

# Nested Logit Model of Demand: Model Estimation

- ◆ Full estimation of all nested logit parameters (e.g., the strength of the DBS nest) is not feasible because:
  - Little variation in DIRECTV and EchoStar relative prices.
  - The Berry (1994) approach to estimating consistent price elasticities requires instruments for within-nest shares of each product in order to estimate nest strength parameters.
  - We do not have effective instruments. Hence, we cannot econometrically generate consistent estimates of the nested logit parameters.

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# Nested Logit Model of Demand: Model Estimation

- ◆ We calibrate the DBS nest to the evidence on diversion rates, and estimate the remaining nested logit parameters.
- ◆ It is necessary to instrument the cable price variable. We use two instruments:
  - Average cable price in all other franchise areas served by the same MSO.
  - Average cable price in other franchise areas in the same DMA.
- ◆ These instruments are effective for basic monthly cable fees, but not for expanded basic and HBO fees.

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# Comparing Our Results to the Literature

- ◆ The literature has found that the own price elasticity for cable generally ranges from -1 to -3.
  - FCC (2002): Own price elasticity of cable: -2.19
  - Crawford (2000): Own price elasticity of basic: -1.67; own price elasticity of expanded services: -0.49 to -0.66
- ◆ University of Chicago economists Austan Goolsbee and Amil Petrin estimate the own price elasticities for the DBS and cable industries using a probit model and market- and individual-level data from 1999.
- ◆ Goolsbee-Petrin (2002) concludes that the own price elasticities for DBS are in the range of -4.1 to -4.9. Goolsbee-Petrin finds the following elasticity matrix:

	<b>DBS Price</b>	<b>Cable Premium Price</b>	<b>Expanded Basic Price</b>
<b>DBS Demand</b>	-4.9	0.4	2.1
<b>Cable Premium Demand</b>	0.5	-0.7	-0.6
<b>Expanded Basic Demand</b>	0.8	0.4	-1.3

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# **Merger Simulation Results: Impact on Prices**

*Estimated Price Effects Assuming No Marginal Cost Reductions, No  
Competitive Responses from Cable, and No Welfare Benefits from  
Local Service or Other Advanced Services*

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# **Merger Simulation Results: Impact on Consumer Welfare**



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# Other Consumer Welfare Benefits from the Merger

- ◆ The merger will produce additional consumer welfare benefits from:
  - High-Definition Television
  - Near Video-on-Demand
  - Interactive Services
  - Satellite-Based Broadband Access
  - More Programming Diversity
  
- ◆ Based on the parties' projections of incremental subscribers from these new services, the nested logit demand system estimates that these services will improve consumer welfare by roughly \$700 million per year.

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## **Looking to the Future, DBS Will Not Be Able to Constrain Cable Without the Merger**

- ◆ Over the past several years, DBS has grown very rapidly because it was offering consumers a better product – more channels, higher picture and sound quality.
- ◆ But the DBS advantage is being eroded by digital cable, which has a similar number of channels and nearly identical picture/sound quality.
- ◆ Thus, it is likely that DBS has reached its maximum competitive impact on cable providers unless DBS providers can reduce their costs or improve their product.

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# Digital Cable Is Expected to Decrease DBS Subscriber Growth and Increase DBS Churn

- ◆ Even opponents of the merger have cited evidence that “DBS growth has slowed dramatically where digital cable has been rolled out.” (See Sidak at ¶ 34, citing Salomon Smith Barney)
- ◆ Cox Communications claims: “Many returning Cox customers say they ditched their dishes because of the availability of Cox Digital Cable. They cite the fact that digital cable offers virtually the same number of channels at a comparable price, with the added benefit of receiving all local channels and hooking up standard cable service on additional TV sets for no extra charge.”
- ◆ Estimating the precise impact of digital cable on DBS subscriber growth and churn is complicated by two factors:
  - No database includes information on (a) when digital cable was rolled out and (b) where digital cable is currently available.

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## **Cable Companies Are Rolling Out Other Services That Will Provide Them A Competitive Advantage**

- ◆ Cable companies will be able to offer the following products that will be difficult for DBS to match without the merger:
  - High-Speed Internet Access
  - Video-on-Demand
  - Interactive Services
  - High-Definition Television

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## **Cable's Ability to Offer Broadband Bundles May Be A Particularly Important Competitive Offering**

- ◆ According to a January 2002 Forrester Research survey, [ ] of existing DIRECTV and EchoStar subscribers state that they intend to subscribe to broadband service in the next two years.
- ◆ The inability to provide a competitive broadband bundle appears to be having an adverse impact on the DBS firms.
  - Of those people who voluntarily left DIRECTV for cable in the first quarter of 2002, more than [ ] subscribed to cable's high-speed Internet access.
  - Of those people who live in areas where cable offers broadband service, [ ] of former DIRECTV subscribers that choose cable also subscribe to a broadband bundle.
  - Former DIRECTV subscribers who now subscribe to a cable provider's video and Internet service were higher revenue subscribers at DIRECTV: On average, their monthly bills were [ ] higher than those who left for cable, but did not subscribe to the cable firm's broadband service.

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## Cable's Bundled Packages Reinforce New EchoStar's Incentive To Grow Its Subscriber Base Following the Merger

- ◆ Consumers who subscribe to a cable/cable modem bundle appear to be “stickier” than customers who subscribe to only one service.
  - Cox claims that “churn among bundled customers is 33% to 50% less than that of single-product customers” and that “there is clear evidence that bundled services provide stickiness.”
- ◆ Expected growth in the number of bundled-service cable subscribers has two effects:
  1. It provides New EchoStar a particularly strong incentive to price its product competitively following the merger, so that it can attract cable subscribers *before* they sign up for bundled packages.
  2. It provides New EchoStar an incentive to offer its own satellite-based broadband bundle, and to price it aggressively in light of the required economies of scale and timing issues.

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## **With The Merger, New EchoStar Will Be Better Able to Compete With Cable**

- ◆ Following the merger, New EchoStar will better constrain cable because New EchoStar will be able to offer:
  - Local Channels in All 210 DMAs
  - Competitive Satellite-Based Broadband Service
  - Near Video-on-Demand
  - More Interactive Services
  - More HDTV Channels
  - More Programming Diversity

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**National Pricing – Price  
Discrimination Would  
Continue to Be  
Implausible**

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# **There Are Benefits to A Uniform National Price for Programming**

- ◆ Opportunities for national marketing
- ◆ Avoids customer dissatisfaction associated with paying different prices for the same service after relocating
- ◆ Avoids cost of multiple promotional material used by national retailers

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# Apparent Opportunities for Price Discrimination Have Not Been Taken

- ◆ EchoStar competes with NRTC affiliates, not DIRECTV, in selected areas
- ◆ NRTC affiliates charge a higher price than DIRECTV. For example, Pegasus charges \$3 more per month for Total Choice than DIRECTV
- ◆ EchoStar does not charge higher prices in areas where it competes with Pegasus
- ◆ EchoStar does not provide different commissions to retailers in areas where it competes with NRTC

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# Why Discrimination Based on Targeted Promotions is Implausible

- ◆ It is difficult to identify non-cable passed households.
- ◆ Digital cable is becoming ubiquitous – that is, it is difficult to identify areas that are purely analog.
- ◆ The presence of national retailers will protect against price discrimination.
- ◆ An elevated national price accompanied by targeted promotions means higher prices to the large installed base with a cable alternative, which would lead to increased churn.

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# Promotions Are National in Scope

- ◆ Localized promotions have not resulted in a significant increase in new customers for either service

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# **Discrimination Based on Cable Presence Would Be Difficult to Implement**

- ◆ A national strategy of discriminating against ostensibly non-cabled areas would be costly and unlikely to be profitable
- ◆ There are several factors that make such discrimination implausible

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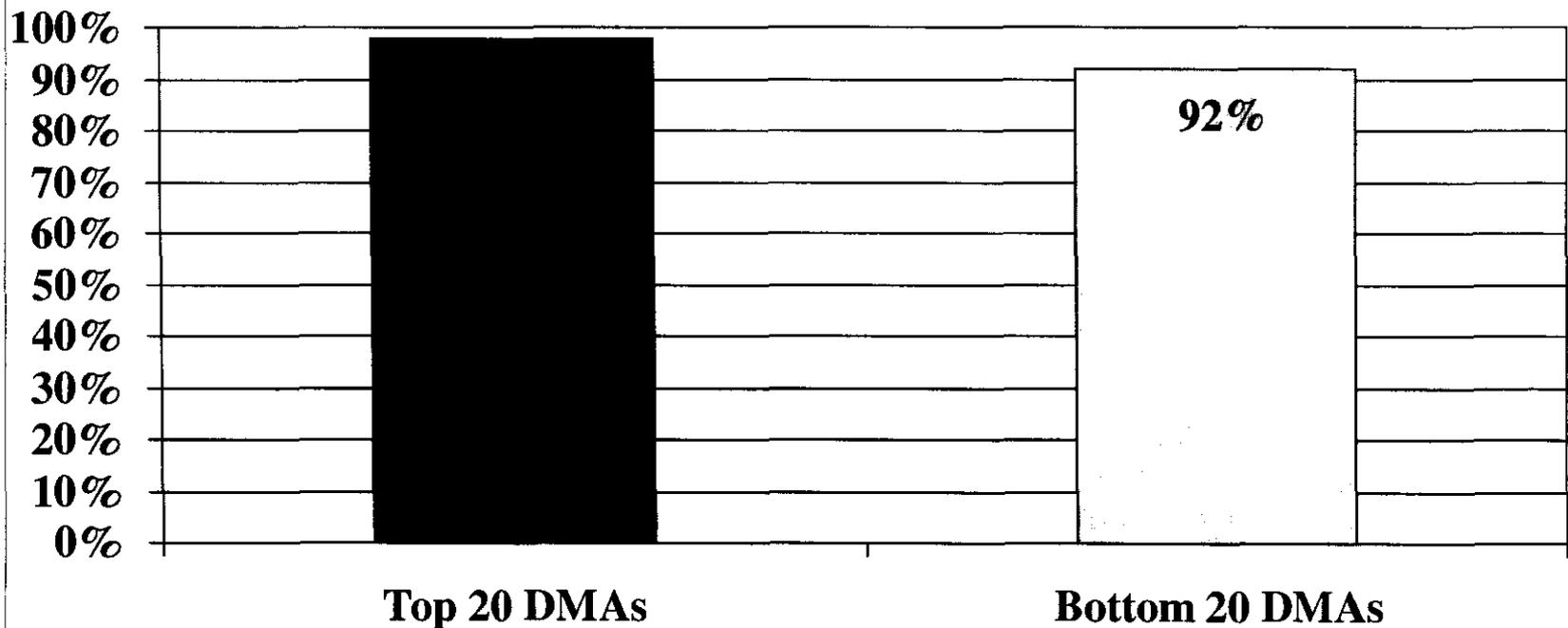
## **Data on Cable Penetration Are Unreliable, But Using Any Estimate, Cable Coverage is Geographically Dispersed**

- ◆ Various data sources of questionable reliability provide a range of estimates for the percent of households passed by cable
  - The FCC reports that 97% of TV households in the U.S. are passed by cable
  - Other estimates indicate that the number of households passed is around 90%
- ◆ Under either scenario, cable coverage is widely dispersed throughout the U.S. Even rural states have a high homes passed rate
  - For example, Idaho, Iowa, and North Dakota all have 90% or more homes passed

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# Percent of Homes Not Passed By Cable Does Not Differ Significantly by DMA

Share of Housing Units Passed by Cable in the Top and Bottom 20 DMAs



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# Percent of Housing Units in the Bottom 20 DMAs Passed by Cable in 2000

DMA Rank	DMA Name	Non-Cabled	Cabled
		-----(Percent)-----	
		(a)	(b)
191	LIMA	0.8 %	99.2 %
192	CHARLOTTESVILLE	6.8	93.2
193	BUTTE-BOZEMAN	5.2	94.8
194	LAREDO	0.0	100.0
195	EUREKA	4.0	96.0
196	MANKATO	2.5	97.5
197	CHEYENNE-SCOTTSBLUF	1.3	98.7
198	OTTUMWA-KIRKSVILLE	18.6	81.4
199	SAN ANGELO	13.7	86.3
200	CASPER-RIVERTON	4.6	95.4
201	BEND, OR	19.7	80.3
202	ZANESVILLE	1.8	98.2
203	FAIRBANKS	19.1	80.9
204	VICTORIA	3.5	96.5
205	PRESQUE ISLE	7.4	92.6
206	JUNEAU	30.2	69.8
207	HELENA	4.7	95.3
208	ALPENA	3.9	96.1
209	NORTH PLATTE	8.3	91.7
210	GLENDIVE	14.7	85.3

Sources: MediaPrints; Nielsen Media Research, Inc.; Census Bureau.

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# **Digital Cable Is Present To A Large Extent throughout the Country**

- ◆ Approximately 80% of housing units in the bottom 20 DMAs are passed by digital cable
- ◆ This fact makes discrimination on the basis of “no cable” or analog cable difficult to implement

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# Percent of Housing Units in the Bottom 20 DMAs Passed by Digital Cable in 2000

<u>DMA Rank</u>	<u>DMA Name</u>	<u>Housing Units Passed by Digital Cable</u> ------(Percent)----- (a)
191	Lima	99.47 %
192	Charlottesville	81.45
193	Butte-Bozeman	76.81
194	Laredo	88.95
195	Eureka	87.10
196	Mankato	50.74
197	Cheyenne-Scottsbluf	94.15
198	Ottumwa-Kirksville	61.14
199	San Angelo	88.91
200	Casper-Riverton	89.85
201	Bend, OR	80.25
202	Zanesville	81.45
203	Fairbanks	68.72
204	Victoria	93.15
205	Presque Isle	73.15
206	Juneau	37.90
207	Helena	83.85
208	Alpena	84.05
209	North Platte	82.29
210	Glendive	75.71
<b>Total</b>		<b>79.70 %</b>

Note: Analysis was completed through a review of all cable systems operating in every zip code that falls within a particular DMA, as reported by Nielsen.

Sources: Nielsen Media Research, Inc.; Census Bureau; zap2it.com.

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# **Estimates of Cable Coverage Are Unreliable**

- ◆ [ ] of people who left DIRECTV and who supposedly live in areas without cable said they were switching to cable
- ◆ It is therefore difficult to implement price discrimination based on estimates of cable coverage

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# Use of National Retailers Protects Consumers from Price Discrimination

- ◆ Use of national retailers to sell equipment also provides protection for consumers in seemingly non-cabled areas
  - DIRECTV relies heavily on national retailers, in addition to independent retailers, to distribute its equipment.
- ◆ National retailers prefer to offer products at a uniform national price
- ◆ National retailers set price in competition with cable and the benefits of such competition are exported to non-cabled areas via a national price

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# Carolinas Region

## Non-Cabled Zip Codes and Zip Codes Containing DirecTV National Retailers



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Note: DirecTV national retailers consist of the following retailers: Best Buy, Blockbuster, Circuit City, Radio Shack, and Wal-Mart.

## **Most Consumers in Ostensibly Non-Cabled Areas Have Easy Access to National Retailers**

- ◆ **39% of consumers in non-cabled areas are within 10 miles of a DIRECTV national retailer**
- ◆ **69% of consumers in non-cabled areas are within 20 miles of a DIRECTV national retailer**

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## **Independent Retailers are Disciplined by National Retailers in Non-Cabled Areas**

- ◆ Non-chain retailers charge the same price for DIRECTV equipment in both cabled and non-cabled areas
- ◆ Our survey of DIRECTV retailers shows that equipment prices in cabled and non-cabled areas are not statistically different

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# Results from Survey of DIRECTV Retailers

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# Results from Survey of EchoStar Retailers

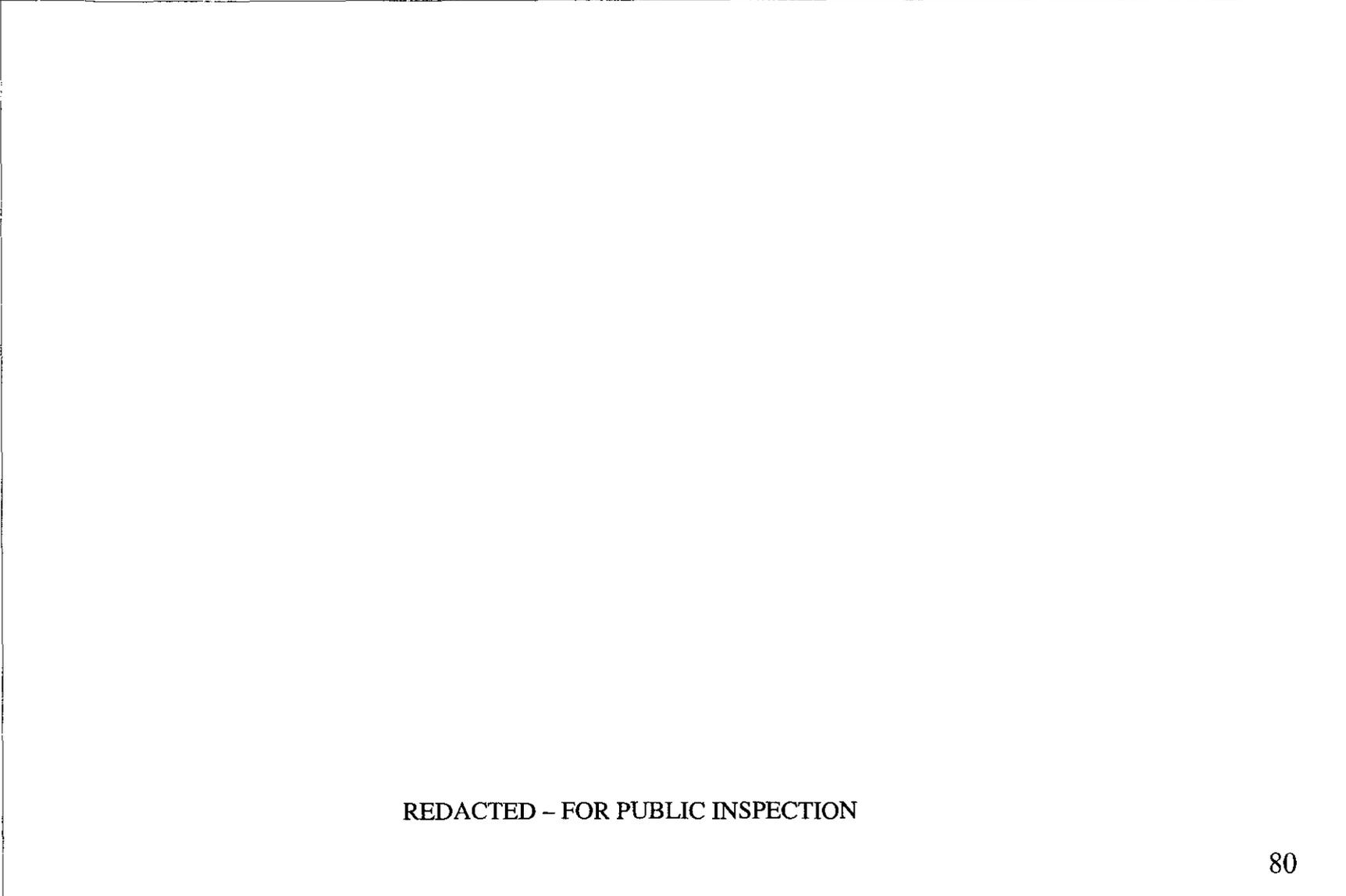
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# **EchoStar Price Differences Are Driven By Retail Competition NOT Price Discrimination**

- ◆ Payments made by EchoStar to its retailers are not substantially different when a subscriber comes from a cabled zip code or a non-cabled zip code
- ◆ Payments made by EchoStar to retailers are not substantially different when a subscriber comes from a NRTC zip code or a non-NRTC zip code
- ◆ The price charged by EchoStar to its independent retailers for equipment is virtually the same in NRTC areas and non-cabled areas as in non-NRTC and cabled areas respectively
- ◆ Thus, higher prices for EchoStar equipment in non-cabled areas is due to retail competition, not to discrimination by EchoStar

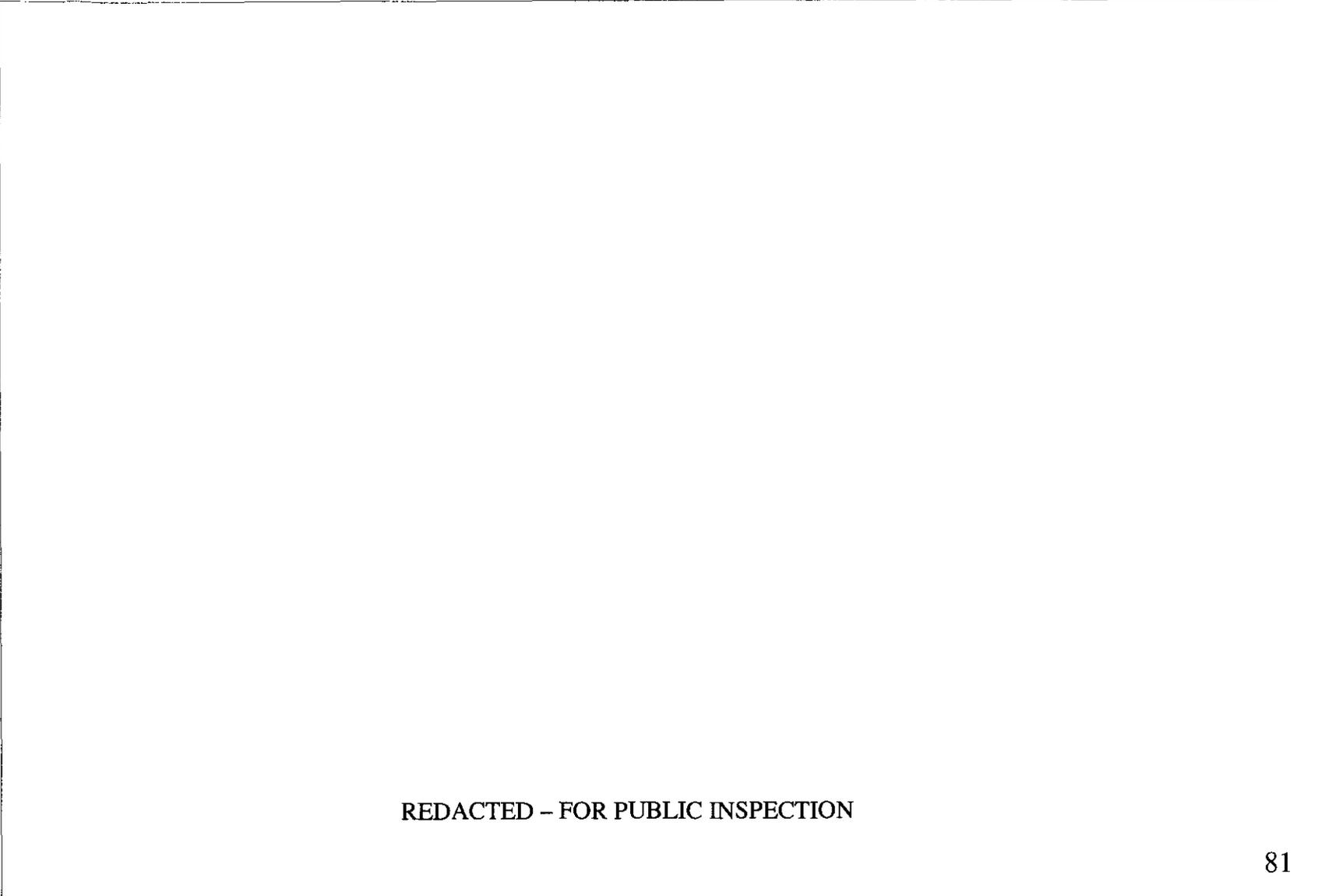
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# **EchoStar Payments to Retailers in Cabled and Non-Cabled Zip Codes**



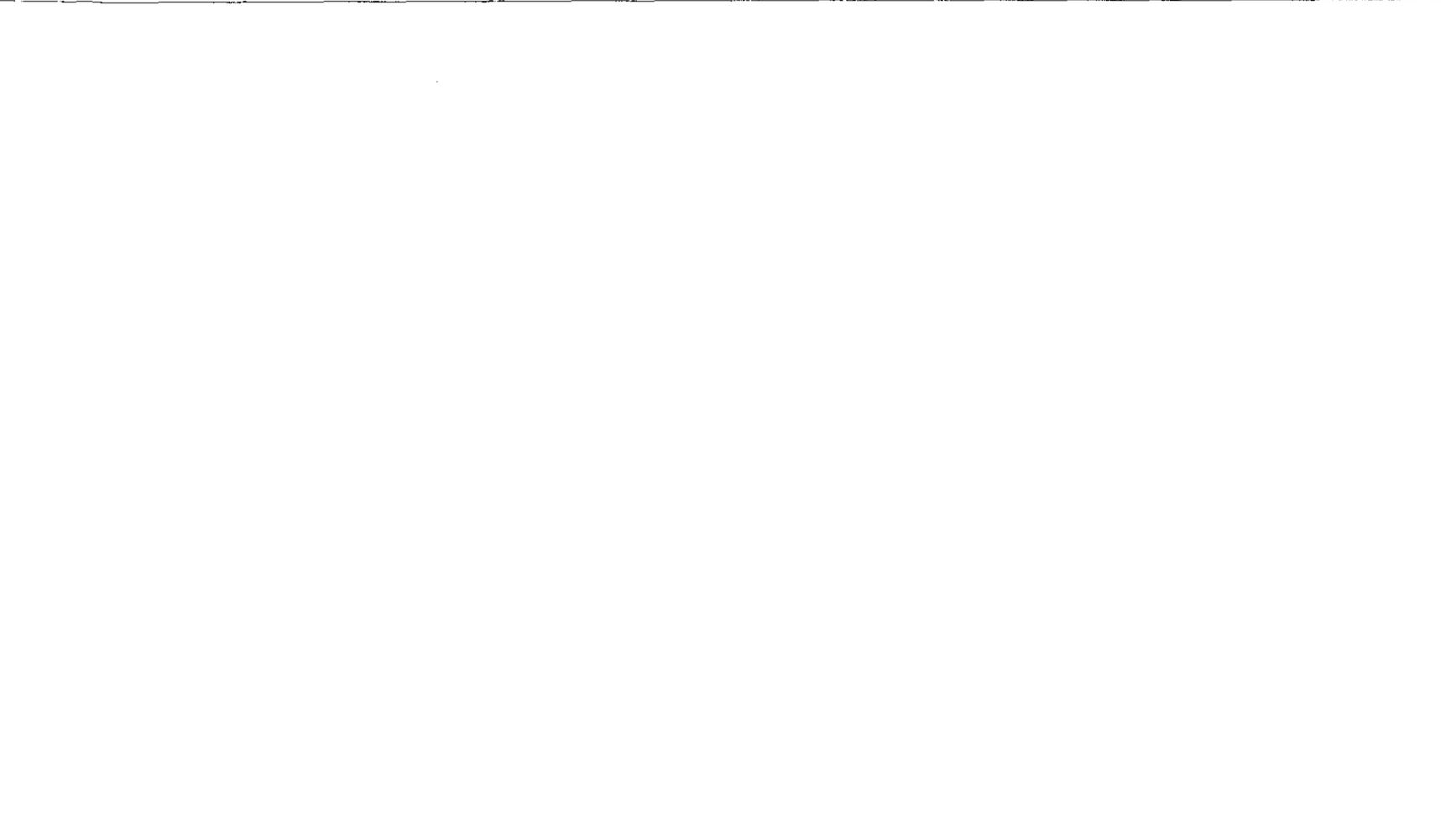
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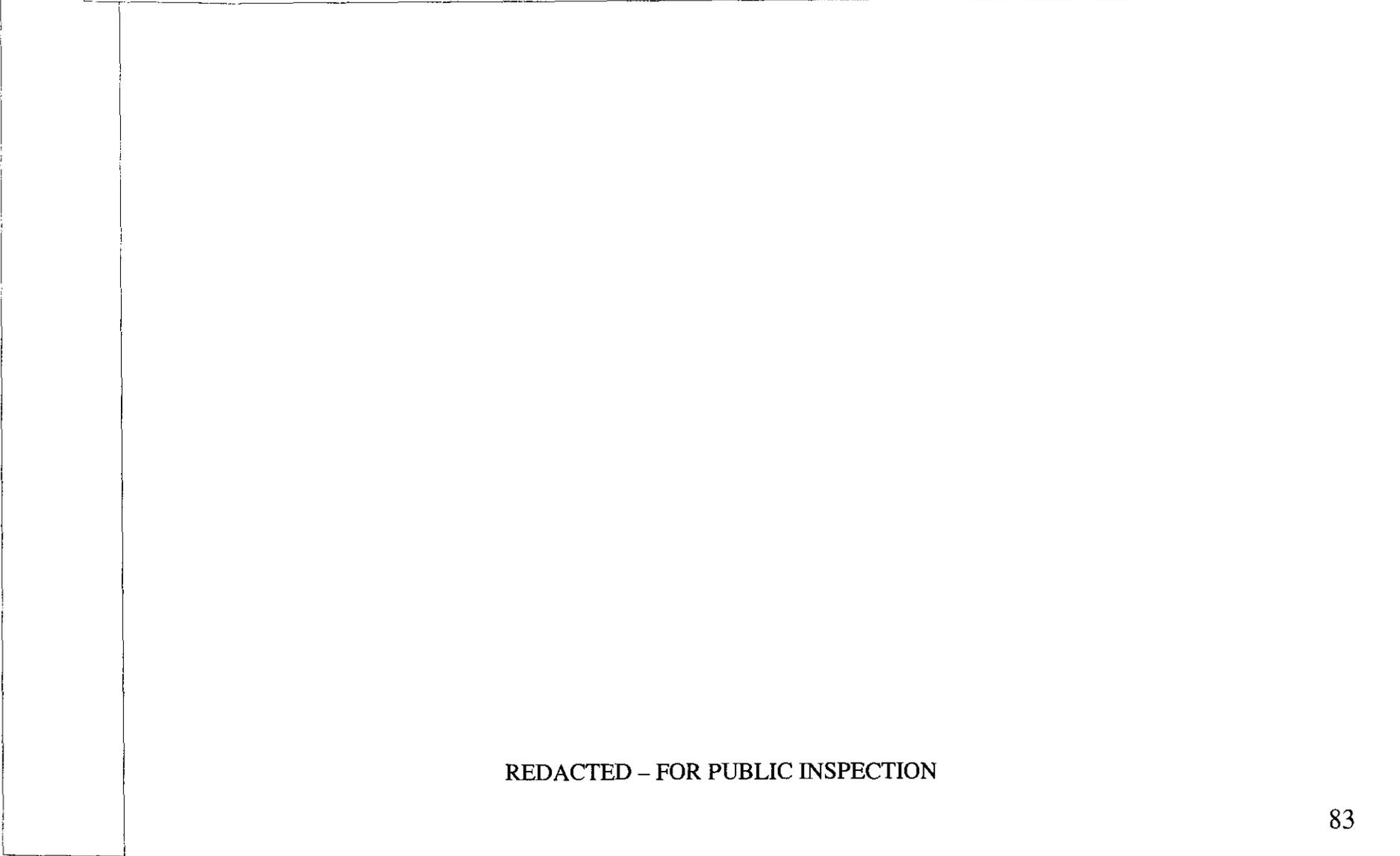
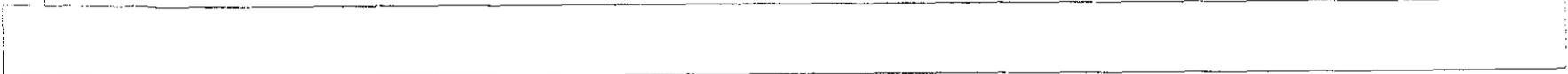
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# **EchoStar Equipment Prices for Retailers in Cabled and Non-Cabled Zip Codes**



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# **EchoStar Equipment Prices for Retailers in NRTC and Non-NRTC Zip Codes**



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