ARNOLD & PORTER LLP

Maureen R. Jeffreys
Maureen.Jeffreys@aporter.com

+1 202.942.6608
+1 202.942.5999 Fax

555 Twelfth Street, NW
Washington, DC 20004-1206

September 23, 2014

VIA ECFS

Marlene H. Dortch, Esq.
Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

Re: ***Applications of AT&T Inc. and DIRECTV for Consent to Assign or Transfer Control of Licenses and Authorizations,*** **MB Docket No. 14-90**
REDACTED - FOR PUBLIC INSPECTION

Dear Ms. Dortch:

Pursuant to the *Joint Protective Order* in the above-referenced proceeding,[1] AT&T Inc. ("AT&T") and DIRECTV (together, the "Applicants") are submitting a DVD-ROM containing an ***unredacted***, Highly Confidential submission of updated results of a presentation prepared by Professors Steven T. Berry and Philip A. Haile of Yale University and previously submitted to the Commission. This submission, entitled "Quantitative Analysis of an AT&T-DIRECTV Merger: Updated Results" ("*Quantitative Analysis Updated Results*") contains the updated results and an explanation of the corrections in one aspect of the data and programming underlying the initial merger simulation analysis.[2] AT&T and DIRECTV are also submitting herewith a hard drive containing the ***unredacted***, Highly Confidential data set pertaining to the *Quantitative Analysis Updated Results*. The Applicants are filing herewith, via ECFS, a ***redacted*** public version of this submission.

[1] *Applications of AT&T Inc. and DIRECTV for Consent to Assign or Transfer Control of Licenses and Authorizations*, Joint Protective Order, DA 14-804 (MB rel. June 11, 2014).

[2] The merger simulation analysis of Professors Berry and Haile was initially submitted to the Commission on July 17, 2014. *Applications of AT&T Inc. and DIRECTV for Consent to Assign or Transfer Control of Licenses and Authorizations*, MB Dkt No. 14-90, Letter from Maureen R. Jeffreys, Counsel for AT&T Inc., to Marlene H. Dortch, Esq., Secretary, Federal Communications Commission (filed July 17, 2014).

An unredacted Stamped Highly Confidential copy of this submission is being hand delivered to your office. Additional copies of the unredacted submission are being delivered to the Commission staff under separate cover.

Please contact me at (202) 942-6608 or Maureen.Jeffreys@aporter.com if you have any questions. Thank you for your assistance.

Respectfully submitted,

Maureen R. Jeffreys

Maureen R. Jeffreys
Counsel for AT&T Inc.

Enclosures

REDACTED - FOR PUBLIC INSPECTION

Quantitative Analysis of an AT&T-DIRECTV Merger: Updated Results

Steve Berry and Phil Haile
Yale University

(on behalf of AT&T)

September 19, 2014

Summary of Predicted Price Changes

Baseline Merger Simulation Results, No Cost Saving, 3 Nesting Parameters

broadband \ Video	cable	ATT	telco	DTV	Dish	none
cable	-0.13	7.11	-0.58	0.83	-0.20	-0.37
ATT	-1.62	4.19		-8.27	-1.39	-1.56
telco	-0.14		-0.09	1.12	0.09	-0.08
other/none	-0.06	7.53	-0.20	1.20	0.17	0

Price changes in dollars per month.

Summary of Predicted Price Changes

Baseline Merger Simulation Results, No Cost Saving, 1 Nesting Parameter

broadband \ Video	cable	ATT	telco	DTV	Dish	none
cable	-1.15	4.57	-1.01	3.71	-0.58	-0.72
ATT	2.36	4.97		-19.09	3.24	3.10
telco	-1.16		-0.40	4.01	-0.28	-0.42
other/none	-0.75	5.34	-0.30	4.42	0.14	0

Price change in dollars per month.

REDACTED - FOR PUBLIC INSPECTION

Summary of Consumer Surplus Change Per Household

Table: Summary of CS Change Per Household

	3 Nesting Param.	1 Nesting Param.
Without Cost Savings		
All DMA®s w/ AT&T Availability	$0.09	$0.67
DMA®s w/ AT&T Video Availability	$0.07	$0.72
AT&T Video Zips	$0.12	$0.95
With Cost Savings		
All DMA®s w/ AT&T Availability	$0.94	$1.44
DMA®s w/ AT&T Video Availability	$1.07	$1.62
AT&T Video Zips	$1.76	$2.55

REDACTED - FOR PUBLIC INSPECTION

Effect of AT&T-Telco Coverage on Rivals' Price and Share

The logic of the identification/estimation is that cross market changes in measures of choice sets (used as "instruments") change prices and shares, revealing demand.

Coefficients on ATT Telco Coverage Instruments in the quasi-first stage regressions

	Price	ln(within group share)
ATT Telco Coverage*(CableBundle)	-12.0553	0.0266
	(3.7313)	(0.4816)
ATT Telco Coverage*(Cable Video + No BB)	1.2412	-0.6529
	(3.7493)	(0.4839)
ATT Telco Coverage*(Cable Video + Non CableBB)	1.4512	-0.3277
	(2.916)	(0.3764)
ATT Telco Coverage*(DBS + No BB)	-0.4306	0.4197
	(2.6546)	(0.3426)
ATT Telco Coverage*(DBS + Contains BB)	-.6567	-0.5100
	(1.6657)	(0.2150)
ATT Telco Coverage*No Video	-0.2362	-0.4836
	(2.4291)	(0.3135)

Full "quasi-first-stage" regression results in the appendix

REDACTED - FOR PUBLIC INSPECTION

Effect of Cable BB Coverage on Rival's Prices and Shares

Coefficients on Cable BB Coverage Instruments
in the quasi-first stage regressions

	Price	ln(within group share)
Cable BB Coverage * Non Cable BB	-10.4174	-0.6786
	(4.9355)	(0.6370)
Cable BB Coverage * No BB	2.2678	0.5888
	(7.5095)	(0.9692)
Cable BB Coverage * ATT Telco BB	-3.4172	-5.3069
	(10.9430)	(1.4124)
Big Cable BB Company * Non Cable BB	-2.9804	-0.1753
	(1.2251)	(0.1581)

Full quasi-first-stage regression results in the appendix

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Main)

Table: 3 Nesting Parameters

	Est. Coef.	Std. Err.		Est. Coef.	Std. Err.
Price (α)	**0.0167**	**0.0105**	**Video Firm Dummies**		
Nesting Parameters (ψ)			Telco - Verizon	1.0313	0.5393
Video Only	**0.8369**	**0.2088**	Cable - Time Warner	-0.2639	0.1591
BB Only	**0.8428**	**0.3034**	Cable - Comcast	-0.3347	0.1653
Bundle	**0.5091**	**0.1575**	Cable - Charter	-0.2187	0.1749
			Cable - Cox	-0.2867	0.2073
Product Characteristics			**BB Firm Dummies**		
Speed	-0.0015	0.0011	Telco - Verizon	-0.0206	0.1256
No. Channels	0.0001	0.0012	Cable - Time Warner	0.0024	0.1367
DBS $\times$ Latitude	-0.0153	0.0052	Cable - Comcast	-0.0161	0.1581
DBS $\times$ Urban %	-0.7960	0.2423	Cable - Charter	-0.2325	0.2380
DBS $\times$ Owner %	-0.5310	0.7248	Cable - Cox	0.2612	0.1459

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Demographics)

Table: 3 Nesting Parameters

	Est. Coef.	Std. Err.
Age:		
65 or above × BB only	-3.1465	2.0578
65 or above × Video only	1.5247	2.0525
65 or above × Bundle	1.4435	1.4857
Education:		
Master degree or higher × BB only	-1.6456	3.5061
Master degree or higher × Video only	-6.8985	3.5356
Master degree or higher × Bundle	1.8127	2.8076
Income ($000):		
Median HH Income × BB only	0.0235	0.0079
Median HH Income × Video only	0.0104	0.0088
Median HH Income × Bundle	0.0207	0.0062

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Product Dummies)

Table: 3 Nesting Parameters

	Est. Coef.	Std. Err.		Est. Coef.	Std. Err.
			Cable Video + Cable BB	3.4826	1.8536
DTV Video + Cable BB	3.5563	1.9043	Cable Video + AT&T BB	2.5126	2.0851
DTV Video + AT&T BB	3.5479	1.7603	Cable Video + Telco BB	2.2712	2.1851
DTV Video + Telco BB	3.7741	1.8070	Cable Video + No BB	2.7198	1.3778
DTV Video + No BB	3.7396	1.2404			
			AT&T Video + AT&T BB	2.4769	1.8593
DISH Video + Cable BB	3.0739	1.8744	Telco Video + Telco BB	1.8343	2.3091
DISH Video + AT&T BB	3.2085	1.7697			
DISH Video + Telco BB	3.5805	1.7838	No Video + Cable BB	0.9607	0.8905
DISH Video + No BB	3.5859	1.1698	No Video + AT&T BB	0.8469	0.8447
			No Video + Telco BB	0.9633	0.9323

Note: Product dummies capture both quality differences and differences in average price levels (see previous discussion).

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Main)

Table: 1 Nesting Parameter

	Est. Coef.	Std. Err.		Est. Coef.	Std. Err.
Price (α)	**0.0180**	**0.0099**	**Video Firm Dummies**		
			Telco - Verizon	0.7631	0.4251
Nesting Parameters (ψ)			Cable - Time Warner	-0.2600	0.1619
All Nests	**0.6117**	**0.1136**	Cable - Comcast	-0.3482	0.1633
			Cable - Charter	-0.1893	0.1748
Product Characteristics			Cable - Cox	-0.2908	0.2071
Speed	-0.0013	0.0010	**BB Firm Dummies**		
No. Channels	0.0002	0.0012	Telco - Verizon	-0.0289	0.1168
DBS $\times$ Latitude	-0.0157	0.0052	Cable - Time Warner	0.0039	0.1342
DBS $\times$ Urban %	-0.7891	0.2324	Cable - Comcast	-0.0289	0.1544
DBS $\times$ Owner %	-0.3988	0.6798	Cable - Charter	-0.2544	0.2276
			Cable - Cox	0.2657	0.1428

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Demographics)

Table: 1 Nesting Parameter

	Est. Coef.	Std. Err.
Age:		
65 or above × BB only	-2.6416	1.8909
65 or above × Video only	0.9356	2.1218
65 or above × Bundle	1.2041	1.3401
Education:		
Master degree or higher × BB only	-1.5114	3.5636
Master degree or higher × Video only	-7.3202	3.8425
Master degree or higher × Bundle	2.5725	2.4679
Income ($000):		
Median HH Income × BB only	0.0240	0.0081
Median HH Income × Video only	0.0090	0.0095
Median HH Income × Bundle	0.0203	0.0057

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Product Dummies)

Table: 1 Nesting Parameter

	Est. Coef.	Std. Err.		Est. Coef.	Std. Err.
			Cable Video + Cable BB	3.7136	1.7428
DTV Video + Cable BB	3.9351	1.7636	Cable Video + AT&T BB	3.0009	1.9052
DTV Video + AT&T BB	3.8873	1.6365	Cable Video + Telco BB	2.8249	1.9877
DTV Video + Telco BB	4.1006	1.6856	Cable Video + No BB	2.6879	1.3516
DTV Video + No BB	3.6049	1.2115			
			AT&T Video + AT&T BB	2.7728	1.7444
DISH Video + Cable BB	3.4951	1.7241	Telco Video + Telco BB	2.4528	2.0761
DISH Video + AT&T BB	3.5817	1.6363			
DISH Video + Telco BB	3.9119	1.6628	No Video + Cable BB	0.7030	0.7487
DISH Video + No BB	3.4949	1.1436	No Video + AT&T BB	0.5674	0.6943
			No Video + Telco BB	0.6549	0.7564

Note: Product dummies capture both quality differences and differences in average price levels (see previous discussion).

REDACTED - FOR PUBLIC INSPECTION

Diversion Ratios for Party Services (product components)

Table: 3 Nesting Parameters

	DTV Video	AT&T Video	AT&T BB	AT&T Bundle
DTV Video	[redacted]	[redacted]	[redacted]	[redacted]
AT&T Video	[redacted]	[redacted]	[redacted]	[redacted]
AT&T Broadband	[redacted]	[redacted]	[redacted]	[redacted]
AT&T True Bundle	[redacted]	[redacted]	[redacted]	[redacted]

Diversion to column components from an increase in the price of the row component.
Note: AT&T BB and DTV video are complements, as expected.

REDACTED - FOR PUBLIC INSPECTION

Diversion Ratios for Party Services (product components)

Table: 1 Nesting Parameters

	DTV Video	AT&T Video	AT&T BB	AT&T Bundle
DTV Video	[redacted]	[redacted]	[redacted]	[redacted]
AT&T Video	[redacted]	[redacted]	[redacted]	[redacted]
AT&T Broadband	[redacted]	[redacted]	[redacted]	[redacted]
AT&T True Bundle	[redacted]	[redacted]	[redacted]	[redacted]

Diversion to column components from an increase in the price of the row component.

Note: AT&T BB and DTV video are complements, as expected.

REDACTED - FOR PUBLIC INSPECTION

Pre-Merger Weighted Average Dollar Markups

Table: 3 Nesting Parameters

	Avg. Markup
DTV Video + Cable BB	[redacted]
DTV Video + AT&T BB	[redacted]
DTV Video + Telco BB	[redacted]
DTV Video + No BB	[redacted]
DISH Video + Cable BB	[redacted]
DISH Video + AT&T BB	[redacted]
DISH Video + Telco BB	[redacted]
DISH Video + No BB	[redacted]

REDACTED - FOR PUBLIC INSPECTION

Pre-Merger Weighted Average Dollar Markups (continued)

Table: 3 Nesting Parameters

	Avg. Markup
Cable Video + Cable BB	[redacted]
Cable Video + AT&T BB	[redacted]
Cable Video + Telco BB	[redacted]
Cable Video + No BB	[redacted]
AT&T Video + AT&T BB	[redacted]
Telco Video + Telco BB	[redacted]
No Video + Cable BB	[redacted]
No Video + AT&T BB	[redacted]
No Video + Telco BB	[redacted]

REDACTED - FOR PUBLIC INSPECTION

Pre-Merger Weighted Average Dollar Markups

Table: 1 Nesting Parameter

	Avg. Markup
DTV Video + Cable BB	[redacted]
DTV Video + AT&T BB	[redacted]
DTV Video + Telco BB	[redacted]
DTV Video + No BB	[redacted]
DISH Video + Cable BB	[redacted]
DISH Video + AT&T BB	[redacted]
DISH Video + Telco BB	[redacted]
DISH Video + No BB	[redacted]

REDACTED - FOR PUBLIC INSPECTION

Pre-Merger Weighted Average Dollar Markups (continued)

Table: 1 Nesting Parameter

	Avg. Markup
Cable Video + Cable BB	[redacted]
Cable Video + AT&T BB	[redacted]
Cable Video + Telco BB	[redacted]
Cable Video + No BB	[redacted]
AT&T Video + AT&T BB	[redacted]
Telco Video + Telco BB	[redacted]
No Video + Cable BB	[redacted]
No Video + AT&T BB	[redacted]
No Video + Telco BB	[redacted]

REDACTED - FOR PUBLIC INSPECTION

Validation of Estimated Markups

The markups above look reasonable. True markups are unknown for most firms and difficult to measure even for AT&T due to ambiguities of cost allocation.

The DTV markup is easier to assess. DTV ARPU analysis reveals a [redacted] price-cost margin on its service. Based on the observed average price of [redacted] this would imply a margin of [redacted] Our estimated DTV margin is [redacted] For lower-tier DTV services (priced [redacted] most attractive to marginal subscribers, [redacted] margin would be [redacted]

$\Longrightarrow$ The available external validation of the markup estimates looks extremely good.

REDACTED - FOR PUBLIC INSPECTION

Double-Marginalization

Starting from pre-merger equilibrium, holding all other prices fixed,

1. Would an increase in the size of the synthetic bundle discount drive up their joint profit?
   - yes in 82 out of 85 DMA®s (three nesting parameter model)
   - yes in all DMA®s (one nesting parameter model)
2. What discount would maximize their joint profit (weighted average over all 85 DMA®s)
   - [redacted] (three nesting parameter model)
   - [redacted] (one nesting parameter model)

   Both substantially exceed [redacted]

$\Longrightarrow$ JMA does not solve the double-marginalization problem.

REDACTED - FOR PUBLIC INSPECTION

Summary of Predicted Price Changes

Baseline Merger Simulation Results, No Cost Savings, 3 Nesting Parameters

broadband \ Video	cable	ATT	telco	DTV	Dish	none
cable	-0.13	7.11	-0.58	0.83	-0.20	-0.37
ATT	-1.62	4.19		-8.27	-1.39	-1.56
telco	-0.14		-0.09	1.12	0.09	-0.08
other/none	-0.06	7.53	-0.20	1.20	0.17	0

Price changes in dollars per month.

REDACTED - FOR PUBLIC INSPECTION

Summary of Predicted Price Changes

Baseline Merger Simulation Results, No Cost Savings, 1 Nesting Parameter

broadband \ Video	cable	ATT	telco	DTV	Dish	none
cable	-1.15	4.57	-1.01	3.71	-0.58	-0.72
ATT	2.36	4.97		-19.09	3.24	3.10
telco	-1.16		-0.40	4.01	-0.28	-0.42
other/none	-0.75	5.34	-0.30	4.42	0.14	0

Price change in dollars per month.

REDACTED - FOR PUBLIC INSPECTION

Summary of Predicted Price Changes

Baseline Merger Simulation Results, [redacted] Cost Savings, 3 Nesting Parameters

broadband \ Video	cable	ATT	telco	DTV	Dish	none
cable	-0.79	-6.33	-0.96	1.00	-0.63	-0.67
ATT	-1.73	-4.48		-7.32	-1.15	-1.20
telco	-0.80		-0.21	1.40	-0.23	-0.27
other/none	-0.54	-5.56	-0.29	1.67	0.04	0

Price changes in dollars per month.

REDACTED - FOR PUBLIC INSPECTION

Summary of Predicted Price Changes

Baseline Merger Simulation Results, [redacted] Cost Savings, 1 Nesting Parameter

broadband \ Video	cable	ATT	telco	DTV	Dish	none
cable	-1.82	-4.92	-1.51	3.62	-1.05	-1.12
ATT	2.44	-3.82		-18.23	3.75	3.68
telco	-1.76		-0.51	4.21	-0.45	-0.52
other/none	-1.24	-3.66	-0.39	4.74	0.07	0

Price change in dollars per month.

Simulation Results - All DMA®s

Table: 3 Nesting Parameters

Δ CS Per Household	$0.09

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$0.83	0.64%
DTV Video + AT&T BB	[redacted]	[redacted]	-$8.27	-6.51%
DTV Video + Telco BB	[redacted]	[redacted]	$1.12	0.87%
DTV Video + No BB	[redacted]	[redacted]	$1.20	1.41%
DISH Video + Cable BB	[redacted]	[redacted]	-$0.20	-0.17%
DISH Video + AT&T BB	[redacted]	[redacted]	-$1.39	-1.16%
DISH Video + Telco BB	[redacted]	[redacted]	$0.09	0.07%
DISH Video + No BB	[redacted]	[redacted]	$0.17	0.23%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

Simulation Results - All DMA®s (continued)

Table: 3 Nesting Parameters

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$0.13	-0.10%
Cable Video + AT&T BB	[redacted]	[redacted]	-$1.62	-1.11%
Cable Video + Telco BB	[redacted]	[redacted]	-$0.14	-0.10%
Cable Video + No BB	[redacted]	[redacted]	-$0.06	-0.06%
AT&T Video + AT&T BB	[redacted]	[redacted]	$4.19	3.45%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.09	-0.06%
No Video + Cable BB	[redacted]	[redacted]	-$0.37	-0.88%
No Video + AT&T BB	[redacted]	[redacted]	-$1.56	-3.42%
No Video + Telco BB	[redacted]	[redacted]	-$0.08	-0.17%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

Simulation Results - AT&T ZIPs

Table: 3 Nesting Parameters

Δ CS Per Household	$0.12

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$1.63	1.28%
DTV Video + AT&T BB	[redacted]	[redacted]	-$7.90	-6.25%
DTV Video + Telco BB	[redacted]	[redacted]	$2.24	1.76%
DTV Video + No BB	[redacted]	[redacted]	$2.44	2.85%
DISH Video + Cable BB	[redacted]	[redacted]	-$0.45	-0.38%
DISH Video + AT&T BB	[redacted]	[redacted]	-$1.65	-1.38%
DISH Video + Telco BB	[redacted]	[redacted]	$0.17	0.14%
DISH Video + No BB	[redacted]	[redacted]	$0.36	0.49%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

Simulation Results - AT&T ZIPs (continued)

Table: 3 Nesting Parameters

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$0.23	-0.18%
Cable Video + AT&T BB	[redacted]	[redacted]	-$1.94	-1.34%
Cable Video + Telco BB	[redacted]	[redacted]	-$0.12	-0.08%
Cable Video + No BB	[redacted]	[redacted]	$0.07	0.07%
AT&T Video + AT&T BB	[redacted]	[redacted]	$4.11	3.40%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.17	-0.12%
No Video + Cable BB	[redacted]	[redacted]	-$0.81	-1.99%
No Video + AT&T BB	[redacted]	[redacted]	-$2.01	-4.41%
No Video + Telco BB	[redacted]	[redacted]	-$0.19	-0.42%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

Simulation Results - All DMA®s

Table: 1 Nesting Parameter

Δ CS Per Household	$0.67

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$3.71	2.88%
DTV Video + AT&T BB	[redacted]	[redacted]	-$19.09	-15.04%
DTV Video + Telco BB	[redacted]	[redacted]	$4.01	3.11%
DTV Video + No BB	[redacted]	[redacted]	$4.42	5.18%
DISH Video + Cable BB	[redacted]	[redacted]	-$0.58	-0.49%
DISH Video + AT&T BB	[redacted]	[redacted]	$3.24	2.68%
DISH Video + Telco BB	[redacted]	[redacted]	-$0.28	-0.22%
DISH Video + No BB	[redacted]	[redacted]	$0.14	0.19%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Simulation Results - All DMA®s (continued)

Table: 1 Nesting Parameter

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$1.15	-0.86%
Cable Video + AT&T BB	[redacted]	[redacted]	$2.36	1.61%
Cable Video + Telco BB	[redacted]	[redacted]	-$1.16	-0.77%
Cable Video + No BB	[redacted]	[redacted]	-$0.75	-0.74%
AT&T Video + AT&T BB	[redacted]	[redacted]	$4.97	4.09%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.40	-0.26%
No Video + Cable BB	[redacted]	[redacted]	-$0.72	-1.70%
No Video + AT&T BB	[redacted]	[redacted]	$3.10	6.71%
No Video + Telco BB	[redacted]	[redacted]	-$0.42	-0.84%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

Simulation Results - AT&T ZIPs

Table: 1 Nesting Parameter

Δ CS Per Household	$0.95

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$6.39	5.06%
DTV Video + AT&T BB	[redacted]	[redacted]	-$19.20	-15.18%
DTV Video + Telco BB	[redacted]	[redacted]	$6.75	5.29%
DTV Video + No BB	[redacted]	[redacted]	$7.36	8.63%
DISH Video + Cable BB	[redacted]	[redacted]	-$0.72	-0.62%
DISH Video + AT&T BB	[redacted]	[redacted]	$2.86	2.38%
DISH Video + Telco BB	[redacted]	[redacted]	-$0.36	-0.29%
DISH Video + No BB	[redacted]	[redacted]	$0.25	0.34%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

Simulation Results - AT&T ZIPs (continued)

Table: 1 Nesting Parameter

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$1.73	-1.32%
Cable Video + AT&T BB	[redacted]	[redacted]	$1.78	1.23%
Cable Video + Telco BB	[redacted]	[redacted]	-$1.44	-0.98%
Cable Video + No BB	[redacted]	[redacted]	-$0.82	-0.83%
AT&T Video + AT&T BB	[redacted]	[redacted]	$4.73	3.91%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.62	-0.42%
No Video + Cable BB	[redacted]	[redacted]	-$0.97	-2.41%
No Video + AT&T BB	[redacted]	[redacted]	$2.61	5.66%
No Video + Telco BB	[redacted]	[redacted]	-$0.62	-1.28%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Simulation Results with Cost Savings - All DMA®s

Table: 3 Nesting Parameters

Δ CS Per Household	$0.94

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$1.00	0.77%
DTV Video + AT&T BB	[redacted]	[redacted]	-$7.32	-5.76%
DTV Video + Telco BB	[redacted]	[redacted]	$1.40	1.10%
DTV Video + No BB	[redacted]	[redacted]	$1.67	1.96%
DISH Video + Cable BB	[redacted]	[redacted]	-$0.63	-0.53%
DISH Video + AT&T BB	[redacted]	[redacted]	-$1.15	-0.96%
DISH Video + Telco BB	[redacted]	[redacted]	-$0.23	-0.18%
DISH Video + No BB	[redacted]	[redacted]	$0.04	0.06%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Simulation Results w/ Cost Savings - All DMA®s (cont'd)

Table: 3 Nesting Parameters

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$0.79	-0.59%
Cable Video + AT&T BB	[redacted]	[redacted]	-$1.73	-1.18%
Cable Video + Telco BB	[redacted]	[redacted]	-$0.80	-0.54%
Cable Video + No BB	[redacted]	[redacted]	-$0.54	-0.53%
AT&T Video + AT&T BB	[redacted]	[redacted]	-$4.48	-3.70%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.21	-0.13%
No Video + Cable BB	[redacted]	[redacted]	-$0.67	-1.58%
No Video + AT&T BB	[redacted]	[redacted]	-$1.20	-2.63%
No Video + Telco BB	[redacted]	[redacted]	-$0.27	-0.54%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

Simulation Results with Cost Savings - AT&T ZIPs

Table: 3 Nesting Parameters

Δ CS Per Household	$1.76

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$2.11	1.67%
DTV Video + AT&T BB	[redacted]	[redacted]	-$6.76	-5.35%
DTV Video + Telco BB	[redacted]	[redacted]	$2.83	2.23%
DTV Video + No BB	[redacted]	[redacted]	$3.43	4.01%
DISH Video + Cable BB	[redacted]	[redacted]	-$1.20	-1.04%
DISH Video + AT&T BB	[redacted]	[redacted]	-$1.54	-1.29%
DISH Video + Telco BB	[redacted]	[redacted]	-$0.48	-0.40%
DISH Video + No BB	[redacted]	[redacted]	$0.11	0.15%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Simulation Results w/ Cost Savings - AT&T ZIPs (cont'd)

Table: 3 Nesting Parameters

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$1.65	-1.27%
Cable Video + AT&T BB	[redacted]	[redacted]	-$2.35	-1.61%
Cable Video + Telco BB	[redacted]	[redacted]	-$1.29	-0.88%
Cable Video + No BB	[redacted]	[redacted]	-$0.70	-0.69%
AT&T Video + AT&T BB	[redacted]	[redacted]	-$4.75	-3.94%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.47	-0.33%
No Video + Cable BB	[redacted]	[redacted]	-$1.31	-3.21%
No Video + AT&T BB	[redacted]	[redacted]	-$1.65	-3.62%
No Video + Telco BB	[redacted]	[redacted]	-$0.59	-1.27%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Simulation Results with Cost Savings - All DMA®s

Table: 1 Nesting Parameter

Δ CS Per Household	$1.44

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$3.62	2.81%
DTV Video + AT&T BB	[redacted]	[redacted]	-$18.23	-14.36%
DTV Video + Telco BB	[redacted]	[redacted]	$4.21	3.27%
DTV Video + No BB	[redacted]	[redacted]	$4.74	5.55%
DISH Video + Cable BB	[redacted]	[redacted]	-$1.05	-0.89%
DISH Video + AT&T BB	[redacted]	[redacted]	$3.75	3.10%
DISH Video + Telco BB	[redacted]	[redacted]	-$0.45	-0.36%
DISH Video + No BB	[redacted]	[redacted]	$0.07	0.10%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Simulation Results w/ Cost Savings - All DMA®s (cont'd)

Table: 1 Nesting Parameter

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$1.82	-1.36%
Cable Video + AT&T BB	[redacted]	[redacted]	$2.44	1.67%
Cable Video + Telco BB	[redacted]	[redacted]	-$1.76	-1.17%
Cable Video + No BB	[redacted]	[redacted]	-$1.24	-1.22%
AT&T Video + AT&T BB	[redacted]	[redacted]	-$3.82	-3.16%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.51	-0.33%
No Video + Cable BB	[redacted]	[redacted]	-$1.12	-2.64%
No Video + AT&T BB	[redacted]	[redacted]	$3.68	7.95%
No Video + Telco BB	[redacted]	[redacted]	-$0.52	-1.05%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Simulation Results with Cost Savings - AT&T ZIPs

Table: 1 Nesting Parameter

Δ CS Per Household	$2.55

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$6.14	4.87%
DTV Video + AT&T BB	[redacted]	[redacted]	-$18.25	-14.43%
DTV Video + Telco BB	[redacted]	[redacted]	$7.14	5.60%
DTV Video + No BB	[redacted]	[redacted]	$8.01	9.38%
DISH Video + Cable BB	[redacted]	[redacted]	-$1.75	-1.51%
DISH Video + AT&T BB	[redacted]	[redacted]	$3.31	2.75%
DISH Video + Telco BB	[redacted]	[redacted]	-$0.74	-0.61%
DISH Video + No BB	[redacted]	[redacted]	$0.12	0.16%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Simulation Results w/ Cost Savings - AT&T ZIPs (cont'd)

Table: 1 Nesting Parameter

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$3.25	-2.47%
Cable Video + AT&T BB	[redacted]	[redacted]	$1.38	0.95%
Cable Video + Telco BB	[redacted]	[redacted]	-$2.67	-1.83%
Cable Video + No BB	[redacted]	[redacted]	-$1.81	-1.83%
AT&T Video + AT&T BB	[redacted]	[redacted]	-$4.32	-3.59%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.94	-0.63%
No Video + Cable BB	[redacted]	[redacted]	-$1.87	-4.62%
No Video + AT&T BB	[redacted]	[redacted]	$3.19	6.93%
No Video + Telco BB	[redacted]	[redacted]	-$0.86	-1.80%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Summary of CS Change Per Household

Table: Summary of CS Change Per Household

	3 Nesting Param.	1 Nesting Param.
Without Cost Savings		
All DMA®s w/ AT&T Availability	$0.09	$0.67
DMA®s w/ AT&T Video Availability	$0.07	$0.72
AT&T Video Zips	$0.12	$0.95
With Cost Savings		
All DMA®s w/ AT&T Availability	$0.94	$1.44
DMA®s w/ AT&T Video Availability	$1.07	$1.62
AT&T Video Zips	$1.76	$2.55

REDACTED - FOR PUBLIC INSPECTION

Quasi-First-Stage Regression Results

	1 Nesting Parameter	
	price	ln(within group share)
Speed	-0.0205	0.0001
	(0.0126)	(0.0016)
No. Channels	-0.0617	0.0020
	(0.0083)	(0.0011)
DBS*latitude	0.1098	-0.0103
	(0.0619)	(0.0080)
DBS*UrbanPct	-1.5434	-0.5147
	(2.9073)	(0.3752)
DBS*Owner	12.9606	0.7736
	(7.7835)	(1.0046)
ATT Video + ATT BB	173.5326	2.4850
	(12.1043)	(1.5623)
Cable Video + ATT BB	181.7400	-3.0431
	(9.7538)	(1.2589)
Cable Video + Cable BB	161.5237	-1.2066
	(9.9183)	(1.2801)
Cable Video + Telco BB	186.5250	-3.2400
	(9.8015)	(1.2650)
Cable Video + No BB	90.1893	-2.4941
	(17.4431)	(2.2513)
DISH Video + ATT BB	146.3841	-1.1667
	(8.1292)	(1.0492)
Observations	1912	1912

Standard errors in parentheses

REDACTED - FOR PUBLIC INSPECTION

Quasi-First-Stage Regression Results (cont.)

	1 Nesting Parameter	
	price	ln(within group share)
DISH Video + Cable BB	132.1483	-2.0174
	(7.8696)	(1.0157)
DISH Video + Telco BB	152.4530	-0.1554
	(8.1257)	(1.0487)
DISH Video + No BB	77.4926	-1.1185
	(10.7327)	(1.3852)
DTV Video + ATT BB	150.4872	-0.6342
	(8.0659)	(1.0410)
DTV Video + Cable BB	141.2182	-1.3561
	(7.7963)	(1.0062)
DTV Video + Telco BB	156.6804	0.0829
	(8.0527)	(1.0393)
DTV Video + No BB	86.7200	-1.3145
	(10.6717)	(1.3773)
Telco Video + Telco BB	195.9645	0.5838
	(11.9276)	(1.5394)
No Video + ATT BB	53.9333	0.2749
	(12.1317)	(1.5658)
No Video + Cable BB	39.5428	-0.0098
	(12.0626)	(1.5569)
No Video + TelcoBB	59.8475	0.6429
	(12.1320)	(1.5658)
Observations	1912	1912

Standard errors in parentheses

REDACTED - FOR PUBLIC INSPECTION

Quasi-First-Stage Regression Results (cont.)

	1 Nesting Parameter	
	price	ln(within group share)
Telco-Verizon(Video)	-12.0944	2.2822
	(2.4799)	(0.3201)
Cable-Time Warner(Video)	-5.3986	0.1721
	(1.6817)	(0.2171)
Cable-Comcast(Video)	-4.9975	-0.0023
	(1.5863)	(0.2047)
Cable-Charter(Video)	-0.6953	-0.1287
	(1.8402)	(0.2375)
Cable-COX(Video)	-1.0075	-0.2042
	(2.1017)	(0.2713)
Telco-Verizon(BB)	-3.6079	0.0783
	(1.0734)	(0.1385)
Cable-Time Warner(BB)	-1.1509	0.0714
	(1.6622)	(0.2145)
Cable-Comcast(BB)	-8.5477	-0.1051
	(1.5006)	(0.1937)
Cable-Charter(BB)	-12.4272	0.2442
	(1.8013)	(0.2325)
Cable-COX(BB)	-1.4413	0.1680
	(1.7994)	(0.2322)
65Yrs or above * BB only	-38.7592	-2.8715
	(24.6968)	(3.1875)
Observations	1912	1912

Standard errors in parentheses

REDACTED - FOR PUBLIC INSPECTION

Quasi-First-Stage Regression Results (cont.)

	1 Nesting Parameter	
	price	ln(within group share)
65Yrs or above * Video only	8.2921	-0.9065
	(22.7575)	(2.9372)
65Yrs or above * Bundle only	-48.9704	-5.1471
	(13.6657)	(1.7638)
Master degree or higher * BB only	-36.6285	8.4282
	(46.3403)	(5.9810)
Master degree or higher * Video only	22.2202	-3.0940
	(43.5173)	(5.6166)
Master degree or higher * Bundle only	11.3075	-0.4993
	(25.5457)	(3.2971)
Median HH Income ($1000) * BB only	0.0623	-0.0252
	(0.1175)	(0.0152)
Median HH Income ($1000) * Video only	0.0075	0.0039
	(0.1099)	(0.0142)
Median HH Income ($1000) * Bundle only	-0.0275	-0.0122
	(0.0656)	(0.0085)
Latitude*NonDBSVideo*Contains BB	-0.0509	0.0199
	(0.0833)	(0.0108)
Latitude*NonDBSVideo*No BB	-0.0422	0.0227
	(0.1522)	(0.0196)
Latitude*No Video	0.0684	0.0116
	(0.1076)	(0.0139)
OwnerPct*NonDBSVideo*Contains BB	6.2306	1.7975
	(10.2065)	(1.3173)
OwnerPct*NonDBSVideo*No BB	36.1672	-0.0341
	(19.9387)	(2.5734)
Observations	1912	1912

Standard errors in parentheses

REDACTED - FOR PUBLIC INSPECTION

Quasi-First-Stage Regression Results (cont.)

	1 Nesting Parameter	
	price	ln(within group share)
OwnerPct*No Video	12.5499	-0.0098
	(13.3396)	(1.7217)
UrbanPct*NonDBSVideo*Contains BB	-5.5537	0.0644
	(3.7441)	(0.4832)
UrbanPct*NonDBSVideo*No BB	-3.6326	1.3406
	(7.1175)	(0.9186)
UrbanPct*No Video	0.0579	0.3159
	(5.0092)	(0.6465)
ATT Telco Coverage*(CableBundle)	-12.0553	0.0266
	(3.7313)	(0.4816)
ATT Telco Coverage*(Cable Video + No BB)	1.2412	-0.6529
	(3.7493)	(0.4839)
ATT Telco Coverage*(Cable Video + Non CableBB)	1.4512	-0.3277
	(2.9160)	(0.3764)
ATT Telco Coverage*(DBS + No BB)	-0.4306	0.4197
	(2.6546)	(0.3426)
ATT Telco Coverage*(DBS + Contains BB)	-0.6567	-0.5100
	(1.6657)	(0.2150)
ATT Telco Coverage*No Video	-0.2362	-0.4836
	(2.4291)	(0.3135)
ATT Telco BB Coverage*Not ATT Telco BB	8.6223	0.3336
	(3.3895)	(0.4375)
ATT Telco BB Coverage*No BB	0.4639	0.0257
	(3.9618)	(0.5113)
Observations	1912	1912

Standard errors in parentheses

REDACTED - FOR PUBLIC INSPECTION

Quasi-First-Stage Regression Results (cont.)

	1 Nesting Parameter	
	price	ln(within group share)
ATT Telco BB Coverage*CableBundle	3.9970	-0.2232
	(6.5914)	(0.8507)
Cable BB Coverage * Non Cable BB	-10.4174	-0.6786
	(4.9355)	(0.6370)
Cable BB Coverage * No BB	2.2678	0.5888
	(7.5095)	(0.9692)
Cable BB Coverage * ATT Telco BB	-3.4172	-5.3069
	(10.9430)	(1.4124)
Average No. Channels * Contains Video	-0.0301	-0.0051
	(0.0146)	(0.0019)
Average No. Channels * No Video	-0.0362	-0.0037
	(0.0261)	(0.0034)
Max No. Channels * Contains Video	0.0185	0.0008
	(0.0052)	(0.0007)
Max No. Channels * No Video	0.0126	0.0005
	(0.0097)	(0.0013)
Average Speed * Contains BB	-0.0189	0.0102
	(0.0267)	(0.0034)
Average Speed * No BB	-0.0349	-0.0039
	(0.0424)	(0.0055)
Max Speed * Contains BB	0.0586	-0.0021
	(0.0146)	(0.0019)
Max Speed * No BB	0.0310	0.0013
	(0.0265)	(0.0034)
Big Cable Comp. * Non Cable Video	-0.1665	0.0938
	(1.1824)	(0.1526)
Big Cable Comp. * Non Cable BB	-2.9804	-0.1753
	(1.2251)	(0.1581)
Observations	1912	1912

Standard errors in parentheses

REDACTED - FOR PUBLIC INSPECTION

Summary – Alternate Specifications

Table: Alternate Specifications

	Alt. Spec. 1	Alt. Spec. 2
Parameter Estimates		
Price (α)	0.0226	0.0204
Nesting Parameters (ψ)		
Video Only	0.8097	0.5098
BB Only	0.5313	0.9054
Bundle	0.4568	0.5601
ΔCS Per HH - w/o Cost Savings		
All DMA®s w/ AT&T Availability	$0.46	-$0.06
DMA®s w/ AT&T Video Availability	$0.50	-$0.12
AT&T Video Zips	$0.65	-$0.05
ΔCS Per HH - w/ Cost Savings		
All DMA®s w/ AT&T Availability	$1.24	$0.82
DMA®s w/ AT&T Video Availability	$1.42	$0.93
AT&T Video Zips	$2.23	$1.69

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Main)

Table: Alternate Specification 1

	Est. Coef.	Std. Err.		Est. Coef.	Std. Err.
Price (α)	0.0226	0.0109	**Video Firm Dummies**		
Nesting Parameters (ψ)			Telco - Verizon	0.8349	0.5231
Video Only	0.8097	0.3199	Cable - Time Warner	-0.3060	0.1928
BB Only	0.5313	0.3493	Cable - Comcast	-0.5345	0.1865
Bundle	0.4568	0.1466	Cable - Charter	-0.3701	0.1986
			Cable - Cox	-0.6244	0.2379
Product Characteristics			**BB Firm Dummies**		
Speed	-0.0032	0.0012	Telco - Verizon	0.0760	0.1379
No. Channels	0.0003	0.0014	Cable - Time Warner	0.0251	0.1641
DBS $\times$ Latitude	-0.0084	0.0059	Cable - Comcast	-0.1187	0.1730
DBS $\times$ Urban %	-0.7370	0.3025	Cable - Charter	-0.4431	0.2451
DBS $\times$ Owner %	0.1782	0.8171	Cable - Cox	0.2740	0.1566

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Demographics)

Table: Alternate Specification 1

	Est. Coef.	Std. Err.
Age:		
65 or above × BB only	-3.7921	2.0990
65 or above × Video only	-4.3023	3.4656
65 or above × Bundle	-0.8121	1.5862
Education:		
Master degree or higher × BB only	1.9710	3.3397
Master degree or higher × Video only	-4.1900	5.2000
Master degree or higher × Bundle	2.9262	2.6777
Income ($000):		
Median HH Income × BB only	0.0161	0.0079
Median HH Income × Video only	-0.0023	0.0120
Median HH Income × Bundle	0.0160	0.0059

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Product Dummies)

Table: Alternate Specification 1

	Est. Coef.	Std. Err.		Est. Coef.	Std. Err.
			Cable Video + Cable BB	4.3780	1.9077
DTV Video + Cable BB	3.4516	1.9689	Cable Video + AT&T BB	3.2884	2.0893
DTV Video + AT&T BB	3.3904	1.8288	Cable Video + Telco BB	3.0625	2.1718
DTV Video + Telco BB	3.5446	1.8849	Cable Video + No BB	3.8411	1.5244
DTV Video + No BB	3.8658	1.4509			
			AT&T Video + AT&T BB	3.0016	1.9421
DISH Video + Cable BB	2.8171	1.9348	Telco Video + Telco BB	2.4773	2.2728
DISH Video + AT&T BB	2.8889	1.8356			
DISH Video + Telco BB	3.2567	1.8681	No Video + Cable BB	0.8498	0.9772
DISH Video + No BB	3.5628	1.3914	No Video + AT&T BB	0.6282	0.9564
			No Video + Telco BB	0.6809	1.0428

Note: Product dummies capture both quality differences and differences in average price levels (see previous discussion).

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Main)

Table: Alternate Specification 2

	Est. Coef.	Std. Err.		Est. Coef.	Std. Err.
Price (α)	0.0204	0.0080	**Video Firm Dummies**		
Nesting Parameters (ψ)			Telco - Verizon	0.7175	0.3778
Video Only	0.5098	0.2560	Cable - Time Warner	-0.1606	0.1411
BB Only	0.9054	0.2383	Cable - Comcast	-0.2529	0.1430
Bundle	0.5601	0.1236	Cable - Charter	-0.1215	0.1676
			Cable - Cox	-0.1666	0.1890
Product Characteristics			**BB Firm Dummies**		
Speed	0.0006	0.0008	Telco - Verizon	-0.1724	0.0993
No. Channels	0.0004	0.0011	Cable - Time Warner	0.0964	0.1204
DBS $\times$ Latitude	-0.0199	0.0041	Cable - Comcast	-0.1593	0.1349
DBS $\times$ Urban %	-0.4578	0.2077	Cable - Charter	-0.1997	0.2033
DBS $\times$ Owner %	-0.7648	0.6081	Cable - Cox	0.2157	0.1329

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Demographics)

Table: Alternate Specification 2

	Est. Coef.	Std. Err.
Age:		
65 or above × BB only	-3.0589	1.6437
65 or above × Video only	3.6810	1.6150
65 or above × Bundle	3.5176	1.0373
Education:		
Master degree or higher × BB only	1.9101	2.9728
Master degree or higher × Video only	-4.9606	2.9529
Master degree or higher × Bundle	8.2168	1.9573
Income ($000):		
Median HH Income × BB only	0.0228	0.0066
Median HH Income × Video only	0.0121	0.0075
Median HH Income × Bundle	0.0150	0.0047

REDACTED - FOR PUBLIC INSPECTION

Parameter Estimates (Product Dummies)

Table: Alternate Specification 2

	Est. Coef.	Std. Err.		Est. Coef.	Std. Err.
			Cable Video + Cable BB	3.4858	1.4002
DTV Video + Cable BB	3.7114	1.3830	Cable Video + AT&T BB	2.7037	1.4944
DTV Video + AT&T BB	3.8210	1.2807	Cable Video + Telco BB	2.5699	1.5536
DTV Video + Telco BB	3.9982	1.3247	Cable Video + No BB	2.3152	1.0513
DTV Video + No BB	3.1884	0.9744			
			AT&T Video + AT&T BB	2.4667	1.4125
DISH Video + Cable BB	3.1679	1.3564	Telco Video + Telco BB	2.3039	1.5992
DISH Video + AT&T BB	3.4013	1.2845			
DISH Video + Telco BB	3.7369	1.3134	No Video + Cable BB	0.9083	0.6845
DISH Video + No BB	2.8859	0.9388	No Video + AT&T BB	0.8864	0.6387
			No Video + Telco BB	1.0323	0.7177

Note: Product dummies capture both quality differences and differences in average price levels (see previous discussion).

REDACTED - FOR PUBLIC INSPECTION

Alt Spec Simulation Results - All DMA®s

Table: Alternate Specification 1

Δ CS Per Household $0.46

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$1.62	1.26%
DTV Video + AT&T BB	[redacted]	[redacted]	-$14.40	-11.34%
DTV Video + Telco BB	[redacted]	[redacted]	$1.78	1.39%
DTV Video + No BB	[redacted]	[redacted]	$2.01	2.36%
DISH Video + Cable BB	[redacted]	[redacted]	-$0.47	-0.40%
DISH Video + AT&T BB	[redacted]	[redacted]	$1.73	1.43%
DISH Video + Telco BB	[redacted]	[redacted]	-$0.31	-0.25%
DISH Video + No BB	[redacted]	[redacted]	-$0.08	-0.11%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Alt Spec Simulation Results - All DMA®s (continued)

Table: Alternate Specification 1

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$0.59	-0.44%
Cable Video + AT&T BB	[redacted]	[redacted]	$1.17	0.80%
Cable Video + Telco BB	[redacted]	[redacted]	-$0.87	-0.58%
Cable Video + No BB	[redacted]	[redacted]	-$0.64	-0.64%
AT&T Video + AT&T BB	[redacted]	[redacted]	$3.94	3.25%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.20	-0.13%
No Video + Cable BB	[redacted]	[redacted]	-$0.39	-0.94%
No Video + AT&T BB	[redacted]	[redacted]	$1.81	3.89%
No Video + Telco BB	[redacted]	[redacted]	-$0.23	-0.47%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Alt Spec Simulation Results - All DMA®s

Table: Alternate Specification 2

Δ CS Per Household -$0.06

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$2.82	2.19%
DTV Video + AT&T BB	[redacted]	[redacted]	-$9.84	-7.75%
DTV Video + Telco BB	[redacted]	[redacted]	$3.24	2.51%
DTV Video + No BB	[redacted]	[redacted]	$3.42	4.01%
DISH Video + Cable BB	[redacted]	[redacted]	-$0.49	-0.42%
DISH Video + AT&T BB	[redacted]	[redacted]	-$1.64	-1.37%
DISH Video + Telco BB	[redacted]	[redacted]	-$0.07	-0.06%
DISH Video + No BB	[redacted]	[redacted]	$0.11	0.15%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Alt Spec Simulation Results - All DMA®s (continued)

Table: Alternate Specification 2

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$0.09	-0.07%
Cable Video + AT&T BB	[redacted]	[redacted]	-$1.59	-1.12%
Cable Video + Telco BB	[redacted]	[redacted]	-$0.02	-0.01%
Cable Video + No BB	[redacted]	[redacted]	$0.16	0.16%
AT&T Video + AT&T BB	[redacted]	[redacted]	$4.63	3.82%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.13	-0.08%
No Video + Cable BB	[redacted]	[redacted]	-$0.60	-1.44%
No Video + AT&T BB	[redacted]	[redacted]	-$1.75	-3.84%
No Video + Telco BB	[redacted]	[redacted]	-$0.18	-0.36%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Alt Spec Sim Results w/ Cost Savings - All DMA®s

Table: Alternate Specification 1

Δ CS Per Household	$1.24

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$1.79	1.39%
DTV Video + AT&T BB	[redacted]	[redacted]	-$13.49	-10.63%
DTV Video + Telco BB	[redacted]	[redacted]	$2.22	1.73%
DTV Video + No BB	[redacted]	[redacted]	$2.58	3.02%
DISH Video + Cable BB	[redacted]	[redacted]	-$0.97	-0.82%
DISH Video + AT&T BB	[redacted]	[redacted]	$2.24	1.85%
DISH Video + Telco BB	[redacted]	[redacted]	-$0.54	-0.43%
DISH Video + No BB	[redacted]	[redacted]	-$0.18	-0.24%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Alt Spec Sim Results w/ Cost Savings - All DMA®s (cont'd)

Table: Alternate Specification 1

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$1.21	-0.90%
Cable Video + AT&T BB	[redacted]	[redacted]	$1.30	0.90%
Cable Video + Telco BB	[redacted]	[redacted]	-$1.48	-0.99%
Cable Video + No BB	[redacted]	[redacted]	-$1.12	-1.12%
AT&T Video + AT&T BB	[redacted]	[redacted]	-$4.78	-3.95%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.32	-0.21%
No Video + Cable BB	[redacted]	[redacted]	-$0.79	-1.86%
No Video + AT&T BB	[redacted]	[redacted]	$2.42	5.22%
No Video + Telco BB	[redacted]	[redacted]	-$0.36	-0.73%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Alt Spec Sim Results with Cost Savings - All DMA®s

Table: Alternate Specification 2

Δ CS Per Household $0.82

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
DTV Video + Cable BB	[redacted]	[redacted]	$2.92	2.27%
DTV Video + AT&T BB	[redacted]	[redacted]	-$8.93	-7.03%
DTV Video + Telco BB	[redacted]	[redacted]	$3.42	2.65%
DTV Video + No BB	[redacted]	[redacted]	$3.80	4.45%
DISH Video + Cable BB	[redacted]	[redacted]	-$0.84	-0.72%
DISH Video + AT&T BB	[redacted]	[redacted]	-$1.50	-1.25%
DISH Video + Telco BB	[redacted]	[redacted]	-$0.34	-0.27%
DISH Video + No BB	[redacted]	[redacted]	$0.04	0.05%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

REDACTED - FOR PUBLIC INSPECTION

Alt Spec Sim Results w/ Cost Savings - All DMA®s (cont'd)

Table: Alternate Specification 2

	Pre-Merger Shares	Post-Merger Shares	Δ Price ($)	Δ Price (%)
Cable Video + Cable BB	[redacted]	[redacted]	-$0.84	-0.63%
Cable Video + AT&T BB	[redacted]	[redacted]	-$1.90	-1.33%
Cable Video + Telco BB	[redacted]	[redacted]	-$0.74	-0.49%
Cable Video + No BB	[redacted]	[redacted]	-$0.36	-0.36%
AT&T Video + AT&T BB	[redacted]	[redacted]	-$4.07	-3.37%
Telco Video + Telco BB	[redacted]	[redacted]	-$0.24	-0.15%
No Video + Cable BB	[redacted]	[redacted]	-$0.88	-2.09%
No Video + AT&T BB	[redacted]	[redacted]	-$1.54	-3.37%
No Video + Telco BB	[redacted]	[redacted]	-$0.38	-0.76%

Note: Percent price changes are relative to our quality adjusted hedonic price indices.

Since the results of the Berry-Haile merger simulation were submitted to the Commission on July 17, 2014,[1] we have identified and corrected a few errors in the data and programming underlying the simulation.[2] We describe these corrections below and provide updated slides from the Berry-Haile presentation reflecting changes in the simulation results. We also provide a revised set of backup data and programs for the Berry-Haile analysis.[3] Correcting these errors has no material effect on the Berry-Haile results or their conclusions regarding the welfare effects of the proposed merger.

The first correction pertains to the calculation of AT&T's prices. In order to be consistent with the estimated prices for cable companies and other telcos that are available to us (which were obtained from company websites), the AT&T video and Internet prices should reflect AT&T's price for base service in the customer's first year of service, *i.e.*, the recurring, introductory price. To calculate these base AT&T prices, we used service start dates to identify customers in their first year of service with AT&T, and we used detailed information on U-verse billings to those customers with the intent to include only base service charges and credits and to exclude charges and credits for items such as premium channels that are not included in the base service. Our inclusions and exclusions of billing line items were based on the descriptions of those line items provided by AT&T in the original data.

The U-verse revenue data recently provided to us by AT&T[4] contain additional detailed descriptions that allow us to exclude charges and credits (such as video-on-demand or

---

1 Berry, S. T. and P. A. Haile (2014), "Quantitative Analysis of an AT&T-DirecTV Merger," July 15, 2014. See *Applications of AT&T Inc. and DIRECTV for Consent to Assign or Transfer Control of Licenses and Authorizations*, MB Docket No. 14-90, Letter to Marlene H. Dortch, Esq., Secretary, FCC from Maureen R. Jeffreys, Esq., Counsel for AT&T Inc. (filed July 17, 2014).

2 All results reported in the submission prepared by Professors Berry and Haile on September 19, 2014 ("Quantitative Analysis of an AT&T-DirecTV Merger: Additional Discussion of Modeling Choices, Data, and Results") use corrected data and programs.

3 The great majority of the data and programs are unchanged from the backup previously submitted to the Commission, but we nevertheless provide a complete set of the backup files for ease of use. In the *Readme.txt* file describing how to run the backup, we identify the corrected data files and programs that have been changed; all other data files and programs contained in this backup are identical to those previously submitted.

4 Updated U-verse revenue data for March 2014 were produced in 29 ASCII files, *CLOC_REV_2014-03-01 HIGHLY CONFIDENTIAL.txt*, through *CLOC_REV_2014-03-29 HIGHLY CONFIDENTIAL.txt*. These updated data are included in the backup filed herewith.

installation charges) that were erroneously included in our original calculations. Using the updated U-verse revenue data, we revised our list of included and excluded billing line items used in the AT&T price calculations. Although the U-verse revenue data was the only piece of data that needed to be corrected, we also used updated data on customer start dates, products and plans, and zip codes provided by AT&T. This was necessary because the unique identifying numbers assigned to AT&T's customers can change over time, making it difficult to match customers across datasets drawn at two significantly different points in time.[5] We continued to use data on AT&T subscriber counts as originally provided by AT&T; these subscriber counts are used in the share estimates in the Berry-Haile simulation.

In addition to correcting the AT&T price data, we also corrected two programming errors in the demand estimation program. First, a small number of observations that were not used in the nested logit demand estimation were accidently included in the GMM weighting matrix. Correcting this error led to insignificant changes in our demand parameter estimates. Second, a programming error in the computation of the GMM covariance matrix led to an understatement of the reported standard errors of our parameter estimates. Correcting this error increased those standard errors.

As shown in the attached presentation slides, these corrections to the data and program do not cause any substantive changes to the Berry-Haile results or the conclusions of the analysis. The Berry-Haile model continues to show that the merger would not reduce consumer welfare, and, with reasonable estimates of cost savings, the model shows that consumer welfare is unambiguously improved following the merger.

These data include a variable, ChgCode, that contains a code for the detailed descriptions. A key providing definitions of ChgCode, *Charge Code Descriptions_HIGHLY CONFIDENTIAL.txt*, is also included in the backup filed herewith.

5 We use the variable CLOC to match customers across data files, and a given CLOC must appear in the revenue, start date, product and plan, and zip code data in order to be used in the price calculations. When using data drawn from AT&T's systems at different points in time, however, a small percentage of CLOCs will not match across time, even though they represent the same customer at two different points in time. To use as much of the updated data as possible in forming our price estimates, we used updated data on start dates, products and plans, and zip codes rather than trying to match to the data originally provided by AT&T. These updated data are included in the backup filed herewith.

Other Attachments Redacted in their Entirety as Confidential and Highly Confidential Information