reportedly told RCN: "Good God! ... We have to tear up our streets so you can come in here and compete against one of our best corporate citizens?" The mayor was also quoted as telling RCN that Philadelphia was "Comcast country." Comcast's influence similarly extended to the Philadelphia City Council. City councilman James Kenney, the chairman of the City Council's RCN hearings, admitted that "there were substantial pressures from Comcast." For example, chairman Kenney met Comcast CEO Brian Roberts at the Ritz Carlton Hotel in October 2000, just days before the first public hearing on RCN's plan. Although Councilman Kenney had been in office since 1992, the two had never met before.

78. Comcast also privately collaborated with the city council regarding RCN's application. As part of this effort, Comcast produced an "internal document" entitled "Competition or Chasm: RCN's Effort to Digitally Divide Our City." This document, which was allegedly provided by Comcast to the Philadelphia city council, contained a list of suggested questions that council members should ask RCN. The document also implored the city to "use

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139. Id. ("'Good God!' [mayor Ed] Rendell recalls exclaiming. 'We have to tear up the streets so you can come in here and compete against one of our best corporate citizens?'").

140. Princeton, N.J., Cable-TV Firm Withdraws Proposal for Philadelphia Network, KNIGHT RITDID TRIBUNE BUSINESS NEWS, Feb. 15, 2001 ("The political hurdles became clear, though, when in June 1998 the company approached Mayor Edward G. Rendell about offering service in the city. Rendell has acknowledged that he told Burnside that Philadelphia was Comcast country.").

141. RCN Encounters A Tough Path, supra ("'There were substantial pressures' from Comcast and Time Warner Wade Cable, which also serves part of the city, Kenney said.").

142. Id. ("On Oct. 24, several days before he was to chair the first public hearing on RCN's plan, Kenney arranged to meet Comcast President Brian Roberts; the two had never met before. At the Ritz Carlton, they talked family—and RCN—over sodas.").

143. See Jim Kenney, City Councilman-at-Large, James Kenney for Council Committee, available at www.jameskenney.com ("Since taking office in January 1992, Councilman Kenney has built a well-deserved reputation for offering a commonsense approach and a willingness to tackle the tough problems confronting the City of Philadelphia.").

144. RCN Encounters A Tough Path, supra ("On Oct. 24, several days before he was to chair the first public hearing on RCN's plan, Kenney arranged to meet Comcast President Brian Roberts; the two had never met before.").

145. Id. ("RCN's executives knew they were in for a grilling: They had already seen a Comcast document called 'Competition or Chasm: RCN's Effort to Digitally Divide Our City.'").

146. Id. ("Stanley Wang, Comcast executive vice president, says it was an 'internal document, not intended to be submitted to Council.' Regardless, copies of the document were sitting on a table in the hearing room... It
its substantial regulatory powers to monitor and mitigate conditions which might otherwise allow RCN to cherry-pick its way to profitability.'\textsuperscript{147} Aided by Comcast's clandestine lobbying efforts and Comcast documents, the city council asked questions that closely resembled those provided by Comcast at RCN's initial public hearing.\textsuperscript{148}

79. Comcast also engaged in a campaign of misinformation to block the RCN proposal. Specifically, Comcast commissioned an analysis that concluded that RCN's proposal "appears to deny the benefits of this new competition to those who would, in theory, stand to gain the most."\textsuperscript{149} Comcast later admitted that the report was based on incorrect information that it had provided to the author of the report.

80. As a result of Comcast's intense lobbying of city officials, the city council refused to act on RCN's application. At the close of the year 2000, RCN's application had been stalled by the City of Philadelphia for two and one half years. Disenchanted with the delay, RCN reportedly considered filing a federal lawsuit or a complaint with the FCC.\textsuperscript{150} Upon hearing that RCN was considering litigation, chairman Kenney scheduled another hearing for February 1, 2001.\textsuperscript{151} At this second meeting, however, the city council again refused to vote on RCN's

\textsuperscript{147} Id. ("In the document, Comcast questioned RCN's ability to pay for the system it was promising, its willingness to serve low-income households, and its commitment to the city. 'In order to keep RCN from becoming a high-tech, profiteering interloper, the city must use its substantial regulatory powers to monitor and mitigate conditions which might otherwise allow RCN to cherry-pick its way to profitability,' the document said.").

\textsuperscript{148} Id. ("Council members asked RCN about its relationships with unions, its record on minority hiring, and its construction plans. Many of the questions resembled those in the Comcast document.").

\textsuperscript{149} Id. ("Comcast had hired a Wharton professor to analyze RCN's construction plans, and his report said that RCN would serve 'primarily mid- to upper-middle and predominantly white households in the first several years' and 'appears to deny the benefits of this new competition to those who would, in theory, stand to gain the most.'").

\textsuperscript{150} RCN Wants the FCC or the Federal Courts to Speed Up the Approval of Its Cable Franchise Bid in Parts of Philadelphia, \textit{Cable World}, Nov. 20, 2000 ("RCN wants the FCC or the federal courts to speed up the approval of its cable franchise bid in parts of Philadelphia. The company began exploring other options last week when it learned that the city council may postpone ruling on the proposed contract until next year.").

\textsuperscript{151} RCN Encounters A Tough Path, \textit{supra} ("Fed up with the continuing delays, RCN threatened a federal lawsuit. The City Solicitor's Office quickly scheduled a meeting with Kenney in early December. That same day, Kenney scheduled a second hearing on the RCN matter for Feb. 1.").
application. Shortly after that meeting, RCN announced that it was withdrawing its application to build a competitive cable system in the City of Philadelphia.

81. The municipal approach to cable franchising shielded Comcast from competition by delaying, and sometimes preventing, potential competitors' entry, including Verizon, into the City of Philadelphia. LFAs can impose extraneous requirements on potential entrants, prolonging negotiations and delaying the issuance of a cable franchise to the detriment of its citizens. Even when a franchise is approved quickly and with little resistance, negotiating contracts with so many regulatory bodies takes time and delays competition. Prolonged negotiations allow incumbents, such as Comcast, to influence the franchise process.

82. On June 6, 2006, Senators Dominic Pileggi and Anthony Williams introduced the Cable Choice & Competition Act in Pennsylvania. The legislation would have created a Pennsylvania franchise authority, allowing wire-based cable service providers to apply for a

152. *RCN Withdraws,* supra (“The committee did not vote that day, nor did it vote on RCN’s proposal after a second public hearing Feb. 1.”).

153. *Id.* (“RCN Corp. of Princeton withdrew its proposal yesterday to build a $250 million cable-TV and telephone network in the northern half of Philadelphia, blaming the move on City Council delays.”).


155. See Thorne, *supra.* See also *Ex Parte Submission of the Department of Justice in MB Docket No. 05-311,* at 7 (FCC filed May 10, 2006), available at http://www.usdoj.gov/atr/public/comments/216098.htm. See also Barnett, *supra,* at 3 (A franchise delay can hurt consumers in many ways—by delaying competition for video services, but also by delaying important system upgrades: “Some new video providers, such as the telephone companies, are providing video services over upgraded networks that support voice, video, and higher-speed broadband services. Because the revenues from offering video factor into the profitability of these upgrades, a delay in receiving a cable television franchise can cause new entrants to postpone modernizing their networks.”).

156. *Id.*

state-wide license instead of negotiating individual agreements with every municipality.158 At the
time, more than a dozen states had passed or were considering such legislation.159

83. Comcast began combating support for state-wide franchise licensing in Pennsylvania before the legislation was introduced. Although the act may have limited local authorities’ abilities to gain concessions from cable companies over and above franchising fees, it maintained the fee requirements of the individual municipality agreements.160 The bill continued the standing maximum five percent franchise fee permitted by federal law, ensuring that municipalities would not lose out on a valuable revenue stream.161 Comcast nonetheless was able to successfully oppose Pennsylvania’s credible reform effort and defeat the Cable Choice & Competition Act, forcing Verizon to gain approval to bring its wire-based cable service to market one municipality at a time.

84. Verizon initiated contact with the City of Philadelphia regarding a franchise agreement in April 2008 and negotiations began quietly in June.162 Comcast officials voiced their concerns over Verizon’s “rush” to push its agreement through the city council, and reviewed the Verizon proposal “line for line to make certain Verizon’s deal [was] no more favorable than Comcast’s own pay-TV franchise with Philadelphia.”163 Comcast prompted the council to request detailed deployment plans from Verizon, but Verizon resisted, asserting that Comcast would use the information to lock its customers in special deals, making it harder for Verizon to

159. See Pileggi, supra.
160. See Titch, supra, at 3. See also Summary, supra, at 1.
161. See Summary, supra, at 1.
win subscribers when FiOS did become available.\textsuperscript{164} The City of Philadelphia finally granted a franchise agreement to Verizon FiOS on February 5, 2009.\textsuperscript{165}

B. New and Old Delivery Platforms Threaten Comcast's Dominance

85. There is ample evidence that competition from cable overbuilders, DBS providers and the recent entry of telco competitors in certain local markets exerts downward pressure on the prices charged by cable companies for video service. In this section, I review the evidence, by competing technology, of how MVPD competition manifests itself when not impaired by exclusionary conduct by incumbent cable operators. The purpose of the section is to demonstrate that Comcast has a strong incentive to impair competition through exclusionary conduct made possible or facilitated by the proposed transaction; in the absence of such impairment, these MVPD rivals impose significant constraint on the price of Comcast's cable television service.

1. Fiber Networks Deployed by Telephone Companies

86. Entry by the telephone companies ("telco entry") has exerted significant pressure on the margins of cable operators. In particular, cable operators have responded to telco entry by competing on price, aggressively moving customers to bundled services, upgrading the video products they offer, and adding other services. The \textit{Boston Globe} described the fierce competition for video customers between Comcast and Verizon as follows: "Customers welcome the competition, with many switching from Verizon to Comcast and back again in search of

\begin{itemize}
\item \textsuperscript{164} See Bob Fernandez, \textit{Verizon presses Philadelphia for TV franchise} (Philadelphia Inquirer, Dec. 4, 2008), \textit{available at} http://www.philly.com/philly/news/homepage/35525069.html ("A Verizon official said it would not disclose zip-code-level build-out of the new high-speed network because Comcast could then target those neighborhoods with special promotions and multiyear contracts.").
\end{itemize}
better service and lower prices. Customers who switch can often win discounted rates from their new provider. What they probably won't see is a big difference in the two systems.\footnote{Hiawatha Bray, Comcast, Verizon Battle it out for Market Share, BOSTON GLOBE, February 7, 2010, available at http://www.boston.com/business/technology/articles/2010/02/07/comcast_verizon_battle_for_market_share/?page=2.}

87. Incumbent cable operators were quick to reduce prices upon telco entry. According to a 2006 Bank of America survey, in areas where Verizon was rolling out FiOS, cable operators responded with “not actively advertised” price cuts of 29 (by Charter) to 43 percent (by Cox).\footnote{Bank of America Equity Research, Battle for the Bundle: Consumer Wireline Services Pricing, Jan. 23, 2006, at 10 (surveying prices in Herndon, VA, Keller, TX, and Temple Terrace, FL).} In the spring of 2007, AT&T’s double-play package in Dallas was priced 21 percent below a comparable package offered by Time Warner;\footnote{AT&T’s launch in bits Cable, broadband deal to come out gradually, may push prices down, Dallas Morning News, Mar. 6, 2007, at D. AT&T charged $59 per month for 100 cable channels and Internet speeds of 1.5/1 mbps. Time Warner charged $75.60 per month for 84 cable channels and Internet speeds of 1.5/0.384 mbps.} Verizon’s triple-play package in Fairfax was priced 23 percent below a comparable package offered by Cox.\footnote{Cox Bundle Fairfax, available at http://www.cox.com/fairfax/bundle.asp (accessed Apr. 1, 2007); https://www22.verizon.com/ForYourHome/NationalBundles/NatBundlesHome.aspx# (accessed Apr. 1, 2007). Verizon charged $120 per month for a digital, sports, and news tier, unlimited calling, and Internet speeds of 15/2 mbps. Cox charged $156 per month for digital, sports, and information tier, unlimited calling, and Internet speeds of 15/2 mbps.} Press accounts documented non-price responses to telco entry as well. In October 2007, Comcast was reportedly “rushing to deliver the new features [video-on-demand, more channels] in Santa Rosa because rival AT&T has started offering its own digital TV service in select neighborhoods.”\footnote{Comcast Raising Prices Again, Except In Most Of Santa Rosa: Average Cable Bill To Jump Almost 5%; Santa Rosa Rates Unchanged As System Gets Upgraded, THE PRESS DEMOCRAT, Oct. 17, 2007, at A1.} In April 2007, Cable World noted that Comcast was set to “offer more linear and high-definition channels, video-on-demand titles and digital phone features to its 700,000 basic customers in and around Houston before the end of June” in “response to these two IPTV deployments” by AT&T.\footnote{Comcast Promises To Fight For Every Customer As It Faces DBS And IPTV Competition In Houston, CABLE WORLD, Apr. 16, 2007.}
products, including a triple-play service, as a direct response to AT&T entering the market in San Antonio. In May 2007, in response to AT&T’s deployment of U-Verse, the regional manager of Cox San Diego explained how “the expansion of video-on-demand, high-definition and local programming are ... key weapons to be used against Cox’s competitors.”

88. As the Bank of America survey made clear, the price and non-price effects associated with telco entry are often not reflected in the advertised cable price, as discounts are generally offered to existing customers to avoid having them defect. Thus, looking at published cable prices for evidence of the price effects of telco entry can muddle the real story. To isolate these price effects, it is more informative to look at the change in a cable operator’s average revenue per unit (ARPU) upon telco entry. For Comcast, video ARPU growth as estimated by JP Morgan has slowed considerably, and it even declined in the second and third quarters of 2009. According to JP Morgan, “The discounted offers [for video service] offset the benefits of strong demand for advanced services (HD and/or DVR) and implemented price increases.” The authors of the JP Morgan report explain that they “expect AT&T and Verizon to continue building out fiber facilities at a measured pace, introducing additional video competition in many of Comcast’s markets.” As a result, the analysts “expect heavy competition for subscribers, with a potential impact to customer adds, profitability, or both.” According to Credit Suisse, Comcast’s Q4 2009 revenues were lower than expected due to “lower than expected ARPU growth... primarily driven by softness in video ARPU.”

175. Id.
176. Id. at 6.
89. Even video ARPU trends can mask the effects of price competition for a number of different reasons. *First*, Comcast and the other cable companies are aggressively pushing their bundled services, and Comcast’s attribution of revenue to the different services in the bundle is somewhat arbitrary. According to Morgan Stanley analysts, Comcast “increased its promotional intensity in the second half [of 2009]—by matching competitor offers already in the marketplace and specifically by focusing on triple play bundles, which typically entail lower data ARPs.”

Comcast’s CFO Michael Angelakis, in discussing Q4 2009 results, said “Total video revenue declined slightly by 0.6% reflecting a 199,000 decline in basic video customers and video ARPU growth was 2%. This slowdown in video ARPU growth is a result of more moderate rate increase in the fourth quarter of 2009 compared to the increases in the fourth quarter of 2008 and additional bundling and promotion.”

90. *Second*, cable companies were aggressively transitioning their customer base from analog to digital service over the past couple of years, with digital plans offering significantly more channels and often improved picture quality. This shift in the product mix to higher priced digital plans provided a temporary boost to ARPU that obscured the overall price pressure on cable’s video service.

91. *Third*, primarily in response to competition from the telco providers, Comcast and the other cable companies have over the last few years significantly upgraded their service. Examples include significantly more HD channels, growing video-on-demand libraries, faster

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Internet speeds, and free Wi-Fi access for subscribers. These service upgrades make comparisons of pricing and ARPU for cable video service and/or bundled services over time somewhat misleading, as the quality of the product has improved significantly.

92. Finally, Comcast's own executives have noted the effect of telco entry on its business. As Steve Burke, Comcast's COO, explained on Comcast's Q2 2009 earnings conference call, "The RBOCs now have over built 28% of our footprint and they and satellite were very aggressive during the quarter. We have recently launched a number of high impact marketing campaigns and are seeing better trends in July than we did in the second quarter."182

2. Non-Telco Cable Overbuilders

93. Many studies have found that cable prices are lower when cable overbuilder competition is present. Most, but not all, of these studies have been conducted by agencies of the U.S. government. In January 2009, the FCC released its most recent version of its Report on Cable Industry Prices ("Cable Price Report").183 This report is the latest of several installments in the FCC's analysis of the effect of competition on cable prices. As part of this inquiry, the FCC conducted a statistical analysis of how incumbent cable prices are affected by the extent of

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competition from overbuilders. The FCC bases its analysis on a survey of cable price and competition data it collects annually.\footnote{184}

94. In every iteration of the FCC Cable Price Reports, the FCC has found that the effect of overbuilder entry on cable prices is significant. In 2005, the Commission wrote that incumbent cable prices “are 17 percent lower where wireline cable competition is present.”\footnote{185} If the appropriate “base” rate is the rate charged in competitive areas, then the same FCC data indicate that prices are 20.6 percent \textit{higher} in non-competitive areas than they are in competitive areas.\footnote{186} This finding is consistent with FCC cable price survey findings over the past few years, which are presented below in Table 3.

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|c|c|}
\hline
\textbf{Date} & \textbf{Average Overbuilt Area Cable Price} & \textbf{Average Non-Competitive Area Cable Price} & \textbf{Difference} & \\
 & & & \textbf{Nominal} & \textbf{Percentage} \\
\hline
January 2002 & $31.01$ & $36.21$ & $5.20$ & 16.8\% \\
January 2003 & $32.83$ & $39.11$ & $6.28$ & 19.1\% \\
January 2004 & $34.00$ & $41.18$ & $7.18$ & 21.1\% \\
January 2005 & $36.79$ & $43.77$ & $6.98$ & 19.0\% \\
January 2006 & $40.24$ & $45.53$ & $5.29$ & 11.0\% \\
January 2007 & $42.77$ & $47.49$ & $4.72$ & 10.9\% \\
January 2008 & $45.04$ & $49.97$ & $4.93$ & 10.9\% \\
\hline
\textit{Average} & $37.53$ & $43.32$ & $5.80$ & 15.4\% \\
\hline
\end{tabular}
\caption{FCC-Estimated Effect of Overbuild Competition on Incumbent Cable Expanded Basic Prices, 2002-2008}
\end{table}


\footnote{184. \textit{Id. ¶ 15} (“The information and analysis provided in this Report are based on the Commission’s survey of cable industry prices (‘surveys’) that collected data as of January 1, 2005; January 1, 2006; January 1, 2007, and January 1, 2008, and also based on a supplemental survey that collected data as of July 1, 2006.”).}


\footnote{186. As presented in Table 4, the FCC reports that incumbents charge an average price for basic and expanded basic programming of $35.94 in competitive areas and $43.33 in non-competitive areas. The difference is thus $7.39. The difference in the percentage is related to the base number used. If the appropriate base is the non-competitive price ($43.33), then the calculation is: \$7.39 / \$43.33 \times 100 \%= 17.1\%. That is, cable prices are 17.1\% lower in competitive areas than they are in non-competitive areas. If the appropriate base is the competitive price ($35.94), then the calculation is: \$7.39 / \$35.94 \times 100 \%= 20.6\%. That is, cable prices are 20.6\% higher in non-competitive areas than they are in competitive areas.}
The percentages in Table 3 represent the extent to which incumbents demand higher average cable prices in non-competitive areas than they do in competitive areas. In January 2009, the FCC noted that “cable prices decrease substantially when a second wireline cable operator enters the market.”\textsuperscript{187} Importantly, the FCC’s analysis assigns causation as well, arguing that the mere entry of an overbuilder reduces cable prices.

95. A regression analysis conducted by the FCC also confirms that overbuilders significantly constrain the price an incumbent can charge for expanded basic MVPD service. In an analysis released in January 2009 in its 2008 \textit{Cable Price Report}, the FCC found that:

In markets with two competing cable operators, the results show that the incumbent operator charges 14.1 percent less, on average, all other things held constant, than operators charge in markets where a second cable operator is not present. The results also show a tendency for the incumbent operator to undercut the overbuild rival’s price rather than simply matching that price.\textsuperscript{188}

The FCC regression analysis also controlled for market demographics (income), market structure (HHI, vertical affiliation, and number of national subscribers), and DBS competition (whether local-into-local programming was available from DBS).

96. A 2004 GAO study has also found that the presence of cable overbuilders produced significant benefits to consumers. Specifically, the GAO published a report based on a series of interviews with cable overbuilders, incumbent cable operators, and other parties such as cable franchising boards.\textsuperscript{189} The GAO interviews provide a wealth of information regarding the competitive interactions between overbuilders, incumbent cable operators, and local regulatory authorities. The GAO documented that extended basic cable prices were as much as 41 percent

\textsuperscript{187} Report on Cable Industry Prices, MM Dkt. No. 92-266, released Jan. 16, 2009, ¶ 3 (“Cable prices decrease substantially when a second wireline cable operator enters the market.”).

\textsuperscript{188} \textit{Id.} ¶ 14.


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lower when overbuilders were present relative to markets without overbuilding. Based on this analysis, the GAO found that overbuilding induced incumbent cable operators to respond to competition “by providing more and better services and by reducing rates and offering special deals.”

The FCC’s and GAO’s findings are corroborated by academic studies. Thomas Hazlett analyzed the reduction in consumer surplus that results from local franchising restrictions aimed at impeding overbuilding competition. Using GAO data, Hazlett estimates that entry by an overbuilder would reduce cable prices by 15.6 percent. This price reduction amounts to $7.32 per subscriber per month, and induces total cable subscribership to grow by 19 percent.

With these numbers, he estimates that consumers would realize $8.9 billion per year in incremental savings. Consumers gain, at least in part, at the expense of their incumbent cable providers, who would lose approximately $6.0 billion per year as a result of greater cable competition. Overall, Hazlett finds that greater cable competition would yield efficiency gains of $2.9 billion per year (equal to the consumer gain of $8.9 billion less the incumbent cable loss

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190. 1d. at 15 (“For example, in 1 BSP market, the monthly rate for cable television service was 41 percent lower compared with the matched market, and in 2 other BSP locations, cable rates were more than 30 percent lower when compared with their matched markets.”).

191. Id. at 12 (“In the 12 markets we reviewed, the entry of a BSP appears to induce incumbent cable operators to respond by providing more and better services and by reducing rates and offering special deals.”).

192. Thomas W. Hazlett, Cable TV Franchises as Barriers to Video Competition, 12 VIRG. L. & TECH. 2 (2007) [hereinafter Franchises as Barriers to Competition].

193. Id. at 66 (“The GAO model also reported a partial price elasticity of demand for cable subscribers of about 1.5. Consequently, the results reported in Table 6 replicate the GAO analysis assuming an elasticity of demand of 1.5 and an entrant market share of between twenty and twenty-five percent. In the following benchmark analysis, twenty-five percent market share is used with an elasticity of 1.5. This implies a cable price reduction equal to 15.6%.”).

194. Id. at 67 fn. 233 (explaining that the consumer gains are based on a price reduction of $7.32 per subscriber per month and an increase in total cable subscribership of 17,904,234 (from 92,295,766 subscribers)).

195. Id. at 66-7 (“The change in consumer surplus associated with a 15.6% cable price reduction is approximately $741 million per month, or $8.9 billion per year.”).

196. Id. at 67 (“This change is negative; owing to the greater competitiveness of the market, suppliers as a whole see profits decline by about $501 million per month, or $6.0 billion per year.”).
of $6.0 billion). Hazlett calculates that this efficiency gain represents six percent of cable industry revenues.

98. Karikari, Brown, and Abramowitz (2003) examine the competitive inter-relationships between DBS providers, local exchange telephone cable entrants, cable incumbents, and overbuilders. The authors report that their study is novel because it explicitly accounts for competition from non-cable MVPDs like DBS providers, includes data from a variety of cable systems operating under different market structures, and factors in technological improvements and upgrades in the provision of cable services. To model the economic variables that characterize the MVPD market, the authors estimate a system of equations that predict DBS and cable penetration, cable rates, and the number of channels available to subscribers. The results of the study indicate that DBS penetration is lower where overbuilders and local exchange telephone companies have entered the market as these entrants lower cable rates, inducing subscribers to choose cable over DBS.

99. Savage and Wirth (2005) also examine the effects of competition on cable quality and cable prices. Specifically, the authors quantify how incumbent cable companies respond to

197. Id. ("An estimate of the net benefits to society accruing from competitive, nationwide entry combines the respective estimates of consumer gain and producer loss. Efficiency gains are estimated to be $241 million per month or about $2.9 billion per year. These potential gains reveal the value of the opportunity society loses for each month (or year) of delay in which nationwide cable market entry is deterred.").

198. Id. ("With pre-entry monthly revenues in the model used for this analysis of approximately $4.3 billion ($51.6 billion annually), the efficiency gains are approximately six percent of industry revenues.").


200. See id. at 4 ("The Study is based on a reasonable representation of developments in the subscription television services market. First, unlike most previous studies, we consider explicitly competition from non-cable providers in the market, DBS in particular. Second, the data used include different segments of the market—competitive and non-competitive cable providers, regulated and unregulated cable providers, and cable franchises of different sizes. Third, we incorporate technological changes in the market—systems upgrades that enable cable operators to offer high quality services (digital and more channels) and integrated services (cable, telephony, and Internet).").

201. Id. at 5.

202. Id. at 13.
the threat of potential competition. To quantify potential competition the authors estimate the probability that an overbuilder or local exchange telephone carrier will enter the market based on factors that affect cost, demographic variables, and market structure indicators for a given geographic observation. These probabilities are then included in a full supply-demand model so that equilibrium price and quality effects can be determined. The authors find that:

Second-step estimation of the supply-demand system shows incumbent cable operators offer more channels to consumers in markets facing greater potential competition from BSP wireline overbuilders and/or ILECs. In particular, when the probability of entry rises to about 42%, the average cable system provides six more channels, and price per channel declines from US $0.77 to US $0.66.

This conclusion suggests that consumers gain from the mere possibility that an overbuilder or local exchange carrier will enter the MVPD market.

Kelly and Ying (2007) use the changing regulatory and competitive environment in the MVPD market from 1993 to 2001 to study the effects of market structure on cable prices. The authors estimate the cable rate in a given area as a function of cost, factors affecting the elasticity of demand, regulation, and competition. They conclude that “Overall, competition is effective in lowering average cable rates, from 5.6 to 8.8 percent. Moreover, excluding low penetration systems from the competitive group generally results in larger rate differentials than what were found by the FCC in its price surveys.” In addition, they find that

204. Id.
205. Id.
206. See id. at 40.
208. Id. at 9.
209. Id. at 19.
the price-disciplining effects of competition are strongest in large markets. The study also confirms the findings in previous studies that competition increases the quality of services offered by incumbent cable companies.

3. Direct Broadcast Satellite

101. At least four studies have concluded that effective competition from DBS providers constrains an incumbent’s price for cable service. The studies uniformly indicate that effective DBS competition can significantly constrain incumbent cable providers’ prices.

102. In its 2009 Report on Cable Industry Prices, the FCC compiled survey data of cable and DBS prices that it used to analyze trends in the those prices. Although the FCC’s written summary of its survey data finds that DBS does not significantly constrain the price of basic service offered by the incumbent cable operator, a closer look at the FCC’s survey data and its econometric analysis tells a different story.

103. To analyze the effect of DBS and cable overbuilders on the incumbent cable provider’s price, the FCC disaggregated its survey data into different cuts. The first cut of data was taken between non-competitive DMAs and DMAs that passed the FCC’s competition test and were therefore relieved of rate regulation. Additional data segments are created by calculating the average prices for different tiers of service, such as expanded basic and digital service. Given the FCC’s discussion of the effects of cable overbuilding and DBS entry on incumbent price, it would appear that the FCC based its opinion that DBS does not constrain incumbent price solely on a comparison of average price of expanded basic service.

210. Id.
211. Id. at 20.
213. Id at ¶4.
214. Id.
104. DBS, however, is a digital product, which competes with cable on the digital tier. And the effect of DBS on incumbent cable operator prices is evident from a review of digital tier prices. For example, in 2008, the FCC found that incumbent cable prices for digital service in areas that were effectively competitive supplied by virtue of high DBS penetration were approximately seven percent below the prices for digital service offered by incumbent cable operators in non-competitive areas.215

105. More compelling evidence of the effect of DBS on MVPD prices is present in the econometric analysis provided in Appendix B of the FCC's report. The FCC estimated two separate regressions that explain MVPD prices, and both of these regressions included the HHI (Herfindahl-Hirschmann Index) of the most popular zip code in the market area as a right-hand-side variable. In both regressions, the estimate parameter on the HHI variable is positive and statistically significant.216 The positive sign on the regression parameter indicates that a decrease in concentration, indicated by a decrease in HHI, results in a decrease in the price of MVPD service, all else the same. Therefore, an increase in penetration for either DBS or a cable overbuilder would have the effect of suppressing the price charged by the incumbent cable operator. Because overbuilding activity in 2007 and 2008 was limited to a few areas in the country—telco entry was just underway and the number of U.S. homes overbuilt prior to telco entry was small217—the majority of the variation in the FCC's HHI variable was likely due to changes in DBS penetration. Accordingly, the estimated coefficient on the HHI variable in the

215. Id at 13 (tbl 1-b).
216. Id at 85.
217. For example, the FCC reported that in 2008, there were a total of 3,205 communities relieved from rate regulation (only a fraction of which is due to overbuilding), compared to 30,352 communities in the noncompetitive group. Id at 85. In 2006, the FCC reported that BSPs and OVS providers, which typically operate overbuild systems, reported no appreciable change in subscribership, maintaining total subscribership of approximately 1.4 million. Thirteenth Annual Report, supra, at ¶9.
FCC's regression analysis serves as a reasonable proxy for the change in cable price owing to a change to DBS penetration.

106. Again, the findings of DBS price effects in government studies are corroborated by academic economists. National Bureau of Economic Research (NBER) members Goolsbee and Petrin similarly find that effective DBS competition can constrain incumbent cable prices. The authors find that DBS is a significant demand substitute for expanded basic and premium cable. Goolsbee and Petrin arrive at this conclusion by examining what other form of video service DBS customers would choose if DBS were unavailable. Goolsbee and Petrin estimate that fully 92.3 percent of DBS customers would, if DBS was unavailable, subscribe to an incumbent cable providers' service (either expanded basic or premium cable service).

107. Armed with evidence of substitution between DBS and incumbent cable services, Goolsbee and Petrin then compute the cross-price elasticity of demand for DBS relative to cable. That is, they estimate how DBS subscribership changes given a change in the price of expanded basic or premium cable. They find cross-price elasticity of demand for DBS given a change in cable price of approximately one. This finding implies that an increase in cable prices in a given community is associated with a proportional increase in satellite subscribership in that community.

108. The authors conclude that their results "suggest that more competition from DBS is correlated with lower cable prices and somewhat higher quality cable." Specifically, Goolsbee and Petrin estimate that, in the absence of DBS entry, cable prices would be $4 per

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218. See, e.g. Goolsbee & Petrin (showing that, for an increase in the price of expanded basic and premium cable, satellite market share increases by 0.951 and 1.187, respectively). See also id. at 369-70 ("In terms of substitutability, the demand elasticities reflect the correlation of observed and unobserved tastes...Similarly, for premium price increases, DBS has the largest cross-price [elasticity], followed again by expanded basic.").

219. Id. at 377("The supply side results exploit the estimated controls from the structural demand side model and suggest that more competition from DBS is correlated with lower cable prices and somewhat higher quality cable.").

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month higher. They then apply this estimate to the 70 million cable users, finding that the aggregate gain to cable consumers from lower cable prices amounts to between $3 and 4 billion. They also estimate that DBS users—who absent DBS would use cable—enjoy an additional $2 to 3 billion in surplus. When considered together, Goolsbee and Petrin estimate that effective DBS competition has generated as much as $7 billion in consumer surplus by limiting cable rate increases, inducing cable quality improvements, and providing a valuable alternative to incumbent cable systems.

109. Wise and Duwadi (2005) found that DBS can act as a constraint on cable prices for even basic services. Specifically, Wise and Duwadi found evidence of significant consumer substitution between cable and DBS. Substitution was particularly strong in areas where quality-adjusted relative cable prices increased by ten percent or more. The authors conclude that their “findings are consistent with the hypothesis that DBS providers are a constraining factor on quality-adjusted price increases for basic cable services by cable firms.”

110. The article also introduces the concept of “switching costs,” which limit consumer substitution and have important competitive effects. The authors find that the cable market is

220. Id. ("For cable subscribers, our results suggest that cable prices are at least $4 per month lower than they would have been.").
221. Id. ("The aggregate gains to the 70 million cable users amount to between roughly $3-4 billion.").
222. Id. ("Overall there is a significant welfare gain to the 16 million satellite buyers between $2-3 billion, depending upon whether changes in cable prices and characteristics are added back into the calculation.").
223. Id. at 377-78 ("In the end, our results suggest large gains from DBS entry, some of which are not captured if the price and characteristics' response is ignored. The overall gains from this production may be as large as $7 billion, illustrating once again the importance of understanding the impact of new goods on consumer welfare.").
225. Id. at 701 ("These results indicate that, as previously shown by Goolsbee and Petrin, consumers view DBS as a substitute for cable in terms of higher-quality services offered, such as premium movie and high-definition channels. Additionally, even for basic cable services, consumers appear to turn to DBS as a substitute for cable when facing large quality-adjusted cable price increases, but may turn to cable as a substitute for DBS to a lesser extent when presented with large quality-adjusted cable price decreases."). See also id. at 698 ("The coefficient of PLUS10RISE, representing communities with large quality-adjusted cable price increases, is positive and has a large magnitude, showing higher DBS penetration in these areas, perhaps through substitution from cable to DBS.").
226. Id. at 698
characterized by substantial "switching costs," or, in other words, costs that consumers incur when they seek to switch service from one provider to another.\(^{227}\) Wise and Duwadi find that the presence of these switching costs may allow an incumbent cable firm to charge supra-competitive cable prices. The authors come to this conclusion by examining the strength of MVPD demand substitution for different levels of cable price increases. They find that the presence of switching costs "limits substitution between cable and DBS services when quality-adjusted price changes are small."\(^{228}\) For their analysis, "small" is defined as price increases of 10 percent or less. Wise and Duwadi indicate that under certain circumstances when switching costs are large, the incumbent cable firm "would charge supra-competitive rates to existing subscribers."\(^{229}\)

111. Clements and Brown (2006) show that an increase in the quality of DBS service offerings forces cable companies to improve the quality of their services. The authors' conclusions are based on a study of the effects of the Satellite Home Viewer Improvement Act of 1999, which allowed DBS providers to deliver local broadcast stations to their subscribers.\(^{230}\) Before 1999, the Act's effective date,\(^{231}\) the laws governing the provision of DBS services prevented satellite-based carriers from providing these channels to their subscribers in most


\(^{228}\) Wise & Duwadi at 701.

\(^{229}\) Id. at 702 ("In a situation where price discrimination between new customers and repeat customers is not possible, and where the consumer switching cost is high, the incumbent would charge supra-competitive rates to existing subscribers and not compete for new subscribers....Our results point to this possibility, since it appears that consumers switch multichannel video providers only in response to relatively large price changes, not small ones.").


situations.\textsuperscript{232} Meanwhile, cable companies, regulated under a different set of laws, were able to deliver local broadcast services to their subscribers placing DBS providers at a competitive disadvantage.\textsuperscript{233}

112. The authors find that when both major DBS companies carry local broadcast stations, cable companies are forced to offer more channels to their subscribers.\textsuperscript{234} On average, such an increase in channels of DBS offerings induced cable companies to provide an additional three channels to their customers.\textsuperscript{235} On the other hand, the authors find that the increase in the number of channels available to DBS subscribers did not have a statistically significant effect on cable prices.\textsuperscript{236}

4. Internet-Only Video Distributors

113. Given its nascent state, it is difficult to measure the price-disciplining effect of Internet video on cable television service. Accordingly, this section is more qualitative than the prior sections. Based on the evidence presented here, it is reasonable to infer that Internet video either mildly constrains the price of cable television services or threatens to do so in the near future.

114. As noted above, Comcast and other cable operators perceive Internet video to be a substitute (and not a complement) to its cable television business. In comments to the FCC in the thirteenth annual report on video competition in November 2006, Comcast explained that “Many networks have jumped head-first into Internet video, providing consumers with an interactive

\textsuperscript{232} See Clements & Brown, supra, at 126 (“According to the Federal Communications Commission (FCC), the SHVA had the general effect of preventing satellite-based companies from delivering local broadcast stations to subscribers in most circumstances.”).
\textsuperscript{233} Id.
\textsuperscript{234} Id. at 132.
\textsuperscript{235} Id.
\textsuperscript{236} Id. at 133.
alternative to traditional TV-set viewing.” Comcast provided further evidence that Internet video is a substitute to cable television: “All of these modalities of communications are important to younger consumers, all are part of the paradigm shift to a ‘what-you-want-when-you-want-it’ world, and all of them compete with traditional and not-so-traditional video distribution technologies for time, attention, and dollars.” Glenn Brit, CEO of Time Warner Cable, explained the pending threat in May 2009: “The reality is, we’re starting to see the beginnings of cord cutting where people, particularly young people, are saying all I need is broadband.” In April 2009, Comcast’s president and chief operating officer, Steve Burke, likened television viewers’ movement to online video to “wildfire.” According to Melinda Witmer, Time Warner Cable’s programming chief, OTT video providers are actual (and not just potential) competitors: “We wake up every day and there is some new competitor out there—a Roku or a Boxee. People like to think of cable operators as monopolists, but we face a lot of competition just to keep the business we have.” Despite this threat, incumbent cable operators still maintain an advantage over OTT video providers by virtue of their control over video content, as explained by Time Warner executive Jeffrey Bewkes: “We’re fortunately in a position where this [Internet video] doesn’t cost us much money. We have an advantage and we’re going to use that advantage.”

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237. Comcast Comments at 29-30 (emphasis added).
238. Comcast Comments at 59 (emphasis added).
242. Knowledge at Wharton, Cable TV Follows Its Subscribers to the Internet, July 22, 2009, available at http://knowledge.wharton.upenn.edu/article.cfm?articleid=2295. In the same article, the former chief economist of the FCC, Gerald Faulhaber, described Internet video as “very disruptive,” a technology that “attacks the model of cable television.” Id.
115. The recent increase in the quantity of video programming available online along with a burgeoning ecosystem of software and hardware that enable customers to view video delivered over the Internet on their televisions is making this threat increasingly severe. Several analysts have noted the threat posed by online video service to traditional MVPDs.\textsuperscript{243} The transition of Internet video from a complement to a substitute for cable television can be seen in recent Internet user data:

- According to the Pew Internet and American Life Project, from 2007 to 2009, the number of adults who have watched movies or television shows on the Internet doubled from 16 to 32 percent; the number who watched news and sports videos increased to 43 percent and 21 percent, respectively.\textsuperscript{244} Because that type of programming traditionally has been offered by MVPDs, it is reasonable to infer that such activity represents a displacement of time that would otherwise be spent watching television. (In contrast, the viewing of a home-made video on the Internet or a YouTube short clip likely represents an addition of time spent watching video on television.) Indeed, among online video watchers surveyed in June 2009, 8 percent connected their computer to their television so they can watch online video on a television screen, and 10 percent have paid to watch a video.\textsuperscript{245} Nearly seven in ten adult internet users (69 percent) have used the Internet to watch or download video.\textsuperscript{246}

- According to comScore, the average American web user spent about ten minutes a day in early 2009 (slightly under six hours per month) viewing online video, compared with roughly 300 minutes spent watching live television (slightly over 150 hours per month),\textsuperscript{247} suggesting that the two platforms were mild substitutes not long ago. Because the audience for online video is young and growing, and because the broadcast networks are replicating their content online, however, the Internet has quickly emerged as a serious threat to cable television. Over the course of 2009, the average amount of time among web users spent watching videos online more than doubled to nearly thirteen hours per month (from slightly under six hours per month in the beginning of the year).\textsuperscript{248}

\textsuperscript{243} See, e.g., Piper Jaffray, \textit{Internet Video: Field of Dreams or Nightmare on Elm Street?}, Nov. 2009, at 5 ("In 3-5 years we expect internet delivery will start to rival the physical distribution models. ... We see this as a sign that online video is in its infancy, and that its growth is unlikely to slow over the next several years as the quality and consistency of the online video experience improves."); UBS Investment Research, \textit{Can Pay TV Benefit from Online Video?}, at 9 ("Online video could become a game-changer for the entire media value chain and should be one of the core industry drivers for media investors. ... Online video could affect every aspect of the media space. Content production and traditional distribution platforms (broadcast and pay TV) would have to adapt. We are already seeing Internet companies expanding into studio content.").

\textsuperscript{244} Pew Internet and American Life Project, The State of Online Video, June 3, 2010, at 2.

\textsuperscript{245} Id.

\textsuperscript{246} Id.


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• Parks Associates reported that the number of U.S. broadband households watching premium online content doubled in 2009; as of April 2010, over 25 million U.S. broadband households regularly watched full-length television shows online, and over 20 million watched movies online. 249 Parks estimates that some 900,000 U.S. homes did not pay for television and relied solely on Internet-based television in 2008. 250

• The Convergence Consulting Group estimated that, from 2008 to 2010, 800,000 U.S. households disconnected their cable television service and watched their television online; that number was also expected to double by 2011. 251

• According to a Yankee Group survey, one in eight consumers will eliminate or scale back their cable, satellite or other pay television service in 2010. 252

• A survey released in September 2009 by the Conference Board estimated that nearly one quarter of U.S. households have watched television online, and that 20 percent of respondents said they were watching less television delivered through traditional broadcast or paid cable-type providers. 253 Another survey by the Consumer Electronics Association trade group found that 15 percent of viewers would consider cutting out traditional means of watching television altogether.

These data are consistent with the notion that online video is a substitute and not a complement for cable television service.

116. Video content traditionally delivered via the cable and satellite providers that is now also available online includes content available from Hulu.com (reviewed in detail below), programmers’ websites (such as Comedy Central), and the growing libraries of services like Apple’s iTunes, Amazon’s Unbox, and Netflix. By accessing comedycentral.com, users can watch episodes of many of that network’s series including The Daily Show, The Colbert Report, South Park, and many more. This content, while also available on the Comedy Central network, is also aggregated in different ways on the Comedy Central website. An example is the four-to-
five minute weekly recap of The Daily Show that provides the highlights of the approximately 60 minutes worth of programming from the preceding week. There are a number of other services that deliver video content over the internet, including, but not limited to, Amazon’s Video on Demand service, Netflix’s “Watch Instantly” streaming service, and sites offering free content such as Joost.

117. As more network programming and movies are being made available online, software and hardware have developed to take that content from the computer screen to the television, making online delivery of video content an even closer substitute for cable’s video distribution service. Examples include Boxee, Apple TV, the recently released TiVo Premier, and third-party software running on gaming consoles, DVD players and increasingly built into televisions themselves.

118. Boxee, a provider of free and open-source video aggregation software, recently announced the release of the Boxee Box, a set-top box produced by D-Link that will run Boxee’s popular software and simplify its use directly on televisions. The software facilitates searching and viewing of online video content. Interestingly, Hulu.com has blocked Boxee’s ability to access Hulu.com video feeds precisely because existing and would-be content owners view this as a clear substitute to video programming via cable, satellite or telecom service. Around the same time that NBCU was approached by Comcast (March 2009), Jeff Zucker, CEO of NBC Universal provided the following rationale for Hulu’s denial of access: “We want to find an economic model that makes sense.”

119. In contrast to the open-source Boxee system, Apple offers their Apple TV set-top box, which essentially ports the iTunes experience from the computer to the television, allowing

users to purchase and watch television programming on an a-la-carte basis from the comfort of
their couch. TiVo’s latest DVR, the Premiere, integrates Internet-delivered video content from
Amazon, Netflix, and Blockbuster with traditional television video content. Like Boxee, the
Premiere does not have access to Hulu.com content. There is a whole host of other software
available that runs on third-party set-top boxes, such as Nintendo’s Wii and Sony’s Playstation,
that enable streaming of internet-delivered video directly to the television. For example, with a
WiFi-capable Nintendo Wii and a Netflix account, users can stream movies from Netflix directly
to their television, choosing from a library of titles that often far exceeds what is available from a
cable providers’ on-demand service for a flat monthly fee instead of a per-movie charge.
Alternatively, a broadband customer with a Wii can download software on her computer from
Playon.tv, which replicates a streaming video from Hulu.com and other websites to the user’s
television.

120. Comcast, along with some of the other cable providers, have addressed this threat by making some of the video content they distribute available online, but only to paying customers of both their cable television and cable modem services. These strategies are reviewed in Part II below.

II. COMCAST CURRENTLY ENGAGES IN A HOST OF ANTICOMPETITIVE STRATEGIES TO PROTECT ITS MARKET POWER

121. In this section, I provide an economic framework that can be used to explain Comcast’s exclusionary conduct, and I summarize how this conduct has manifested itself. There is no question whether Comcast discriminates to impair its downstream MVPD rivals. The only remaining issue (addressed in Part III below) is whether the proposed transaction will enhance Comcast’s ability and incentive to extend their market power.