Charter, TWC, and peers trading multiples

Name	Equity Value (in USD millions)	Enterprise Value (in USD millions)	EV / TTM EBITDA	P / FCF	Levered beta	Debt / Equity	Tax rate
Verizon Communications	$201,558.8	$305,054.8	8.44	14.61	0.57	4.96	31.40%
AT&T	$180,041.3	$253,826.3	8.33	17.8	0.50	1.08	33.50%
Comcast	$147,106.4	$192,251.4	8.39	15.96	1.04	1.12	32.20%
Time Warner Cable	$51,901.2	$74,819.2	9.35	22.76	-	-	39.00%
DirecTV	$46,157.0	$62,719.0	7.77	14.71	-	-	-
DISH	$31,951.6	$36,856.3	12.7	27.33	0.95	3.34	34.70%
Charter Communications[1]	$21,632.6	$42,576.6	13.77	77.30	1.12	1.58	27.00%
Cablevision	$7,126.7	$15,355.8	8.48	14.23	-	-	-
EchoStar	$4,520.3	$5,290.3	5.98	27.92	0.64	0.95	44.40%

Sources: Time Warner Cable SEC filings

[1]As of deal announcement May 23, 2015, except for Charter Communications data as of March 31. 2015

Exhibit 16 New Charter consolidated expected footprint

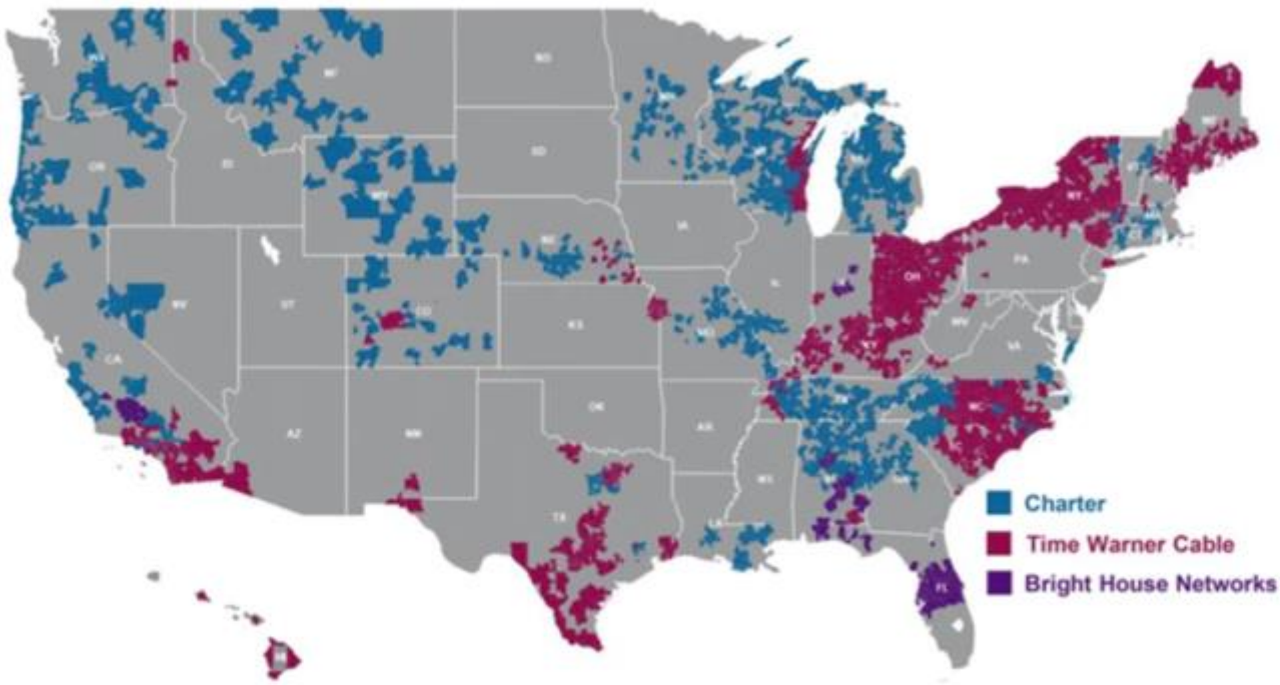


Exhibit 17 Auxiliary data

(in millions of USD, except per share data)	For and as of the Years Ended December 31,			
	2015E	**2016E**	**2017E**	**2015**
TWC Revenues	**$23,807**	**$25,409**	**$26,482**	**$27,937**

TWC outstanding debt	**Maturity**	**Interest Rate**	Outstanding Balance as of **June 30, 2015**
TWC notes and debentures	2017-2042	5.874%	$20,601
TWCE debentures	2023-2033	7.910%	$2,058
Commercial paper program	2017	0.559%	$313
Capital leases	2016-2042		$80
Total debt			**$23,052**

Markets (June, 2015)	**Rate (%)**
20-Year US Treasury rate	2.98%
Equity risk premium	5.50%

Source: Company SEC filings

Teaching Note Exhibit 1

	Historical Period			CAGR	Projection Period					CAGR
	2012	**2013**	**2014**	**('12-14)**	**2015**	**2016**	**2017**	**2018**	**2019**	**('12-14)**
Sales	**$21,386**	**$22,120**	**$22,812**	*3.3%*	**$23,807**	**$25,409**	**$26,482**	**$27,937**	**$29,194**	*5.2%*
% growth	*N.A.*	*3.4%*	*3.1%*		*4.4%*	*6.7%*	*4.2%*	*5.5%*	*4.5%*	
Cost of Goods Sold	9,942	10,342	5,294		5,952	6,352	6,621	6,984	7,299	
% sales	*46.5%*	*46.8%*	*23.2%*		*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	
Gross Profit	**$11,444**	**$11,778**	**$17,518**	*23.7%*	**$17,855**	**$19,057**	**$19,862**	**$20,953**	**$21,896**	*5.2%*
% margin	*53.5%*	*53.2%*	*76.8%*		*75.0%*	*75.0%*	*75.0%*	*75.0%*	*75.0%*	
Selling, General & Administrative	3,735	3,917	9,515		9,523	10,164	10,593	11,175	11,678	
% sales	*17.5%*	*17.7%*	*41.7%*		*40.0%*	*40.0%*	*40.0%*	*40.0%*	*40.0%*	
EBITDA	**$7,709**	**$7,861**	**$8,003**	*1.9%*	**$8,332**	**$8,893**	**$9,269**	**$9,778**	**$10,218**	*5.2%*
% margin	*36.0%*	*35.5%*	*35.1%*		*35.0%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*	
Depreciation and Amortization	3,264	3,281	3,371		3,571	3,811	3,972	4,191	4,379	
EBIT	**$4,445**	**$4,580**	**$4,632**	*2.1%*	**$4,761**	**$5,082**	**$5,296**	**$5,587**	**$5,839**	*5.2%*
% margin	*20.8%*	*20.7%*	*20.3%*		*20.0%*	*20.0%*	*20.0%*	*20.0%*	*20.0%*	
Taxes @ 39%	1,734	1,786	1,806		1,857	1,982	2,066	2,179	2,277	
EBIAT	**$2,711**	**$2,794**	**$2,826**	*2.1%*	**$2,904**	**$3,100**	**$3,231**	**$3,408**	**$3,562**	*5.2%*
Plus: Depreciation & Amortization	3,264	3,281	3,371		3,571	3,811	3,972	4,191	4,379	
Less: Capital Expenditures	(3,095)	(3,198)	(4,097)		(4,250)	(4,250)	(4,179)	(4,208)	(3,512)	
Less: Change in Net Working Capital					$139	$154	$103	$140	$121	
Unlevered Free Cash Flow					**$2,365**	**$2,815**	**$3,127**	**$3,531**	**$4,550**	
WACC 5.44%										
Discount Period					1	2	3	4	5	
Discount Factor					0.95	0.90	0.85	0.81	0.77	
Present Value of Free Cash Flow					**$2,243**	**$2,532**	**$2,668**	**$2,856**	**$3,491**	

WACC calculation	
Target Capital Structure	
Debt-to-Equity	217.2%
Debt-to-Total Capitalization	68.5%
Equity-to-Total Capitalization	31.5%
Cost of debt	
Cost of debt	6.0%
Tax rate	39.0%
After-tax Cost of Debt	3.6%
Cost of Equity	
Risk-free rate	2.98%
Market Risk Premium	5.5%
Unlevered Beta	0.37
Levered Beta	1.16
Size Premium	
Cost of Equity	9%
WACC	**5.44%**

Calculation of Terminal Value using EMM	
Terminal Year EBITDA (2019E)	$10,218
Exit Multiple	8.39
Terminal Value	**$85,729**

Implied Perpetuity Growth Rate	
Terminal Year FCF	$4,550
Discount Rate	5.44%
Terminal Value	$85,729
Implied Perpetuity Growth Rate	-0.15%

Terminal Value	
Terminal Year EBITDA (2019E)	$10,218
Exit Multiple	8.39
Terminal Value	**$85,729**
Discount Factor	0.76728636
Present Value of Terminal Value	**$65,778**

Enterprise Value	
Present Value of FCF	$13,790
Terminal Value	$65,778
Enterprise Value	**$79,568**

Implied Equity Value and Share Price	
Enterprise Value	$79,568
Less: Total Debt	$22,764
Less: Preferred Stock	
Less: Non-controlling Interest	$4
Plus: Cash and Cash equivalents	$480
Implied Equity Value	**$57,280**

Working Capital Projections	**Historical Period**			**Projection Period**				
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Sales	$21,386	$22,120	$22,812	$23,807	$25,409	$26,482	$27,937	$29,194
Cost of Goods Sold	9,942	10,342	5,294	5,952	6,352	6,621	6,984	7,299
Current Assets								
Accounts Receivables	883	954	949	990	1,057	1,102	1,162	1,215
Inventories	-	-	-	-	-	-	-	-
Prepaid Expenses and Other	540	665	383	400	427	445	469	490
Total Current Assets	**$1,423**	**$1,619**	**$1,332**	**$1,390**	**$1,484**	**$1,546**	**$1,631**	**$1,705**
Current Liabilities								
Accounts Payable	653	565	567	637	680	709	748	782
Accrued Liabilities	1557	1530	1520	1586	1693	1765	1861	1945
Other Current Liabilities	1597	1364	1393	1454	1552	1617	1706	1783
Total Current Liabilities	**$3,807**	**$3,459**	**$3,480**	**$3,678**	**$3,925**	**$4,091**	**$4,315**	**$4,510**
Net Working Capital	-$2,384	-$1,840	-$2,148	-$2,287	-$2,441	-$2,544	-$2,684	-$2,805
% sales	-11.15%	-8.32%	-9.42%	-9.61%	-9.61%	-9.61%	-9.61%	-9.61%
Change in Net Working Capital		**-$544**	**$308**	**$139**	**$154**	**$103**	**$140**	**$121**
Assumptions								
Current Assets								
Days Sales Outstanding	15.07	15.74	15.18	15.18	15.18	15.18	15.18	15.18
Days Inventory Held	-	-	-	-	-	-	-	-
Prepaid and Other CA(% of sales)	2.53%	3.01%	1.68%	1.68%	1.68%	1.68%	1.68%	1.68%
Current liabilities								
Days Payable Outstanding	23.97	19.94	39.09	39.09	39.09	39.09	39.09	39.09
Accrued Liabilities (% of sales)	7.28%	6.92%	6.66%	6.66%	6.66%	6.66%	6.66%	6.66%
Other Current Liabilities (% of sales)	7.47%	6.17%	6.11%	6.11%	6.11%	6.11%	6.11%	6.11%