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FILED/ACCEPTED

OCT 25 2010

Federal Communications Commission
Office of the Secretary

October 25, 2010

VIA HAND DELIVERY

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: *In the Matter of Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc. for Consent to Assign Licenses or Transfer Control of Licensees, MB Docket No. 10-56*
REDACTED – FOR PUBLIC INSPECTION

Dear Ms. Dortch:

In the attached filing, Drs. Mark Israel and Michael L. Katz respond to questions raised about the robustness of their previously submitted econometric work if certain alternative specifications are used. Drs. Israel and Katz demonstrate that their results are robust to alternative specifications.

Pursuant to the Protective Order¹ and Second Protective Order² in the above-referenced proceeding, Comcast Corporation hereby submits two copies of the redacted version of the filing. The Confidential and Highly Confidential versions of this filing are being filed simultaneously under separate cover.

Comcast will make the Confidential and Highly Confidential versions of this filing and the associated backup materials available pursuant to the terms of the Protective Orders. Parties interested in securing access to the Confidential or Highly Confidential versions of this filing

¹ *Applications of Comcast Corporation, General Electric Company, and NBC Universal Inc. for Consent to Assign Licenses or Transfer Control of Licensees, Protective Order, MB Docket No. 10-56, DA 10-370 (MB Mar. 4, 2010).*

² *Applications of Comcast Corporation, General Electric Company, and NBC Universal Inc. for Consent to Assign Licenses or Transfer Control of Licensees, Second Protective Order, MB Docket No. 10-56, DA 10-371 (MB Mar. 4, 2010).*

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should contact Brien Bell, Willkie Farr & Gallagher LLP, 1875 K Street NW, Washington, DC 20006, (202) 303-1164, bbell@willkie.com.

Please do not hesitate to contact me with any questions.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Michael H. Hammer". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michael H. Hammer
Counsel for Comcast Corporation

Enclosures

Responses to Commission Econometrics Questions
Mark Israel and Michael L. Katz
October 25, 2010

In recent discussions, Commission staff members and others have asked questions about the robustness of our econometric work to potential alternative specifications. In what follows, we demonstrate that our results are robust to specifications that address these questions.

A. Econometrics on Vertical and Horizontal Integration Event Studies

Our July 20, 2010 report included studies of several recent “events” involving vertical integration (combining national cable networks with MVPDs) or horizontal integration (combining RSNs with broadcast networks).^{1, 2} In each case, we demonstrated that the available evidence does not support a claim of higher affiliate fees following such integration. The questions that have been raised regarding these regressions, and our responses to these questions, are as follows:

- For both vertical and horizontal events, Commission staff members have asked whether a simple “indicator variable” for integrated networks is adequate, given that long-term carriage contracts imply that the effects of integration may persist over several years. In response, we have run specifications that replace the indicator variable with a variable (*percent_integrated*) measuring (in alternative runs) the percentage of the preceding three, four, or five years in which the network in question was integrated, in order to allow for lingering effects of integration due to long term contracts.³ *Our substantive findings are unaffected by this change; there remains no significant increase in affiliate fees due to integration. (Table 1, Columns 1-3; Table 2, Columns 1-3).*
- For regressions involving horizontal integration between an RSN and a broadcast network, Commission staff members asked whether results change if we include controls for whether the RSN in question was subject to explicit Commission Program Access/pricing conditions during the year in question. In response, we have run specifications (also using the *percent_integrated* variable defined above) that include

¹ Mark Israel and Michael L. Katz, Economic Analysis of the Proposed Comcast-NBCU-GE Transaction, In the Matter of Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc. for Consent to Assign Licenses or Transfer Control of Licensees, MB Docket No. 10-56, July 20, 2010 (hereinafter, *Israel/Katz Reply Declaration*), Tables IV.5, V.6, and V.8.

² In the *Israel/Katz Reply Declaration*, we also presented regressions showing that the horizontal combination of a national cable network and a broadcast network does not lead to higher fees. However, the questions and issues that have been raised have focused on the horizontal combination of an RSN and a broadcast network, so that is the focus of this response.

³ For all the regressions discussed in this section, we report regressions that combine all of the relevant (horizontal or vertical) events into a single regression and measure a single, average integration effect, in order to measure whether there is any systematic evidence for an effect of integration on fees.

controls for whether Commission conditions were in effect for a particular RSN in a particular year.⁴ *Our substantive findings are unaffected by this change; there remains no significant increase in affiliate fees due to integration. (Table 2, Columns 4-6).*

- Professor Rogerson has argued that results for the SportsSouth and FSN Ohio integration events may be confounded by other changes affecting those particular RSNs around the time of the event.⁵ In response, we have run specifications dropping these events from our analysis (also using the *percent_integrated* variable and controls for Commission conditions, as described above). *Our substantive findings are unaffected by this change; there remains no significant increase in affiliate fees due to integration. (Table 2, Columns 7-9).*
- For the events involving vertical integration of networks with Cablevision (Bravo) and Cox (The Travel Channel), Professor Rogerson has argued that the relatively small size of the MVPD in question precludes finding vertical integration effects.⁶ In response, we have run specifications dropping these events and thus analyzing only the News Corp./DirecTV event (also using the *percent_integrated* variable defined above). *Our substantive findings are unaffected by this change; there remains no significant increase in affiliate fees due to integration. (Table 1, Columns 4-6).*

Our conclusion based on these sensitivity tests is that these event studies remain the most relevant empirical evidence on the effect of vertical or horizontal integration on affiliate fees and, across a wide range of specifications, there is no empirical support for horizontal or vertical theories of fee increases from the proposed transaction.⁷

⁴ We identify the following sets of networks as subject to pricing conditions: i) Fox Sports networks subject to arbitration and program access rules imposed by the Commission in the DirecTV – News Corp. order; ii) Comcast SportsNets subject to arbitration rules imposed by the Commission in the Adelphia order; iii) Madison Square Garden Network, whose standard definition feeds are satellite-delivered and therefore subject to program access rules; and iv) Cox Sports Television, which is satellite-delivered and therefore subject to program access rules. Full details of the definition of this variable are available in the backup materials associated with this response. See Memorandum Opinion and Order, *In the Matter of General Motors Corporation and Hughes Electronics Corporation, Transferors, and The News Corporation Limited, Transferee, For Authority to Transfer Control*, 19 FCC Rcd 473 (2004), Appendix F; Memorandum Opinion and Order, *In the Matter of Applications for Consent to the Assignment and/or Transfer of Control of Licenses, Adelphia Communications Corporation to Time Warner Cable Inc.; Adelphia Communications Corporation to Comcast Corporation; Comcast Corporation to Time Warner, Inc.; Time Warner Inc. to Comcast Corporation*, MB Docket No. 05-192, FCC 06-105, rel. July 21, 2006, Appendix B.

⁵ William P. Rogerson, “A Further Economic Analysis of the Proposed Comcast-NBCU Transaction,” August 19, 2010 (hereinafter, *Rogerson Reply Report*) at 35-37.

⁶ *Rogerson Reply Report* at 19-20.

⁷ As one specific example, our study is the only empirical evidence that we know of in this proceeding on whether the combination of RSNs and broadcast networks leads to higher fees. Although many different theories have been advanced—some implying fee increases from such a combination, while others do not—the question is, at core, an empirical one, and we have seen no empirical support for higher fees from such a combination.

B. Goolsbee Results

In our previous submissions and those by Professor Marx, substantial attention has been paid to the test for anti-competitive carriage decisions proposed by Professor Austan Goolsbee.⁸

Professor Goolsbee noted that, if vertically integrated MVPDs favor their own networks in an anti-competitive fashion, then one should observe that the tendency for vertically integrated MVPDs to carry their own networks falls in areas where the vertically integrated MVPDs face more competition (as indicated by higher competitor share).⁹

Contrary to the Goolsbee test, the evidence that has been presented in this proceeding shows no stable pattern of declining Comcast carriage of its own networks in areas with greater DBS and telco video share. In fact, the majority of the regression specifications that we have considered show no statistically significant evidence for such a pattern.

Commission staff members have asked whether these findings are sensitive to how we specify the control for the total number of channels carried by each head-end in our regressions. To address this question, we added different functional forms for this control to our full set of regression specifications, which now include:

- Weighted and unweighted logit models using a linear control for the number of channels carried (**Table 3, Columns 1-2**);
- Weighted and unweighted logit models using a logarithmic control for the number of channels carried (**Table 3, Columns 3-4**);
- Weighted and unweighted logit models using a three-part spline as the control for the number of channels carried (**Table 3, Columns 5-6**);
- Weighted and unweighted linear probability models using a linear control for the number of channels carried (**Table 3, Columns 7-8**);
- Weighted and unweighted instrumental variable models (using the head-end's latitude as the instrument for DBS+telco share) using a linear control for the number of channels carried (**Table 3, Columns 9-10**).

In only one of these ten specifications is there a statistically significant evidence for the “Goolsbee effect,” meaning that, overall, the data do not support a hypothesis of anti-competitive carriage decisions by Comcast.

⁸ *Israel/Katz Reply Report*, ¶ 144-146; Leslie M. Marx, “Rebuttal Report,” August 18, 2010 (hereinafter, *Marx Rebuttal Report*), ¶ 32-39.

⁹ Austan Goolsbee (2007), “Vertical Integration and the Market for Broadcast and Cable Television Programming,” FCC Media Ownership Study, at 26.

C. Comcast Carriage of Women’s and Sports Networks

In our July 20, 2010 report, we presented results demonstrating that Comcast is not less likely, on average, to carry networks in those programming categories in which it also owns networks (namely, sports and “women’s programming”) than are other MVPDs.¹⁰

Two questions have been raised about these results.¹¹ First, Dr. Hal Singer has argued that we should not have included MLB Network or NHL Network as non-Comcast sports networks in our regressions, as Comcast has a small ownership interest in each of these networks.¹² Second, Commission staff members have asked whether our results are sensitive to how we specify the control for the total number of channels carried by each head-end in our regressions.

In response to these questions, we dropped MLB Network and NHL Network from the set of non-Comcast sports networks included in our regressions and ran the following specifications:

- Weighed and unweighted regressions using a linear control for number of channels carried (**Table 4, Columns 1-2**);
- Weighted and unweighted regressions using a logarithmic control for number of channels carried (**Table 4, Columns 3-4**);
- Weighted and unweighted regressions using a three-part spline as the control for number of channels carried (**Table 4, Columns 5-6**).

In none of these specifications is there statistical support for a claim that Comcast is less likely to carry non-Comcast women’s and sports networks than are other MVPDs.

It should also be noted that we have not conducted any additional analyses in response to Professor Marx’s finding that, if one cherry picks networks, one can find some networks that yield results contrary to the overall pattern. Given that we analyzed more than 20 women’s and sports networks, it is not surprising or informative to find that certain of those networks have results going in each direction (higher and lower Comcast carriage). The relevant question is whether there is any systematic evidence that Comcast disadvantages women’s and sports networks. There is not.

¹⁰ *Israel/Katz Reply Report*, Table VI.4.

¹¹ *Marx Reply Report*, ¶ 45.

¹² Reply Declaration of Hal J. Singer, August 19, 2010, n. 7. Professor Singer also argued that we should not have included NBA TV, but Comcast has no ownership interest in this network. For both MLB Network and NHL Network, Comcast has only a small ownership interest (15.6 percent of NHL Network and 8.3 percent of MLB Network), so we counted these as non-Comcast networks in our original analysis. Although we still believe that our original approach is valid, we demonstrate below that our results are unaffected if we drop MLB Network and NHL Network from our analysis.

D. Econometrics of Fisher Dispute

Finally, several questions have been raised regarding the econometric analysis we have presented that shows no significant Comcast subscriber gains during the Fisher dispute.

Before turning to these questions in detail, it is important to clarify the conclusions in this proceeding that depend on data from the Fisher dispute and the extent to which these conclusions are in dispute. First, Vincent Kunz of DISH network has submitted an affidavit based on DISH's internal analysis of subscriber losses during the Fisher dispute. {{

}}.¹³ This is one of two main empirical estimates of subscriber losses due to the loss of a broadcast network that has been presented in this proceeding—{{

}}.¹⁴ Although neither of these estimates is perfect, we know of no better measures, and thus we accept {{ }} percent as a plausible range for the departure effects from loss of a broadcast network and have used the average of this range {{ }} in our own analysis.¹⁵

Second, data from the Fisher dispute have been used to assess the diversion rate from DBS providers to Comcast following loss of programming.¹⁶ The disagreement appears to be minimal here as well. In particular:

- The results in our July 20, 2010 report showed no significant gain in Comcast share corresponding to the decline in DISH share during the Fisher dispute and, thus, no significant diversion from DISH to Comcast.¹⁷ Nevertheless, we conservatively used a diversion ratio (from DBS to cable) equal to 1/3 of proportional diversion in our analysis.¹⁸
- In response, Professor Murphy has presented survey evidence on the subsequent MVPD choices of subscribers leaving DirecTV.¹⁹ Looking at those estimates that are potentially relevant to the question at hand (those involving subscribers who left DirecTV due to dissatisfaction with programming rather than due to moves or other reasons), Professor Murphy's estimates indicate that diversion is either {{ }} percent of proportional

¹³ Declaration of Vincent Kunz, *In the Matter of Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc. for Consent to Assign Licenses or Transfer Control of Licensees*, MB Docket No. 10-56, June 7, 2010 (hereinafter, *Kunz Declaration*), ¶ 10.

¹⁴ Kevin M. Murphy, "Economic Analysis of the Impact of the Proposed Comcast/NBCU Transaction on the Cost to MVPDs of Obtaining Access to NBCU Programming," June 21, 2010, Exhibit A to Comments of DIRECTV, INC (hereinafter, *Murphy Report*), ¶ 46.

¹⁵ *Israel/Katz Reply Declaration*, ¶ 72.

¹⁶ We did not rely on the Fisher dispute to infer anything about diversion from telco MVPDs to Comcast. Instead, lacking alternative evidence, we use an assumption of proportional diversion for telco MVPDs.

¹⁷ *Israel/Katz Reply Declaration*, ¶ 254.

¹⁸ *Israel/Katz Reply Declaration*, ¶¶ 16, 67.

¹⁹ Kevin M. Murphy, "Response of Professor Kevin M. Murphy to Reply Report of Mark Israel and Michael L. Katz," August 19, 2010 (hereinafter, *Murphy Reply Report*), ¶ 27-34.

diversion.²⁰ Using the average of these as a summary of Professor Murphy’s evidence yields an estimate of {{ }} percent of proportional diversion.

Overall, then, there is little dispute about the appropriate diversion rate from DBS to Comcast. We used an estimate of 1/3 of proportional diversion and relying solely on Professor Murphy’s estimates would increase this only slightly to {{ }} percent of proportional. As Commission staff can see from the backup materials we have submitted throughout this proceeding, none of our substantive conclusions is affected by such small differences in diversion rates.

Thus, to the extent that there remains any substantive dispute regarding the implications of the Fisher dispute, it must be whether alternative estimation strategies would yield DBS-to-Comcast diversion rates substantially higher than those that have been advanced in the proceeding to this point. As we demonstrate below, our continued study of the data from the Fisher dispute supports no such conclusion.

To focus attention on the diversion rates implied by the Fisher dispute, we combine the data that have been presented thus far by both DISH and Comcast. To do so, we proceed in two steps:

- First, using the data presented in the Kunz Declaration, we use a difference-in-differences regression, using {{ }} as a control DMA, to measure the cumulative number of subscribers that DISH lost in Seattle (relative to December 1, 2009, just prior to the Fisher dispute) in three successive months after the start of the Fisher dispute: March and June, 2009 (during the Fisher dispute) and December, 2009 (after the end of the Fisher dispute).²¹ Specifically, we include a separate dummy variable for each of March, June, and December, 2009, with the coefficient on the dummy variable measuring the cumulative DISH subscriber loss as of that month, relative to December 2008.
- We then run a “modified” difference-in-differences regression (again using {{ }} as a control DMA) to measure any Comcast gains in Seattle in the post-Fisher months, relative to December 2008. The regression is modified because, rather than using a simple 0/1 dummy variable on the right-hand-side of the regression to indicate the months of the Fisher dispute, we use the estimates of DISH’s cumulative subscriber loss in Seattle (from step 1) as a measure of the total effect of the Fisher dispute, as of the beginning of March, June, and December, 2009.²² This approach has several advantages over the simpler “dummy variable” approach to measuring the effect of the Fisher dispute:

²⁰ Professor Murphy also presented results based on all subscribers leaving DirecTV. However, because this includes subscribers who leave for reasons including dissatisfaction with DBS, moves to areas where DBS service is less attractive, *etc.*, these results are not relevant to the diversion ratio induced by loss of NBCU programming.

²¹ Our reasons for using Seattle (with {{ }} as a control) are discussed below. {{

}}

²² For Comcast, we have month-ending (rather than month-beginning) subscriber counts, so we use Comcast data from the month just prior to each of the months for which we have DISH data.

- It does not treat all months during the Fisher dispute as identical. Rather, this approach measures the size of the Fisher effect as of a given month by the total number of subscribers lost by DISH (relative to the pre-Fisher base) as of that month.
- With the number of Comcast subscribers as the left-hand-side variable and the total number of subscribers lost by DISH as the right-hand-side variable, the coefficient on the total number of subscribers lost by DISH provides a measure of the percentage of those subscribers who switched to Comcast (the diversion ratio).
- This method also allows December 2009, after the Fisher dispute had ended, {{
}} to be included in the analysis in an analogous fashion to months during the dispute, using the total number of subscribers lost by DISH as of that month to measure any lingering effect of the dispute.²³
- By using subscribers rather than share as the measure of interest, this approach does not depend on data on Comcast homes passed, which has recently been called into question.

Before turning to a discussion of the results, we make a few final points on the methodology. First, because this approach requires data on both DISH and Comcast subscribers in both the affected DMA and the control DMAs, we use Seattle as the affected DMA and a DMA proposed by DISH as a control.²⁴

Second, among those control DMAs that DISH proposed for Seattle, we use only {{
}} in our analysis. We do so because {{
}} is the closest match for Seattle in terms of the timing of the Comcast migration of subscribers to digital service (December 2008 launch in Seattle and March 2009 launch in {{
}}), as well as the launch of telco MVPD service (September 2008 launch in Seattle and April 2009 (full-scale) launch in {{
}}).^{25, 26} Because both

²³ Kunz Declaration, ¶ 6.

²⁴ Kunz Declaration, ¶ 12. We do not have DISH subscriber data for the geographically proximate control DMAs we have previously used in our own analysis, Fresno and Sacramento. Nor do we have complete Comcast subscriber data for any of the controls proposed by DISH {{
}}. Although we do have data on {{
}}, we showed in our July 20, 2010 report that it is not a valid control. (*Israel/Katz Reply Declaration*, ¶ 252.)

²⁵ Note that Verizon's launch in Seattle appears to have been fairly limited, so it is not clear that it would have had much effect on Comcast subscriber levels. According to One Touch Intelligence, [[

]] See One Touch Intelligence, "Telco Provider Franchise Report," as of August 24, 2010.

²⁶ Among other DMAs advanced by DISH as controls, we do not have Comcast share data on {{

}} For dates on telco

Comcast’s digital migration and the launch of telco MVPD service have been proposed as confounding events that may have held down Comcast’s subscriber growth in Fisher DMAs, it is useful to have a control DMA with relatively similar timing. Admittedly, the events (digital migration and the full-scale launch of telco service) happened somewhat later in {{ }} than in Seattle, so if Comcast’s measured share gain in Seattle (relative to {{ }}) is smallest in the first post-Fisher month available for study (February 2009), this may indicate that Comcast’s observed share gain was held down by the telco launch and/or digital rollout in Seattle. However, to the extent that Comcast share gain is small in the later months available for study (May and November 2009), then these confounding factors are less likely to be relevant explanations, since they also affect the {{ }} control in those later months.

Results are presented in Table 5:²⁷

- Column 1 contains results of a regression with DISH subscribers as the dependent variable and indicators for each of the post-Fisher months as the key explanatory variables. {{
}}
 - Column 2 replicates Column 1, except that Comcast subscribers are used as the dependent variable. Here, we see that Comcast subscribers did increase in Seattle between November 2008 and February 2009, following the start of the Fisher dispute. {{
}}
 - The pattern for Comcast subscriber gains shown in Column 2 does not support a claim that Comcast’s gains are hidden by the launch of telco video service or the digital migration. {{
}}
 - Although the evidence from Columns 1 and 2 supports our conclusion that any Comcast gains from the Fisher dispute were minimal, in Column 3, we go on to implement the methodology described above—using the estimated DISH subscriber loss in Seattle on

entry, see One Touch Intelligence, "Telco Provider Franchise Report," as of August 24, 2010. For dates on the launch of Project Cavalry, see Comcast Corporation, Response to Second Information and Document Request, MB Docket No. 10-56 (Oct. 18, 2010) (response to Request 74).

²⁷ All regressions include DMA and time fixed effects so that results are driven by the cumulative change in subscribers in Seattle following the Fisher event relative to the change in corresponding time periods in {{ }}.

²⁸ The standard errors are zero (in columns 1 and 2) because we include enough independent variables to perfectly fit the data. Hence, the regressions in columns 1 and 2 are simply a convenient tool to measure the observed subscriber changes in the months following the Fisher event, rather than a basis for statistical inference.

the right-hand side of a regression with the number of Comcast subscribers as the dependent variable. {{

}}

- If we rely on the estimated coefficient on DISH subscribers from Column 3 (despite the lack of statistical significance), it indicates that {{
}}. Comcast's share of non-DISH MVPD subscribers in Seattle is [[]],²⁹ so, under proportional diversion, Comcast would have gained [[]] subscribers for every subscriber lost by DISH. {{

}}

²⁹ Media Business Corp., Media Census: Video Subscribers by DMA, 4th Quarter, 2008.

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Table 1

	(1)	(2)	(3)	(4)	(5)	(6)
	All Vertical Events			News Corp/ DirecTV Event		
	% Integrated (3 Years)	% Integrated (4 Years)	% Integrated (5 Years)	% Integrated (3 Years)	% Integrated (4 Years)	% Integrated (5 Years)
Integrated	-0.0019 (0.033)	0.0136 (0.039)	0.0328 (0.045)	0.0268 (0.022)	0.0418 (0.041)	0.0575 (0.061)
Constant	0.1968** (0.062)	0.1987** (0.062)	0.2011** (0.061)	0.2087** (0.077)	0.2099** (0.077)	0.2106** (0.076)
Observations	615	615	615	532	532	532
R-squared	0.887	0.887	0.887	0.881	0.881	0.881

Notes:

Robust standard errors in parentheses

** p<0.01, * p<0.05

Table 2

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
							% Integrated (3 Yrs); Conditions; Excl. SS & FSO	% Integrated (4 Yrs); Conditions; Excl. SS & FSO	% Integrated (5Yrs); Conditions; Excl. SS & FSO
	% Integrated (3 Yrs)	% Integrated (4 Yrs)	% Integrated (5 Yrs)	% Integrated (3 Yrs); Conditions	% Integrated (4 Yrs); Conditions	% Integrated (5Yrs); Conditions			
Integrated	0.029 (0.125)	0.064 (0.142)	0.097 (0.154)	-0.059 (0.122)	-0.039 (0.132)	-0.017 (0.141)	0.044 (0.151)	0.0564 (0.150)	0.0653 (0.146)
FCC Conditions Imposed				0.188 (0.101)	0.185 (0.101)	0.182 (0.101)	0.195 (0.106)	0.1929 (0.106)	0.1914 (0.106)
Constant	0.754** (0.178)	0.751** (0.180)	0.746** (0.182)	0.721** (0.190)	0.724** (0.191)	0.725** (0.191)	0.668** (0.206)	0.6656** (0.206)	0.6631** (0.206)
Observations	333	333	333	333	333	333	313	313	313
R-squared	0.909	0.909	0.910	0.915	0.915	0.915	0.906	0.906	0.906

Notes:

Robust standard errors in parentheses

** p<0.01, * p<0.05

Table 3

Model Type	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Network Count Specification	Logit	Logit	Logit	Logit	Logit	Logit	OLS	OLS	IV	IV
Weighted/Unweighted	Linear	Linear	Log	Log	Spline	Spline	Linear	Linear	Linear	Linear
	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted
Comcast	1.54091** (0.33806)	0.23136 (0.14924)	1.19591** (0.34882)	0.73308** (0.14848)	1.35835** (0.34916)	0.75080** (0.23454)	0.10547* (0.04147)	0.15091* (0.07561)	-0.32129 (0.55386)	-0.68614 (1.03393)
Comcast X DBS_Telco_Share	-0.01941* (0.00891)	0.00717 (0.00421)	-0.00843 (0.00900)	-0.00370 (0.00383)	-0.01315 (0.00952)	-0.00366 (0.00605)	0.00068 (0.00104)	0.00128 (0.00126)	0.01216 (0.01520)	0.02313 (0.02561)
DBS_Telco_Share	0.00255 (0.01015)	0.00559 (0.00339)	0.00193 (0.01018)	0.00713* (0.00331)	0.00487 (0.01049)	0.00799* (0.00342)	0.00052 (0.00092)	0.00060 (0.00123)	-0.00325 (0.01311)	-0.00742 (0.02940)
Channel Count- Spline 1					0.15139** (0.01330)	0.13903** (0.00859)				
Channel Count- Spline 2					0.03914** (0.00638)	0.04657** (0.00549)				
Channel Count- Spline 3					0.03125** (0.00579)	0.01830** (0.00513)				
Percent Hispanic	-0.01038 (0.00533)	0.00150 (0.00244)	-0.00530 (0.00396)	0.00031 (0.00252)	-0.00826* (0.00361)	0.00001 (0.00267)	-0.00068 (0.00063)	-0.00149* (0.00062)	-0.00054 (0.00091)	-0.00195 (0.00120)
Percent Black	-0.00411 (0.00441)	-0.00035 (0.00225)	-0.00281 (0.00430)	-0.00312 (0.00216)	-0.00424 (0.00378)	-0.00348 (0.00224)	-0.00049 (0.00061)	-0.00085 (0.00057)	-0.00088 (0.00132)	-0.00151 (0.00213)
Percent under 18 years	-0.00464 (0.01907)	-0.01381 (0.00811)	-0.00277 (0.02132)	-0.00777 (0.00903)	-0.00075 (0.01946)	-0.00730 (0.00856)	0.00741* (0.00322)	0.00080 (0.00183)	0.00732* (0.00347)	0.00159 (0.00390)
Percent over 65 years	-0.02140 (0.01325)	-0.01330* (0.00591)	-0.01441 (0.01397)	-0.01111 (0.00577)	-0.01651 (0.01334)	-0.01161* (0.00570)	0.00430* (0.00188)	0.00049 (0.00179)	0.00204 (0.01083)	0.00072 (0.00242)
log (median household income)	-0.04703 (0.25601)	-0.04491 (0.10045)	0.04120 (0.31629)	-0.15953 (0.10673)	-0.15862 (0.25935)	-0.20772* (0.09828)	0.13159** (0.04335)	0.10898* (0.05008)	0.09545 (0.15946)	0.07362 (0.21132)
Population per household	-0.00096 (0.00274)	-0.00272* (0.00109)	-0.00066 (0.00255)	-0.00254* (0.00103)	-0.00072 (0.00270)	-0.00254* (0.00110)	0.00041 (0.00075)	-0.00023 (0.00043)	0.00015 (0.00116)	-0.00031 (0.00043)
Percent of homes owned	0.00125 (0.00438)	0.00448 (0.00248)	0.00420 (0.00425)	0.00743** (0.00252)	0.00599 (0.00413)	0.00818** (0.00269)	-0.00139 (0.00082)	-0.00232** (0.00080)	-0.00076 (0.00251)	-0.00228* (0.00112)
Number of networks carried	0.04273** (0.00298)	0.05566** (0.00357)					0.00037** (0.00009)	0.00156** (0.00045)	0.00036** (0.00008)	0.00153** (0.00047)
Ln(Number of networks carried)			3.81675** (0.19683)	3.55387** (0.14751)						

Notes:

Robust standard errors in parentheses

** p<0.01, * p<0.05

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Table 4

Model Type Network Count Specification Weighted/Unweighted	(1) Logit Linear Weighted	(2) Logit Linear Unweighted	(3) Logit Log Weighted	(4) Logit Log Unweighted	(5) Logit Spline Weighted	(6) Logit Spline Unweighted
Comcast	0.84992**	0.20675	0.47750*	-0.01455	-0.13634	0.19452*
	(0.25144)	(0.31291)	(0.21088)	(0.15385)	(0.22013)	(0.08332)
Channel Count- Spline 1					0.10941**	0.12073**
					(0.01482)	(0.00526)
Channel Count- Spline 2					0.07731**	0.05494**
					(0.00737)	(0.00282)
Channel Count- Spline 3					0.00225*	0.00483**
					(0.00093)	(0.00128)
Percent Hispanic	0.00071	-0.01071**	0.00105	-0.00807**	0.00339	-0.00379*
	(0.00386)	(0.00236)	(0.00288)	(0.00184)	(0.00281)	(0.00169)
Percent Black	-0.00428	-0.00436*	-0.00363	-0.00533**	0.00143	-0.00204
	(0.00600)	(0.00201)	(0.00498)	(0.00173)	(0.00540)	(0.00148)
Percent under 18 years	0.04397	0.00108	0.01356	-0.00237	0.01693	-0.00218
	(0.02288)	(0.00853)	(0.02009)	(0.00694)	(0.01623)	(0.00680)
Percent over 65 years	0.03291	-0.00308	0.01096	-0.00649	0.01846	-0.00379
	(0.01811)	(0.00804)	(0.01543)	(0.00681)	(0.01784)	(0.00650)
log (median household income)	0.94051	-0.05251	0.39700	-0.26793**	0.77006	0.01131
	(0.49798)	(0.16179)	(0.42816)	(0.09431)	(0.47338)	(0.12338)
Population per household	0.00885	-0.00093	0.00256	-0.00164	0.00429	-0.00118
	(0.00880)	(0.00143)	(0.00492)	(0.00188)	(0.00579)	(0.00219)
Percent of homes owned	-0.00244	-0.00183	-0.00141	0.00262	-0.00851*	0.00051
	(0.00467)	(0.00287)	(0.00426)	(0.00206)	(0.00341)	(0.00245)
Number of networks carried	0.00613**	0.01992**				
	(0.00117)	(0.00413)				
Ln(Number of networks carried)			2.09919**	2.88749**		
			(0.16297)	(0.17438)		

Notes:

Robust standard errors in parentheses

** p<0.01, * p<0.05

Table 5

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